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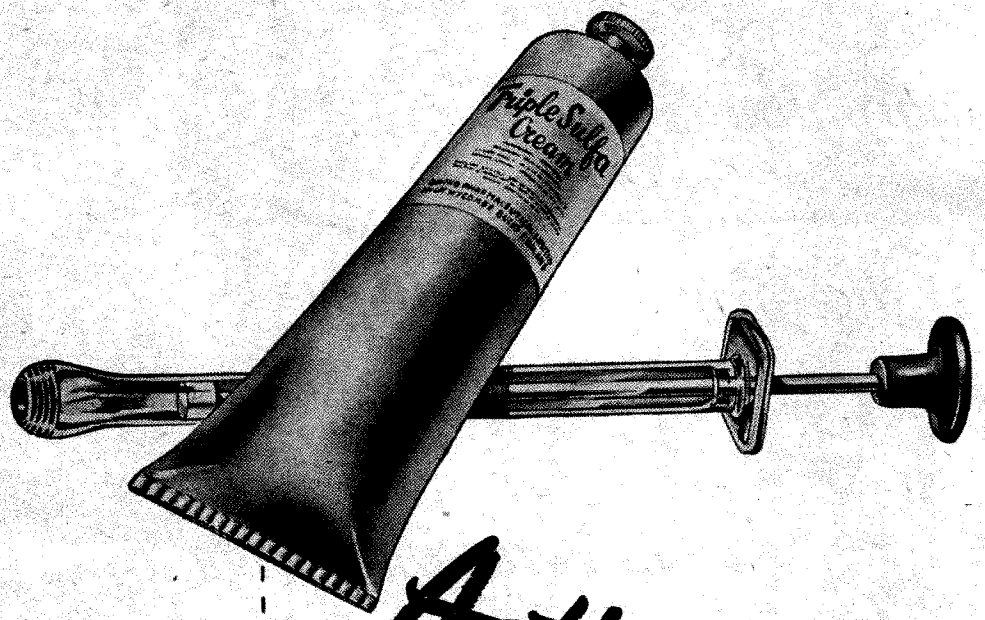

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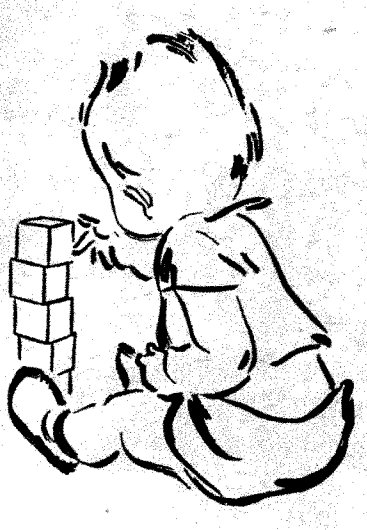

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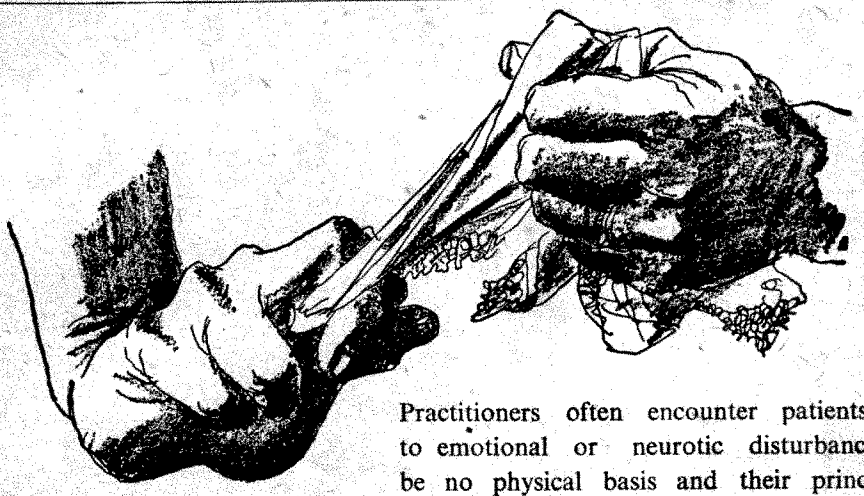

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 5 1952

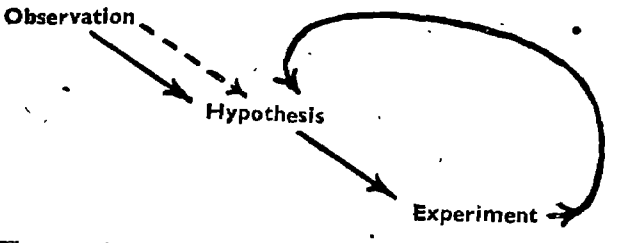
TISSUE REACTIONS TO PROTEIN SENSITIZATION*

BY

J. R. SQUIRE, M.D., F.R.C.P.

Leith Professor of Experimental Pathology, University of Birmingham

As this account is in no way intended to be exhaustive, but rather to illustrate the scientific basis of medicine in one field, it will not be out of place briefly to consider the nature of the processes by which science is built. They may be represented diagrammatically:



The starting-point has always been an observation, usually made in the midst of some practical performance —in medicine, when caring for a patient or examining his body after death. This clinical observation (often associated with others made previously) leads to the formulation of a hypothesis on how the events happened or what was the relation between one observation and another. In scientific medicine such hypotheses are tested by experiment, an attempt being made to reproduce the events observed at will or to replace them by some other event. The success or failure of these efforts leads on to fresh modified hypotheses—sometimes also modified by further observations—and so the cycle goes on. Increasingly, knowledge based on facts replaces speculation.

Much has been written about the nature both of observations and of experiments, good and bad, and there is still much to be learned about these aspects of scientific method. Rather less attention has been paid to the scientific hypothesis. Here only two points can be stressed. In the first place, every effort should be made to keep separate in one's mind the facts of observation and experiment from the theory or hypothesis. This is more easily said than done, for even the description of a fact may lead to hypothetical ideas slipped in with the very words used. Secondly, the distinguishing feature of a good hypothesis is its usefulness, perhaps even more than its ultimate truth. Useful hypotheses are precise and point to crucial experiments which can be performed with the resources available. The remarkable success of most outstanding men of science—and clinical science is no exception—has been due in no small part to their flair for formulating the relevant and right hypothesis at the right time.

To illustrate this scientific basis of medicine in the field of protein sensitization we should try to proceed always from observations on man rather than on animals, and from the "known" (or relatively well understood) phenomena to the "unknown" (or more obscure). With this in mind, I propose to discuss two groups of reactions only, those of the *asthma–hay-fever–urticaria* type, and those showing reactions of the *tuberculin–trichophytin* type. Together they include a wide range of diseases and disease processes. They omit types of reaction of great interest, such as serum sickness or homograft reactions—although a good scientific basis has now been established for discussing the nature of these processes. It is also necessary to omit many disordered functions classified to-day as rheumatic fever, polyarteritis nodosa, etc.—a less serious omission, since we are still not on sure ground in regarding these as examples of protein sensitization reactions, however suggestive one may think the evidence.

Asthma–Hay-fever–Urticaria Group

The first clinical observations linking asthma with sensitization were made by Hyde Salter, of London, and published in a monograph in 1860, "animal emanations" being blamed for the sufferings of many of his patients. Hay-fever had been accurately described some 30 to 40 years previously. In 1873 Blackley, a Manchester practitioner, published his *Experimental Researches on the Causes and Nature of Catarrhus Aestivus (Hay-fever or Hay-asthma)*, a book of such clarity and method that it should be studied to-day by anyone intending to work in this field. Like many others who have investigated this group of disorders, Blackley himself suffered with severe hay-fever. By testing his own skin he showed that reactions could be induced by some of the agents suspected of eliciting the symptoms in his nose and bronchi. He was thus able to examine current hypotheses, such as the causative effects of dust as such. Road dust from various sources rubbed into scarified skin produced no reaction, but pollen of certain kinds resulted within a few minutes in the now familiar sequence of events, with local swelling as a prominent feature.

*Lecture given to the Postgraduate Medical School and Institute of the British Postgraduate Medical Federation as part of the course on "The Scientific Basis of Medicine." Delivered at the London School of Hygiene on February 27, 1951.

Blackley's skin tests on himself might to-day be regarded as somewhat heroic in dosage, for he describes reactions lasting 24 hours or more, equalling an egg in size; at all events, he obtained results differing considerably from his controls. He was able in this way to define two basic facts about the tissue reactions to protein sensitization of the hay-fever type: (1) the reactions could be reproduced from a number of tissues—the skin of many areas, the conjunctiva, the linings of the nose and bronchi; (2) the reactions were narrowly specific. In his own case strongly positive results were given by the pollens of grasses and of another monocotyledon, the iris. Negative results were obtained with pollens from other (dicotyledonous) flowers. Even more striking examples of specificity have been given later, by examples such as that of a child sensitive to horses but able to ride a donkey in comfort. Blackley's hypotheses were naturally not all correct: obsessed somewhat with his own observations on grass pollens, he speculated about those patients suffering with asthma from animal emanations, pointing out that most of the animals concerned tended to be closely connected with hay—the kind of "association" pitfall which no doubt is trapping all of us to-day in other clinical ideas.

Nature of Skin Reactions

The nature of the skin reactions to protein substances causing asthma and hay-fever is now comparatively well understood. The local reddening and oedema with the surrounding flare—the triple response—were analysed by Sir Thomas Lewis (1927) in a familiar series of experiments of great beauty. The use of histamine to excite closely similar reactions led to the idea of a local release of a diffusible poison or H-substance, with effects limited to the blood vessels. Close comparison of the response to histamine and to protein antigens in suitable subjects by Hare (1926) showed that the two reactions were practically indistinguishable except perhaps for slight delay at the protein site. Similar local oedema and reddening occur in the conjunctiva and mucous membrane of the nose. By analogy with animal anaphylaxis, smooth-muscle contraction has been considered as an additional basis for the reactions of the bronchi in asthma, although it is not known certainly if this occurs in man.* d'Abreu (1940) has described an asthmatic reaction viewed through the bronchoscope: certainly, the reduction of the bronchial lumen was rapid and intense.

The local outpouring of secretions from nasal and bronchial mucous membrane in asthmatic and hay-fever attacks is not fully understood in terms of H-substance reactions. The two salient features of this type of reaction in any tissue are the rapid onset of oedema—within five minutes—and the minimal changes detectable by histological methods. Necrosis, for example, is never found even after considerable local dosage of sensitizing protein. Cellular infiltration, except on occasion for some local eosinophilia, is likewise absent.

The general rule that scientific observations and experiments in any field, initially qualitative, are found to be more rewarding when brought on to a quantitative basis can be illustrated here. If the ordinary prick test is performed with histamine as a test substance the errors of the method and the dose–response relationship can be worked out (Squire, 1950). Modern statistical techniques lighten the labour and extract the maximum information from the results. The prick test, carefully performed, can be shown to have a coefficient of variation (an "error") of not more than 20% for dosages resulting in wheal sizes of 1–6 mm. diameter, provided that standard and comparison tests are made on symmetrically placed sites, left and right, and within a short time of one another. Further errors are introduced if comparisons without standards are made on different days or on different sites (even, say, a few inches further down a forearm).

The diameter of the wheal responses is roughly proportional to the logarithm of the concentration of histamine (or of protein in a sensitive subject). In other words, if the wheal diameter is increased 1–1.5 mm. by raising the strength of the solution from 1:100,000 to 1:10,000 a similar further increase in size will be found by using a solution 10 times stronger still. The amount of solution introduced by a standard "prick"—forcible enough to cause momentary pain, but insufficient to draw blood—can be shown to be about 3 millionths of a millilitre.

From such quantitative considerations it can be shown that tissue reactions are produced by very small amounts of protein in asthmatic patients. A wheal 3 mm. across can be produced, for example, by as little as 10^{-13} g. of horse dandruff protein (probably as little as 10,000 molecules of protein). Similar responses in such a patient were only obtained with histamine solutions weight for weight 1,000 times stronger. As the molecular weight of the dandruff protein is probably 1,000 times as great as that of histamine, we must suppose (if histamine is indeed the reaction-mediating H-substance) that each molecule of dandruff protein introduced into the skin of certain asthmatics liberates (and that within half a minute) about one million molecules of histamine. This hypothesis perhaps needs re-examination. At all events, quantitative skin testing, with standard histamine to check the skin's reactivity and saline controls to avoid errors due to dermatographia, as well as with test protein solutions of known concentration suspected to be responsible for protein sensitization in any given patient, is still a rewarding field for further experiment.

Transfer of Sensitivity

Apart from specific reactions to certain foreign proteins widely disseminated through the body, the tissues of asthmatic patients show no obvious abnormality. Their skins are not, for example, in any way abnormally sensitive to histamine or to other known pharmacologically active bases. The serum or plasma of such patients is abnormal, however, in that, transferred to the body of a normal person, it induces exactly similar specific sensitivity. Clinical observations again gave the lead when Ramirez (1919) observed that blood transfusion from an asthmatic donor resulted in a sensitized recipient. Loveless (1941) made this the basis of experimental observations, showing that the induced sensitivity affected skin, conjunctiva, and mucous membranes, being fully established within 24 hours and lasting, though waning in degree, over periods as long as 30 days.

The local transfer of sensitivity to a small area of normal skin by means of an intradermal injection of, say, 0.05 ml. of asthmatic serum (Prausnitz–Küstner technique) has been widely used and is of practical and theoretical importance. The "antibody" from the

*But see Schild, H. O., Hawkins, D. F., Mongar, J. L., and Herxheimer, H., *Lancet*, 1951, 2, 376.

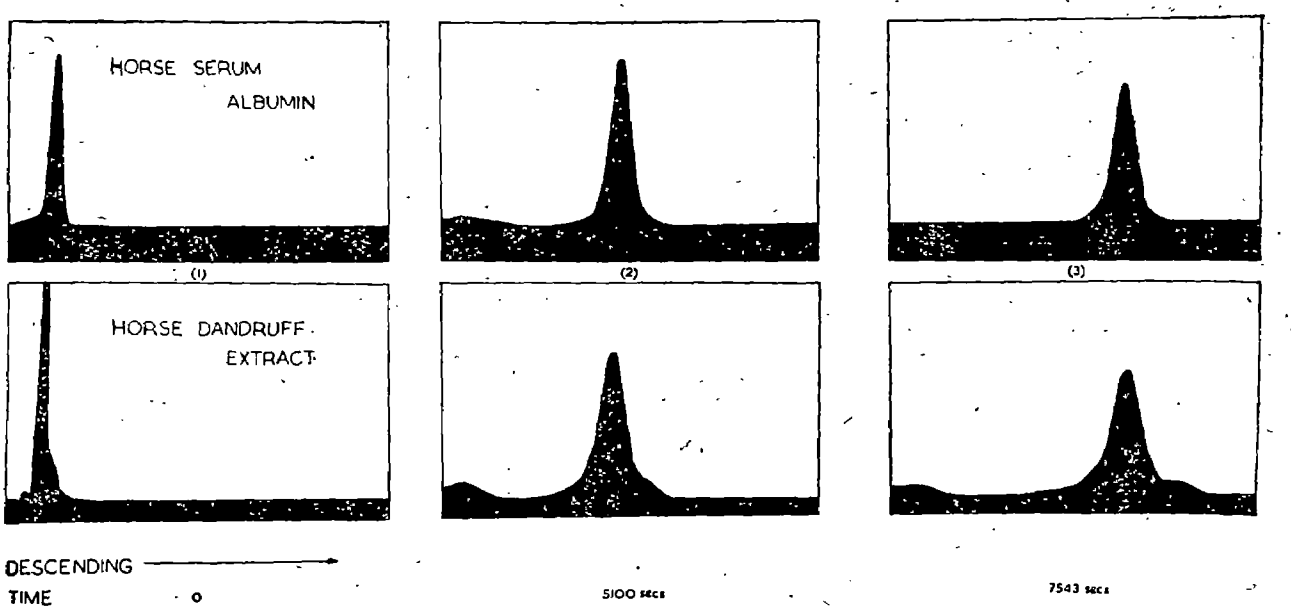
patient is to some extent "fixed" locally, for such a sensitized site is capable of reacting, even if testing is deferred for several days. In particular, this kind of experiment can serve as the basis of a quantitative assessment of sensitizing antibody circulating in the plasma of an asthmatic or hay-fever patient. For a sensitized site, having once given a full reaction, is "discharged" and cannot again be caused to react, even with much stronger test doses of sensitizing protein. This discharging reaction can be obtained either by pricking the sensitized site after, say, 24 hours, or by mixing sensitizing proteins in graded dilutions with the asthmatic serum before introducing it to the normal skin test sites.

If the minimal quantity of sensitizing protein required fully to discharge a site treated with a known quantity of asthmatic serum is regarded as an "equivalence dose" at least, comparative indications are obtained of the amounts of sensitizing antibody per millilitre of any patient's serum. Most immunological reactions—for example, precipitin reactions—involve not very dissimilar numbers of molecules of antigen and antibody. If these passive transfer reactions are assumed to follow a similar pattern, then it seems that quite small amounts of sensitizing antibody—for example, less than 1 mg./ml. of serum—are involved even in highly sensitized asthmatic patients.

Generalizations on Foreign Proteins

Turning to the foreign proteins responsible for tissue reactions in sensitization of the asthma–hay-fever type, certain tentative generalizations are now possible. Those adequately studied—for example, the proteins in grass pollen (Harley, 1937), ragweed pollen (Stull *et al.*, 1931), house-dust (Rimington *et al.*, 1947), and horse dandruff (Squire, 1950)—are all of the general nature of albumins. They are digested by pepsin in acid solution and lose their power to provoke reactions. They are precipitated from solution by saturation with ammonium sulphate, but not by half-saturation. My colleague, Mr. D. R. Stanworth, has been studying horse-dandruff albumin in parallel with recrystallized horse-serum albumin (both of these proteins often giving reactions in patients and suitably immunized animals). The electrophoretic mobility of the main component of the unpurified dandruff albumin closely resembles that of serum albumin in barbitone buffer (see illustration). This general similarity between the proteins sensitizing man by inhalation as dusts is perhaps not extraordinary, being related probably to their molecular size. In general, very small molecules are not potent antigens, while large protein molecules withstand drying poorly, usually being denatured and rendered insoluble. Perhaps, too, large molecules would fail to penetrate the mucous membranes, and so never have an opportunity to sensitize anyone. Guesses of this kind may indicate why the proteins concerned are all found among the "medium-sized" proteins. There is no evidence that they are otherwise related, and they seem to vary considerably in chemical composition—for example, in combined carbohydrate content.

The proteins known to cause sensitization in man are fully antigenic in animals. Precipitins are formed in response to injection, and animals such as guinea-pigs become sensitive, developing anaphylaxis when re-exposed after suitable intervals. Sensitization and shock can be induced, as shown by Ratner (1939), by letting animals inhale a fine spray of dust of such proteins. Sensitization in man can be assumed to follow absorption of the proteins either by inhalation or by ingestion. Direct evidence is lacking, but previous exposure as a cause is strongly suggested by the absence of specific sensitivity (even when sought) in areas of the world which are free from some special protein—for example, that of ragweed pollen in Europe (see Cooke and Sherman, 1950). Normal persons can absorb proteins through the gut, intact enough at least to excite reactions in passively sensitized sites. Lewis used to describe an experiment which failed—but succeeded in a different sense. He had sensitized a site on his forearm with some serum from a fish-sensitive subject, intending to test some preparations of protein by pricking them into the site next day. On leaving his home in the morning, however, he felt his forearm itching, and realized that a reaction had occurred



Comparison between electrophoretic mobilities of horse-serum albumin and horse-dandruff proteins. (Barbitone buffer pH 8.6, $\mu/2 = 0.1$.) Note that main component of dandruff resembles serum albumin, but that a minor component of greater mobility is also present in dandruff. (Electrophoresis conducted by Mr. D. R. Stanworth.)

prematurely. Unthinkingly, Lewis had accepted and eaten a kipper served for his breakfast (see Lewis and Grant, 1926).

The riddle of asthma, then, is not so much, How can a patient have been sensitized? as, Why are we not all sensitized? Our food, the very air we breathe, is charged with proteins capable of sensitization, and normal individuals absorb these proteins, at least to some extent. True, hay-fever of mild degree is a very common disorder, but well-marked asthma due to protein sensitization in otherwise healthy young persons is not so common. The riddle of the familial tendency to develop sensitization of this degree is still unsolved. Perhaps it implies that intact proteins are more freely absorbed by subjects who are liable to sensitization, though so far no evidence in favour of this idea has been presented. The careful quantitative studies now being conducted in animals to establish the dosage-response relationships between foreign proteins and anaphylactic sensitivity (Kabat, 1947; Coulson and Stevens, 1949) may offer fresh clues and suggest new experiments to be conducted on suitable patients.

Blood Eosinophilia

A feature commonly found in patients of the asthma–hay-fever–urticaria group is a blood eosinophilia. Repeated injections of protein, though each may be temporarily followed by a drop in blood eosinophils, induces eosinophilia in animals (Biggart, 1932). Many observations, but comparatively few experiments, are reported which could help to establish the significance and function of the eosinophil cell. The asthmatic patient's sternal marrow may show slight evidence of increased eosinophil production. If such a patient is kept free from exposure to the proteins to which he is sensitive (for example, in hospital) a gradual decline, say from 600–700 to 300 eosinophils per c.mm., over a period of about six weeks occurs (unpublished observations on a single patient). Such studies have been made reasonably accurate by the direct counting methods of eosinophil cells (Discombe, 1946).

In man and in animals, sensitized tissues affected by exposure to the appropriate foreign proteins may become crowded with eosinophil cells some hours later. As a working hypothesis, the eosinophil cell may be regarded as being concerned with "mopping-up" the products of tissue damage. Certainly, the large granules, so refractile under dark-ground illumination, so dense under phase-contrast microscopy, have some very specific function. In thin films of blood examined when warm and fresh the eosinophil is just about as active as a neutrophil polymorph leucocyte, moving with all its granules (except one or two) foremost. Phagocytosis of cocci by eosinophils is not readily observed in contrast with the behaviour of the polymorph. But the eosinophils will adhere to wettable surfaces, and on occasion—when offered, for instance, clumps of dead tubercle bacilli—they will lie close with only the granules in movement, circulating internally as if allowing different granules a period of active absorption close to the cell surface followed by a period of recovery deep in the cell body.

Are the granules acid (and avid for eosin) and capable of adsorbing base? Apparently, disruption of the eosinophil is the main source of histamine from the cells of the blood (Code, 1937). We are close to confusing fact and hypothesis in this account, but at least it can be said that the eosinophil cell is worthy of greater attention. Easily distinguished and handled as a living cell, its granules appear intact if the cell is disrupted by pressure—they could be separated and analysed.

Tuberculin–Trichophytin Group

The reactions to tuberculin have occupied the attention of physicians ever since Koch (1890) made the unfortunate claim for this substance as a remedy for tuberculosis. It is now clear that sensitization closely analogous to that which follows infection with tubercle bacilli may occur with other infections—for example, by species of the fungus *Trichophyton*, as in athlete's foot. As the details of tuberculin sensitization have been more fully studied, it seems best to concentrate upon these reactions which serve as a type for the whole group. Much space in Arnold Rich's (1944) absorbing book is given over to describing the facts of sensitization. Here only the salient features can be mentioned, with particular stress on the similarities and differences between asthma-type and tuberculin-type sensitizations.

The quality of specificity of the tuberculin reaction is just as striking as that of the asthma–hay-fever group. In fact, the practical application of this form of sensitization at present is in diagnostic tests, which determine whether or not an individual has been infected with tuberculosis. Just as in hay-fever the skin can be shown to be sensitive to many species of grass, so in patients infected with either human or bovine strains of bacilli skin reactions to any tuberculin can be demonstrated. Unrelated infections, however, as with *Trichophyton*, confer sensitization specifically, to, say, trichophytin, and not at all to tuberculin.

Sensitization of the tuberculin type can be shown to be widespread throughout the body, to a greater extent even than in asthma-type sensitization. Lung, kidney, testes, meninges, cornea—all show evidence of sensitization when tested experimentally (see Rich, 1944). The skin has been studied most, as it is most easily observed. When compared with the wheal-reaction characteristic of asthma-type skin tests, the tuberculin reaction differs profoundly even on naked-eye observation. Most striking is the difference in time relations. The mild asthma-type reaction appears in a matter of minutes and fades in half an hour. The tuberculin reaction may just be evident some eight hours after the introduction of the test solution, is at its height after 24 hours, and disappears only after some two to three days. Even then signs of the reaction may persist in the form of slight pigmentation and some flaking of the epidermis, for lasting cytological changes are present in the dermis. Overdosage with tuberculin causes local necrosis, never seen with the skin tests for asthma. Systemic reactions, too, may occur, but again these differ from those following overdosage with the agents which elicit asthma and urticaria, by being slower in onset and more long-lasting, with fever and a general bodily disturbance.

Dosage-response relationships have been worked out with tuberculin as with asthma-type reactions (Wadley, 1949; Long and Miles, 1950). A convenient index of reaction strength is again the diameter of the local oedematous area, but in this case measured after 24 hours rather than after 10–15 minutes. The diameter of the local lesion is also proportional over a fair range to the logarithm of the dose of tuberculin introduced.

Histological Changes

The histological changes accompanying the tuberculin reaction have been described and debated in detail. There can be no doubt about the striking degree of these changes, in contrast with the asthma-type reactions, nor about the extensive cellular infiltration with the various types of wandering cell, including polymorphs and mononuclears, as seen in many kinds of inflammation. Histological examination of lesions is in this case more delicate than clinical observation, in the sense that changes can be seen in sections of skin removed from tuberculin-test sites before the reactions are visible to the naked eye.

The observation that wandering cells participate in these reactions falls into line with the later experimental findings that tuberculin sensitivity can be passively transferred from one individual to another, not as in the Prausnitz–Küstner technique by serum, but only by the transfer of cells (leucocytes). This striking advance was achieved by Chase in 1945. Guinea-pigs were artificially sensitized by injection of tubercle bacilli. When concentrated suspensions of their leucocytes (0.2 ml.) were introduced into normal animals by intravenous or intraperitoneal injection the recipients were clearly sensitized as judged by tuberculin skin-testing, albeit for a few days only. These experiments have been amply confirmed by other workers in the United States, and extended by the work of Lawrence (1949), who showed that more striking degrees of sensitization can be induced in man. Lawrence used relatively smaller dosages of leucocytes, but the human cell donors were probably more highly sensitive than Chase's animals, being selected from patients naturally infected with tuberculosis. The tuberculin-negative recipients were injected intradermally. Sensitization then spread in many instances to involve even remote skin sites, and lasted sometimes for a month or two as judged by the usual intradermal tuberculin tests.

The importance of the motile cells in tuberculin sensitization is also underlined by tissue-culture experiments. The experiments of Rich and Lewis reported in 1932 can justly be described as classical, if not on grounds of antiquity then on the basis of their elegance. In suitable concentrations tuberculin gave no appreciable effect when added to cells grown from tissues of normal guinea-pigs, even if serum from sensitive animals was also added. But cells from guinea-pigs previously sensitized, even when washed and cultured in normal guinea-pig serum, were damaged by similar concentrations of tuberculin. Fibroblasts perhaps were relatively unharmed, but wandering mononuclears migrating out in tissue culture were slowed down, stopped, and eventually killed. Recently, Cruickshank (1951) has extended the idea that not all types of cell from sensitized animals are susceptible to tuberculin, by showing that sensitized guinea-pig epidermis can grow in media containing concentrations of tuberculin considerably above those required to excite gross reactions in the skin of the intact donor animal.

The generalization that tuberculin sensitivity is not dependent upon a serum factor is not disturbed by the experiments of Miller and Favour (1951). These workers have demonstrated that further complexities may be found in the serum of patients in certain stages of tuberculosis, as judged by acute behaviour changes in various blood leucocytes when acted upon by serum-tuberculin mixtures (Favour *et al.*, 1949).

Whereas a special study of the eosinophil leucocyte is needed to increase our knowledge of the asthma–urticaria type of sensitization, with regard to the tuberculin-trichophytin reactions the focus narrows on to the lymphocyte—or at least to the various types of mononuclear cell. These cells are very active in tissues, wandering rapidly from site to site, as described by Ebert *et al.* (1940) in the rabbit's ear.

The chemical eliciting the tuberculin reaction is undoubtedly protein in nature. The work of Seibert (1944) and others has shown that activity can be demonstrated in proteins of various sizes, but that the most highly active material, now usually known as P.P.D. (purified protein derivative) has a molecular weight of about 35,000, and is homogeneous in electrophoretic experiments. The material of lower molecular weight found in old tuberculin is presumably derived from P.P.D. by breakdown. But none of these protein fractions, injected alone by any route, has been shown to cause the development of tuberculin sensitization—another point of major difference from the anaphylactic form of sensitization. But even dead tubercle bacilli, injected in sufficient quantities, readily induce sensitization in suitable animals, such as rabbits and guinea-pigs. It has now been shown that the essential difference between the bacillus and the protein derived from it depends upon the presence of specific materials (perhaps capable of inducing phagocytosis by mononuclear cells), since suitable mixtures of tuberculoprotein with the wax of the tubercle bacillus injected into guinea-pigs have proved capable of inducing specific tuberculin-type sensitivity (see Raffel, 1948). Much remains to be discovered about the differing forms and degrees of sensitization which follow inoculations by different routes and in different mixtures with poorly soluble materials, though striking progress has recently been made, most clearly described (at the same time with a suitable sense of excitement) by Burnet and Fenner (1949).

Control of Sensitivity Reactions

The medical scientist is sometimes, not unjustly, accused of being less interested in the treatment of disease than in the original condition and its basis. This should not be so; not only does the understanding of disease mechanisms suggest rational lines of treatment, but the success or failure of therapy, rational or empirical, may often be used to validate or disprove current theories about the nature of a disease. From this point of view, three methods now in use for controlling the reactions to sensitization merit discussion—"desensitization," the "antihistamine" drugs, and cortisone.

Desensitization

This term was used to describe the effects of sublethal anaphylactic shock in experimental animals. After administration of suitable doses of specific protein, further injections may be without effect or may produce only minor reactions. This state of reduced reactivity, however, lasts only a few days at most; the only parallel in human medicine is probably found in such circumstances as when a horse-sensitive subject is treated with increasing doses of horse serum (starting with very small amounts) during a period of hours, so as to enable an adequate dose of some vitally needed antiserum to be administered. As in the animal, this desensitization is of limited duration.

On the other hand, a course of injections of, say, pollen extracts given to a patient regularly attacked by summer hay-fever, in increasing dosage at intervals of three to seven days, is well known to induce in a fair proportion of instances a gradual lessening of reactivity of skin and other sites to pollen tests and of the symptoms and signs of attacks. Several months of treatment are usually required, and the beneficial results may not last for more than one season.

The confusion of thought resulting from the use of the same word "desensitization" to describe these events has been unfortunate. The procedure required clearly suggests that some form of immunization process is involved, and experiments with the serum from patients treated in this way has confirmed the presence of a neutralizing antibody capable of combining specifically with the pollen protein in such a way that it no longer elicits skin reactions (Loveless, 1940; Harley, 1942). Simple tests—for example, stability to heat—can be used to differentiate this neutralizing antibody from the sensitizing substance originally present in the hay-fever subject's serum. These important findings deserve further work, directed, in particular, towards easier methods of determining *in vitro* the concentration of neutralizing antibody achieved at various stages of this form of treatment. The gradual reduction of tuberculin sensitivity which can be achieved by successive injections of the appropriate protein has not, apparently, been tested to determine whether a similar or different mechanism is involved.

Antihistamine Drugs

These were originally discovered by Bovet and Staub (1937) in Paris. Halpern (1950) has reviewed his own and other contributions to the introduction of compounds suitable for human administration, and has summarized recent experimental work. The antihistamine drugs are usually strikingly effective in controlling urticaria and hay-fever. Caution must be exercised, however, in drawing conclusions from this finding, since only some of these drugs single out histamine for antagonism (see Gaddum, 1948). Quantitative skin-testing shows that a great reduction occurs in the wheal-like responses to specific protein inoculation. Guinea-pig lung reactions to histamine, and (in sensitized animals) to doses of protein considerably greater than those known to cause death in unprotected animals, are abolished. In man, control of asthma is less certain; in some trials the patients' reports of improvement may have been vitiated by insufficient control of the "suggestion" factor—for example, failure to use dummy tablets—in others, the selection of patients has not been such as to ensure that true examples of sensitization were being studied. Whereas the asthma–urticaria group of patients are usually benefited by treatment with the antihistamine drugs, the sensitivity reactions of the tuberculin-trichophytin group are unaffected.

Cortisone

The effects of cortisone and of cortisone-liberating A.C.T.H. have been studied for too short a time for the formulation of more than tentative conclusions. It seems generally agreed at present that these drugs greatly diminish the naked-eye reactions to tuberculin, but have negligible effect on the wheal-like reactions to histamine or to agents such as pollen concerned with the asthma–urticaria type of response. It is clearly of very great importance to study the nature of this inhibition of the tuberculin reaction. A local effect of cortisone on ground-substance of subcutaneous tissue can be demonstrated by measuring dye-spreading round the site of injection (Gell and Hinde, personal communication). Histological studies of tuberculin reactions at various stages in their development in the rabbit have shown a highly significant reduction in the proportion of mononuclear cells as compared with polymorphonuclear leucocytes (Gell and Hinde). Whether these and the various other known effects of these hormones can eventually be correlated into a simple picture is uncertain at present: in their effects on the tuberculin reaction, at least, it seems that once again the behaviour of the mononuclear wandering cell is of major importance.

Conclusions

The study of sensitization often seems to raise as many questions as answers—a sign, perhaps, of a field of investigation worthy of further cultivation. In the introduction to this paper the importance of hypotheses in the advancement of medical science was explained, with the suggestion that a sign of merit was current usefulness rather than a pretence of final truth. With this justification an outline may be given of some working hypotheses designed to stimulate experiments on sensitization.

The asthma–urticaria type of reaction is evoked in certain tissues by the combination of a specific antibody, which is derived from the patient's plasma globulin, with appropriate antigens. These antigens are proteins encountered in the natural environment, are of medium molecular size, are usually relatively stable to drying, and have presumably induced sensitization on some previous occasions when inhaled or ingested by the patient. The reactions in various tissues responsible for the symptoms and signs are mediated by the release of pharmacologically active substances, among which a base having histamine-like properties is prominent; subsequent neutralization of reaction products may be carried out by eosinophil leucocytes. Parenteral administration of the same antigen (though usually in amounts differing considerably from those absorbed under natural circumstances) can give rise to the formation of neutralizing antibodies which may reduce the degree of reaction to subsequent exposure.

Tuberculin–trichophytin type sensitization follows phagocytosis of certain forms of poorly soluble material—for example, wax—along with specific proteins derived from various micro-organisms. These phagocytes and similar wandering cells may then carry sensitivity widely through the body. On subsequent contact with specific protein—for example, tuberculin—these mononuclear cells react by releasing substances capable of dilating small blood vessels and attracting other mononuclear cells to the vicinity. Enzyme liberation may also occur, perhaps tending to digest the foreign protein and even, in sufficient concentrations, to affect also the local tissues and ground-substance. The functional activity of these mononuclear cells is controlled by circulating hormones—for example, cortisone and thyroxine.

Caution would have dictated the use of "perhaps" many times in these two paragraphs. The techniques, however, for proof or disproof are ready to hand, and hypotheses should not expect a long life. Heparinized blood can be separated by red-cell aggregation with dextran or fibrinogen; the supernatant, rich in white

cells, can be poured through glass wool, to which the polymorphs adhere. The filtrate has only to be lightly centrifuged to obtain lymphocytes—alive if suitably handled. Do these cells carry the essential properties required by the hypotheses? If so, under what circumstances? Similarly, many more experiments need to be performed before the explanation of the various types of "antibody" found in asthma can be regarded as "being on a scientific basis."

Summary

Protein sensitization in man is a suitable subject for scientific study, especially when reinforced by animal experiments. Two main types—the asthma-urticaria and the tuberculin-trichophytin type—are considered and contrasted. Some of the methods of controlling sensitization reactions are discussed. Tentative hypotheses suggesting further experimental work are outlined.

REFERENCES

Biggart, J. H. (1932). *J. Path. Bact.*, **35**, 799.
Blackley, C. H. (1873). *Experimental Researches on the Causes and Nature of Catarrhus Aestivus (Hay-fever or Hay-asthma).* London.
Bovet, D., and Staub, A. M. (1937). *C.R. Soc. Biol., Paris.* **124**, 547.
Burnet, F. M., and Fenner, F. (1949). *The Production of Antibodies*, 2nd ed. Melbourne.
Chase, M. W. (1945). *Proc. Soc. exp. Biol., N.Y.*, **59**, 134.
Code, C. F. (1937). *J. Physiol.*, **90**, 485.
Cooke, R. A., and Sherman, W. B. (1950). In *Pathologic Physiology*, edited by W. A. Sodeman, p. 706. London.
Coulson, E. J., and Stevens, H. (1949). *J. Immunol.*, **61**, 119.
Cruickshank, C. N. D. (1951). *Nature, Lond.*, **168**, 206.
d'Abreu, A. L. (1940). *Lancet*, **2**, 421.
Discombe, G. (1946). Ibid., **1**, 195.
Ebert, R. H., Sanders, A. G., and Florey, H. W. (1940). *Brit. J. exp. Path.*, **21**, 212.
Favour, C. B., Fremont-Smith, P., and Miller, J. M. (1949) *Amer. Rev. Tuberc.*, **60**, 212.
Gaddum, J. H. (1948). *British Medical Journal*, **1**, 867.
Halpern, B. N. (1950). *Acta allerg., Kbh.*, **3**, Suppl. 1, 164.
Hare, R. (1926). *Heart*, **13**, 227.
Harley, D. (1937). *Brit. J. exp Path.*, **18**, 469.
—— (1942). *Studies in Hay-fever and Asthma.* London.
Kabat, E. A. (1947). *Amer. J. Med.*, **3**, 535.
Koch, R. (1890). Quoted by Rich (1944).
Lawrence, H. S. (1949). *Proc. Soc. exp. Biol., N.Y.*, **71**, 516.
Lewis, T. (1927). *The Blood Vessels of the Human Skin and Their Responses.* London.
—— and Grant, R. T. (1926). *Heart*, **13**, 219.
Long, D. A., and Miles, A. A. (1950). *Lancet*, **1**, 492.
Loveless, M. H. (1940). *J. Immunol.*, **38**, 25.
—— (1941). Ibid., **41**, 15.
Miller, J. M., and Favour, C. B. (1951). *J. exp. Med.*, **93**, 1.
Raffel, S. (1948). *J. infect. Dis.*, **82**, 267.
Ramirez, M. A. (1919). *J. Amer. med. Ass.*, **73**, 984.
Ratner, B. (1939). *Amer. J. Dis. Child.*, **58**, 699
Rich, A. R. (1944). *The Pathogenesis of Tuberculosis.* Springfield, Illinois.
—— and Lewis, M. R. (1932). *Bull. Johns Hopk. Hosp.*, **50**, 115.
Rimington, C., Stillwell, D. E., and Maunsell, K. (1947). *Brit. J. exp. Path.*, **28**, 309.
Salter, H. Hyde (1860). *On Asthma: Its Pathology and Treatment.* London.
Seibert, F. B. (1944). *Chem. Rev.*, **34**, 107.
Squire, J. R. (1950). *Clin. Sci.*, **9**, 127.
Stull, A., Cooke, R. A., and Chobot, R. (1931). *J. biol. Chem.*, **92**, 569.
Wadley, F. M. (1949) *Amer. Rev. Tuberc.*, **60**, 131.

The annual report of the honorary secretary of the Joint Tuberculosis Council briefly records the work of the council during the year. Probably the most important achievement was the completion and publication of forms of record for use in chest clinics. At the request of the Ministry of Health the council drew up a memorandum on the internal administration of hospitals, and members of the council also assisted the Ministry in drawing up a report on skiagraphic terminology and radiographic technique. A trial of a four-digit classification of tuberculosis was undertaken at the request of the World Health Organization.

DENTAL DISEASE AMONG 14-YEAR-OLD LONDON SCHOOL-CHILDREN IN 1947 AND 1950

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The Education Act of 1944, which raised the school-leaving age to 15, gave the opportunity for making dental surveys of the 14-year-old group. This age is suitable for the examination of the permanent teeth, as most types have erupted, with the exception of the third molars, while few deciduous teeth remain to be shed. It also provides an overall picture of the state of dental fitness of a section of children the majority of whom are about to leave school, and as such it will no doubt be of interest to the public health authorities.

The two surveys with which this paper is concerned were carried out during the winter months of 1947–8 and 1950–1, but for the sake of brevity they will be referred to as the 1947 and 1950 surveys. The London County Council very kindly afforded facilities for making the inspections, all of which took place in schools under their authority, the number of children examined being 1,216 in the earlier year and 1,089 in the later. These children were unselected samples distributed between modern, technical, and grammar secondary schools, the proportions from each bearing a rough relation to that of the total child population attending the different kinds of secondary schools in the area. In both surveys approximately 72% were from the modern schools, 12% from technical schools, and 16% from grammar schools. Since more children attend modern schools, any differences between the teeth of these children in the two surveys have more influence on the total figures than have the differences between the teeth of technical or grammar pupils. The samples of children from the latter kinds of school were too small to give more than an indication of possible differences between them and the moderns, especially where individual types of teeth are concerned.

The examination procedure and the charts used for recording the dental condition of the children were basically the same as those employed in the surveys of 5-year-olds from 1943 onwards (see Mellanby and Coumoulos, 1946), but certain adaptations were made to suit the charts for use with the permanent dentition (see Chart). Although external structure (as gauged by M. Mellanby's probe method), the incidence and extent of caries, mottling of the enamel, tartar, gingivitis, alignment, and occlusion were recorded, in the present paper only the results relating to the incidence and extent of caries, gingivitis, and tartar are given

Methods

Each child's mouth was carefully examined by one of us with a standard probe and illuminated mirror, the results for each individual being separately charted.

PERMANENT TEETH

Name _____ Date of Birth _____ No. _____

School _____ Date _____

Gingivitis 0, 1, 2, 3														
Tartar														
Mottling 0, 1, 2, 3														
M-hypoplasia (0, 1, 2, 3) & G														
Caries 0, 1, 2, 3														
Teeth Present	7	6	5	4	3	2	1	1	2	3	4	5	6	7
Teeth Present	7	6	5	4	3	2	1	1	2	3	4	5	6	7
Caries 0, 1, 2, 3														
M-hypoplasia (0, 1, 2, 3) & G														
Mottling 0, 1, 2, 3														
Tartar														
Gingivitis 0, 1, 2, 3														

State of mouth _____

Alignment _____

Occlusion _____

Stain _____

The expression of the incidence of caries alone, whether given as a percentage or as the D.M.F. (decayed, missing, filled) figure, does not in our opinion provide a complete picture of the state of the teeth, as a group of individuals with small cavities would appear on paper to have the same amount of caries as a group in which the cavities were large. In these surveys, therefore, when caries was considered to be present in a tooth an attempt was made to assess the extent by grading the lesion 1, 2, or 3 according to the following criteria :

Grade C_1. Slight Caries.—(*a*) Pits and fissures suspected of caries on account of the probe sticking. (*b*) Indefinite approximal caries (i.e., presence strongly suspected). (*c*) Tiny visible cavities up to about 1 mm. in diameter.

Grade C_2. Moderate Caries.—Cavities larger than those in grade 1, but not involving more than one-quarter of the crown.

Grade C_3. Severe Caries.—Cavities involving more than one-quarter of the crown. In this last category were also placed all teeth assumed to have been extracted for caries, and those of which only carious roots remained.

When a history was obtained of teeth extracted for regulation or following trauma, these were excluded from all the results. Filled teeth were counted as having been decayed, since it is unlikely that any of the children examined would have had "preventive" fillings inserted. In assessing the probable size of a cavity before treatment a small allowance was made for removal of extra tooth substance in preparation. For instance, very small amalgam fillings in fissures of the molar teeth were graded C_1, and fillings anywhere which only just exceeded one-quarter of the crown were graded C_2. From this assessment of caries extent, an average caries figure (A.C.F.) was derived according to the formula set out in the footnote to Table IV. It is fully realized that this method of assessing the extent of caries can give only an approximate result, as it relies largely on naked-eye inspection, but when it is employed by the same investigators for successive surveys it gives comparable results.

A small proportion of teeth (approximately 3%), chiefly upper canines, upper and lower premolars, and second molars, remained unerupted. Each case of apparent non-eruption was judged on its merits; for instance, when the deciduous precursor was either *in situ* or had very recently been shed, or the outline of the permanent tooth could be seen through the gum, it was then obvious that a given tooth had not erupted. In the case of the second molars the decision of non-eruption *versus* extraction was sometimes more difficult, but the appearance of the gum combined with the stage of eruption of other teeth, especially the other second molars in the same mouth, usually provided sufficient evidence one way or another.

When no caries was detected in any of a child's permanent teeth, and there was also no evidence of any such teeth having been extracted or filled on account of decay, that child was considered for the purpose of this investigation to be caries-free, though no doubt it might have been found to have decay had ancillary aids over and above a probe and mirror been used. If only a small amount of caries was detected in a child, such as one, two or three grade 1 cavities, and there had again been no extractions or fillings, that child was placed in a separate category labelled "slight caries" to distinguish it from children with more extensive lesions. These two groups, the "caries-free" and those with "slight caries," together give an idea of the proportion of children who at 14 would be considered to have "good" mouths.

Gingivitis, when present, was roughly divided into three grades, depending on the degree of swelling and hyperaemia, especially of the interdental papillae, coupled with the extent of this in each mouth. Children with "normal" gingivae were classified as 0. Their gum tissue was a uniform pale pink with thin edges closely adherent to the tooth surfaces, the spaces between adjoining teeth being filled by the points of the interdental papillae. The appearance of the gum surface was matt, due to the presence of stippling (King, 1945) as opposed to the shiny surface seen in abnormal tissues. Grade 1 (mild gingivitis) included children with shiny and slightly swollen papillae between a few teeth, as was most commonly found in the lower incisor region. Grade 2 (moderate gingivitis) contained those children in whom large areas of the gingivae were slightly affected, or who had considerable amounts of swelling and hyperaemia round a few teeth, with the rest little affected. Grade 3 (severe gingivitis) was used for those children with very obviously thickened, reddened, and swollen gum tissue. In some individuals this might be confined to the anterior teeth, but in others it was more extensive. A few in this group had advanced gingival disease with ulceration and pocketing.

Tartar deposits on individual teeth were graded on the charts as 1, 2, or 3, according to whether they covered up to one-third, two-thirds, or the whole of the buccal or lingual surface. From these figures an average assessment for each mouth was obtained, and the children were then graded into four categories—0, 1, 2, and 3.

Caries

The number of children examined in the two surveys and distributed between the three kinds of secondary school are given in Table I, column 2. The totals for

TABLE I.—*Children Caries-free or with Slight Caries and the Average Number of Carious Permanent Teeth per Child (D.M.F.)*

1	2		3		4		5	
Variety of Secondary School	No. of Children Examined		Percentage Caries-free*		Percentage with Slight Caries* (Three or Less C. Cavities)		Average No. of Carious Teeth per Child (D.M.F.)	
	1947	1950	1947	1950	1947	1950	1947	1950
Modern ..	878	784	11·3	17·0	11·2	17·9	3·99	3·65
Technical ..	151	136	13·2	14·0	16·6	15·4	3·68	4·04
Grammar ..	187	169	11·2	13·6	19·3	11·8	3·90	4·20
Total ..	1,216	1,089	11·5	16·1	13·1	16·8	3·94	3·79

* See text for definitions.

1950 were rather fewer, but the proportions attending the modern, technical, and grammar schools were the same on each occasion. In the 1947 survey 54% of the children were boys and 46% were girls, whereas in 1950 the respective percentages were 55.8 and 44.2, the average age on both occasions being 14 years 5 months.

The proportion of *children* considered to be caries-free, according to the standards used, increased from 11.5% in 1947 to 16.1% in 1950 (Table I, column 3). This increase was spread over the three kinds of school, being more pronounced in the modern than in the others. The total percentage of children with very little decay (Table I, column 4) also increased, but this was entirely because the considerable improvement in the modern pupils more than compensated for the reduced number of such children in technical and grammar schools. The average number of carious teeth per child (equivalent to the D.M.F. per child of some authors) showed a slight overall reduction, which was again achieved by the modern schools' improvement exceeding the somewhat worsened state of affairs in the others. More boys than girls were found to be caries-free in 1950—about 19% as compared with 12%—whereas in 1947 the difference in this respect was negligible.

In Table II an attempt has been made to gather together from the literature a few comparative caries figures for other groups, mostly children of fairly similar age who had also been examined with a probe and mirror. From this table it will be seen that in some communities, such as Hagerstown (U.S.A.) and Newfoundland, caries incidence was high, only 4.6 and 0.8% respectively of the children examined being caries-free at 14 years of age. Children from Chicago, Trinidad, and American Indian reserves gave intermediate figures of 14.4, 13.8, and 23% respectively of individuals caries-free. Where caries incidence in this age group was considered to be comparatively low, as in the Isle of Lewis, Scotland, the town of South Shields, England, and Northern Italy, the percentages of caries-free children were 30.8, 25.8–50.6, and 38.4 respectively. African and, more recently, Indian children were found by M. Mellanby to be remarkably free from caries; in the latter case 65.8% of the 14-year age group at Lucknow were in this category. From these figures it will be realized that the London children in 1950, with 16.1% of individuals free from decay, were better than some groups, though a long way from the best so far reported, even for this country—for example, Lewis and South Shields.

The percentage of teeth present in the London children at the time of inspection are given in Table III. These figures represent the teeth actually seen in the mouth (extractions as well as unerupted teeth being omitted here), as compared with the possible total if every child had 28 permanent teeth erupted. The very few third molars observed were excluded. The majority of the 28 teeth per child were *in situ*, the percentages being 94.8 in 1947 and 95.9 in 1950.

Individual differences in the proportion of the various types of teeth present in pupils from the three kinds of school were on the whole very small. In 1947 the percentages of upper and lower first molars were highest in the grammar schools and lowest in the modern, the difference being between 6 and 7%. In 1950 there was no difference between the schools as regards upper first molars, but of the lower first molars the grammar schools now had the lowest percentage and the technical the highest, the discrepancy between them being 6.8%.

TABLE II.—*Comparative Figures for Dental Caries in Different Parts of the World*

Place	Author	Date of Survey	No. of Individuals Examined	Age Group	Percentage of Individuals Caries-free	Percentage of Teeth Carious or D.M.F. per 100 Teeth	Average No. of Decayed Teeth per Person (D.M.F.)	Comments
Africa, Kenya ..	M. Mellanby (1934)	1929	103	Young adults	84	2·01 (approx.)	0·56 (approx.)	
Africa, Zanzibar ..	M. Mellanby (1934)	1929	154	Aver. 27 years	50		1·5	Deciduous and permanent teeth
U.S.A. American Indians in reserves..	Klein and Palmer (1937)	1929–33	1,300	14 and 15 ,,	23	11·1 (approx.)	3·12	Indians distributed between 76 reserves in 16 States
Scotland, Isle of Lewis	King (1940)	1937	185	13–15 ,,	30·8	8·5	2·2	Rural fishing communities
U.S.A., Hagerstown, Madison	Klein *et al.* (1938)	1937	364	14 ,,	4·6	19·2	5·2	Described as typical East U.S.A. small town
U.S.A., Chicago ..	Dean *et al.* (1941)	1939	2,832	12–14 ,,	14·4 (average)	—	4·73 (average)	Average of eight separate communities
Italy (four northern cities)	Schour and Massler (1947)	1945	475	11–15 ,,	53·4	—	1·05	Deciduous and permanent teeth
Trinidad	King and Martin (1951)	1945	247	16–20 ,,	38·4	—	2·02	Permanent teeth
British Guiana ..		1948	406	12–14 ,,	13·8	21·7	5·37	East Indian and Negro children
Newfoundland ..	H. Mellanby (unpublished work)	1948	100	12–14 ,,	13·0	18·4	4·91	
			595	14 ,,	0·8	30·7	8·39	
England, South Shields	Weaver (1950)	1943	500	12 ,,	25·8	—	2·4	1·4 p.p.m. fluorine in water supply
		1949	500	12 ,,	50·6	—	1·3	
England, North Shields	Weaver (1950)	1943	500	12 ,,	4·8	—	4·3	Negligible fluorine
		1949	500	12 ,,	26·4	—	2·4	
India, Lucknow ..	M. Mellanby (unpublished work)	1951	266	14 ,,	65·8	2·71		
		1951	801	13–20 ,,	60·8	3·4	0·95	

A proportion of the spaces for unerupted permanent teeth were still occupied by deciduous predecessors; for example, in 1950 there were 139 deciduous teeth still retained, of which 33.1% were upper canines and 57.6% were second molars. No records were made of decay in these teeth, all the figures for caries incidence and extent given in this paper referring to the permanent dentition only.

TABLE III.—*Percentage of Permanent Teeth of Each Type In Situ*

Type of Tooth	Variety of School	1947		1950	
Upper jaw:					
Central incisors ..	Modern	99·0	99·2	98·9	98·8
	Technical	99·7		99·6	
	Grammar	99·7		99·1	
Lateral incisors ..	Modern	97·8	98·2	98·3	98·2
	Technical	98·7		98·5	
	Grammar	99·5		97·9	
Canines	Modern	97·3	97·7	97·4	96·7
	Technical	98·0		96·0	
	Grammar	98·9		94·4	
1st premolars ..	Modern	97·8	97·5	99·1	98·6
	Technical	96·7		98·5	
	Grammar	96·8		97·8	
2nd premolars ..	Modern	91·6	91·9	92·8	93·3
	Technical	91·1		93·8	
	Grammar	94·1		95·3	
1st molars	Modern	90·5	92·1	93·6	93·6
	Technical	95·7		93·8	
	Grammar	96·8		93·8	
2nd molars ..	Modern	93·8	93·3	96·8	96·4
	Technical	90·2		95·6	
	Grammar	93·5		95·9	
Lower jaw:					
Central incisors ..	Modern	99·8	99·9	99·7	99·6
	Technical	100		99·3	
	Grammar	100		99·4	
Lateral incisors ..	Modern	99·7	99·8	99·7	99·7
	Technical	100		99·6	
	Grammar	100		99·4	
Canines	Modern	99·4	99·5	99·7	99·8
	Technical	99·7		99·6	
	Grammar	100		100	
1st premolars ..	Modern	95·7	95·4	97·4	97·5
	Technical	93·4		97·4	
	Grammar	95·7		99·1	
2nd premolars ..	Modern	83·2	84·2	87·0	87·6
	Technical	84·4		89·0	
	Grammar	88·5		89·9	
1st molars	Modern	83·2	85·1	87·8	87·0
	Technical	89·1		89·0	
	Grammar	90·9		82·2	
2nd molars	Modern	93·7	93·4	96·7	95·8
	Technical	92·4		96·3	
	Grammar	92·5		95·6	
Totals for upper and lower jaws	Modern	94·5	94·8	95·9	95·9
	Technical	94·9		96·1	
	Grammar	96·2		95·7	

An analysis of the caries results for both surveys and for each type of permanent tooth in the combined schools is given in Table IV. Column 2, compiled from the numbers of teeth inspected plus those extracted for caries, shows the total numbers on which the analysis is based. As is usual in most civilized communities, the tooth most frequently attacked by disease was the lower first molar (over 60% in each survey being carious), with the upper first molar coming next. The least attacked were the canines, the lower incisors, and the lower first premolars.

The caries incidence for all types of teeth together was 14.6% in 1947 and 13.9% in 1950 (Table IV, column 7). When the different types of teeth are considered individually, however, it will be seen that there was more caries in 1950 among the upper incisors and rather less in the first molars. The A.C.F. for these teeth (column 8) showed corresponding increases in the upper incisors and decreases in the first molars. The very slight overall improvement in the caries position in 1950 compared with 1947, therefore, was not achieved by a uniform reduction of decay, but rather by the reduction in the incidence of first molar decay exceeding the increase experienced in the upper incisors.

The caries incidence and extent in the three varieties of school are set out in Table V. From the total percentages at the bottom of column 7 it will be seen that in 1947 the technical schools had the lowest overall caries incidence and the modern schools the highest, though the difference between them was very small (13.7% compared with 14.8% of teeth affected). By 1950 there had been a slight reduction of caries in the modern schools (from 14.8 to 13.4%), whereas in the other two groups the incidence had apparently increased a little (from 13.7 to 14.8% in the technical schools and from 14.5 to 15.4% in the grammar schools), though as the samples were small too much importance should not be attached to individual results for technical and grammar schools. It will also be seen from Table V, column 7, that the improvement in the caries position

TABLE IV.—*Caries Incidence and Extent in the Combined Schools*

1	2		3		4		5		6		7		8	
Type of Tooth	Total No. of Teeth (including Extractions)		Teeth Graded C_0 (No Caries)		Teeth Graded C_1 (Slight Caries)		Teeth Graded C_2 (Moderate Caries)		Teeth Graded C_3 (Severe Caries)		Total Carious Teeth (Equiv. of D.M.F. per 100 Teeth)		A.C.F.*	
	1947	1950	1947	1950	1947	1950	1947	1950	1947	1950	1947	1950	1947	1950
Upper jaw:			%	%	%	%	%	%	%	%	%	%		
Central incisors ..	2,415	2,159	93·9	90·6	3·1	4·4	2·5	4·1	0·5	0·9	6·1	9·4	0·10	0·15
Lateral ,, ..	2,392	2,141	95·0	93·2	2·3	3·6	2·3	2·9	0·4	0·4	5·0	6·8	0·08	0·10
Canines	2,380	2,107	99·4	99·9	0·3	0·1	0·2	0·1	0·2	—	0·6	0·2	0·01	0·002
1st premolars	2,379	2,152	95·1	95·0	1·8	2·4	2·6	2·0	0·5	0·6	4·9	5·0	0·09	0·08
2nd ,, ...	2,237	2,035	92·9	94·3	3·3	2·8	3·0	2·2	0·8	0·6	7·1	5·7	0·12	0·09
1st molars	2,427	2,178	44·7	50·3	20·0	20·3	23·5	19·9	11·8	9·5	55·3	49·7	1·02	0·89
2nd ,, ...	2,270	2,105	82·5	84·6	13·6	10·5	3·6	4·2	0·4	0·7	17·5	15·4	0·22	0·21
Total for upper jaw ..	16,500	14,877	86·1	86·7	6·3	6·4	5·5	5·1	2·1	1·8	13·9	13·3	0·24	0·22
Lower jaw:														
Central incisors ..	2,429	2,170	99·1	99·5	0·5	0·3	0·4	0·1	0·04	—	0·9	0·5	0·01	0·01
Lateral ,, ..	2,427	2,171	99·3	99·8	0·3	0·0	0·4	0·1	0·04	—	0·7	0·2	0·01	0·003
Canines	2,420	2,173	99·9	100·0	0·1	—	—	0·05	—	—	0·1	0·05	0·001	0·001
1st premolars ..	2,323	2,128	99·1	99·1	0·2	0·1	0·4	0·4	0·3	0·4	0·9	0·9	0·02	0·02
2nd ,, ...	2,055	1,910	96·1	98·9	1·3	1·1	2·0	1·4	0·6	0·7	3·9	3·1	0·07	0·06
1st molars	2,431	2,177	33·6	38·5	16·4	18·5	28·3	25·0	21·7	18·0	66·4	61·5	1·38	1·22
2nd ,, ...	2,279	2,107	67·6	66·4	20·0	20·2	10·7	10·6	1·7	2·8	32·4	33·6	0·46	0·50
Total for lower jaw ..	16,364	14,836	84·7	85·6	5·5	5·8	6·1	5·5	3·6	3·2	15·3	14·4	0·29	0·26
Total for u. and l. jaws	32,864	29,713	85·4	86·1	5·9	6·1	5·8	5·3	2·9	2·5	14·6	13·9	0·26	0·24

$$* \text{ A.C.F. (average caries figure)} = \frac{\text{Total caries figure}}{\text{Total number of teeth, including extractions}} = \frac{\text{No. of } C_1 + 2(\text{No. of } C_2) + 3(\text{No. of } C_3)}{\text{Total number of teeth, including extractions}}$$

of the modern schools in 1950 was largely attributable to the marked reduction in the caries incidence in the first molars, whereas in the other varieties of school there was an increased incidence in these teeth. The upper incisors showed more decay in all three kinds of school in 1950, but it was greater in the technical and grammar than in the modern schools. These differences are also seen in the average caries figures (column 8). The greatest discrepancies between the schools in the respective surveys occurred in the lower second molars in 1947 and in the upper and lower first molars in 1950.

When the percentage of carious teeth found in the London children in 1947 and 1950—namely, 14.6 and 13.9—are compared with the findings in other groups in various parts of the world (see Table II), it will be seen that the London children occupy an intermediate position. They have less decay than West Indian, Newfoundland, and some U.S.A. children, but more than children from Lewis (Scotland), and many more than groups of Africans and Indians.

Table VI, which indicates the amount of dental treatment given to the London children, shows that approximately the same percentage of carious teeth had been extracted in the case of the children examined in the two surveys—12.3 in 1947 and 11.5 in 1950—while there was a slight falling-off in the percentage of carious

TABLE V.—*Caries Incidence and Extent in Three Varieties of School*

1	2	3		4		5		6		7		8	
Type of Tooth	School	Teeth Graded C_0 (No Caries)		Teeth Graded C_1 (Slight Caries)		Teeth Graded C_2 (Moderate Caries)		Teeth Graded C_3 (Severe Caries)		Total Carious Teeth (Equiv. of D.M.F. per 100 Teeth)		A.C.F.*	
		1947	1950	1947	1950	1947	1950	1947	1950	1947	1950	1947	1950
Upper jaw:		%	%	%	%	%	%	%	%	%	%		
Central incisors	Modern	94·0	91·7	3·0	4·5	2·4	2·9	0·6	0·8	6·0	8·2	0·10	0·13
	Technical	93·1	86·7	3·3	5·9	3·0	7·0	0·6	0·4	6·9	13·3	0·11	0·21
	Grammar	94·4	88·1	2·9	3·0	2·4	7·4	0·3	1·5	5·6	11·9	0·09	0·22
Lateral incisors	Modern	95·3	94·2	2·3	4·0	2·0	2·2	0·4	0·3	4·7	5·8	0·08	0·09
	Technical	92·6	91·8	3·3	5·6	3·7	2·2	0·3	0·4	7·4	8·2	0·12	0·11
	Grammar	95·4	90·0	1·6	3·6	2·7	5·4	0·3	0·9	4·6	10·0	0·08	0·17
Canines ..	Modern	99·3	99·8	0·2	0·1	0·2	0·1	0·3	—	0·7	0·2	0·01	0·003
	Technical	99·0	100·0	0·7	—	0·3	—	—	—	1·0	—	0·01	—
	Grammar	100·0	100·0	—	—	—	—	—	—	—	—	—	—
1st premolars ..	Modern	94·9	95·2	2·0	2·4	2·7	1·7	0·5	0·6	5·1	4·8	0·09	0·08
	Technical	95·2	93·7	1·0	2·2	3·1	3·7	0·7	0·4	4·8	6·3	0·09	0·11
	Grammar	95·9	95·5	2·0	2·1	1·6	2·1	0·5	0·3	4·1	4·5	0·07	0·07
2nd premolars..	Modern	92·9	94·2	3·5	2·7	2·7	2·6	0·9	0·5	7·1	5·8	0·12	0·09
	Technical	94·9	94·9	1·8	2·7	2·9	1·2	0·4	1·2	5·1	5·1	0·09	0·09
	Grammar	91.5	94·8	3·4	3·1	4·5	1·2	0·6	0·9	8·5	5·2	0·14	0·08
1st molars ..	Modern	45·4	54·5	18·5	19·0	22·6	17·0	13·5	9·6	54·6	45·5	1·04	0·82
	Technical	41·7	40·1	23·9	27·6	26·5	23·5	7·9	8·8	58·3	59·9	1·01	1·01
	Grammar	43·8	39·1	23·8	20·4	25·7	30·8	6·7	9·8	56·2	60·9	0·95	1·11
2nd molars ..	Modern	81·6	84·3	14·1	11·2	3·9	4·0	0·4	0·6	18·4	15·7	0·23	0·21
	Technical	87·2	86·2	9·6	9·2	2·6	3·8	0·7	0·8	12·9	13·8	0·17	0·19
	Grammar	82·9	85·0	14·3	8·3	2·9	5·8	—	0·9	17·2	15·0	0·20	0·23
Lower jaw:													
Central incisors	Modern	99·0	99·7	0·5	0·1	0·5	0·1	0·1	—	1·0	0·3	0·02	0·004
	Technical	100·0	99·6	—	0·4	—	—	—	—	—	0·4	—	0·004
	Grammar	98·4	98·5	1·1	1·2	0·5	0·3	—	—	1·6	1·5	0·02	0·02
Lateral incisors	Modern	99·1	99·9	0·3	—	0·5	0·1	0·1	—	0·9	0·1	0·01	0·003
	Technical	100·0	99·6	—	—	—	0·4	—	—	—	0·4	—	0·007
	Grammar	99·5	99·7	0·5	0·3	—	—	—	—	0·5	0·3	0·01	0·003
Canines ..	Modern	99·8	99·9	0·2	—	—	0·1	—	—	0·2	0·1	0·002	0·001
	Technical	100·0	100·0	—	—	—	—	—	—	—	—	—	—
	Grammar	100·0	100·0	—	—	—	—	—	—	—	—	—	—
1st premolars ..	Modern	99·0	99·0	0·2	0·1	0·5	0·3	0·3	0·5	1·0	1·0	0·02	0·02
	Technical	98·6	99·6	0·4	—	0·7	0·4	0·4	—	1·4	0·4	0·03	0·008
	Grammar	100·0	98·8	—	0·3	—	0·6	—	0·3	—	1·2	—	0·02
2nd premolars..	Modern	95·9	96·7	1·3	1·0	2·2	1·4	0·6	0·7	4·1	3·1	0·07	0·06
	Technical	96·9	96·3	1·2	1·7	1·6	1·2	0·4	0·8	3·1	3·7	0·05	0·07
	Grammar	96·4	97·4	1·2	1·0	1·5	1·6	0·9	—	3·6	2·6	0·07	0·04
1st molars ..	Modern	32·5	40·6	15·6	19·1	27·1	22·3	24·8	18·0	67·5	59·4	1·44	1·16
	Technical	37·4	36·0	17·2	15·8	29·5	33·5	15·9	14·7	62·6	64·0	1·24	1·27
	Grammar	35·8	30·9	19·5	18·1	32·9	30·9	11·8	20·2	64·2	69·1	1·21	1·40
2nd molars ..	Modern	67·1	64·8	19·6	22·3	11·2	9·8	2·1	3·0	32·9	35·2	0·48	0·51
	Technical	74·9	70·9	16·9	16·6	7·9	9·8	0·4	2·6	25·1	29·1	0·34	0·44
	Grammar	64·2	69·6	24·6	13·5	10·1	15·0	1·2	1·8	35·8	30·4	0·50	0·49
All types	Modern	85·2	86·6	5·8	6·2	5·7	4·7	3·3	2·5	14·8	13·4	0·27	0·23
	Technical	86·3	85·2	5·7	6·3	6·0	6·3	2·0	2·2	13·7	14·8	0·24	0·25
	Grammar	85·5	84·6	6·7	5·4	6·1	7·3	1·6	2·7	14·5	15·4	0·24	0·25

* See footnote to Table IV.

TABLE VI.—*Treatment and Arrest of Decay*

1	2		3						4		5	
Variety of Secondary School	No. of Carious Teeth		Treatment of Carious Teeth						Percentage of Total Carious Teeth with Moderate and Severe Caries Untreated ($C_2 + C_3$)		Percentage of *Untreated* Carious Teeth Showing Arrest of Decay	
			Percentage Extracted		Percentage Filled		Total Percentage Treated					
	1947	1950	1947	1950	1947	1950	1947	1950	1947	1950	1947	1950
Modern ..	3,500	2,862	13·9	11·6	41·1	33·3	55·0	44·9	17·8	21·9	3·68	2·86
Technical ..	556	550	9·2	9·3	45·5	52·9	54·7	62·2	17·8	14·5	3·17	2·88
Grammar ..	737	710	7·1	12·8	54·4	52·8	61·5	65·5	8·8	12·5	4·23	1·22
Total ..	4,793	4,122	12·3	11·5	43·6	39·3	55·9	50·8	16·4	19·3	3·69	2·88

TABLE VII.—*Comparative Gingivitis Figures for Older Children*

Place	Author	Date of Survey	No. of Children Examined	Age Group	Percentage of Children Free from Gingivitis	Percentage of Children with Mild Gingivitis	Percentage of Children with Moderate Gingivitis	Percentage of Children with Severe Gingivitis	Average Gingivitis Figure
London	Mellanby and Mellanby	1947 1950	1,192* 1,069*	14 years 14 ,,	26·3 14·9	30·5 39·0	33·8 39·1	9·3 7·0	1·26 1·38
Scotland, Isle of Lewis (rural)	King (1940)	1937	185	13–15 ,,	3·8	—	—	—	1·11
Newfoundland ..	H. Mellanby (unpublished)	1948	595	14 ,,	21·0	28·7	36·6	13·6	1·43
Trinidad	King and Martin (1951)	1948	406	12–14 ,,	17·0	—	—	—	0·95
British Guiana ..			100	12–14 ,,	11·0	—	—	—	1·30
India, Lucknow ..	M. Mellanby (unpublished)	1951	265 472	14 ,, 15–20 ,,	27·2 28·8	43·8 39·2	23·0 25·0	6·0 7·0	1·08 1·10

* In a few instances gingivitis and tartar figures on the charts were found to be incomplete; these charts were therefore excluded in preparing Tables VII and VIII.

teeth which had been filled—43.6 in 1947 compared with 39.3 in 1950. There was therefore an overall reduction of 5% in the proportion of carious teeth treated as between the 1947 and 1950 surveys. A comparison of the figures for the three kinds of school shows that technical and grammar schools had had some increase in treatment. It was in the modern schools where this had been reduced, but it will be noted that it was the children in these same schools who showed a reduction in caries incidence (see Table V). A small amount of apparently "arrested" caries was found in the two surveys. This occurred in 3.69% of all untreated carious teeth in 1947 and 2.66% in 1950 (see Table VI, column 5).

Gingivitis and Tartar

The results of the gingivitis estimations based on the criteria described above are given in Table VII. Here it will be seen that only 26.3% of the children in 1947 and 14.9% in 1950 were considered to have no gingivitis, approximately two-thirds in both years had a slight or moderate degree, while relatively few, 9.3 and 7% respectively, were counted as having a severe type. It would therefore appear that gingivitis was a common condition among these children, and that its incidence had apparently increased between 1947 and 1950.

A few comparative figures for other surveys are also given in Table VII, showing that gingivitis, at least in a mild form, is widespread, though its occurrence seems to have no simple explanation. It is always difficult to compare the findings for the incidence and degree of gingivitis of different workers, since the standards vary, quite apart from personal factors in the examinations. For this reason the investigations to which reference is made here are confined to those of ourselves and a former colleague, J. D. King, who has latterly made an experimental and clinical study of the subject. He employs a more detailed classification than we, so that his results for the West Indian children in Trinidad and British Guiana are not strictly comparable with our findings in London, Newfoundland, and India.

TABLE VIII.—*The Association Between Tartar Deposits and the Occurrence of Gingivitis*

1	2		3		4	
Grade of Tartar	No. of Children		Percentage of Children with Gingivitis		Average Gingivitis Figure	
	1947	1950	1947	1950	1947	1950
0	469	366	65·5	81·7	0·99	1·24
1 (slight)	364	400	71·2	85·5	1·17	1·34
2 (moderate) ..	285	259	84·9	87·3	1·59	1·54
3 (extensive) ..	74	44	94·6	97·7	2·14	2·00
	1,192	1,069	73·7	85·1	1·26	1·38

Table VIII (column 2) gives the number of London children with various grades of tartar deposition from 0 to 3 (see above), from which may be calculated the incidence of the different degrees and the average tartar figures. The same table (columns 3 and 4) also gives the associated occurrence and extent of gingivitis. The areas of the mouth most commonly affected by tartar were, as is usual, the upper first molar and the lower incisor regions. Some 5% fewer children were free from tartar in 1950 as compared with 1947, but 7% more had only a slight degree; the average tartar figures (calculated on the same basis as the average caries figures) will be found to be almost identical for the two surveys.

Although many of the children with no tartar had gingivitis, this was generally of a milder degree than that experienced by children having calculus. With increasing amounts of tartar the incidence of gingivitis was also raised, until with extensive deposits (grade 3) 94.6 and 97.7% respectively of the children in the two surveys had some degree of parodontal abnormality (Table VIII, column 3). The average gingivitis figure also increased considerably with moderate and extensive amounts of tartar (Table VIII, column 4). In the Trinidad and Jamaican children examined by King a high degree of association was found to exist between gingivitis and tartar deposition when the location of the two was restricted to the anterior part of the mandible (King and Martin, 1951).

Conclusions

On the whole we were favourably impressed by the state of these 14-year-old children's teeth. They were better than we had anticipated, especially when allowance was made for all the difficulties of the present time. Any differences between the overall caries incidence in the teeth examined in the two surveys were slight, but some shift of caries away from the first molars was discernible, and with this went an increase in the disease among other teeth, especially the upper incisors. Both surveys showed a high incidence of gingivitis, but there was appreciably more in 1950 than in 1947, and also slightly more tartar.

Summary

Two surveys of 14-year-old London County Council school-children from modern, technical, and grammar schools provide the clinical material for this paper. The inspections were made with a probe and mirror.

The proportion of children found to be free from caries, according to the standards used, was 11.5% in 1947 and 16.1% in 1950. These results are compared with figures from different parts of the world, including other areas of Britain.

A detailed analysis of the incidence and extent of caries in the different types of teeth is given for all the schools

taken together in the two surveys. A separate analysis for the three kinds of school is also given, but with few exceptions the differences between them were not large. A total of 14.6% of the teeth in 1947 were carious, whereas for 1950 the figure was 13.9%. Comparative figures for caries incidence in other groups of children are given.

Only small differences were found between the two surveys as regards the amount of caries in the different types of teeth, but in 1950 more upper incisors and fewer first molars were carious than in the first survey.

The amount of treatment (fillings and extractions) which the teeth had received is briefly considered. An overall reduction of 5% was noted in 1950 as compared with 1947.

Some degree of gingivitis was found to occur in 73.7% of the children examined in 1947 and in 85.1% of those seen in 1950. That this is a common finding in this age group is substantiated by figures for other surveys.

Tartar deposits were frequently found, and there appeared to be some relation between the amount of tartar and the incidence and extent of gingivitis.

We wish to thank the London County Council and Sir Allen Daley for permission to carry out the inspections, and we are much indebted to the head teachers and staffs of the schools for all the help they gave with the actual examinations. Our thanks are also due to Miss I. Allen, of the Medical Research Council's Statistical Department, for advice, and to the Medical Research Council for financing the work.

REFERENCES

Dean, H. T., Jay, P., Arnold, F. A., jun., and Elvove, E. (1941). *Publ. Hlth Rep., Wash.*, **56**, 761.
King, J. D. (1940). *Spec. Rep. Ser. med. Res. Coun., Lond.*, No. 241.
—— (1945). *Dent. Rec.*, **65**, 9, 32, 55.
—— and Martin, W. J. (1951). *Brit. dent. J.*, **90**, 35, 63.
Klein, H., and Palmer, C. E. (1937). *Publ. Hlth Bull., Wash.*, No. 239.
—— —— and Knutson, J. W. (1938). *Publ. Hlth Rep., Wash.*, **53**, 751.
Mellanby, M. (1934). *Spec. Rep. Ser. med. Res., Coun., Lond.*, No. 191.
—— and Coumoulos, H. (1946). *British Medical Journal*, **2**, 565.
Schour, I., and Massler, M. (1947). *J. Amer. dent. Ass.*, **35**, 1.
Weaver, R. (1950). *Brit. dent. J.*, **88**, 231.

INTESTINAL MACROCYTIC ANAEMIA

BY

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The occasional association of pernicious anaemia with intestinal stricture was discovered by Faber in 1895. In the succeeding years more cases were recorded, and in 1924 Seyderhelm and his associates claimed to have reproduced the syndrome in dogs. In 1929 Little, Zerfas, and Trusler found a blood picture typical of pernicious anaemia in a young man on whom several operations had been performed to cure an intestinal fistula which followed acute appendicitis. This appears to be the first record of pernicious anaemia in association with intestinal anastomosis as distinct from stricture. Other cases of this kind have since been reported, and the lesion has usually been either a gastro-jejuno-colic fistula or a stagnant loop of intestine. Tönnis *et al.* (1932) reported a brilliant series of experiments on culs-de-sac of the small intestine in dogs, and showed that the anaemia which sometimes developed would respond to liver extract.

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In 1939 Barker and Hummel reviewed 51 cases of human pernicious anaemia associated with intestinal stricture or anastomosis, and we later brought the total to 60 (Cameron, Watson, and Witts, 1949a). In these 60 case reports anastomosis was the basic abnormality in 23, while in 37 one or more strictures were present. The strictures were mostly of the small intestine, but six were in the colon. Of the anastomoses 14 were entero-enterostomies or entero-colostomies, and nine were gastro-colic or high jejuno-colic fistulae.

The syndrome of gastro-colic fistula is now well known, its principle features being diarrhoea, steatorrhoea, malnutrition, and anaemia. Renshaw and his co-workers (1946) have made a careful clinical and experimental study of this condition. Dogs in which a gastro-colic fistula was made by operation developed a syndrome similar to that seen in man, including anaemia which in some cases became macrocytic and hyperchromic. In the dogs and in human cases it could be shown that there was little passage of gastric contents to the large bowel, and consequently the symptoms could not simply be due to diversion of food from the small intestine; rather were they due to contamination of the stomach and small intestine by colonic matter. In the cases of anaemia associated with stricture or anastomosis the fundamental abnormality appears to be the presence of a stagnant or obstructed portion of small intestine. All these mechanisms may lead to infection of the small intestine with colonic organisms.

Prominent Features

The salient features of pernicious anaemia in association with intestinal stenosis or anastomosis can be briefly enumerated. The tongue is often sore, but there is free acid in the gastric juice in more than half the cases. Intrinsic factor has been demonstrated in one case (Schlesinger, 1933), although it was absent in the only other case in which it was looked for (Castle *et al.*, 1931). Steatorrhoea is not necessarily present, but there have been few careful observations on the fat excretion. Subacute combined degeneration occurs in a fairly large proportion of cases. The bone marrow is megaloblastic, and the anaemia, which is macrocytic, responds to treatment with liver, though it is sometimes rather resistant. No information is available about the response to vitamin B_{12}, folic acid, or antibiotics. The anaemia may be permanently cured by surgical correction of the intestinal abnormality, though this cannot be promised with certainty. The syndrome has declined in frequency in recent years owing to the decreased incidence of intestinal tuberculosis, which has been the most frequent cause of stenosis of the small intestine, and to technical improvements in surgery, which avoid the formation of stagnant loops of intestine.

Present Investigation

The essential feature in macrocytic anaemia of intestinal origin appears to be stagnation, whether from stenosis or in a stagnant loop. The syndrome differs from Addisonian pernicious anaemia in that the secretion of hydrochloric acid and intrinsic factor by the stomach may be normal; and from sprue in that there need be no steatorrhoea. It seems particularly appropriate for experimental study because it is impossible to produce a megalocytic anaemia by operations on the stomach in animals (Cameron, Watson, and Witts, 1949b), and

pernicious anaemia does not always develop after total resection of the stomach in man (MacDonald *et al.*, 1947).

These observations led us to the working hypothesis that in pernicious anaemia the failure of gastric secretion might merely set the stage for the development of anaemia, which was actually initiated by events in the small intestine. With this idea we began a series of experiments with rats. We considered that the disadvantage of using so small an animal was outweighed by the ease with which we could make large numbers of preparations. A further point is that the diet and digestive tract resemble that of man, and we have been able to prepare extracts from rat livers which are effective in human pernicious anaemia. Adult albino rats of the Wistar strain, aged 4 to 6 months, have been used in all experiments. They have been fed on a synthetic diet (Watson, Cameron, and Witts, 1948), but anaemia will develop in animals receiving a mixed diet with plenty of animal protein (W. A. Broom, J. Emmet, and Woods, 1949, personal communication).

Experimental Technique

The initial experiments were designed to produce intestinal stricture and chronic obstruction, but although several methods were tried none was found satisfactory. The next procedure was to divide the small intestine at the junction of its upper and middle thirds and implant the lower end of the upper intestine into the side of the small intestine at the junction of the middle and lower thirds; in this way the middle third of the small intestine is by-passed. This operation is relatively easy to perform. Nearly 200 rats were prepared in this way, but only about 10% of them developed a macrocytic anaemia, and the proportion tended to lessen as the operators became more skilled. These experiments confirmed the results of other workers who had found that a large proportion of the small intestine can be removed or by-passed without anaemia resulting, and indeed the majority of the rats lived to a ripe old age. More important was the discovery that in rats which developed anaemia there was always some dilatation of the blind loop. In most cases this was limited to the proximal 6–10 cm. of the loop and the anastomotic area, but in a few there was also some dilatation of the small intestine above the anastomosis.

The Blind-loop Operation

It was therefore decided to reverse the direction of the blind loop so that now peristalsis would tend to fill instead of emptying it. This was done by dividing the small intestine at the junction of the middle and lower thirds, and anastomosing the lower portion to the side of the small intestine at the junction of its upper and middle thirds. The same segment of intestine was by-passed as in the earlier operation, but the effects were very different. The operation was technically more hazardous because peristalsis now tended to break down the anastomosis. The middle third of small intestine, aproximately 12 in. (30 cm.) long, increased in diameter and formed an easily palpable tumour. Three out of every four rats died within three weeks, but all those which survived for that time developed macrocytic anaemia.

Further experiment showed that the percentage of anaemic animals, the speed of onset of the anaemia, and the mortality of the operation were all directly proportional to the length of the loop. It was then a straightforward procedure to work out the optimum length and position of the loop. As a result of these studies all our subsequent work has been done with 3 to 4-in. (7.5 to 10-cm.) self-filling loops placed not lower than the middle of the small intestine. Culs-de-sac from the lower ileum usually fail to produce anaemia. The Table shows the overall operative and post-operative mortality of rats prepared by this final operation. It is necessary to point out that the incidence of anaemia varied considerably at different periods for no very obvious reason. Thus, in one set of experiments a yield of only a little over 10% of anaemic rats was obtained, while in another it was as high as 42%.

Operative Mortality and Incidence of Anaemia

Death within one month of operation	51·7%
Dying up to six months from later complications or unknown causes	21·6%
Surviving six months or more without anaemia ..	7·4%
Developing anaemia	19·1%

Deaths within the first month were mostly from leakage or obstruction. Obstruction or perforation still occurred frequently in the later period, but many rats died without the cause being apparent at necropsy.

Post-mortem Findings

At post-mortem examination of animals which have survived the immediate hazards of operation the wall of the cul-de-sac is dilated and hypertrophied, but there is no inflammation or ulceration save in the exceptional case in which rupture has occurred. The tongue, stomach, and the rest of the gut appear normal, as do the other viscera. Histological examination of all these structures shows no departure from the normal. There is some haemosiderosis of the spleen, but the liver and kidneys are normal. Because of the suggestion by Erös (1933) and Jacobson (1939) that the argentaffin cells of the gastro-intestinal tract are concerned in the pathogenesis of the liver-deficiency macrocytic anaemias in man, we paid special attention to these cells in our experimental material and found them normal in appearance, number, and distribution in the stomach and intestine (Cameron, Watson, and Witts, 1950). The nervous plexuses of the gut are normal and there are no abnormalities in sections of the spinal cord. We saw no clinical symptoms of nervous disease even in animals which had been kept alive with folic acid.

The culs-de-sac are usually filled with a thick, dark, liquid material. This consists mainly of the bodies of bacteria with little food residue or desquamated mucosa. The bacteriological findings are much as if the ordinary flora of the caecum had ascended to the loop and the ileum. In the ileum itself there is a great increase in coliform organisms, a decrease in lactobacilli, and a corresponding increase in alpha-haemolytic streptococci.

Post-operative Developments

After operation those rats which do not die from surgical complications in the first few weeks may remain apparently well for long periods. Anaemia develops, often quite suddenly, after an interval which averaged about 90 days in a large series of rats, the range being from 26 days to 6 months. Failure to develop anaemia is sometimes explained by the formation of fistulae or blocking of the loop by adhesions, and similar happenings may account for some of the occasional spontaneous remissions. Nevertheless some animals in which the anatomical stage is set for anaemia do not become anaemic. Quite apart from anaemia, the expectation of life is much diminished in operated rats,

and they not infrequently die for reasons which we do not understand. However, it will be seen from the Table that not many of the rats which survive the initial hazards of the operation will live for six months without developing anaemia. Anaemic animals are perceptibly pale and listless, and may lose weight, but do not show other evidence of disease unless they develop pyogenic infection, to which they are more susceptible than healthy animals. Death may follow within a week of the onset of anaemia, and life is rarely prolonged more than three weeks without treatment, though an occasional anaemic rat has lingered for months and others have had remissions and relapsed again.

The Blood

All blood counts have been done on tail blood, and we have collected a large number of normal data (Cameron and Watson, 1949). The normal haemoglobin of female rats, which we used in all except the earliest experiments, was 13.8 g. per 100 ml. We define anaemia as a haemoglobin value below 10 g., although many of our rats had fallen much below that level before coming under treatment. In a small control series of anaemic rats allowed to die without treatment the haemoglobin at death averaged 5.8 g. per 100 ml., with a range of 2.7 to 8.5 g. per 100 ml. Macrocytosis is always present. In determining the size of the red cells we have relied more heavily on the red-cell diameter, which is a direct measurement, than on the mean corpuscular volume, which includes two sources of error—the red count, and the haematocrit.

From a large series of Price-Jones curves we have established the normal distribution of the red-cell diameter in the rat for our particular technique. The limits of normal for the mean cell diameter in the female rat are 5.73 and 6.56 μ, with an average of 6.14 μ. The normal mean corpuscular volume is 49 μ^3. In anaemic animals the presence of macrocytosis is shown by increase in the mean cell diameter and volume, and by extension of the Price-Jones curve beyond the upper limits of normal. The figures in one small series of 10 anaemic animals averaged 6.62 μ for the mean cell diameter, with a range of 6.37 to 7.33 μ; and 55 μ^3 for the cell volume, with a range of 50 to 67 μ^3. The mean corpuscular haemoglobin is often but not invariably increased.

Macrocytosis is usually obvious in the stained film. Poikilocytosis is never more than slight. The anaemic animals have an irregular reticulocytosis, which may increase from the normal 4% to about 20% as the anaemia worsens, and which is manifested in the stained films by polychromasia. Nucleated red cells are seen in the peripheral blood in all but the lightest anaemias. Leucocytes are not reduced in numbers and they do not show any measurable qualitative change. Marrow smears taken in life show that the cellularity of the marrow is normal or increased (Watson, Cameron, and Witts, 1948). The most striking change is a shift to the left in the maturation of the red-cell precursors. In some cases the increase in proerythroblasts and large basophil erythroblasts is noteworthy, but no cells are seen which correspond exactly with the megaloblasts of human pernicious anaemia.

The serum is crystal-clear and therefore no estimation of serum bilirubin has been attempted. The amount of urobilinogen excreted in the faeces is significantly increased (Badenoch and Watson, 1951). As the normal daily excretion of urobilinogen roughly parallels the amount of haemoglobin in circulation, we have expressed our results in the form of the haemolytic index (Miller, Singer, and Dameshek, 1942). This is the figure obtained by dividing the daily excretion of pigment in milligrams by the total haemoglobin in grammes and expressing this fraction as a percentage. The haemolytic index in the anaemic rats is seven times as high as in the normals. Fat absorption was deficient in most of the operated rats, but many had steatorrhoea without anaemia and a small proportion developed anaemia without showing impaired absorption of fat. In this latter group there did not appear to be any sepsis or haemorrhage to explain the anaemia. Although, therefore, there is some correlation between anaemia and steatorrhoea, it is not absolute. It is probable that both steatorrhoea and anaemia are due to a common cause, and not that steatorrhoea causes the anaemia (Aitken, Badenoch, and Spray, 1950).

Latent Bartonella infection may be activated when rats with intact spleens are fed on deficient diets (Wills and Mehta, 1930), and it was therefore possible that our animals might have developed bartonellosis and anaemia as a result of nutritional deficiency produced by the intestinal lesion. Blood films from anaemic rats never showed the frank infection with Bartonella which is seen after splenectomy in susceptible animals. However, it is impossible to be sure of identifying small numbers of Bartonellae in stained blood films, and further work was necessary to be certain that the anaemia was not caused by bartonellosis. Two measures were taken. The first was to maintain, with rigorous precautions against infection, a stock of Bartonella-free rats. These animals were prepared by operation in the usual way and it was found that anaemia developed as in the earlier experiments. The second measure was to treat a series of anaemic rats with neoarsphenamine, to which *Bartonella muris* is sensitive, and it was shown that the anaemia was not relieved by this therapy (Watson and Witts, 1951a). It is reasonably certain, therefore, that the development of anaemia in these rats is not dependent on Bartonella infection.

Responses to Treatment

A purified liver extract ("anahaemin") was given by intramuscular injection in single doses of 0.1 to 0.4 ml. to 17 rats with macrocytic anaemia after the earlier and milder operation, the self-emptying loop. In 10 rats there was some response to liver, and of the remaining seven which died six had some complication such as infection or perforation. Some of these rats responded on three successive occasions to an injection of liver extract. Response is shown by a reticulocyte crisis, which must be assessed with caution owing to the irregular reticulocytosis produced by the anaemia, and, more significant, by a rise in the number of red cells and in the haemoglobin. Macrocytosis diminishes, though the red cells may not return completely to normal size. These results appeared to us convincing, but we have not been able to get consistent responses to liver treatment in rats prepared by our present more rigorous procedure.

In the next experiment the blood counts of rats which had been submitted to the standard operation—that is, the 3-in. (7.5-cm.) self-filling loop—were checked at weekly intervals, and anaemic animals were assigned in sequence to one of four groups. One of these was a control group, and the others were treated respectively with anahaemin, pteroylglutamic acid, and vitamin B_{12}.

High doses were used, as from early experience it had seemed that these were necessary. We had already found that supplementing the basic diet with 200 μg. of pteroylglutamic acid daily would not prevent anaemia developing, although this amount is well in excess of what is now thought to be the basal requirement (Darke and White, 1950). The material was given by injection three times a week in the following amounts : anahaemin, 0.5 ml.; pteroylglutamic acid, 7.5 mg.; and vitamin B_{12}, 20 μg. This experiment provided clear evidence in favour of pteroylglutamic acid, which prolonged the duration of survival to approximately 80 days as compared with 20 days in the controls. The effects of anahaemin and vitamin B_{12} were not significant statistically (Cameron, Callender, Watson, and Witts, 1949).

In a final therapeutic experiment a series of anaemic rats were treated with "aureomycin" incorporated into the basic diet. This was found to be as effective as folic acid in curing the anaemia and prolonging life in these rats (Watson and Witts, 1951b).

Discussion

A macrocytic anaemia which is usually fatal develops in a proportion of rats which have survived the operation for the formation of a blind loop in the small intestine. Most of these rats have also a mild steatorrhoea, but the correlation between anaemia and steatorrhoea is not absolute and the anaemia does not seem to be sequential to steatorrhoea. Anaemia is not an inevitable result of the operation, and cases of anaemia tend to occur in runs or crops, as if some common initiating factor appeared from time to time. This initiating factor may well be bacterial in nature—indeed, some of our evidence points to this—but it does not appear to be *Bartonella muris*, as the condition has been induced in a Bartonella-free stock and does not respond to neoarsphenamine. Owing chiefly to the high operative and post-operative mortality, the final yield of rats with anaemia is of the order of 20%, and in some series has been as low as 10%. It sometimes happens, therefore, that a fairly large consecutive series of rats are operated upon without anaemia developing. Nevertheless, this technique has been found to produce anaemia by other groups of workers (Broom, Emmet, and Woods, 1949, personal communication ; Jarman and Underhill, 1951), and a similar condition has been produced by excision of the caecum in the rat (Plum, 1950).

The anaemia is of a macrocytic haemolytic character with reticulocytosis and increased pigment excretion. The bone marrow shows a shift of erythropoiesis to the left, but cells comparable to the megaloblasts or pernicious anaemia in man or the primitive erythroblasts of the foetal rat are rarely seen. The anaemia usually responds well to folic acid but not to refined liver extract or to vitamin B_{12}. It also responds to treatment with aureomycin by mouth, and there is a suggestion in the work of Jarman and Underhill (1951) of a response to sulphaguanidine. The anaemia differs from the blood disorder produced in the rat by folic-acid deficiency, which is macrocytic without haemolytic features and in which leucopenia is more prominent than anaemia (Kodicek and Carpenter, 1950). Nor is it identical with the condition produced in the rat by folic-acid antagonists, where the bone marrow has usually been hypoplastic (Oleson, Hutchings, and Subbarow, 1948 ; Philips and Thiersch, 1949), though megaloblastic arrest has been reported once (Franklin *et al.*, 1947), as has also an active non-megaloblastic marrow (Weir, Heinle, and Welch, 1948). Thiersch and Philips (1949) point out that there are wide variations in the response of different species to folic-acid antagonists.

It is not easy to postulate the mechanism by which an intestinal cul-de-sac gives rise to anaemia in the rat, but there is sufficient evidence to permit limited speculation. We know that in these rats there is a bacterial invasion of the small bowel similar to that which occurs in people with gastro-colic fistula, and it is likely that the anaemia and steatorrhoea are similar in nature in the two conditions. The response to aureomycin, which may be presumed to check this invasion, is of particular interest in view of recent reports of the therapeutic value of aureomycin and penicillin in pernicious anaemia in man (Lichtman, Ginsberg, and Watson, 1950 ; Foy, Kondi, and Hargreaves, 1951) and the much older reports on the value of ileostomy in human pernicious anaemia (Seyderhelm, 1924 ; Dixon, Burns, and Giffin, 1925). These observations in rats and in man suggest that the intestinal bacteria have something to do with the absorption or the requirements of vitamin B_{12} and folic acid. Support for this view comes from the work of Davis and Chow (1951), who found that aureomycin increased the vitamin-B_{12} content of the faeces of rats given radioactive cobalt with their diet, measured by both radioactive and microbiological methods.

We have thought that when there is stenosis of the small intestine or a stagnant loop the decisive event in the production of anaemia may be a change in the flora of the loop or the small intestine. There are several ways in which this could lead to anaemia. It might cause the loss of an organism which synthesizes haemopoietic material, or the predominance of an organism which uses up haemopoietic material. It is possible that a toxin is formed which acts other than by interference with the production or absorption of haemopoietic materials. The rapid onset of vitamin-B deficiency in patients who have undergone total gastrectomy suggests that such ideas are not extravagant (Brain and Stammers, 1951), and the production of pernicious anaemia by the fish tapeworm in the small intestine is another parallel (von Bonsdorff, 1948).

It would clearly be desirable to test such ideas by experiment both in man and in animals. Unfortunately the difficulties of detailed microbiological studies in the intestine are considerable, and, owing to the high mortality and frequent post-operative complications, the rat with an intestinal cul-de-sac has not proved an entirely satisfactory pharmacological preparation. We have been unable to diminish the mortality and complications greatly by improvements in technique. They seem to be closely related to the small size of the rat, and it may be necessary to use a larger experimental animal if the anaemia of intestinal stenosis and anastomosis is to be studied further by animal experiment.

Summary

The well-known clinical association of megaloblastic anaemia with intestinal stricture and anastomosis suggested that an operation of this type might be used to produce macrocytic anaemia in an experimental animal.

The formation of a small intestinal cul-de-sac in the rat leads to macrocytic anaemia in a proportion of cases, provided that the cul-de-sac has stagnant contents and is placed in the upper part of the small intestine.

The anaemia is associated with haemolysis, and sometimes with steatorrhoea. It responds well to folic acid or aureomycin but poorly or not at all to vitamin B_{12}.

From the available evidence the most likely cause of the anaemia is an alteration of the intestinal flora analogous to that which occurs in cases of gastro-colic fistula in man, and it is possible that the intestinal bacteria are in some way concerned with the absorption or utilization of haemopoietic substances.

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REFERENCES

Aitken, M. A., Badenoch, J., and Spray, G. H. (1950). *Brit. J. exp. Path.*, **31**, 355.
Badenoch, J., and Watson, G. M. (1951). *J. Path. Bact.*, **63**, 523.
Barker, W. H., and Hummel, L. E. (1939). *Bull. Johns Hopk. Hosp.*, **64**, 215.
Brain, R. H. F., and Stammers, F. A. R. (1951). *Lancet*, **1**, 1137.
Cameron, D. G., Callender, S. T. E., Watson, G. M., and Witts, L. J. (1949). *Nature, Lond.*, **164**, 188.
—— and Watson, G. M. (1949). *Blood*, **4**, 816.
—— —— and Witts, L. J. (1949a). Ibid., **4**, 793.
—— —— —— (1949b). Ibid., **4**, 803.
—— —— —— (1950). *Brit. J. exp. Path.*, **31**, 349.
Castle, W. B., Heath, C. W., and Strauss, M. B. (1931). *Amer. J. med. Sci.*, **182**, 741.
Darke, S. J., and White, C. (1950). *Brit. J. Nutrit.*, **4**, 9.
Davis, R. L., and Chow, B. F. (1951). *Proc. Soc. exp. Biol., N.Y.*, **77**, 218.
Dixon, C. F., Burns, J. G., and Giffin, H. Z. (1925). *J. Amer. med. Ass.*, **85**, 17.
Erös, G. (1933). *Wien. klin. Wschr.*, **46**, 1119.
Faber, K. (1895). *Hospitalstidende*, **3**, 601.
Foy, H., Kondi, A., and Hargreaves, A. (1951). *British Medical Journal*, **1**, 380, 1108.
Franklin, A. L., Stokstad, E. L. R., Belt, M., and Jukes, T. H. (1947). *J. biol. Chem.*, **169**, 427.
Jacobson, W. (1939). *J. Path. Bact.*, **49**, 1.
Jarman, R. M., and Underhill, S. W. F. (1951). *J. Pharm. Pharmacol.*, **3**, 87.
Kodicek, E., and Carpenter, K. J. (1950). *Blood*, **5**, 522.
Lichtman, H., Ginsberg, V., and Watson, J. (1950). *Proc. Soc. exp. Biol., N.Y.*, **74**, 884.
Little, W. D., Zerfas, L. G., and Trusler, H. M. (1929). *J. Amer. med. Ass.*, **93**, 1290.
MacDonald, R. M., Ingelfinger, F. J., and Belding, H. W. (1947). *New Engl. J. Med.*, **237**, 887.
Miller, E. B., Singer, K., and Dameshek, W. (1942). *Arch. intern. Med.*, **70**, 722.
Oleson, J. J., Hutchings, B. L., and Subbarow, Y. (1948). *J. biol. Chem.*, **175**, 359.
Philips, F. S., and Thiersch, J. B. (1949). *J. Pharmacol.*, **95**, 303.
Plum, C. M. (1950). *Sang*, **21**, 437.
Renshaw, R. J. F., Templeton, F. E., and Kiskadden, R. M. (1946). *Gastroenterology*, **7**, 511.
Schlesinger, A. (1933). *Klin. Wschr.*, **12**, 298.
Seyderhelm, R. (1924). Ibid., **3**, 568.
—— Lehmann, W., and Wichels, P. (1924). Ibid., **3**, 1439.
Thiersch, J. B., and Philips, F. S. (1949). *Proc. Soc. exp. Biol., N.Y.*, **71**, 484.
Tönnis, W., Horster, H., Reimers, C., and Rüdel, C. (1932). *Z. ges. exp. Med.*, **84**, 782.
von Bonsdorff, B. (1948). *Blood*, **3**, 91.
Watson, G. M., Cameron, D. G., and Witts, L. J. (1948). *Lancet*, **2**, 404.
—— and Witts, L. J. (1951a). *J. Path. Bact.*, **63**, 526.
—— —— (1951b) In publication.
Weir, D. R., Heinle, R. W., and Welch, A. D. (1948). *Proc. Soc. exp. Biol., N.Y.*, **69**, 211.
Wills, L., and Mehta, M. M. (1930). *Indian J. med. Res.*, **18**, 663.

Nearly 800 new members were recruited in England and Wales to the National Hospital Service Reserve in November, bringing the total strength to 18,573. Of these, 1,706 are trained nurses and 16,839 nursing auxiliaries. Newcastle Hospital Region headed the November recruiting with 200 members, more than a quarter of the month's total of 796. Manchester came second with 102, and Bristol third with 94. Wales still has the largest total membership, 3,634, followed by the South-west Metropolitan Area with 2,277, and Newcastle with 1,643. A new recruiting drive was launched at the end of November by Miss Hornsby-Smith, Parliamentary Secretary to the Ministry of Health, with the aim of trebling membership and so bringing the Reserve well on the way to its peacetime objective of 80,000 members.

THE EFFECT ON BLEEDING-TIME OF AN EXTRACT OF BLOOD OF PATIENTS WITH RHEUMATOID ARTHRITIS

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It has for many years been a matter of discussion among those interested in the origins of rheumatoid arthritis, that the disease may arise in apparent association with a large number of disturbing incidents, including infection, trauma, burns, excessive fatigue, the use of certain drugs, the metabolic crises of puberty, child-bearing, and the climacteric, and the psychological stresses and strains of normal life. That these incidents were the only cause was never believed, and statisticians who disproved to the hilt their sole significance might have excused themselves the labour of belabouring a donkey which had never lived.

Nevertheless, to experienced clinicians it was obvious that, though the majority of people could suffer with impunity the "slings and arrows of outrageous fortune," there were others who could not. Their interest was centred not on the hammer's stroke but on the anvil's ring, and was intensified by the description by Hans Selye (1936b, 1937) of the alarm reaction, which concentrated their attention upon the adrenal cortex. From the beginning it seemed likely, on clinical grounds, that the adrenals, if involved at all in the story of rheumatoid arthritis, would be found to be normal in this condition, for no evidence of adrenal deficiency had been observed in extensive investigations of the biochemistry of rheumatism. It seemed more likely that the error would be found in a mechanism in which the adrenal cortex served as an essential part, and that it would be in the control of the adrenals or in the response to the adrenals that the error would be found.

The Literature

Various Soviet authors (Synovich, 1940; Pshenichnikov, 1940; Novikov, 1941—reviewed by Clarke, 1941) claimed to have shown that the systemic use of local anaesthetics had resulted in a significant decrease in traumatic shock. Their results were confirmed by Ungar (1943), who found that "nupercaine" (cinchocaine) was especially effective. Extending his observations, Ungar (1944) found that several procedures were capable of protecting guinea-pigs and rats against subsequent trauma by causing an inhibition of histamine release. These procedures included the production of previous minor trauma and the administration of ascorbic acid, nupercaine, procaine, cocaine, adrenaline in unphysiological doses, a whole cortical extract prepared by Kendall, anterior pituitary extract, and, pre-eminently, adrenocorticotrophic hormone (A.C.T.H.). The protection afforded by these procedures (except the

administration of ascorbic acid) could be passively transferred in the serum from one animal to another, and was therefore due to a substance contained in the serum.

Inhibition of histamine release and consequent protection could be obtained, however, in adrenalectomized rats only by ascorbic acid and by adrenal extracts. Moreover, the inhibitory substance could not be demonstrated in the blood of hypophysectomized animals. Ungar concluded that certain procedures, including trauma, and the injection of peptone and certain drugs, causes the pituitary to release into the circulation a substance which stimulates the adrenals, which in their turn initiate the production of a protective substance. His results afforded a possible explanation of the observation of many workers that hypophysectomized and adrenalectomized animals are highly sensitive to trauma, and of the fact that the former may be protected by the administration of A.C.T.H. (Reiss, Macleod, and Golla, 1943). Ungar considered that the mechanism he postulated was a part of the alarm reaction described by Selye.

Action of Splenic Extracts

In 1945 Ungar published a further communication in which he claimed to show that the protective substance in question is derived from the spleen, from which it is released under the stimulation of the adrenal cortex. He had previously shown that substances which inhibited histamine release reduced bleeding-time and increased capillary resistance. He selected reduction of bleeding-time as the easiest and most reliable test for the substances involved in the endocrine reaction to trauma, and found that a reduction occurred after trauma in normal rats but not in hypophysectomized rats unless these were treated with A.C.T.H., adrenal extract, or splenic extract. Secondly, the reduction occurred in adrenalectomized rats only if they were treated with adrenal extract or splenic extract. Thirdly, the reduction occurred in splenectomized rats only if they were treated with splenic extract. Similar effects could not be induced with other tissue extracts.

A curious point about the action of some splenic extracts now came to light. Small doses reduced the bleeding-time, but large doses increased it. This anomaly was subsequently found to be due to the presence in the extracts of two substances named by Ungar "splenin A" and "splenin B" (Ungar, 1945, 1946–7), whose pharmacological effects are opposed to one another. "Splenin A" is probably a derivative of ascorbic acid (Ungar, 1946–7), and "splenin B" is an ester of two or three fatty acids with a complex alcohol (Ungar and Damgaard, 1951). Ungar succeeded in demonstrating "splenin B" in human serum in various pathological conditions (purpura, haemolytic jaundice, paroxysmal haemoglobinuria, scurvy, and, at our instigation, rheumatoid arthritis) and from the serum of guinea-pigs after thyroidectomy. We have found it (or a similar substance) in the serum in cases of thyrotoxicosis and rheumatoid arthritis (Greene, 1950), but never in that of healthy persons.

The spleen has been for many years an organ of special interest to students of the rheumatic diseases because of its enlargement in Still's disease and Felty's syndrome. The possible role of the adrenal cortex had attracted a curiously limited attention since the publications of Selye (1936a) had begun. The work of Ungar suggested a possible line of attack, and in 1946 he was kind enough to test a number of unlabelled samples of serum sent to him from the Metropolitan Hospital. Two samples from cases of rheumatoid arthritis contained no "splenin A" but appreciable quantities of "splenin B." Four samples from healthy blood donors contained "splenin A" but no "splenin B." The serum from the

TABLE I.—*Data from Experiment 1 (Saline and Procaine)*

Week	Guinea-pig	Group I: Initial Bleeding-time of Guinea-pigs (Seconds)	Group I: Responding Bleeding-time 20 mins. after 0.4 ml. 10% Procaine S.C. (Seconds)	Group II	Group II: Initial Bleeding-time of Guinea-pigs (Seconds)	Group II: Responding Bleeding-time 20 mins. after 0·4 ml. Saline S.C. (Seconds)
1	B1	115 120 130 120	80 85 95 90	A1	140 125 100 115	135 115 130 105
	B2	115 135 130 125	85 75 120 90	A2	165 115 105 130	105 145 115 125
	B3	125 170 140 140	120 95 110 85	A3	155 130 125 120	160 125 95 120
		1,565	1,130		1,525	1,475
2	A1	115 160 110 100	110 80 90 90	B1	125 145 165 115	160 100 130 105
	A2	130 145 180 150	90 110 135 110	B2	95 135 95 135	90 110 110 155
	A3	140 115 130 140	100 105 75 75	B3	130 155 120 120	125 120 155 95
		1,615	1,170		1,535	1,455
3	B1	135 135 150 150	130 85 120 90	A1	120 95 140 120	150 90 160 130
	B2	140 115 125 130	100 95 120 75	A2	130 110 125 95	130 150 130 135
	B3	130 140 100 130	80 105 70 130	A3	160 110 120 145	95 90 150 130
		1,580	1,200		1,470	1,540
4	A1	150 170 120 110	100 105 125 125	B1	170 140 130 150	165 125 100 155
	A2	150 120 115 140	130 60 120 100	B2	130 90 125 135	165 125 115 150
	A3	115 130 120 100	70 95 95 85	B3	130 155 120 130	90 160 120 100
		1,540	1,210		1,605	1,570
5	B1	170 160 150 100	140 90 140 110	A1	130 110 100 100	115 130 90 125
	B2	160 100 115 130	95 75 90 90	A2	160 140 150 130	135 180 150 115
	B3	145 120 110 160	140 70 105 90	A3	160 120 110 100	130 120 130 170
		1,620	1,235		1,510	1,590
6	A1	120 120 130 170	85 85 85 120	B1	160 125 145 100	130 110 130 120
	A2	140 130 110 160	120 90 105 70	B2	140 95 120 100	120 110 140 130
	A3	120 140 130 110	90 105 65 110	B3	165 125 120 80	140 90 150 125
		1,580	1,130		1,475	1,495
Grand Totals		9,500	7,075		9,120	9,125
Average Time		132 seconds	98 seconds		127 seconds	127 seconds

rheumatic patients was tested again after clinically successful treatment with A.C.T.H. and found to contain "splenin A" but no "splenin B" (Greene, 1950).

These results were encouraging, but it was clear that they might be fortuitous. The hypothesis advanced by Ungar rested on a foundation which seemed insufficiently solid—the estimation of bleeding-time in a comparatively small number of guinea-pigs. It was therefore decided to submit his method to a careful experimental trial.

Experiment 1

The first experiments were carried out to find the variation of the normal bleeding-time of guinea-pigs under carefully controlled conditions and the effect on it of a single dose of procaine. The bleeding-time was measured on the ear. Four readings were made, two on each ear, and the average of these was taken as the mean bleeding-time. The ear was pricked with a needle (1 mm. in diameter) and the bleeding observed and the wound blotted at intervals of five seconds. Bleeding was considered to have stopped when no issue of blood or serum could be detected for 10 seconds (Ungar, 1945). Six albino guinea-pigs of the same sex and approximately equal weight were chosen for the experiment. Each week the average bleeding time was measured on three of the animals before and 20 minutes after an injection of 0.4 ml. of 10% procaine, and, as a control, on three before and 20 minutes after an injection of 0.4 ml. of normal saline. This was continued for six weeks, so that both sets of guinea-pigs had alternate injections of procaine and saline. All injections were given subcutaneously. The results are recorded in Table I.

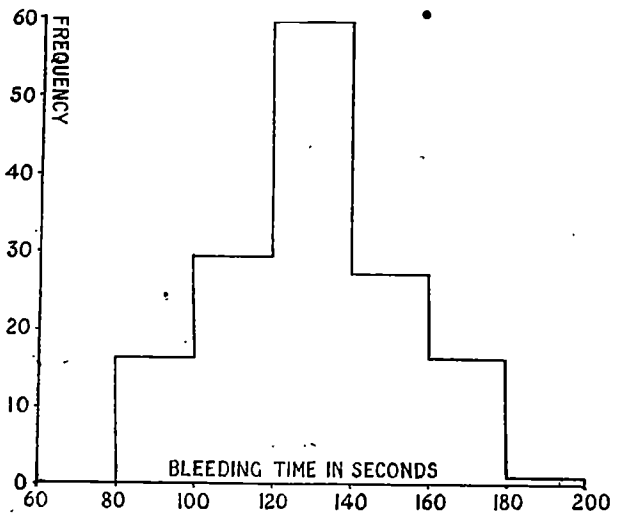

FIG. 1.—Histogram of normal guinea-pigs.

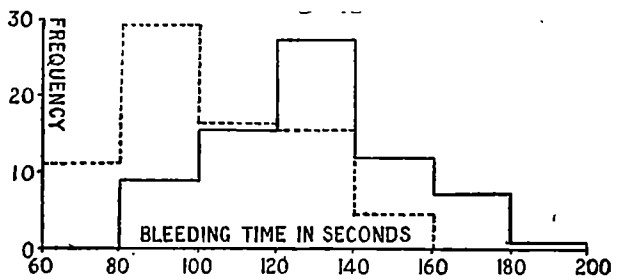

FIG. 2.—Histogram of guinea-pigs after saline injection (——) and after procaine injection (- - - - -).

The figures in Table I are expressed as histograms (Figs. 1 and 2). The first shows the variation in bleeding-time of normal guinea-pigs. Out of 144 measurements 77% lie between 100 and 155, with an average of 129 seconds. The form of the distribution is symmetrical and approximately normal. Fig. 2 shows that the measurements after saline injection are fairly similar. Out of 72 observations 76% lie between 100 and 155, with an average of 132 seconds. In contrast, the measurements after procaine injection are very different. Of the observations 79% lie between 75 and 135, with an average of 98 seconds. The histograms in Fig. 2 overlap to the extent of 33%. It is accordingly desirable to have a more sensitive test for a real difference than one based only on the appearance of the histograms.

The data from Table I give the variance analysis shown in Table II, demonstrating that each of the six guinea-pigs has a characteristic bleeding-time (variance

TABLE II.—*Analysis of Variance (Experiment 1)*

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Square	Variance Ratio	Probability
Variation due to characteristic bleeding-times of each guinea-pig ..	5,860	5	1,172	2·87	0.05 to 0·01
Variation due to characteristic day effects on the bleeding-time ..	1,369	5	274	0·67	N.S.*
Interaction of the above effects with each other	5,683	10	568	1·39	N.S.
Effect of procaine compound with all other groups	49,202	1	49,202	120·59	0·001 >
Variation among other groups—e.g., normal groups and saline group	1,320	2	660	1.62	N.S.
Residue remaining after removal of the above effects regarded as error arising randomly† ..	107,731	264	408	—	
Total variation from all sources	171,165	287	—		

* N.S. signifies non-significant in the sense that the differences found are no greater than would be expected to occur by chance. Significance is conventionally regarded as beginning at the once-in-twenty-times level.

† The residue was extensively examined in order to observe other systematic effects. None were found, and it was therefore expressed as a single item.

ratio=2.87, $n_1=5$, $n_2=264$, $0.05>P>0.01$), which persists from day to day (variance ratio=1.39, $n_1=10$, $n_2=264$, not significant). On all six days of the experiment the bleeding-times appear not to have changed (variance ratio=0.67, $n_1=5$, $n_2=264$, not significant). The normal bleeding-times of guinea-pigs do not differ from the bleeding-times after saline injection (variance ratio=1.62, $n_1=2$, $n_2=264$, not significant). The procaine-treated group differ considerably (variance ratio=120.59, $n_1=1$, $n_2=264$, $P=0.001$)—more, in fact, than would be supposed from the histograms, since here the bias of each individual guinea-pig has been eliminated. Clearly, procaine has been effective in reducing the bleeding-time.

Experiment 2

The second set of experiments was designed to compare the effects of serum from normal subjects and from patients suffering from active rheumatoid arthritis, all of whom had an E.S.R. of over 20 mm. in the first hour, measured by Wintrobe's method. In each case the serum was collected, pooled, and freeze-dried in 20-ml. portions and kept until required.

The serum was extracted with chloroform and acetone in order to separate Ungar's chloroform-soluble "splenin A" from the acetone-soluble "splenin

B." For each test 20 ml. of serum was shaken with three 20-ml. portions of chloroform. The combined chloroform extracts were filtered and evaporated to dryness, leaving a residue of "splenin A" and "B." To separate the "splenin B" from the residue, 20 ml. of acetone was added. The acetone was then decanted and evaporated, leaving the dry extract of "splenin B." Just before testing, 2 ml. of saline was added to both residues and 1 ml. per kg. used for injection.

In each case the average bleeding-times of the guinea-pigs were recorded every week, and the day before and one hour after injection. The experiment was continued for twelve weeks, the same guinea-pigs being used as in the previous experiment.

TABLE III.—*Data from Experiment 2 (Normal Serum)*

Week	Group III									Group IV								
	Guinea-pig	Initial Bleeding-time of Guinea-pigs				Responding Bleeding-time 1 Hour after Extract A S.C.				Guinea-pig	Initial Bleeding-time of Guinea-pigs				Responding Bleeding-time 1 Hour after Extract B S.C.			
1	C1	145	110	130	120	120	120	75	65	D1	130	180	125	100	110	135	125	170
	C2	90	130	100	120	110	80	95	95	D2	150	95	165	105	160	120	170	120
	C3	95	140	120	120	110	100	105	100	D3	125	120	120	140	120	100	120	160
		1,420				1,175					1,555				1,610			
2	D1	110	170	120	75	100	120	100	75	C1	160	95	95	175	119	140	90	100
	D2	120	155	100	95	150	150	100	70	C2	110	110	105	130	100	125	125	105
	D3	90	130	165	90	90	90	95	80	C3	160	120	180	100	125	130	130	140
		1,420				1,220					1,540				1,429			
3	C1	120	95	100	180	70	115	135	110	D1	100	100	120	150	130	135	160	85
	C2	110	100	110	90	70	90	85	120	D2	180	130	150	70	180	90	115	125
	C3	140	125	180	100	125	120	110	95	D3	125	120	175	175	180	130	135	100
		1,450				1,245					1,595				1,565			
4	D1	140	90	120	105	125	75	60	80	C1	140	100	130	130	125	110	100	140
	D2	165	105	150	90	85	60	90	150	C2	120	140	130	120	80	130	100	160
	D3	145	120	125	110	140	80	95	100	C3	120	120	105	105	95	125	110	165
		1,465				1,140					1,460				1,440			
5	C1	170	85	120	120	90	105	95	125	D1	140	160	125	110	170	70	120	65
	C2	95	135	120	180	125	145	70	105	D2	180	100	105	135	165	90	65	120
	C3	110	150	90	110	130	155	70	170	D3	180	130	140	95	115	160	90	120
		1,485				1,385					1,600				1,350			
6	D1	145	115	125	150	140	115	125	70	C1	100	150	140	100	90	110	170	105
	D2	120	130	175	80	60	100	85	95	C2	130	95	105	140	80	110	140	150
	D3	100	110	135	115	75	135	90	75	C3	140	100	135	110	160	70	105	130
		1,500				1,165					1,445				1,420			
Grand Totals		8,740				7,330					9,195				8,814			
Average		122 seconds				102 seconds					128 seconds				123 seconds			

TABLE IV.—*Data from Experiment 2 (Rheumatoid Serum)*

Week	Group V									Group VI								
	Guinea-pig	Initial Bleeding-time of Guinea-pigs				Responding Bleeding-time 1 Hour after Extract A				Guinea-pig	Initial Bleeding-time of Guinea-pigs				Responding Bleeding-time 1 Hour after Extract B			
7	E1	125	105	180	120	70	75	140	155	F1	100	125	135	110	200	90	90	175
	E2	110	130	95	160	145	95	100	145	F2	165	110	95	105	125	195	190	140
	E3	120	100	155	100	95	120	145	120	F3	185	135	120	90	210	120	140	135
		1,500				1,405					1,475				1,810			
8	F1	120	130	180	135	180	180	60	90	E1	175	120	135	180	120	125	160	120
	F2	80	130	120	130	155	100	200	60	E2	95	185	145	125	230	180	120	210
	F3	120	175	120	120	100	100	90	120	E3	135	110	175	90	145	165	165	160
		1,560				1,435					1,670				1,900			
9	E1	120	135	105	140	135	110	170	70	F1	135	80	150	135	150	145	180	120
	E2	160	125	85	180	95	110	170	90	F2	130	110	140	135	160	120	140	240
	E3	90	105	180	145	170	110	110	110	F3	120	135	185	95	165	100	180	120
		1,570				1,450					1,550				1,820			
10	F1	96	109	80	100	60	164	118	146	E1	135	134	108	137	157	117	212	150
	F2	118	119	130	145	115	157	125	105	E2	110	120	150	120	120	130	180	215
	F3	150	60	135	108	145	87	95	140	E3	120	145	87	136	145	125	165	166
		1,350				1,457					1,502				1,882			
11	E1	112	120	105	127	180	109	143	135	F1	125	115	95	85	190	120	150	186
	E2	100	110	150	155	150	95	90	96	F2	135	140	180	110	131	125	215	100
	E3	145	100	128	95	150	88	124	126	F3	124	160	151	125	138	219	90	135
		1,447				1,486					1,545				1,799			
12	F1	96	90	125	100	92	66	120	166	E1	123	101	150	160	135	100	154	131
	F2	90	105	130	143	130	78	155	109	E2	90	120	125	135	162	173	103	180
	F3	100	134	120	100	120	102	150	87	E3	111	197	120	95	118	130	144	120
		1,333				1,375					1,527				1,650			
Grand Totals		8,760				8,608					9,269				10,861			
Average		122 seconds				120 seconds					129 seconds				151 seconds			

During the first six weeks each group of three pigs received alternately the saline extracts of "splenin A" and of "splenin B" from pooled normal serum. During the last six weeks they received extracts of "splenin A" and of "splenin B" from pooled rheumatoid serum. The results are recorded in Table III and Table IV.

TABLE V.—*Analysis of Variance (Experiment 2)*

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Square	Variance Ratio	Probability
Variation due to characteristic bleeding-times of each guinea-pig ..	1,403	5	281	0·30	N S
Variation due to characteristic day effects on the bleeding-time ..	7,805	10	781	0.85	N.S.
Variation among each set of four observations taken in sequence ..	401,712	432	936	1·01	N.S
Effects of Treatments:					
Variation among the four groups of guinea-pigs before treatment ..	3,267	3	1,089	1·18	N.S
Decrease in bleeding-time due to:					
Normal serum extract A	13,806	1	13,806	14·96	0·001 > P
Normal serum extract B	1,008	1	1,008	1·09	N.S.
Rheumatoid serum extract A ..	160	1	160	0.17	N.S
Increase in bleeding-time due to rheumatoid serum extract B ..	17,600	1	17,600	19·07	0·001 > P
Residue remaining after removal of the above effects regarded as error arising randomly ..	111,731	121	923	—	
Total variation from all sources	558,492	575			

The data in Tables III and IV gave the variance analysis shown in Table V. From this it can be seen that the six guinea-pigs were more uniform than those used in the first experiment (variance ratio=0.85. $n_1=5$, $n_2=121$, not significant). The twelve occasions on which the experiment was carried out did not give rise to differences in bleeding-times (variance ratio=0.85, $n_1=10$, $n_2=121$, not significant). The four groups of observations before treatment did not vary more than would be expected ($F=1.18$, $n_1=3$, $n_2=121$, not significant). After treatment with serum extracts the groups differed. Table VI shows the differences.

TABLE VI

Treatment	Initial Bleeding-time	Alteration in Bleeding-time	Responding Bleeding-time
Normal serum extract A	122 seconds	Decreased 20	102 seconds
Normal serum extract B	128 ,,	,, 5	123 ,,
Rheumatoid serum extract A	122 ,,	,, 2	120 ,,
Rheumatoid serum extract B	129 ,,	Increased 22	151 ,,

and from the variance analysis (Table V) it appears that normal serum extract A decreases the bleeding-time (variance ratio=14.96, $n_1=1$, $n_2=121$, $P=0.001$) and rheumatoid serum extract B increases it (variance ratio=19.07, $n_1=1$, $n_2=121$, $P=0.001$). The remaining two treatments were ineffective at the dose given (variance ratio=1.09 and 0.17, respectively, $n_1=1$, $n_2=121$, not significant).

Conclusions

It is concluded that a factor or group of factors present in the "splenin A" extract of normal serum reduces bleeding-time, but is absent from a similar extract from rheumatoid patients. A factor or group of factors is present in the "splenin B" extract of rheumatoid serum that increases bleeding-time, but is absent from normal serum. Both effects have been found consistently.

The experiments, while confirming the existence of the substances called by Ungar "splenin A" and "splenin B," give no indication of the manner or place of production of these substances. His view that they are produced in the spleen and that their production forms part of the general adaptation syndrome is at present under investigation.

We wish to express our thanks to Dr. G. Ungar for initiating us into his methods of extracting the "splenins"; to Mr. A. L. Bacharach and Mr. B. Basil, both of Glaxo Laboratories Ltd for their help in planning this experiment and undertaking the statistical analysis, respectively; and to Dr. W. J. Martin, of the Statistical Research Unit, London School of Hygiene and Tropical Medicine, for his helpful criticism.

REFERENCES

Clarke, R. (1941). *British Medical Journal*, **2**, 372.
Greene, R. (1950). *Proc. roy. Soc. Med.*, **43**, 16.
Reiss, M., Macleod, L. D., and Golla, Y. M. L. (1943). *Endocrinol.*, **3**, 292.
Selye, H. (1936a). *Nature, Lond.*, **138**, 32.
—— (1936b). *Canad. med. Ass. J.*, **34**, 706.
—— (1937). *Endocrinology*, **21**, 169.
Ungar, G. (1943). *Lancet*, **1**, 421.
—— (1944). *J. Physiol.*, **103**, 333.
—— (1945). *Endocrinology*, **37**, 329.
—— (1946–7). *J. Physiol, Paris*, **39**, 219.
—— and Damgaard, E. (1951). *J. exp. Med.*, **93**, 89

THE STERILIZATION OF WOOLLEN FABRICS

BY

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Air-borne infection is frequent in the case both of wounds and of infections of the respiratory tract. The infectious organisms are carried on dust or on droplets and droplet nuclei arising from the mouth and nose. Of the two, dust is probably responsible for greater degrees of air contamination (Hare and MacKenzie, 1946; Duguid and Wallace, 1948). Such infected dust arises for the most part from the movement of fabrics—for example, blankets, clothes (van den Ende, Lush, and Edward, 1940; Green, Challinor, and Duguid, 1945 Duguid and Wallace, 1948), bandages (Bourdillon and Colebrook, 1946), and handkerchiefs (Dumbell, Lovelock, and Lowbury, 1948), and to a somewhat less extent from floor-sweeping (Green, Challinor, and Duguid, 1945), although much of this floor dust has come in the first place from fabrics.

Dust-borne bacteria are relatively resistant to the bactericidal action of ultra-violet light and chemical aerosols (Twort, Baker, Finn, and Powell, 1940; Dumbell, Lovelock, and Lowbury, 1948). Correct ventilation can clear the air fairly rapidly (Bourdillon and Colebrook, 1946). To a large extent, however, control has depended upon preventing the release of dust, by oiling in the case of blankets (Thomas and van den Ende, 1941) and floors (van den Ende, Lush, and Edward, 1940), by adequate gowning in the case of clothes (Duguid and Wallace, 1948), and also, of course, by washing.

P25534

Relatively little attention has been paid until recently to the adequate bacterial cleansing of the fabrics whence comes so much of the pathogen-bearing dust, though the problem has been appreciated by workers in this field. Bourdillon and Colebrook (1946) state that, "whilst a freshly laundered gown or clean sheet is almost sterile, all woollen or flannel articles must be regarded as infected." Colebrook, Gibson, Todd, Clark, Brown, and Anderson (1944) reported finding haemolytic streptococci in freshly laundered blankets in a hospital and, at the same time, in burns, both organisms being of the same type. A similar experience led here to a convenient way of sterilizing blankets.

Cross-infection and Woollens

For some years efforts have been made to reduce the minor infection of clean wounds and similar cross-infections. Mostly these have been caused by the *Staphylococcus aureus*, the majority of strains in hospital cases being penicillin-resistant. Periodical checking of the staff has always shown that some 50% are nasal carriers of this organism, many of these, too, being resistant strains. However, phage-typing of the organisms recovered from patients and staff, kindly carried out by Dr. V. D. Allison, cast doubt on the direct nurse-to-patient route of spread, as the type in the wound often did not correspond with that found in the nurses in contact. Therefore, when the majority of freshly laundered blankets were found to contain *Staph. aureus*, it became desirable to find a convenient way of sterilizing these and closing this possible route of spread.

Woollens, as we know, shrink in hot water, so that though other fabrics are washed at a temperature lethal to most organisms, woollens are not so treated. As Bourdillon and Colebrook (1946) state: "Whilst clean linen and cotton goods are almost sterile, flannel and woollen goods are in a very different category, since in most laundries they are not heated to a bactericidal temperature." In the present case blankets are churned for 10 minutes at 43° C., and staphylococci in test squares of blanket survive the procedure readily. If a piece of blanket is heat-sterilized and then washed in the machine with the routine ward blankets and thereafter cultured, it is found to have picked up, in what appears to be full measure, the bacterial flora from the other blankets. Evidently transfer of organisms between blankets in the wash readily occurs. It is significant, therefore, that one has found occasionally used blankets to be grossly infected with staphylococci.

Sterilization of Blankets

The poor bactericidal results of laundering methods for woollens have led in recent times to attempts being made to find better ways. Bactericidal temperatures being detrimental to wool, attention has been turned to chemical disinfection.

Van den Ende and Spooner (1941) impregnated squares of fabric by soaking in various bactericidal solutions and, when dry, sprayed them with a culture of haemolytic streptococci or with an infected powder. Later the fabric was shaken over an agar plate or wiped on it. A number of bactericides were tried, but none was considered of practical value. Puck, Robertson, Wise, Loosli, and Lemon (1946) used a similar method, and though the fabric, when dried, retained much of the bactericide, the haemolytic streptococci sprayed on to it could later be recovered by culture. Contact between the two was evidently insufficient, probably owing to the bactericide failing to spread readily over the fibres of the fabric. Rountree (1946) and Rountree and Armytage (1946) found that blankets destroyed bacteria when oiled by the method recommended by Harwood, Powney, and Edwards (1944). The bactericidal agent was the detergent cetyl pyridinium bromide (C.P.B.), which remained with the oil in the blanket. Haemolytic streptococci sprayed on to the treated fabric could not be recovered later by wiping it on agar or by washing it in broth. The fabric was not harmed in any way by the process, nor were a small group of people found to be sensitive to contact with the impregnated fabric.

Dumbell and Lovelock (1949) have studied disinfectants suitable for impregnating handkerchiefs to render them self-disinfecting. *Staph. aureus* in saliva was soaked into the treated cotton fabric, which, when dry, was shaken over agar plates. The most active agent tried, hexyl resorcinol, was of prohibitive cost, but octyl cresol and "alkyl" resorcinol were considered practicable. They considered that for handkerchiefs C.P.B. was unsuitable, as it had been reported by Williams, Clayton-Cooper, Duncan, and Miles (1943) that some people (under 1%) are sensitive to its local application.

Vaughan, Sotier, Hill, Simpson, and Lee (1948) examined ways to sterilize woollens in a laundry wash process. In this work there was no attempt at impregnation to render the fabric self-disinfecting. Chlorination was considered the most practical method, and the agent causing the least harm to dyes and fabric was sodium benzene sulphone chloramide ("monochloramine B"). This method was found suitable for the large-scale treatment of clothing in the American Army. Small fabric squares infected with *Bact. coli* and *B. subtilis* were included with the clothing treated, and were afterwards found to be sterile.

Before we became acquainted with the above relevant literature, consideration had been given to chemical disinfection of blankets. For reasons of cost, toxicity, damage to fabric, and so on, all but a few disinfectants appeared to be unsuitable. Trial use was made of calcium hypochlorite in the form of eusol powder over a period of some months, pending the discovery of a better way. It was, in the strength used (2.5% of eusol powder), less adequately bactericidal in the laundry than in the test-tube and, moreover, it produced slight but noticeable hardening of the wool.

C.P.B. seemed to deserve further consideration. It is a cation-active detergent, and as "fixanol C" is manufactured by I.C.I. The high bactericidal activity of certain of the surface active agents has been extensively examined since the publication of Domagk (1935). Quisno and Foter (1946) examined cetyl pyridinium chloride and found it unusual in being highly bactericidal over a wide range of *p*H. Van den Ende, Edward, and Lush (1941) had tried C.P.B. and found that, though it left the fabric bactericidal, it gave a "harsh texture and unpleasant odour." Rountree found fixanol in solution highly bactericidal, especially to Gram-positive organisms. She found that blankets soaked with oil and fixanol solution and dried were virtually sterile for many weeks: 1 in 800 in the blanket (in addition to the oil) was adequate, but 1 in 1,600 was much less so. Patch tests with 1% solution gave no reactions in 17 people.

The purpose of the oiling is to reduce dust release, and, while Rountree (1947) found that it brought no

reduction in surgical cross-infection, Wright, Cruickshank, and Gunn (1944) were able to show a reduction in cross-infection in measles wards. The process, however, is not without disadvantages. It is not very easy for a normal laundry to control, it is somewhat expensive, and the finished product is a slightly oily blanket—though the work of the U.S. Navy Medical Research Unit (1946) would seem to have overcome much of the trouble and cost. It seemed, however, that a trial of fixanol C without oil would be worth making.

Present Investigation

The concentration necessary was suggested by the above oil and fixanol experiments—namely, one part by weight of undiluted fixanol to 800 parts by weight of blanket. It was found that, in the laundry after hydro-extracting, the water held in a blanket before air-drying averages one-third of its dry weight, a gain in weight of 33%. Thus, to attain a final 1 in 800 the blanket would have to be washed in a 1 in 200 solution of fixanol in water and dried without rinsing. The bactericidal effect of different concentrations was tested, the blankets being shaken over blood-agar plates. With this method of culture the number of particles released varies according to the state of the blanket, but it parallels roughly the dispersal of particles in bed-making. Ludlam's medium (Ludlam, 1949) and Chapman's salt agar (Chapman, 1945, 1949) were tried as selective media for staphylococci. The latter was found of some value in this work, but blood agar remained the principal medium. No growth was obtained with final dry concentrations up to 1 in 1,600, and at 1 in 6,400 growth was much reduced and no staphylococci were found (Table and Fig. 1).

Blankets After Treatment with Various Concentrations of Fixanol

	Concentration of Fixanol in Dry Blanket				
	1 in 800	1 in 1,600	1 in 3,200	1 in 6,400	0
No. of colonies on agar ..	±	0	+	++	++++
Size of inhibition zones on staph. spread plate	++++	++	+++	+	0

The fixanol on the dried blanket coats the individual fibres and readily passes again into solution on contact with moisture. This can conveniently be demonstrated by shaking the treated blanket over a plate which has been freshly spread with *Staph. aureus* broth culture and dried. After incubation, as may be seen in Fig. 2, each fibre is surrounded by a narrow zone of inhibition where no growth has occurred. The concentration of fixanol forming in secretions that reach the blanket will depend upon the volume of secretion and the way it spreads amongst the fibres. A droplet of saliva on a treated blanket examined under a hand lens can be seen to spread to a limited extent (Fig. 3). It is reasonable to suppose that in such a droplet the strength of fixanol lies much above the minimum lethal concentration for staphylococci, which is 1 in 200,000, and even above that for the Gram-negative bacilli, 1 in 1,000. For routine use 1 in 6,400 dry content was chosen. As a check a 1 foot square (0.093 m.^{2}) of blanket was heavily infected in a diluted broth culture of staphylococci, dried, and then washed with 16 other blankets in this chosen concentration. Shaken over blood agar before treatment, the square grew a shower of staphylococci, but afterwards none at all. Further, a blanket that had been treated was some weeks later infected with staphylococcus as above, dried, and shaken over agar. This also grew no staphylococci.

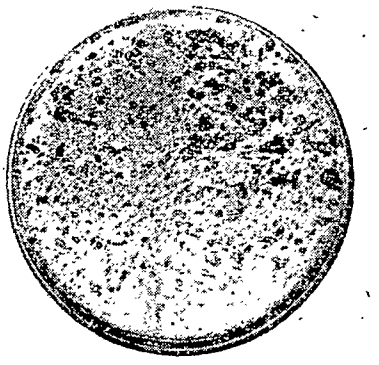

FIG. 2.—Inhibition zones around wool fibres coated with fixanol C.

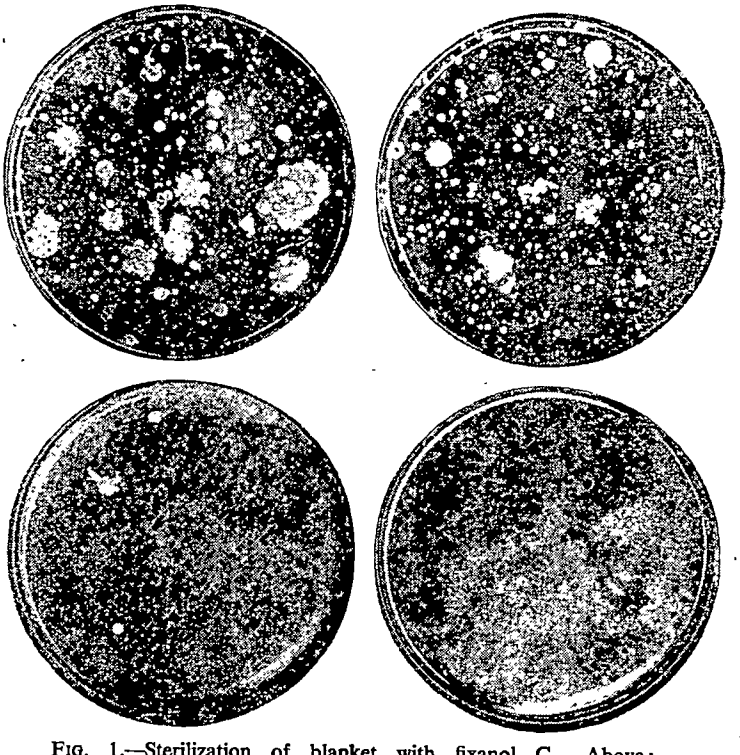

FIG. 1.—Sterilization of blanket with fixanol C. Above: untreated. Below: treated.

The same procedures were carried out with *Pseudomonas pyocyanea*, an organism which, with the exception of the tubercle bacillus, is probably the most resistant pathogen to this bactericide as to so many others. There was, as with the staphylococcus, complete failure to recover any of the test organisms when the blanket was infected before being treated with fixanol. When, however, a culture of *Ps. pyocyanea* was sprayed on to or soaked into a blanket square impregnated with fixanol in the usual strength, it was readily recovered later. The same applied even when the concentration of fixanol was raised four times. Evidently, in such absorbed fluids, the concentration of fixanol does not reach the lethal level for Ps. pyocyanea.

Thus, with this procedure the blanket leaves the laundry virtually sterile. Moreover, it will apparently retain, for a considerable period, sufficient material to destroy any staphylococci that may be picked up in secretions. The cost of the detergent is approximately 1d. a blanket, and the procedure is straight-

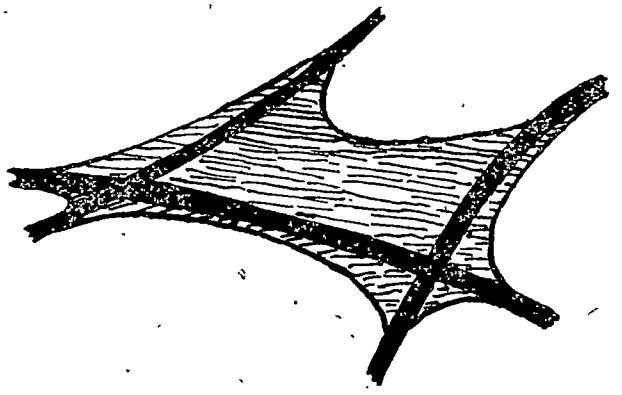

FIG. 3.—Saliva droplet adhering to wool fibres coated with fixanol.

forward. The impregnated blanket has a slightly smooth feel, it has no smell, and in routine hospital use for all blankets for a year there has been no indication of patients showing sensitivity to the treated blankets.

Discussion

The much higher frequency with which penicillin-resistant strains of staphylococci are recovered from hospital cases, as compared with those at home, is largely referable to cross-infection (Rountree and Thomson, 1949; Barber, Hayhoe, and Whitehead, 1949). Nasal carriers of such strains among hospital staff are also frequent, and there is a tendency for newly arrived nurses to acquire the prevailing phage type. Though staff may directly infect patients, both might, as postulated by the *Lancet* (1949), be infected by the hospital environment. The nose is an effective dust filter (StClair Thomson and Hewlett, 1896). This is by virtue of air turbulence and impaction of particles against the moist walls. Thus a ward nurse has something in common with a slit sampler.

It was of interest, therefore, to sterilize the hospital blankets for a period and to observe the effect on the incidence of carriers, and also of cross-infected wounds. Briefly, it may be reported that in three months there was no reduction in the carrier rate, while for wounds the small numbers left the matter in doubt, a certain amount of cross-infection still continuing. No doubt, as observed by Girdlestone, Bourdillon, and McFarlan (1951), there are a multiplicity of sources of infection. A wider trial is desirable in which the sterilization of clothes and other fabrics deserves consideration.

Whilst uncertainty remains on many points, it is not without importance that, as many have observed, pathogens are surviving for long periods in the woollen fabrics of our most immediate environment, and, moreover, that perhaps now this need no longer be so.

Summary

Cross-infection of wounds in a hospital has been investigated. Attention is directed to dust from blankets. From freshly laundered blankets *Staph. aureus* was frequently obtained, which organism readily survived the laundry process. During laundering bacteria pass from one blanket to the next.

Impregnation with cetyl pyridinium bromide (fixanol C) has been found a satisfactory way of sterilizing blankets. They remain, to a large extent, self-disinfecting.

I am indebted to Dr. W. H. James, medical superintendent of the Westwood Hospital, Beverley, for his valuable observation and advice on the clinical aspects; to Dr. W. Goldie, pathologist to St. James's Hospital, Leeds, for his most helpful criticism of the manuscript; and to Mr. A. Manby, senior technician, Westwood Hospital, Beverley, for preparation of the photographs.

REFERENCES

Barber, M., Hayhoe, F. G. J., and Whitehead, J. E. M. (1949) *Lancet*, **2**, 1120.
Bourdillon, R. B., and Colebrook, L. (1946). Ibid., **1**, 561.
Chapman, G. H. (1945). *J. Bact.*, **50**, 201.
—— (1949). Ibid., **58**, 823.
Colebrook, L., Gibson, T., Todd, J. P., Clark, A. M., Brown, A., and Anderson, A. B. (1944). *Spec. Rep. Ser. med. Res Coun., Lond.*, No. 249.
Domagk, G. (1935). *Dtsch. med. Wschr.*, **61**, 829.
Duguid, J. P., and Wallace, A. T. (1948). *Lancet*, **2**, 845.
Dumbell, K. R., and Lovelock, J. E. (1949). Ibid., **1**, 777.
—— —— and Lowbury, E. J. (1948). Ibid., **2**, 183.
Girdlestone, G. R., Bourdillon, R. B., and MacFarlan, A. M. (1951). Ibid., **1**, 597.
Green, C. A., Challinor, S. W., and Duguid, J. P. (1945). *Ann. rheum. Dis.*, **5**, 36.
Hare, R., and MacKenzie, D. M. (1946). *British Medical Journal*, **1**, 865.
Harwood, F. C., Powney, J., and Edwards, C. W. (1944). Ibid., **1**, 615.
Lancet, 1949, **2**, 518.
Ludlam, G. B. (1949). *Mon. Bull. Minist. Hlth*, **8**, 15.
Puck, T. T., Robertson, O. H., Wise, H., Loosli, C. G., and Lemon, H. M. (1946). *Amer. J. Hyg.*, **43**, 91, 105.
Quisno, R., and Foter, M. J. (1946). *J. Bact.*, **52**, 111.
Rountree, P. M. (1946). *Med. J. Aust.*, **1**, 539.
—— (1947). Ibid., **1**, 427.
—— and Armytage, J. E. (1946). Ibid., **1**, 503.
—— and Thomson, E. F. (1949). *Lancet*, **2**, 501.
Thomson, StClair, and Hewlett, R. T. (1896). *Lancet*, **1**, 86.
Thomas, J. C., and van den Ende, M. (1941). *British Medical Journal*, **1**, 953.
Twort, C. C., Baker, A. H., Finn, S. R., and Powell, E. O (1940). *J. Hyg., Camb.*, **40**, 253.
U.S. Navy Medical Research Unit No. 1 (1946). *Science*, **104**, 60.
van den Ende, M., Edward, D. G. ff., and Lush, D. (1941) *Lancet*, **1**, 716.
—— Lush, D., and Edward, D. G. ff. (1940). Ibid., **2**, 133.
—— and Spooner, E. T. C. (1941). Ibid., **1**, 751.
Vaughan, T. H., Sotier, A. L., Hill, E. F., Simpson, J. E., and Lee, W. M. (1948). *Industr. Engng Chem.*, **40**, 2054.
Williams, R., Clayton-Cooper, B., Duncan, J. Mck., and Miles, E. M. (1943). *Lancet*, **1**, 522.
Wright, J. Cruickshank, R., and Gunn, W. (1944). *British Medical Journal*, **1**, 611.

BACTERIOLOGY OF VAGINAL FLORA AFTER USE OF INTERNAL TAMPONS

BY

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The vaginal tampon is being used with increasing frequency for the absorption of the menstrual flow, but this subject has received little attention from the medical profession in this country, though there still may be a fair amount of prejudice against its use.

Correspondence for and against it appeared in the *British Medical Journal* (1938, 1939). For over 14 years Partridge (1939) had advised its use amongst her patients without there being any complaints or untoward results. Barton (1942) reported on the advantages of intravaginal tampons as menstrual guards.

The matter has been investigated fully by gynaecologists in the U.S.A. Sackren (1939) carried out an investigation on 21 patients and found no irritation in the vaginal or cervical tissues after the use of internal tampons. Thornton (1943) investigated 110 subjects for one to two years and arrived at the same conclusion. Karnaky (1941, 1943) claimed beneficial results in cases of sterility. Magid and Geiger (1942) investigated the bacterial flora in the vagina and cervix after the use of tampons in 25 women, over two menstrual periods,

existence of developmental language difficulties, and he gives a number of diagnostic features of what he believes to be a specific clinical entity. These include uneven and ill-formed handwriting, slow and stumbling reading (with many mispronunciations and occasional reversals), numerous and bizarre spelling errors, and a bad record in linguistic school subjects. Although suitably cautious about their cause, Gallacher inclines to Orton's well-known theory that such defects result from failure to establish normal hemisphere dominance. But although this hypothesis has proved attractive to many, it has so far failed to establish itself firmly in orthodox neurological theory.

A more extensive study of the dyslexic component (congenital word-blindness) in specific language defect has been reported by Hallgren.[2] Unlike earlier workers, he has been unable to find evidence of a direct association between "developmental dyslexia" and left-handedness, left eye dominance, or mixed eye-hand preferences. These negative findings militate to some extent against the view that anomalous cerebral dominance is a causal factor. On the other hand, Hallgren reports evidence pointing to the congenital origin of the disorder, in a majority of cases at least. Data derived from examination of the parents and siblings of 116 dyslexic children lead him to conclude that the defect follows a "monohybrid autosomal dominant mode of inheritance with practically complete manifestation." If this work be confirmed, it would suggest that specific dyslexia is an inherited defect comparable to colour blindness and that environmental factors play little, if any, part in its causation. The possibility that they may exacerbate a congenital condition is not, however, excluded. The implications of Hallgren's findings for the schooling of children with developmental language defects remain to be assessed. Although some response to remedial methods is often claimed, it appears distinctly doubtful whether this justifies the time and trouble spent on treatment when the defect is certainly congenital. In such cases less attention might be given to the disability itself and more to the development of knowledge and skills in unaffected fields of performance. Such a course, combined where necessary with appropriate psychiatric guidance, might go a long way towards reducing the affected child's sensitivity about his handicap and equipping him for a vocation in which technical skill counts for more than symbolic sophistication.

CHOICE OF ANTIBIOTIC FOR PNEUMONIA

The recent trial[1] published by the Medical Research Council subcommittee showed clearly that penicillin was at least as effective as aureomycin or chloramphenicol in the treatment of bacterial pneumonia—and very much cheaper. In the winter of 1949–50 a group at the Philadelphia General Hospital carried out a similar but smaller-scale trial on a total of 93 patients, and came to much the same conclusion.[2] Indeed, the drop in temperature was most sudden, and secondary rises rarest, in those who received penicillin, even when given orally in a first dose of 500,000 units followed by 250,000 units every 12 hours to a total of 3,000,000 units. End-results were the same with each treatment. Penicillin has the advantage of fewer toxic reactions than the other antibiotics. Because it produces the most rapid response, the authors believe that it is best used even in cases where the pneumonia is not certainly bacterial but may be viral, since it is bacterial pneumonia which has the high mortality.

[1] *British Medical Journal*, 1951, 2, 1316.
[2] *J. Amer. med. Ass.*, 1951, **147**, 918.

NUTRITION IN NEW GUINEA

Breadth of knowledge as well as vision is needed in the drawing up of reliable plans to raise the standard of living of the people in the colonial territories.[1] More than one scheme has already come to grief because it was launched without sufficient testing of its suitability. What the planners have apparently failed to realize is that success in a temperate zone gives no guarantee of an equivalent success elsewhere. The report[2] of the New Guinea Nutrition Survey Expedition suggests that the lesson has been well learnt by a group of Australian scientists. Undertaken at the request of the Administrator of Papua and New Guinea and the Department of External Territories, Australia, the expedition's main object was to collect enough information about native dietary patterns and food habits to make possible the drawing up of sound and acceptable ration scales for employed labourers. Secondary aims were the study of normal production and consumption and the collection of data which would help to show whether native agriculture could combine cash and food crops without detriment to the latter.

The field staff consisted of a medical officer, two biochemists, a parasitologist, a nutritionist, an agriculturist, a dental officer, an anthropologist, and a photographer, and they were assisted by various members of the staff of the Institute of Anatomy working in Canberra. The expedition visited five different villages, spending approximately one month in each, and the combined efforts of the different members of the team have provided an all-round review of the situation prevailing at the time of the visit in three of the villages. In the remaining two villages the work was less comprehensive. The people surveyed lived mainly on starchy roots, sago, or bananas, with no milk and practically no flesh food, yet no signs of malnutrition were detected. The weakness of the survey was the short time spent in each village. Experience in other territories has shown how necessary it is to live closely with the people under observation throughout at least one complete agricultural cycle; seasonal fluctuations tend to be much greater than expected, and an understanding of the cultural outlook of an unknown community is not achieved in a short time. The writers of the report seem to have realized this, and most sections end with a call for further investigations. The danger is that readers may be less aware of the many things that were not found

[1] *British Medical Journal*, 1951, 2, 33.
[2] *Report of the New Guinea Nutrition Survey Expedition*, 1947, Government Printer, Sydney.

out and too prone to quote figures which may apply only to one month in the twelve. This is not to decry the value of the observations that were made but only to point out that they were extensive rather than intensive. Carefully interpreted, they can be of the greatest use, not only to the territories concerned but also to medical scientists, agriculturists, and others elsewhere.

COMPULSORY RETIREMENT

The age for retirement of doctors in the hospital service has been fixed at 65. Most consultants, knowing that able men have been trained to take their place, have no great objection to this provided they can, if they want to, continue their work in private practice or in other directions. It would in fact be a sad waste of knowledge and experience if all medical men ceased the practice of medicine at the age of 65, or even much higher, and it is disturbing to read recent letters from doctors who have had their contracts with hospitals terminated under the age rule and are left with little or no work to do. Consultants retiring now under this rule have not served in the N.H.S. long enough to qualify for a pension, and their opportunity to make a living out of private practice is much less than it was before 1948. Pathologists and radiologists are particularly hard hit, for many of them did all their work at voluntary hospitals and were paid by salary. The Consulting Pathologists Group Committee of the B.M.A. has recently been considering how to make things easier for those who have to retire under the present rule without a pension (see *Supplement*, page 4). There is in fact a good case for extending the contracts of pathologists beyond retiring age because of the difficulty of finding suitably experienced men to fill consultant posts in this specialty. The clinician is in a far more favourable position, for the granting of an honorary contract to him enables him to continue his work by attending patients in private beds, while an honorary contract is valueless to a pathologist who has no private laboratory of his own, unless he is also given the right to use a hospital laboratory. This might cause difficulties in some laboratories, but with good will and common sense it should be possible to ensure that retired pathologists, and other consultants in like position, can continue to exercise their skill and at the same time overcome the financial hardship caused by the enforced termination of their contracts.

WINTER EPIDEMICS

Lack of knowledge about the differences between the several forms of respiratory disease occurring in epidemics during the winter has delayed the development of specific methods of treatment. But the control of influenza by immunization now seems to be within the bounds of possibility, and the important task of the moment is to obtain information which will not only be of use to laboratory workers but will also help hospitals to meet the strain of a sudden winter epidemic. The person best placed to collect evidence about local outbreaks is the district medical officer of health.

His sources of information, according to a recent suggestion of the Ministry of Health,[1] should be general practitioners, industrial and Service medical officers, the regional controllers of the Ministry of National Insurance, and registrars of deaths. Besides letting the Ministry know as soon as he finds that respiratory disease is becoming unusually prevalent, the M.O.H. must warn the Public Health Laboratory Service at the earliest indication of an outbreak, so that arrangements can be made to collect material for investigation. For this purpose it is hoped that some general practitioners will act as "spotters," who will be in direct touch with the nearest laboratory, though of course the results of tests will probably not be ready in time to help the practitioner in his treatment of an individual patient. By these means the Ministry hopes "that representative strains of virus will be isolated from all the main centres of population at the time of the first appearance of influenza." Meanwhile the Medical Research Council is to study the production and arrange for the trial of a vaccine made from influenza virus cultured in fertile eggs. The hopes that this vaccine may eventually be used with success on a large scale have been recently strengthened by the discovery that its antigenic property is greatly enhanced by the addition of oily adjuvants.

SALMONELLA MINNESOTA INFECTION

The first large outbreak in Britain of food-poisoning caused by *Salmonella minnesota* has occurred in Northamptonshire and the surrounding country, and some information about it is given at page 53. Several hundred people are known to have been affected, and there are thought to have been more whose symptoms were so mild that they did not seek medical attention. There have been two deaths—a woman aged 77 and a man aged 78. The infection has appeared chiefly in the elderly, as is usual in outbreaks of this kind.

With commendable promptitude the public health medical officers discovered the source of the outbreak in meat pies manufactured at a Northants pie factory. How the pies became infected is still a mystery. They contained meat imported from Denmark, and it has been suggested that this may have been contaminated with the organism. But *Salmonella minnesota* is being reported in this country with increasing frequency, and it seems quite possible that the imported meat had nothing to do with the outbreak.

The Salmonella Reference Laboratory, Colindale, identified the first four human cases in Britain of infection with this organism in 1950. In 1951, 23 cases were identified apart from the present outbreak. Most of them were in Inverness and the Aberdeen area, but others were identified in diverse parts of Britain, including one case in London. Two cases in Aberdeen proved to be fatal. On December 10, 1951, the laboratory identified the organism in a specimen taken from a case in Northamptonshire. The possibility of a connexion between this case and the outbreak is no doubt being investigated.

[1] *Mon. Bull. Minist. Hlth, Lond.*, 1951, **10**, 280.

[2] *J. Hyg., Camb.*, 1938, **38**, 716.

This salmonella is so named because it was isolated from a three-weeks-old turkey poult in Minnesota in 1936, and Edwards and Bruner[2] first described its characteristics two years later. In Britain it has not yet been isolated from animals. Whether this outbreak is the herald of more to be caused by *Salmonella minnesota* remains to be seen, but the increasing frequency with which the organism has been identified over the last two years suggests that it may be a new addition to the various groups of organisms apt to cause outbreaks of food-poisoning.

STEROID METABOLISM IN IDIOPATHIC HIRSUTISM

In normal women the urinary excretion of 17-ketosteroids shows no definite variations in the course of the menstrual cycle.[3-7] Pregnanediol, on the other hand, appears in the urine during the luteal phase.[8-9] In women with idiopathic hirsutism Koets[10] found a cyclic variation in excretion of 17-ketosteroids, the peak of excretion coinciding more or less with the probable time of ovulation. Merivale[11] has recently reported similar findings in hirsute women, but by correlating the excretion of 17-ketosteroids and pregnanediol he has shown the peak in the excretion of the former to coincide fairly closely with that of the latter, and to be absent in a hirsute woman who did not ovulate. These facts are of great interest, for casual (and even careful) clinical and laboratory investigations have hitherto yielded negative results and led many observers to conclude that the fundamental defect in idiopathic hirsutism was most likely an excessive response by the affected hair follicles to an apparently normal stimulus—whatever that might be—rather than an abnormal stimulus.

Engstrom and Munson,[12] studying the metabolism of testosterone in normal women, have found that it is converted into 17-ketosteroids to a greater extent during the follicular phase than during the luteal phase—the difference being statistically significant. If it is assumed that the endogenous precursors of the 17-ketosteroids are broken down in the same way, it follows that in normal women more of these precursors are secreted in the luteal phase than in the follicular phase of the cycle. Since their conversion to 17-ketosteroids is less in the luteal phase, the urinary output would remain more or less constant throughout the cycle. Perhaps, therefore, this cyclic fluctuation of 17-ketosteroid precursors is enhanced in women with idiopathic hirsutism, secretion during the luteal phase being even more marked than in normal women. These substances include among their number steroids with androgenic activity, and this train of reasoning leads after all to the suggestion that relatively more androgens are secreted in hirsute than in other women. The situation, however, is not so simple as that. Merivale, for instance, impressed by the coincidence of the peaks of 17-ketosteroid and of pregnanediol excretion in hirsute women, considers that the connexion may not be merely fortuitous, that the substance (measured by the Zimmermann reaction) apparently increasing the 17-ketosteroid output may, in fact, be a 20-ketosteroid (such as a pregnanolone), and that it may thus indicate an abnormality of progesterone metabolism. Engstrom and Munson envisaged yet a further possibility. The conversion of 17-ketosteroid precursors into 17-ketosteroids is regarded as a function of the peripheral tissues—the end-organs, in fact, including perhaps the hair-follicles—and increased conversion may represent an increased response on the part of the end-organs. Such could be the case in hirsute women, their abnormality residing in the failure of the end-organs to decrease their response during the luteal phase. This possibility could be examined by repeating the experiments of Engstrom and Munson in hirsute women; the finding of no difference in the conversion of testosterone to 17-ketosteroids in the follicular and luteal phases would be supporting evidence, provided that the extent of conversion was similar to that found in normal women during the follicular phase.

That the above considerations are nowhere near the whole story is clear from such facts as the absence of any increased 17-ketosteroid excretion—or even decidedly low excretion—in some cases of hirsutism, such as those due to arrhenoblastoma or those associated with bilateral solid enlargement of the ovaries. The field is obviously still wide open for further research.

3 Werner, S. C., *J. clin. Invest.*, 1941, 20, 21.
4 Fraser, R. W., Forbes, A. P., Albright, F., Sulkowitch, H., and Reifenstein, E. C., *J. clin. Endocrinol.*, 1941, 1, 234.
5 Talbot, N. B., and Butler, A. M., ibid., 1942, 2, 724.
6 Salter, W. T., Humm, F. D., and Oesterling, M. J., ibid., 1948, 8, 295.
7 Venning, E. H., and Kazmin, V., *Endocrinology*, 1946, 39, 131.
8 —— and Browne, J. S. L., ibid., 1937, 21, 711.
9 Cope, C. L., *Clin. Sci.*, 1940, 4, 217.
10 *J. clin. Endocrinol.*, 1949, 9, 795.
11 *J. clin. Path.*, 1951, 4, 78.
12 *J. clin. Endocrinol.*, 1951, 11, 427.

"FAMILY DOCTOR"

A subscription form for *Family Doctor* was inserted in the *Journal* of December 22, and it is hoped that many doctors will return the forms, filled in, to support this publication of the B.M.A. Designed to be a popular health journal for the lay public, *Family Doctor* made its first appearance in April, 1951, and got off to a flying start. The issues published monthly since then have covered a wide field and have commanded the interest of a steady corps of readers. Medical men and women should find *Family Doctor* a practical magazine which will, by helping their patients, thus help them in their daily practice. The essential function of *Family Doctor* is to promote healthy living both by positive precept and by emphasis on the preventive aspects of medicine. The dish is garnished with articles of popular and topical interest. The January number contains, among its features, "Profile of Niall MacGinnis," by Dr. Cormac Swan; "Surgeons," by Sir Heneage Ogilvie; "Fact and Fancy in Pregnancy," by Professor Dugald Baird; an editorial on hypnotism; and a new poem by Walter de la Mare. General practitioners, in particular, would do a useful service by persuading their patients to become subscribers to *Family Doctor*, which costs only 1s. a month.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

THE PAINFUL SHOULDER

BY

R. J. W. WITHERS, M.D., M.Ch., F.R.C.S.Ed.

Lecturer in Orthopaedics, Queen's University, Belfast; Orthopaedic Surgeon, Royal Victoria Hospital, Belfast

Pain in the shoulder may result from lesions of a gross nature, such as fractures, dislocations, tuberculosis, bone tumours, and infective arthritis, or may be due to abnormal conditions of the cervical spine, the apex of the lung, and the pleura, or to obstructive lesions of the cervico-axillary outlet. Pain may also be felt in the shoulder from visceral disturbance, notably from heart and gall-bladder disease.

When these lesions are excluded there remains a well-defined group of conditions of the shoulder in which there is pain, limitation or alteration of shoulder movement, sometimes muscular wasting, and usually no radiographic evidence of abnormality. It is to this group that the term "painful shoulder" is applied, and in considering the underlying pathology certain anatomical and physiological features of the shoulder must be recalled.

Normal Shoulder Movement

The movement of full elevation of the arm includes motion at no fewer than four joints: the sterno-clavicular joint is involved mainly in the early phase of elevation, the acromio-clavicular mainly towards the end of this movement, whilst gleno-humeral and scapulo-thoracic movements are occurring throughout all phases. The participation of each of these four components in the entire movement of elevation of the arm is simultaneous and not successive, and each shoulder muscle is known to contract throughout the full range of elevation, though with a peak of maximal contraction at a selective and critical phase.

The muscles acting at the gleno-humeral joint can be divided into two groups—a superficial set, essentially the deltoid, and a deep set consisting of the spinati, the subscapularis, and the teres major and minor. These two groups are separated by the subdeltoid bursa, and each has a different though equally important part to play in shoulder movement. The deep muscles act by tensing, fixing, and depressing the humeral head against the glenoid cavity, so that the superficial muscles, the deltoid, can effect elevation of the humerus at a stable hinge. One set is useless without the other. If the hinge is unstable, as in ruptures of the tendons of the deep muscles, the deltoid cannot elevate the humerus or at best can only do so weakly or incompletely. If the hinge is fixed, "stuck" as it were, by inflammation or adhesions in the deep tendons, elevation is again impossible no matter how powerful the deltoid may be. The deep muscles therefore assume an extremely important position in gleno-humeral movement and their anatomy is worthy of further consideration.

Effect of Advancing Years

In the adult the capsule of the shoulder-joint is fused with the overlying deep muscles, but in the infant these structures are separated by areolar tissue, the tendons being short and the muscle fibres extending to within a few millimetres of their humeral attachments. As age advances the tendons become longer, and the degree of adhesion between them and the capsule also increases, so that in old age the fusion may well be complete. These changes are most marked at the upper part of the capsule, so that in adult life the entire supraspinatus tendon and the upper parts of the tendons of the subscapularis and infraspinatus are intimately fused with one another and with the shoulder capsule. I have called this fused structure the physiological hinge.

Post-mortem investigations have shown that degenerative changes, ranging from superficial fibrillation to complete rupture, of this fused tendino-capsule occur in arithmetical progression as age advances, and that after 75 years fully 50% of all subjects coming to post-mortem examination have incomplete or complete ruptures of the upper part of the fused shoulder capsule. The physiological hinge of the shoulder-joint therefore tends to degenerate as one gets older, and it is suggested that most cases of "painful shoulder" are due to this degeneration, influenced by trauma or by irritative and inflammatory changes in the tendino-capsule itself. Support is given to this suggestion when it is realized that few cases of "painful shoulder" are seen before the age of 45—that is, before the age when degeneration starts. If it is accepted that the pathological changes usually start in the capsule in relationship to the supraspinatus tendon, it is easiest to consider the clinical states produced under an all-embracing term "the supraspinatus syndrome," thereby avoiding the confused and often misleading nomenclature which has been adopted in the past, though never forgetting that other parts of the shoulder capsule are affected by degenerative or inflammatory change in the worst cases.

Clinical Groups

Three groups can be recognized, all painful and each with a characteristic symptom.

1. The arm cannot be elevated by the patient nor can he sustain it in an elevated position when so placed by the examiner, but it drops uselessly to the side. This is the *useless arm or drop-arm* group, and the underlying pathology is a rupture of the supraspinatus tendon.

2. The arm has a full though often weak range of movement at the shoulder-joint, but there is pain with or without partial "locking" of a momentary nature during the middle phase of elevation, or when the arm is descending from the elevated position. This is the *painful arc* group, and the underlying pathology is a partial rupture of the supraspinatus tendon, an irritable area in the tendon due to inflammatory change, an exostosis at the tendon's humeral attachment, or a calcified nodule in the outer part of the tendon itself.

3. The arm cannot be moved actively or passively at the shoulder-joint at all—it is completely "stuck" or, as the Americans so aptly put it, "frozen." This is the *frozen shoulder* group, and the underlying pathology is an inflammatory change in the shoulder capsule.

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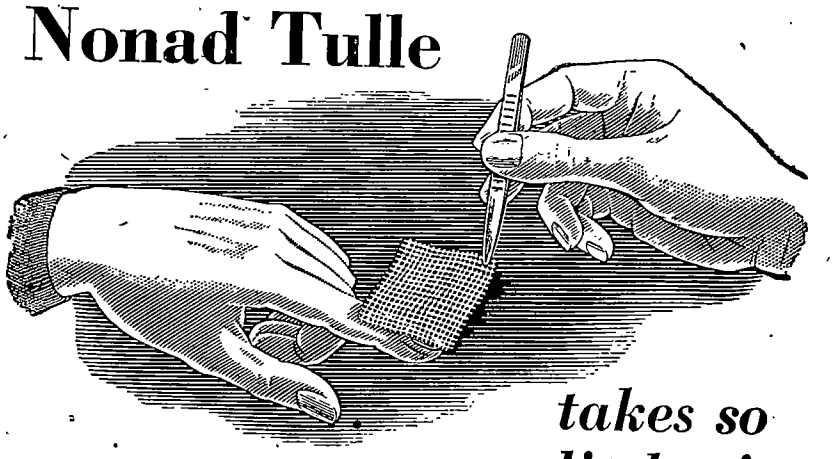

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Useless Arm

The typical case occurs in a labouring man, usually over 45, who after a fall on the shoulder or after attempting to lift a heavy weight experiences sudden diffuse pain in the shoulder, with inability to elevate the arm or to hold it elevated when the examiner places it above a right-angle. A normal range of passive movement is always present on examination and usually tenderness can be found over the tip of the great tubercle of the humerus. The arm is useless, but the pain generally subsides in a few days or weeks. The disability is due to rupture of the supraspinatus tendon, so that there is loss of the power of fixation of the humeral head in the glenoid by the physiological hinge, and the deltoid is thereby put at such a disadvantage that, although it can be felt contracting strongly by the examining hand, it is unable to effect true shoulder movement.

In recent ruptures the loss of fixation may be no more than a reflex phenomenon produced by pain, since the other deep muscles—the subscapularis and the infraspinatus—often uninjured, are also thrown out of action. This can occur in incomplete recent ruptures just as readily as in cases in which the tendon has a complete tear across its substance. It follows, therefore, that it may well be impossible to distinguish clinically beween complete and incomplete ruptures. If pain is abolished by injecting into the subdeltoid bursa a few millilitres of procaine, restoration of shoulder movement will occur in a few minutes in minor ruptures, but in complete ruptures the arm will remain as useless as before. This is a helpful test and easily carried out; helpful, because incomplete ruptures will heal without any special treatment apart from a period of rest, whilst complete ruptures will require surgery.

Treatment

Conservative measures are adopted in the first instance in all cases, and the arm is put at complete rest either in an abduction shoulder splint or else with the arm at the side in a sling or bandaged to the chest wall. There is some difference of opinion about the value of an abduction splint: personally I have not seen any advantage from its use and most patients complain of the awkward and uncomfortable position which it necessitates.

If there is return of some shoulder elevation within four to six weeks conservative measures can be continued and physiotherapy and exercises will complete the return of shoulder function. When no recovery of elevation has occurred in six weeks operation is advised, to repair the ruptured supraspinatus. Several types of rupture can be met with that require slightly different techniques for their repair, which need not concern us here. The aftercare consists of rest for the shoulder with the arm in a comfortable position—I do not now use an abduction splint—until pain and joint irritability have subsided, thereafter active exercises aided by hot packs and assisted movements from the masseuse.

It must be remembered, even though an apparently effective repair of the rupture has been carried out, that the prognosis in complete rupture is still far from perfect; this is especially true if the supraspinatus area shows marked degenerative change at operation. Surgical intervention is often followed by a "frozen shoulder," and it may be six to nine months before one knows what the end-result is to be. This is particularly true in massive ruptures or avulsions of the capsule from the humerus; in these the outlook is extremely poor for the return of useful shoulder function.

Painful Arc

After a fall, or sometimes spontaneously, a painful arc of movement during mid-elevation of the shoulder develops, with weakness of movement which may be mild or may be so marked that the patient is unable to elevate the arm against the slightest resistance from the examiner. When the arm is at the side or in the fully elevated position no pain is felt and there is characteristically a full range of shoulder movement. The symptoms are often mild to begin with, and it may be many months before the patient seeks advice. Patients frequently state that one of their main worries is putting on an overcoat: often they require help with this but are able to carry out other shoulder movements without any difficulty. Sometimes, during elevation of the arm, momentary locking occurs. In time many patients develop trick methods of shoulder elevation to avoid the painful phase, and when both shoulders are examined from the back it often becomes clear that the rhythm of scapulo-humeral action is different on the two sides.

It is thought that the symptoms are due to impingement on the under surface of the acromion process of the outer part of the supraspinatus tendon where there is a tender area from rupture, a granulation tissue swelling, or a calcified nodule. This area is in contact with the acromion only during the middle range of elevation, and so during all other phases, when the two structures are apart, no pain is felt. It is known, however, that the supraspinatus reaches its peak of contraction normally between 80 and 120 degrees elevation of the arm, and it is conceivable that active contraction of this tendon, irritable from rupture or inflammatory change and accentuated by the pull of the tendons fused to it, may generate enough tension to be in itself sufficient to cause the typical pain.

Treatment

Here again conservative measures are adopted at first and consist in teaching the patient how to avoid if possible those movements which cause pain. Repeated injections of procaine into the subdeltoid bursa also help, but it is difficult to see how physiotherapy in any form can effect lasting change. About five out of every six cases eventually clear up whether "treated" or left to their own devices. The remainder should be treated surgically.

The operation is an exploration of the shoulder exactly as for ruptures of the supraspinatus, the acromion process being excised first of all. The supraspinatus area is then examined and when the exact pathological lesion has been identified appropriate surgical techniques are employed. These may consist in excision of a band of adhesions, excision of abnormal calcium deposit, repair of an incomplete tear of the tendon, or excision of an exostosis from the superior facet of the greater tubercle of the humerus. Since it is the impingement of the pathological area against the under surface of the acromion process which is the usual cause of the pain, it is clear that the most important step in the operative treatment is the removal of the acromion. This seems to cause no disability and little or no alteration in the

appearance of the shoulder except possibly in a very thin patient. The aftercare is similar to that described under ruptures of the supraspinatus.

Frozen Shoulder

Half of the cases in this group give a history of direct injury to the shoulder and in the other half the onset is spontaneous and more gradual. Women are affected twice as commonly as men, and the average age is 55 years. At the onset pain may be severe, almost continuous, and felt diffusely over the shoulder. It may radiate down the arm into the fingers, and is usually worse in bed at night. Later the pain becomes less and may only be felt on attempted movement of the shoulder, when it is typically experienced at, or close to, the insertion of the deltoid to the outer side of the humeral shaft. In the early stages all shoulder movements are lost, though, of course, the patient can elevate the arm to about 60 degrees by the gliding action of the scapula on the chest wall; this is, however, purely a scapular movement; true shoulder movement does not occur.

The shoulder gradually loosens, but a period of many months elapses in the average case before there is a return to full shoulder function. In a certain small percentage movement is permanently, though usually only partially, lost. In the average case wasting of the scapulo-humeral muscles can be seen or felt by palpation, though in fat patients this may be very difficult to demonstrate.

It is believed that the essential pathology in this group is inflammation of the capsule after injury or from irritative causes within the supraspinatus area itself such as calcium deposits or the degenerative process already referred to. During the early period of this inflammatory process exudation occurs into and around the capsule, so that fluid is present in the joint and subdeltoid bursa. Limitation of shoulder movement at this stage is mainly due to protective muscle spasm, which therefore relaxes under anaesthesia. When resolution of the inflammation occurs a replacement fibrosis may develop with the formation of adhesions around the capsule, so that there is still limited movement even when the muscles are relaxed under anaesthesia. It is therefore possible in most cases to distinguish between an irritative and an adhesive stage by the simple method of examination of the shoulder under anaesthesia. It is to be expected, of course, that some cases will be partly irritative and partly adhesive if an intermediate stage in the resolution of the inflammatory process has been reached at the time the examination is carried out. This is an important test which should be done in every case of "frozen shoulder," since in the irritative stage the treatment is by rest whilst the adhesive stage calls for active exercise aided by physiotherapy and manipulation. It is clear that in such a tendinous and avascular structure as the shoulder capsule the repair process will be slow and therefore the patient may have to suffer symptoms for many months.

Degeneration or rupture, especially central or partial rupture, of the supraspinatus area of the capsule may be followed by calcium deposition. Such deposits, requiring *x*-ray examination for their discovery, produce symptoms which are no different from those described above and under "painful arc." They are found in about 5% of any series and their presence is clear-cut evidence of degenerative change. Sometimes they set up by irritation a repair process sufficient to effect cure; at others they may rupture into the subdeltoid bursa and produce an explosive onset of pain and uselessness of the arm for a week or ten days, rapidly followed by complete relief from all symptoms. The long tendon of the biceps in its passage through the front of the shoulder capsule may share in the capsular degenerative changes, and these may be so marked that eventually rupture of the tendon occurs.

Treatment

It is important to divide these cases into their subgroups of "irritative" or "adhesive," which, as previously pointed out, is best done by examining the shoulder under anaesthesia. In irritative lesions there is a full range of passive movements, whilst in adhesive cases movement is restricted though it can be freed by manipulation.

In irritative lesions treatment is primarily by rest, support of the arm in a sling being easiest for the patient. There are no real advantages in keeping the arm in an abduction shoulder splint; indeed, this often increases the pain. It has been customary to order heat in one of its various forms, but in a considerable number of cases this treatment may increase the pain and have to be stopped. If complete rest is given to the shoulder the severe pain gradually subsides in four to six weeks, and as soon as this occurs gentle exercises for the shoulder should be encouraged, aided if need be by massage. Exercises are best done while lying down on the back. In the average case return of function may be expected in three to four months, though it will not be full for eight months or even a year in the worst cases. If more vigorous measures are adopted the inflammatory process has no chance to subside and symptoms may persist for many months longer than is necessary.

In many cases replacement fibrosis occurs after the acute irritative stage has passed. At this stage pain is much less severe and usually occurs only on attempted movement. Whilst the shoulder is still "frozen" there is a little movement at the shoulder-joint, so that, along with the scapular glide, the arm can usually be elevated by the patient to about a right-angle. At this stage manipulation of the shoulder under anaesthesia is called for, when full movement can usually be obtained with palpable or even audible "snaps" which are due to adhesions breaking down. The manipulation must be carried out very gently, and, as a first measure, should be through full lateral rotation only. Often one manipulation is enough to free the joint, and it is usually found that after manipulation physiotherapy is a real help in hastening full recovery.

A few cases resist all conservative measures, and for these surgical exploration of the upper part of the joint should be advised, just as has been described for the preceding two groups. In these the subdeltoid bursa will usually be found to be obliterated wholly or in part by adhesions, and after excising the acromion process complete removal of the subdeltoid bursa and the adhesions will be necessary. Manipulation of the shoulder will bring the recesses of the bursa into view, and those adhesive areas which can be seen obviously to be limiting movement will be more readily demonstrated and their excision more accurately carried out. In not more than 5% the shoulder-joint remains permanently "frozen" despite careful conservative and operative treatment. In the other 95% the outlook is good.

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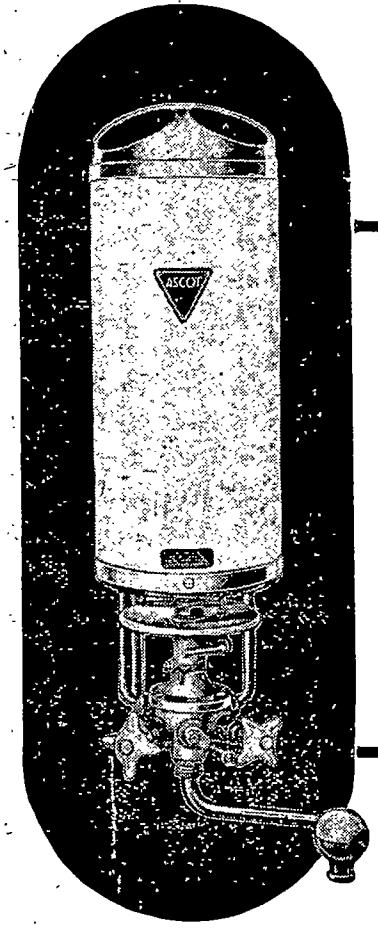

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VISITING CHILDREN IN HOSPITAL

BY

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This is a preliminary account of an experiment in visiting that seems to us to be so successful that we want to bring it to the notice of others. It is a plan for daily visiting of children, more particularly those of "toddler" age, by the mothers.

Working at various hospitals over a period of some years, we have been familiar with a variety of patterns for visiting. First may be considered the "no visiting" programme, with an exception made for dangerously ill children. This was probably based mainly upon a fear of introducing infection, but since the British Paediatric Association's investigation (Watkins and Lewis-Faning, 1949) failed to show any correlation between visiting and cross-infection, this fear must be regarded as ill founded. (Visitors are still barred from infectious disease hospitals, in most instances, probably for fear of carrying infection out. Since doctors, nurses, domestic staff, and others in these hospitals "visit" the children and go into the outside world this reason seems a little illogical.) Whatever the reason, this system tended to produce unsatisfactory results. For the short-stay child it meant at least a few days of misery, followed often by a period of partial adjustment, and then, after going home—so we learnt not infrequently—a period of disturbance, although mother had been recognized and welcomed when the time came for discharge.

For children likely to be in hospital for long periods "no visiting" seems to produce the maximum of disturbance. The child forgets his mother, and clings to nurse when the time for discharge comes, so that his return home must be associated with great maternal distress, from the effects of which the child can scarcely escape. Moreover, it was not a satisfactory business for the nursing staff, who tended to develop a possessiveness with regard to the children, the eventual termination of which gave a psychological jolt to both parties.

A modification of the "no visiting" method is to permit parents to look at the children through a glass door or cubicle wall. If this allows the children to see the parents, even accidentally, it can only be condemned as cruel. Even when such accidents did not occur the parents were often very distressed. In wards where this was the custom there was frequent grumbling from nursing staff and from parents, and it never seemed satisfactory.

Daily Visiting

Visiting on "visiting day," once, twice, or even three times a week, is probably all right for older children, say, over 5 or 6 years of age. They can hold out for a few days, even a week, with the knowledge that "mum" is coming again then. For the younger children this is not possible. Their memories are short, and their power of looking forward is short also. This led us to consider daily visiting as a solution. Before describing what in fact occurs it is worth while interpolating some remarks on visiting in general. So often, and not only in children's wards, it seems rather aimless. Mothers do not know quite what to do with the time. They are worried lest anything they do will upset the nursing staff. Therefore it did not seem to us sufficient just to allow visiting daily and leave it at that. The mother must be allowed and encouraged to do certain things to make the visit worth while to all concerned.

The present plan is that mothers are encouraged and even strongly urged to come daily between 5 and 6 p.m. They give the children their suppers, or they feed their infants. They read a story or play a game, clean teeth, hear prayers, and tuck the children down for the night. That is, they do in hospital the things they would do for the children at home. If tears threaten at the time of parting, the mother tries to stay until the child is asleep. If some children are not visited or a mother has to miss a night then some of the other mothers, who are familiar to the children, willingly lend a hand to act as a substitute. The child can look forward to to-morrow. When he first wakes, and for the earlier part of the day, it is not unexciting. New nurses, the doctor's visit, perhaps the visit of the occupational therapist, all help to pass the day, and if homesickness threatens, "mum" is coming after tea. The toddler can understand to-day and to-morrow and can associate things with a meal-time.

We believe that this daily hour spent together by mother and child helps to continue their relationship and does not break up the security which means so much at this young age. The child's needs are being satisfied jointly by mother and nursing staff without the development of abnormal possessiveness or transfer of affection. The mothers are less strained, because they have something to do. If there is some question they want to ask the doctor this is always arranged. (Although not directly associated with visiting, we believe the psychological strain for the parents of a sick child can be eased by making it possible for them to see the physician or surgeon in charge more or less on demand. A time is set aside at the end of each major ward round for this purpose. In fact, parents are encouraged to see the member of the visiting staff concerned and not to be content with what the nursing staff or resident medical officer has to tell them.)

The present method is, of course, supplementary to the presence in hospital of a nursing mother who is breast-feeding her baby. We have also made it a custom for mothers of babies who are artificially fed to come in for longer periods—namely, a day or so at a time—before the infant is discharged, so as to take over full responsibility for the child's care under supervision.

Some Difficulties

It would be unfair to pretend that there are no difficulties in the present scheme. The distance to be travelled daily by the mother, especially in a large city like London, may make daily visiting impossible. There may be other children in the family for whom supervision cannot be arranged. It has always seemed to us a weakness of the method, advocated by others, whereby mothers come in and look after their babies in hospital more or less entirely, that it ignores the rest of the family, especially perhaps the father. It is no gain

to the family relationship if, in saving the child in hospital some degree of psychological trauma, this is inflicted upon others in the family. The daily visiting method seems to share the mother between all those who have a claim on her without being unduly unfair on any.

The present scheme has been in operation for nearly 18 months. Mothers certainly like it. The nursing staff has an opportunity for closer contact with more of the mothers than is possible with any other method, and they also like it. The children seem happy, but clearly some form of follow-up and comparison with other methods is desirable. Children in hospital are part of the large group of children separated (temporarily) from their mothers and deprived of normal home life for a time. It is known that investigation of this larger problem is proceeding here and in other countries. A sponsored investigation of the narrower problem of visiting of children in hospital seems desirable. Meanwhile, without detailed knowledge of what exactly is going on in other hospitals we present this preliminary account of our own trials.

REFERENCE

Watkins, A. G., and Lewis-Faning, E. (1949). *British Medical Journal*, 2, 616.

MEDICAL NEW YEAR HONOURS

The names of the following members of the medical profession were included in the New Year Honours List published in the *London Gazette* on January 1.

K.C.B. (Civil Division)

HAROLD PERCIVAL HIMSWORTH, M.D., F.R.C.P. Secretary, Medical Research Council.

K.B.E. (Military Division)

SAMUEL ROY BURSTON, C.B., C.B.E., D.S.O., V.D., F.R.C.P., F.R.C.P.Ed., F.R.A.C.P. Major-General, Australian Military Forces (ret.).

Knighthood

GEORGE VANCE ALLEN, C.B.E., M.D. Vice-Chancellor, University of Malaya.

WALTER RUSSELL BRAIN, D.M President of the Royal College of Physicians of London.

RUDOLPH ALBERT PETERS, *M.C.*, M.D., F.R.S. Whitley Professor of Biochemistry in the University of Oxford.

C.B. (Military Division)

RODERIC DUNCAN CAMERON, C.B.E., *M.C.*, M.B., Ch.B., Major-General, late R.A.M.C. Honorary Surgeon to the King.

FREDERICK GEORGE HUNT, C.B.E., M.B., B.Ch. Surgeon Rear-Admiral. Honorary Physician to the King.

C.M.G.

JOHN CATARINICH, M.B., B.S. Director of Mental Hygiene, State of Victoria. 1937–51.

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An interesting new theory of taste is propounded in *Nature*, December 8, p. 977. It is based on histological study of the olfactory mucosa and taste buds of the rabbit, using new staining techniques which can display the localization of different enzymes, especially various kinds of phosphatases, in different cells. Sections of the nasal mucosa show that all phosphatases are concentrated in three or four basal cells in the olfactory epithelium, while lipases are restricted to Bowman's glands, but esterase is present in all the cells of the olfactory epithelium as well. In brief, a number of enzymes show sharp localization at one or more of six anatomical sites. This has suggested to the authors that substances which are tasted may inhibit the activity of an enzyme in one site, accelerate the activity of another in a second, and have no effect on enzymes in other positions. Inhibition and activation would alter the functioning of local nerve fibres, and thus create a distinctive spatial pattern of nerve impulses transmitted to the brain, and each pattern would represent a separate taste. A similar theory is proposed to account for smell.

and could find no appreciable difference. Baba (1946) studied the effect of intravaginal tampons on cervical erosions and vaginal discharges in 55 cases and concluded that, in the majority, their use had a favourable effect.

Genell and Lysander (1939) reported three cases of vaginitis which they attributed to the use of vaginal tampons. The report fails to give previous histories or the length of time the tampon was worn.

Present Investigation

This investigation was mainly concerned with the bacteriology of the vaginal flora following the use of the internal tampon. It was undertaken at the request of the visiting gynaecologists to the Elizabeth Garrett Anderson Hospital and with their co-operation. The object was to obtain information which could be given to patients, nurses, and doctors.

The original intention was to examine 100 volunteers over three monthly periods. Each volunteer was to undergo a pelvic examination by the gynaecologist before and at the end of the three months' use of vaginal tampons. In addition a vaginal swab was to be examined before and after each menstrual period for *p*H, bacteriology, and glycogen content, and to exclude any trichomonal or monilia infection.

Most of the volunteers were obtained from the gynaecological out-patient department, and, as many of these women were either fully employed during the day or were married, with young children, it was found impossible to get them to attend six times in three months. Thus in some cases a swab was taken before the first period and after three successive periods; but pelvic examination was made by the gynaecologist before and after completion of the study. Tampons were given to each subject, and complete instructions on their use were enclosed in each carton.

As these women were not quite normal, it was decided to enrol a number of normal women so that the results could be compared. I am indebted to Dr. Mary Barton for her co-operation, as she enlisted the help of a number of her patients, most of whom attended regularly over three months.

Since this investigation was started (over 13 months ago) 122 volunteers have been enrolled; 57 of these have completed three monthly periods or more, 17 have completed two monthly periods, and 26 have completed one monthly period; 22 have defaulted, 3 through failure to insert the tampon. In all, 100 volunteers completed one cycle or more. Six patients became pregnant.

Most of the volunteers were cases of infertility or dysmenorrhoea. A few had had small cervical erosions or complained of vaginal discharge. Only three of the cases showed a severe vaginitis; these are dealt with separately. Two volunteers were enrolled in rather unusual circumstances. The first reported at hospital thinking she had left a tampon in the vagina since her last menstrual period, over two weeks previously. This was incorrect. The second came with a complaint of offensive vaginal discharge, and on examination was found to have a retained tampon, which had probably been there since her last period three weeks before. In the hands of a careless person this is a possibility which is not likely to occur during the period, as the pad when saturated fails to fulfil its function, but, as quoted by Russell (1939), may occur at the end of the period.

All the volunteers were active women between the ages of 21 and 45 years. Eleven were single and 89 were married; 31 had not used tampons before; 69 had used them, but not all regularly.

The hospital patients suffering from cervical erosions or vaginitis were treated by the gynaecologists. Two swabs were taken on each occasion by rotating the swab round the anterior and posterior wall in the upper part of the vagina. One swab was used for estimating the *p*H by means of Johnson's *p*H papers, and then immersed in normal saline and incubated for a short time to be examined for monilia or trichomonads. The other swab was used for aerobic and anaerobic culture, and films were made for Gram stain and glycogen estimation. The glycogen content was examined by the method recommended by Siegler (1944), and was recorded as a percentage of the epithelial cells containing glycogen.

Bacteriology

Of the 100 volunteers, 63 showed no pelvic abnormality and were regarded as normal for the purposes of this study. One volunteer attended regularly for 10 menstrual periods, two for seven periods, and the rest for periods varying from one to four in number. The predominant organism found in the direct smear from 57 cases in this group was Döderlein's bacillus. The cultures gave a mixed growth of Döderlein's bacillus, coagulase-negative *Staphylococcus albus*, diphtheroid bacilli, and, occasionally, coliform bacilli. The bacteriology was very similar in the pre- and post-menstrual cultures. The remaining six volunteers in this group had an abnormal flora: four showed the presence of *Candida albicans* in direct smear and on culture, one had a persistent growth of a coliform bacillus associated with *Streptococcus faecalis*, and the sixth developed a trichomonal infection with vaginitis. The last-mentioned patient developed an irritating vaginal discharge one week before her second menstrual period, due to *Trichomonas vaginalis*. This was a recurrence of a previous infection. It cleared very quickly with acetarsol pessaries, and did not recur after her next menstrual period.

The four patients with *C. albicans* had no signs or symptoms of vaginitis (yeasts are sometimes found in the healthy vagina), and responded well to "mycil" pessaries in two cases, the flora returning to normal after treatment. The other two cases were not treated, and the infection was uninfluenced. The volunteer whose cultures gave a growth of a coliform bacillus showed no signs of vaginitis or cervicitis, and the flora remained abnormal throughout the investigation. In order to compare the results, post-menstrual swabs were taken from a number of normal young women who used the perineal pad for protection. The bacterial flora thus obtained showed no marked variation from that obtained in the tampon series.

The other 37 volunteers showed some evidence of pelvic disease. Thirty-three had a cervical erosion or showed signs of vaginitis, two had a minor degree of prolapse, one a cystic ovary, and another a fibroid uterus. The majority of the erosions were small and did not require treatment. The larger ones were cauterized at the beginning of the investigation, and some of them were subsequently painted with "negatol" 100%. Three cases, summarized below, showed a severe vaginitis. The bacteriology in the cases of simple erosion corresponded to a normal flora in 20 cases and an abnormal

flora in 10. Of the latter four showed *C. albicans* on smear and culture, one *Tr. vaginalis*, and two coliform bacilli and *Str. faecalis*. The three others have been classified as severe vaginitis. Three of the cases of infection with *C. albicans* were treated; owing to illness the fourth attended during one menstrual period only. Two of the cases responded to treatment, and the infection did not reappear during the investigation. The fourth case did not respond to treatment: this patient had been attending hospital for several months with a chronic vaginitis, and her condition was uninfluenced by the use of vaginal tampons. One negative swab followed treatment of the trichomonal infection with acetarsol pessaries, but the infection recurred six weeks later, after an illness. She was then treated with acetarsol impregnated tampons, and the vaginitis cleared up completely; it had not recurred two months later.

The vaginal *p*H of the cases varied from 4.2 to 5.4, but showed no marked difference in the post-menstrual period.

The glycogen content of the epithelial cells remained fairly constant in all cases. It was normal in some throughout, and low in others, especially in cases of infertility, but was uninfluenced by the use of the tampons.

Case Reports

The following is a summary of the three cases of severe vaginitis mentioned above in which vaginal tampons were used during the menstrual periods, over three months in Cases 1 and 3 and two months in Case 2.

Case 1.—This patient, aged 30, had used vaginal tampons for one year. She complained of an irritating vaginal discharge of one week's duration. Examination revealed a purulent discharge, with severe vaginitis but no erosion. The wet film from the pre-menstrual swab showed many pus cells, hyphae, and spores of monilia. Culture yielded a growth of *C. albicans*, a coliform bacillus, and *Str. faecalis*. The *albicans* infection responded to mycil pessaries, but the coliform infection was still present at the end of the second menstrual period. This was treated with "sulphatriad" pessaries for 10 days, and when the patient returned for her third pre-menstrual swab 11 days after her last treatment the flora had returned to normal, and remained so in her post-menstrual swab. A vaginal examination at this time showed that the vagina and cervix were healthy, and the patient was discharged.

Case 2.—The patient, aged 23, had used vaginal tampons regularly. She complained of an irritating offensive vaginal discharge of three weeks' duration. On examination per vaginam a retained tampon was found which had caused severe vaginitis and a cervical erosion. Unfortunately a swab was not taken. She was advised to douche and return in one week's time. She did not return until 14 days later, as her menstrual period had occurred, during which she had used vaginal tampons. Her discharge was then less offensive, and the vaginitis had abated. A swab taken yielded a mixed growth of a coagulase-positive *Staph. aureus*, coliform bacilli, and *C. albicans*. Treatment consisted of ichthyol and glycerin pessaries and douching. Three weeks later her pre-menstrual swab showed a scanty growth of *C. albicans*, but on examination there was no evidence of vaginal thrush. The post-menstrual swab one week later showed a normal flora. The vaginitis was much improved, the erosion had practically healed, and she had no complaints. Unfortunately this investigation finished at that time, but she was advised to return if her symptoms recurred. She had not done so three months later.

Case 3.—The patient, aged 42, had used vaginal tampons regularly. She complained of excessive loss at periods and vaginal discharge. Examination per vaginam showed a cervical polyp and cervical erosion with vaginitis. The polyp was removed and the erosion cauterized. Two months later this patient volunteered for the investigation. A large erosion was still present. A pre-menstrual swab yielded a growth of a coagulase-negative *Staph. albus* and *Bact. coli*. The erosion was painted with negatol 100%. Her second post-menstrual swab yielded a moderate growth of a coliform bacillus, but on examination the erosion was healing and smaller in size. The third post-menstrual swab showed a normal flora, and the erosion was almost healed.

These three cases responded to active treatment during the three months' investigation. Their progress compared very favourably with four similar cases in which the perineal pad had been used for protection.

Discussion

The principal organism associated with the healthy vagina is a pleomorphic non-sporing Gram-positive bacillus, variably anaerobic, identified by Döderlein in 1892. The vaginal flora found in the healthy adult is mixed, and staphylococci, enterococci, coliforms, and diphtheroids are also present (Wilson and Miles, 1946). Three grades of "cleanliness" are generally recognized in the vagina of the adult, and the classification of Heurlin (1941) is the one most usually accepted (Baird, 1950).

Grade 1.—Many epithelial cells, an occasional leucocyte, many Döderlein bacilli, and hardly any other organisms; *p*H 4–4.6.

Grade 2.—Pus cells in excess of epithelial cells, few Döderlein bacilli, and a mixture of diphtheroids, cocci, and coliforms; *p*H 4.5–6.

Grade 3.—Many pus cells, a few epithelial cells, no Döderlein bacilli. A host of other organisms—Gram-positive and Gram-negative cocco-bacilli, coliforms, Gram-positive bacilli, comma bacillus, and others; *p*H above 6.

Heurlin mentions 37 varieties of bacteria which find their natural habitat in the genital tract. Many of these are saprophytic, and are seen only in direct smear. This may be accounted for by the bactericidal action of the vaginal secretion. With such a variety of organisms found naturally, the criterion adopted for the normal in this study has been the preponderance of Döderlein's bacillus found in smear and on culture; the criterion for the abnormal has been the excess of pus cells and organisms other than Döderlein's.

The organisms found in the post-menstrual cultures of the normal volunteers (63 in number) corresponded mainly to the Grade 1 flora. No appreciable difference was found in the bacterial flora of the pre- and post-menstrual culture. Döderlein's bacillus was the predominant organism in the direct smear, and grew well on culture, especially under anaerobic conditions. It was frequently associated with a coagulase-negative *Staph. albus*, and occasionally with diphtheroid bacilli and a scanty growth of coliform bacilli. Grade 2 flora was found in five cases, four of which showed a monilia infection on culture, and the fifth had a recurrence of a chronic trichomonal infection. In these five cases the pus cells were in excess of the epithelial cells, but in three of them the flora returned to grade 1 after treatment; in two untreated cases it was unaltered.

The bacteriology of the 33 cases with cervical erosions or vaginitis corresponded to grade 1 (20 cases) and grade 2 (10 cases). Three cases of severe vaginitis showed a grade 3 flora.

An anaerobic streptococcus was found on several occasions, but this organism is a normal inhabitant of

the vagina (White, 1933). One strain was sent to the Streptococcal Reference Laboratory at Colindale, and the following report was received: "The streptococcus produced an α-haemolysis, was not heat-resistant, did not belong to any of the Lancefield groups, and formed no mucoid colonies on sucrose agar. It could not be identified."

The anaerobic streptococcus isolated by White was a strict anaerobe, and very slow-growing, requiring two to four days' incubation. None of these organisms was isolated, probably because the cultures became overgrown by contaminants if incubated longer than 48 hours. No gas was formed by any of the anaerobic streptococci, mannite was not fermented, the organism did not grow on MacConkey's medium, and there was no evidence that this organism was pathogenic. *Str. faecalis* was found in association with coliforms on three occasions. In one case the cervix and vagina appeared healthy.

Ten cases were found to have *C. albicans* on culture; only four of these had a vaginal discharge or showed evidence of vaginal thrush. Six cases had no symptoms. Two volunteers had a trichomonal infection: one was a recurrence of a previous infection during the period under study, but it cleared up very quickly with acetarsol pessaries, and did not occur after the next menstrual period. The other was a recent acute infection. None of the other volunteers acquired monilia or trichomonal organisms during the period of study or developed erosions or vaginitis as a result of using the internal tampon.

Erosions

The findings have already been summarized. There was no aggravation of the condition or delay in healing following the use of tampons in the patients who had cervical erosions. All the erosions were reduced in size if not completely healed, and the bacterial flora, where abnormal, had returned to normal at the end of the period under study. The vaginal tampon, when properly used, is not in contact with the cervix but only with the vaginal wall, which is self-protecting (Cruickshank and Sharman, 1934). Three cases had signs of severe vaginitis and one of them had a large erosion, the vaginitis in one case being caused by a retained tampon. They were medically treated by the gynaecologist, and all continued to use tampons for protection. In each case the underlying cause responded to treatment, and did not recur, which proves that the internal tampon does not act as an irritating foreign body. All had a grade 3 flora at the beginning of the study; this reverted to grade 1 at the end. The rate of healing compared favourably with four control cases in which the perineal pad was used.

The glycogen content was estimated as a percentage of the epithelial cells in the smear containing glycogen. It was found to be low in some cases of infertility, but was uninfluenced by the use of tampons. Normally most of the epithelial cells should contain glycogen.

The *p*H was less acid than the normal grade 1 flora in some of the patients, probably owing to the fact that the swab was taken from the upper part of the vagina, to avoid contaminants found in the lower part. There was no appreciable alteration in the *p*H in the pre- and post-menstrual phases.

The volunteers who had not previously used tampons stated that they were comfortable to wear and did not cause the irritation usually found with the perineal pad. A few complained that they did not give enough protection at the beginning of the menstrual period, and that a perineal pad was required as well. There were no complaints of an excessive flow of blood on withdrawal, of difficulty in removal, or of any odour associated with their use. The average number employed in one cycle was ten. Two volunteers stated that they required 15–18 tampons.

Summary

A series of 100 women used vaginal tampons for protection during the menstrual period over three to ten successive periods in 57 cases, two-monthly periods in 17 cases, and one-monthly period in 26 cases. Smears and cultures taken before and after each period showed no appreciable change in the bacterial flora of the vagina.

A study was made of 33 unselected cases of cervical erosion or vaginitis in which internal tampons were used. Healing of the erosions was not adversely affected; it compared favourably with a control series using the perineal pad. In three of the cases the bacterial flora corresponded to grade 3 at the beginning of the study, but returned to the normal grade 1 at the conclusion.

There was no evidence of local irritation or inflammation caused by the use of internal tampons. No appreciable alteration in the vaginal *p*H or in the glycogen content of the epithelial cells was noted. A retained tampon may cause damage to the vagina or cervix, and patients should be warned to remove the soiled one before inserting a fresh one. Removal is particularly important at the end of the menstrual period.

There was no evidence that vaginal tampons are prejudicial to health.

My thanks are due to the gynaecologists of the Elizabeth Garrett Anderson Hospital, in particular to Miss Josephine Barnes for her great help and encouragement throughout the study, and for her most useful criticism of this paper. Tampax Limited aided the research work by a grant, and supplied the tampons.

REFERENCES

Baba, G. (1946). Address to Obstet. Gynec. Conf., February 21, in Chicago, Illinois.
Baird, D. (1950). *Combined Textbook of Obstetrics and Gynaecology*, p. 1053. Edinburgh.
Barton, M. (1942). *British Medical Journal*, **1**, 524.
British Medical Journal, 1938, **2**, 1113, 1229, 1282.
—— 1939, **1**, 36; **2**, 143, 308.
Cruickshank, R., and Sharman, A. (1934). *J. Obstet. Gynaec. Brit. Emp.*, **41**, 224.
Genell, S., and Lysander, A. (1939). *Svenska Läkartidn.*, **36**, 2236.
Heurlin, M. (1941) Cited by Baird (1950).
Karnaky, K. J. (1941). *Med. Rec. S. Antonio*, **35**, 851.
—— (1943). *West. J. Surg. Obstet. Gynec.*, **51**, 150.
Magid, M. O., and Geiger, J. (1942). *Med. Rec.*, **155**, 316.
Partridge, E. J. (1939). *British Medical Journal*, **1**, 36.
Russell, V. (1939). Ibid., **2**, 143.
Sackren, H. S. (1939). *Clin. Med. Surg.*, **46**, 327.
Siegler, S. L. (1944). *Fertility in Women*, p. 175. Philadelphia.
Thornton, M. J. (1943). *Amer. J. Obstet. Gynec.*, **46**, 259.
White, E. (1933). *J. Obstet. Gynaec. Brit. Emp.*, **40**, 630.
Wilson, G. S., and Miles, A. A. (1946). In Topley and Wilson's *Principles of Bacteriology and Immunity*, 3rd ed. London.

The Ministry of Health is lifting the 21-year-old ban on importing parrots, as from January 8. The regulations have been revoked because there has been no significant recurrence of psittacosis in this country since the world-wide outbreak which led to the ban. Furthermore, research has since shown that psittacosis, which was originally believed to be confined to the parrot species, also occurs in seagulls, pigeons, ducks, turkeys, and similar birds. Moreover, modern drugs, such as penicillin and the new antibiotics, have largely robbed the disease of its dangers. Only one death has occurred in England and Wales in the last 10 years. The lifting of the ban does not affect any other legal requirements. For example, anyone importing a parrot from certain countries will still need a Board of Trade licence to import a seed-eating bird.

A T-PIECE TECHNIQUE FOR GENERAL INHALATIONAL ANAESTHESIA

A SAFE METHOD OF REDUCING OPERATIVE BLEEDING

BY

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Anaesthetists are interesting themselves in the reduction of operative bleeding. One of numerous possible angles from which to attempt this—the lowering of the patient's arterial blood pressure—has received attention recently. To what extent this procedure may safely be applied remains to be seen. The object of this article is to draw the attention of anaesthetists to a simple technique of inhalational anaesthesia which, among other advantages, safely reduces operative bleeding, and, coupled with the intelligent use of posturing the patient, makes the use of drugs to lower the arterial blood pressure unnecessary on most occasions, since such bleeding as does occur is insufficient materially to influence the surgeon's operating conditions.

The technique described is a development of the T-piece technique of Ayre (1937a, 1937b), which was intended, among other things, to reduce vascular congestion during operative surgery. My technique differs from Ayre's in several respects: no additional apparatus is required, endotracheal intubation is unnecessary but may be used, nitrous oxide is the main agent used, air is excluded from the inhaled mixture, only minimal quantities of the volatile agents are used, a change to a semi-closed circuit can be accomplished in a matter of seconds, and the passage of gases through the "T" is different.

Ayre's Technique

Ayre's T-piece technique is briefly as follows. The apparatus consists of a series of tubes for the passage of gases connected together by a small T-shaped metal junction. A small flow of oxygen (2 litres a minute) carrying a high concentration of ether vapour is passed from an anaesthetic machine along some narrow-bore tubing through the vertical limb of the T junction into the horizontal limb (see Fig. 1). The proximal part of the horizontal limb is connected to an endotracheal tube through which gases enter the patient's lungs; the distal part is connected to a short length of wide-bore tubing which is open to the atmosphere. This part of the apparatus forms a small reservoir for oxygen, ether vapour, and gases from the last expiration. The degree of rebreathing can be controlled by varying the length of this distal piece of tubing. Thus expiratory valves and rebreathing-bags are dispensed with; the patient breathes oxygen, ether vapour, and air, at atmospheric pressure, with negligible resistance to inspiration or expiration. Resistance to expiration is a potent source of vascular congestion, and thus of increased operative bleeding. The only other available methods of inhalational anaesthesia which eliminate resistance to breathing are true "open-mask" techniques and insufflation techniques, both of which have distinct disadvantages which make them inferior to the T-piece technique.

Ayre's technique is probably unsurpassed as a method of inhalational anaesthesia for operations on small children about the head and neck; it has, however, a number of disadvantages which may account for its being seldom used for other types of operations. The disadvantages are: (1) Additional apparatus is required. (2) Some anaesthetists find that fitting the apparatus together is tedious. (3) Endotracheal intubation is necessary, and may not be justifiable for a minor type of operation. (4) A change to other techniques cannot readily be made. (5) Artificial respiration by inflation of the lungs cannot readily be achieved. As relaxant drugs are so commonly used, a means of inflating the lungs is often necessary. (6) Relatively large quantities of ether are required to maintain anaesthesia, as the vehicle is a mixture of air and oxygen. (7) There is an explosion hazard.

The following technique overcomes all these disadvantages and enables the T-piece principle to be used for any type of operation and any type of patient.

Modified Technique

The T in this technique consists of two large-bore lengths of corrugated tubing connected together by a large-bore metal T junction (on which is mounted an expiratory valve), as supplied as standard apparatus for any circle-type absorption unit. At the distal ends of

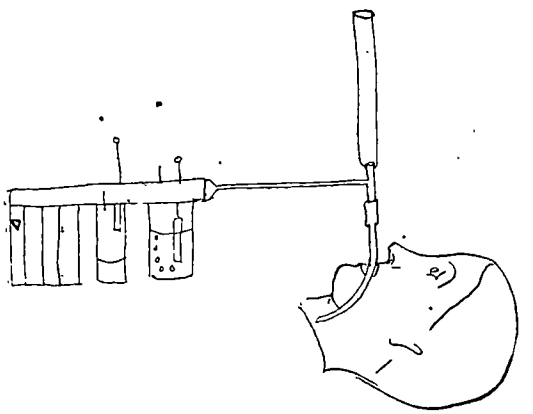

FIG. 1.—Ayre's T-piece technique.

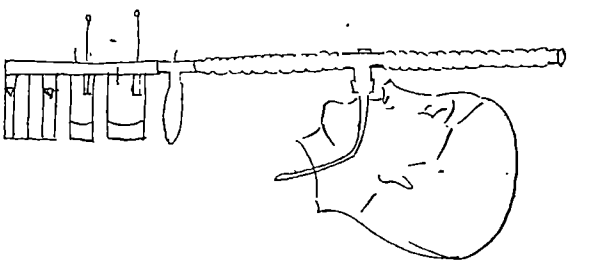

FIG. 2.—Modified T-piece technique, using endotracheal tube. The corrugated rubber tubing is shown as about one-third its correct length.

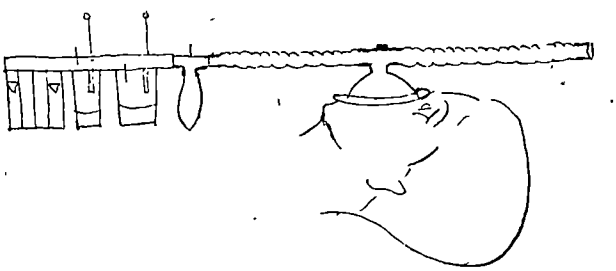

FIG. 3.—Modified T-piece technique, using facemask.

the rubber tubing are metal connexion-tubes. A mask, or endotracheal adaptor, is connected in the usual place. A high flow of fresh gases, 8 litres a minute, is passed through the apparatus; it consists of 75% (6 litres) nitrous oxide and 25% (2 litres) oxygen, with the vapours of any volatile anaesthetic agents as required (see Figs. 2 and 3). The two lengths of corrugated tubing form the horizontal limb of the T in this technique, and the patient takes gases from it via the vertical limb, which consists only of the facepiece mount; the passage of gases is thus somewhat different from that obtaining in Ayre's technique.

In practice, Boyle's apparatus is used as follows. The single corrugated tubing is detached from the usual semi-closed unit (Magill unit) at the junction just distal to the reservoir bag, and in its place, at this point, one end of the double-hosing unit is plugged in. A facepiece is attached in the usual place, and the other end of the double-hosing unit is left open to the atmosphere. The apparatus is now ready for use.

Boyle's apparatus fitted with a Coxeter–Mushin absorption unit can be used as above, or in a simpler way. The Coxeter–Mushin unit is in use, shall we say, as a semi-closed circuit, the soda-lime is turned off, the rebreathing dial is set at 50%, and 6 litres of nitrous oxide and 2 litres of oxygen are flowing, the anaesthetic being administered through either a facemask or an endotracheal tube. Now, if the hosing on the expiratory side is disconnected from the absorption unit and the open expiratory port plugged with gauze or a cork, the T-piece principle is in action. It is not necessary to alter the rebreathing control, as rebreathing cannot take place into the reservoir bag on account of a gravity valve on the inspiratory side. This valve is kept open by the high flow of fresh gases, and thus does not form any obstruction to inspiration in this technique. A small amount of fresh gases tends to accumulate in the bag, which is a desirable thing.

A Marrett apparatus can be converted in the same way, and a metal stopper is supplied with the apparatus for insertion into the expiratory port, though it is supplied for another reason. When the Coxeter–Mushin or Marrett apparatus is in use a change to conventional circuits is made by reversing the procedure, which takes only a few seconds. When Boyle's apparatus is in use a change to a semi-closed circuit is very simply made, by covering the open end of the hosing with the hand, the expiratory valve on the T junction being partly open. In either case manual inflation of the lungs is readily achieved.

By this technique air is prevented from entering the patient's lungs by the high rate of flow of fresh gases and the large volume of gases in the apparatus, which exceed the patient's minute-respiratory volume and his tidal exchange respectively, as the physics of the matter will show.

Physics

The volume of gas contained in the double rubber hosing unit is about 600 ml.—300 ml. on each side of the T junction. Let us suppose that the patient is breathing fifteen times a minute, and that his tidal volume (exchange) is 500 ml., a common occurrence when this technique is in use. His minute-respiratory volume is 7,500 ml. With a flow of 8 litres of fresh gases a minute, the patient's minute-respiratory volume is exceeded, and so no carbon dioxide can accumulate in the apparatus except under the facemask. This can be ignored except when the patient is a very small child or when the tidal exchange is greatly reduced.

A flow of 8 litres of fresh gases a minute equals 133 ml. a second, or 532 ml. in four seconds. With a respiratory rate of fifteen a minute, the patient inspires once every four seconds. During these four seconds 532 ml. of fresh gases have entered the apparatus, and so the patient inhales 250 ml. of fresh gases from the inspiratory side of the rubber hosing from the reservoir bag, and 250 ml. of gases from the expiratory side of the rubber hosing, consisting partly of fresh gases and gases from his last expiration. In order to draw air into his lungs the patient will need to take a considerably deeper breath, for there is the dead space under the facemask, about 50–100 ml., and his own anatomical dead space, 150 ml., intervening between his lungs and the atmosphere. If, however, there is no reservoir bag on the inspiratory side of the apparatus the patient will take about 100 ml. of fresh gases direct from the flowmeters, 300 ml. of gases from the expiratory side of the hosing, and the remainder of his inhalation will be air. This would be a similar state of affairs to that in Ayre's technique.

A measure to prevent the entry of air into the lungs in this event, or if the patient is breathing too deeply, is to attach a further length of hosing to the expiratory side, in the shape of the single rubber hosing from the Magill unit which may be lying idle. It is important not to allow any air to enter the patient's lungs, otherwise the potency of the inhaled mixture is considerably weakened, as it is mainly nitrous oxide that is maintaining anaesthesia in this technique.

Clinical Application

In practice it is advisable to get the patient well settled by another technique before applying the T-piece principle, so that breathing is quiet and regular. For an adult intravenous thiopentone is excellent; for a small child an open-mask technique may be used. If an open-mask or semi-closed technique is used for the induction a quietening in the patient's breathing accompanied by a reduction in the amount of operative bleeding will usually follow the change over to the T-piece technique.

As an illustration of the technique, this would be the anaesthetic procedure for an operation such as a mastectomy. Premedication need only be light, with the customary doses of morphine and atropine, or "omnopon" and scopolamine. Induction takes place in the anaesthetic room with intravenous thiopentone, 0.25–0.5 g. being used as required; the syringe is left in place or a Gordh attachment is fitted to the needle. The patient is now transferred to the operating table. To get the patient settled further intermittent injections of thiopentone are given until he has received, say, 0.75–1 g. This will produce about ten minutes of surgical anaesthesia and a basal level of narcosis for about an hour in an average patient. During this initial period of ten minutes the patient will have been placed in position for operation, the diathermy pad applied, the skin prepared, the towels fixed, and the inhalational anaesthetic and operation started.

The facemask is applied as soon as convenient, with 6 litres of nitrous oxide and 2 litres of oxygen running. This concentration of nitrous oxide may be sufficient to maintain a very light plane of anaesthesia in some patients following the drugs previously given, but other agents will usually be required to prevent reflex response

to operative stimuli, such as movements of the limbs or face, laryngeal activity, respiratory changes, rise in pulse rate, and other phenomena. Any desired supplement may be used, according to the preference of the anaesthetist, such as low concentrations of trichlorethylene ("trilene"), "vinesthene," ether, or even cyclopropane (100–200 ml.); alternatively, further intermittent injections of thiopentone or injections of pethidine may be given. If trichlorethylene or ether is used it is only necessary to raise the lever of the Boyle's bottle to the top of the second division, plunger up. Changes in cardiac or respiratory rhythm are extremely rare when trichlorethylene is used, and this is probably the most useful supplement, as it is non-explosive and has a very potent analgesic action.

Should the patient's tidal exchange become inadequate for his metabolic requirements some degree of cyanosis will usually follow if his blood haemoglobin is normal, since the concentration of oxygen in the inhaled mixture approximates to that of atmospheric air: this is a safeguard against carbon dioxide accumulation in the patient which may follow shallow breathing—another common cause of increased operative bleeding. Cyanosis may be remedied by one of several methods: by increasing the rate of flow of oxygen or decreasing the rate of flow of the nitrous oxide, by adding 500 ml. of carbon dioxide to the flow of gases, by changing to a semi-closed circuit, and by assisting respiration by bag-pressure. These measures should not, however, be prolonged, as they will detract from the benefits of the technique, particularly as regards the quantity of operative bleeding.

Should the patient's breathing become too deep there will be a danger that air may enter his lungs, which will in turn be followed by a rapid lightening of anaesthesia, so that immediate action is called for. An injection of thiopentone will usually have the desired effect, but if this is not possible the flow of nitrous oxide should be raised temporarily to 8 litres, the concentration of supplementary agent increased, or perhaps an injection of pethidine made. If the depth of breathing is not soon decreased it is advisable to change to a semi-closed circuit until the patient comes under control, lest he should return to consciousness. The addition of a second length of rubber hosing to the expiratory side of the apparatus will also help to prevent entry of air into the lungs.

A rather useful point about this technique is that, by the simple expedient of applying the open end of the rubber hosing to his ear, the anaesthetist is able to listen to every breath that the patient takes; thus positive proof is continuously available that the patient is breathing adequately through a clear airway, or otherwise, as the case may be. This should be very useful during intracranial operations.

The technique has the disadvantage that comparatively large quantities of gases are used; but then these are very cheap compared with intravenous drugs. There is also the inconvenience of changing cylinders. Body heat and water vapour are lost by the patient to the atmosphere; but this loss is a totally normal occurrence, and is no greater than in normal breathing, and can scarcely be said to be harmful.

In addition to the advantages already mentioned, this technique makes the use of nitrous oxide and oxygen, with truly minimal quantities of supplementary agents, a practical proposition when the patient is a small child, and it has been safely and satisfactorily used on patients as young as 1 year old. This is perhaps because there is the minimum of interference with normal physiological breathing. In this respect the technique compares favourably with open-mask techniques, and is recommended to those anaesthetists whose surgical colleagues insist on the use of "open ether" for such operations as thyroidectomy.

Summary

The use of the T-piece principle of inhalational anaesthesia is offered as a safe and satisfactory method of reducing operative bleeding.

Ayre's T-piece technique is briefly described and its disadvantages are mentioned.

A technique which overcomes these disadvantages is described.

An account is given of two simple ways of converting standard apparatus to the T-piece principle. No additional apparatus is necessary, but endotracheal intubation may be used. Nitrous oxide is the main agent; air can be excluded from the inhaled mixture. A change to or from a semi-closed technique can be accomplished rapidly.

The technique may be used for adults or children, and for any type of surgical operation.

The applied physics of the technique is outlined.

As an illustration, a typical anaesthetic for a patient undergoing a mastectomy is described.

REFERENCES

Ayre, P. (1937a). *Lancet*, **1**, 561.
—— (1937b). *Anesth. & Analg.*, **16**, 330.

Medical Memorandum

Leukaemia With Primary Gynaecological Manifestations

Although leukaemia in association with pregnancy has been reported and discussed in many recent papers, a search of the *Quarterly Cumulative Index Medicus* shows no report in recent years dealing with leukaemia from the gynaecological aspect. Therefore the admission to one hospital of three such cases as acute gynaecological emergencies in a short period appears to be worthy of record.

Case 1

An unmarried woman aged 22 was admitted on April 17, 1947, at her doctor's request as a case of pneumonitis complicated by abortion. She stated that she had had a cough all her life, that it had been worse for the past month, with pain in the right side of the chest, night sweats, but no sputum. Menstruation had always been normal and regular, but she had bled severely from the uterus for seven days preceding admission to hospital.

She was pale, weak, and very ill. Her blood pressure was 130/60. A faint macular eruption was present on both legs, from the thighs to the ankles. There were signs of consolidation at the right base of the lungs, and the tip of the spleen was just palpable. On rectal examination the cervix and uterus appeared to be normal. An immediate blood count was as follows: red cells, 2,350,000 per c.mm.; Hb, 40%; C.I., 0.79; blood group, A; white cells, 1,075 per c.mm. (polymorphs 33%, lymphocytes 64%, monocytes 3%); platelets very scanty; nucleated red cells, 25 per 100 white cells; bleeding time 10 minutes (normal by method used 1–2 minutes). A film of sternal marrow was reported as showing "great reduction in white blood cells; only a few polymorphs and myelocytes seen in many fields. There are a fair number of nucleated red cells of rather early

type." *X*-ray films of the chest showed "consolidation of lower portion of right upper lobe." Sputum report: "No tubercle bacilli seen in three specimens." Culture: "*Staphylococcus aureus* and *Micrococcus catarrhalis*."

Repeated blood transfusions caused no change in the blood picture, each transfusion appearing to restart uterine bleeding. On May 26 a complete left-sided facial palsy developed. On June 13 *x*-ray examination showed complete resolution of the consolidation in the right lung. On June 14 the blood picture suddenly changed: red cells, 5,360,000 per c.mm.; Hb, 82%; white cells, 292,000 per c.mm. (neutrophil polymorphs 3%, eosinophils 1%, lymphoblasts 4%, myeloblasts 92%); a few nucleated red cells present; platelets very scanty.

Treatment was started with urethane, but on June 25 there was complete nasal obstruction from oedema and haemorrhage into the nasal mucous membrane, haemorrhages into both conjunctivae and the soft palate, and considerable enlargement of all the groups of glands in the neck. The patient died on July 7. A post-mortem examination was refused.

Case 2

A housewife aged 40 was admitted on September 2, 1948. She was sent to hospital with a letter from her own practitioner which stated: "Please admit. Severe uterine haemorrhage for five months. Confined nine months ago." She was seen by the gynaecological registrar, who reported: "Looks pale, thin, and ill. Abdomen N.A.D.; a few small glands both groins. P.V.: heavy loss. Cervix soft and patulous, feels and looks quite healthy. Uterus soft, bulky, and anteverted. Fornices clear. May be incomplete abortion, or placental polypus, or chorionepithelioma. For diagnostic dilatation and curettage when general condition better."

She was admitted to a ward, where a general examination showed no abnormality, except that the tip of the spleen was just palpable. A blood examination was made and the report was as follows: red cells, 900,000 per c.mm.; Hb, 22%; platelets very scanty; white cells, 8,200 per c.mm. (polymorphs 7%, lymphocytes 37%, myelocytes 3%, myeloblasts 53%). Sternal puncture: myeloblasts, 75%; neutrophil myelocytes, 9%; eosinophil myelocytes, 7%; polymorphs, 5%; eosinophils, 1%; basophil normoblasts, 3%; polychromasic normoblasts, 2%.

Repeated blood transfusion and deep *x*-ray therapy were given. The patient went home at her own request on October 6. She gradually deteriorated and died about three months later.

Case 3

An unmarried woman aged 22 was admitted on April 1, 1949, as a case of "uterine haemorrhage with slight haematemesis." On admission she said that her menstrual period had begun 14 days previously and had continued ever since. She had always bruised easily. One week before the onset of the last period her gums had bled; this was followed by an abscess in the region of the upper left molar teeth which had subsided after penicillin injections. She had started to vomit small flecks of blood-stained material on the morning of the day of admission. Further, she had previously attended two other hospitals for severe dysmenorrhoea with excessive blood loss. One of these hospitals informed us that in March, 1946, her haemoglobin had been 94%, white cells 7,000 per c.mm., with a normal differential count. The other said that in January, 1947, she had had a haemoglobin of 104%.

She was pale, with a marked gingivitis. The lungs, abdomen, and central nervous system showed no abnormality. There was a harsh systolic murmur in all the cardiac areas. A blood examination was made immediately on admission: Hb, 40%; white cells, 28,800 per c.mm. (polymorphs 20%, lymphocytes 12%, metamyelocytes 2%, myelocytes 6%, myeloblasts 60%); nucleated red blood cells, 6 per 100 white blood cells; platelets very scanty. Sternal puncture confirmed the picture of an acute myeloblastic leukaemia.

Repeated blood transfusions and urethane were given, and, although the white-cell count dropped to 8,800 with only 5% myeloblasts, the clinical course was one of steady deterioration, with haemorrhages in the optic fundi and large haemorrhages all over the body. She died five weeks after admission.

At necropsy the spleen was of normal size, the liver large and infiltrated, and the bone marrow everywhere replaced by a soft pink material.

Comment

Most textbooks of haematology and of gynaecology make but brief reference to the possibility of leukaemia as a cause of uterine bleeding. Thus Whitby and Britton (1946) state regarding leukaemia, "Multiple haemorrhages in the retina, ear, spinal cord and brain, or from the uterus, kidney, or bowel, may all be found," but state, further, that "in myelocytic leukaemia, amenorrhoea or scanty menstruation is common." Moore White (1944) says: "Uterine haemorrhage may be a symptom of most of the blood diseases." Browne (1950) comments more fully: "Such blood diseases as splenic anaemia, idiopathic hypochromic anaemia, aplastic anaemia, leukaemias, and thrombocytopenic purpuras may be associated with menorrhagia. Secondary thrombocytopenia arising from malignant neoplasms, leukaemia, septicaemia, arsenical poisoning, and *x*-ray or radium therapy may so depress that bleeding time is prolonged and menorrhagia may occur." It is to be noted that in all three cases described the platelets were very scanty. Several other standard textbooks consulted make no reference to the possibility of uterine haemorrhage being caused by leukaemia.

This hospital, being one of the former municipal hospitals of London, has always received large numbers of cases of uterine haemorrhage, the greater number of which prove to be due to abortions; in fact, 550 cases of abortion were admitted during the period covered by the three cases described. The occurrence of cases such as these points to the urgent need for a full blood examination in all cases of uterine haemorrhage, before the almost inevitable dilatation and curettage operation is performed, particularly when the patient is exsanguinated or when there is any haemorrhage into the skin or from any other unexpected site. In such cases the operation cannot be expected to be of any benefit to the patient, but would only be an additional and major discomfort in the course of a most distressing illness.

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REFERENCES

Browne, F. J. (1950). *Post-Graduate Obstetrics and Gynaecology*, p. 260. London.
Whitby, L. E. H., and Britton, C. J. C. (1946). *Disorders of the Blood*, 5th ed., pp. 416, 422. London.
White, M. Moore (1944). *The Symptomatic Diagnosis and Treatment of Gynaecological Disorders*, p. 57. London.

The 1951 *Register* of Chiropodists has just been published by the Board of Registration of Medical Auxiliaries listing the names, addresses, and qualifications of chiropodists recommended by the Board to the medical profession, hospitals, education authorities, etc. It is available free to members of the medical profession, hospitals, and official bodies; application should be made to the Registrar, Board of Registration of Medical Auxiliaries, B.M.A. House, Tavistock Square, W.C.1.

Reviews

THE BEGINNING OF LIFE

The Physical Basis of Life. By J. D. Bernal, F.R.S. (Pp. 80. 6s.) London: Routledge and Kegan Paul. 1951.

When Wöhler in 1828 showed that urea can be made from laboratory chemicals he broke down one of the high walls between the worlds of living and dead matter. More recently the discovery that some viruses can lie dormant as crystals for years, and then come to life on their host, seemed to break down another wall. But no such wall is ever the last; and to this day no scientist can sustain with experiments his private conviction that the organic molecules have grown from the inorganic molecules by natural and intelligible steps.

Professor Bernal is not a man to shirk his convictions, and in this small but fundamental book he has not been content with any makeshift answers. In what conditions could large protein-like molecules have grown ? he asks. How did they reach the asymmetry which characterizes living molecules ? And what was it about their structure which made them capable of copying themselves in the living process? Finally, why do the early conditions no longer hold to produce new life spontaneously to-day ?

Professor Bernal answers by tracing the probable history of the sea and the air when first the earth cooled. The sea water would first contain ammonia, carbon dioxide, and hydrogen sulphide; the air would contain no oxygen, and therefore no curtain against the most penetrating ultra-violet light. Under its action, it is reasonable to think that some simple amino-acids would then be formed.

But now comes the crucial question: How would these be concentrated and built up into the first protein-like molecules ? The essential property which Professor Bernal uses for this step is the catalytic action of clay in shaping molecules which grow in contact with it. This is commercial practice in the oil industry to-day, but it has not been proposed before as the foundation of a scientific theory of life. Clay alone would not grow asymmetric molecules; but quartz would; and in either case the resulting primitive protein might well have a structure stable enough to shape and copy other molecules by catalysis—that is, to become a primitive enzyme.

As for repeating the experiment, Nature can no longer do so, because plants have since filled the air with shielding oxygen. Moreover, the very growth of life has of course destroyed the aseptic conditions in which life began. It remains for Professor Bernal to improve on Nature and repeat the experiments in the laboratory.

This will not be the last book written on this subject. But it is a book of wide and vigorous learning which never compromises with its own uncertainties. Neither Professor Bernal nor the reader is meant to suppose that he has indeed hit precisely upon the very process, step by step, which Nature used to make life. But he has, I hope, killed once for all those idle speculations which look for life in the chance encounter of atoms and then learnedly compute the odds against it. Life was not created by accident; it grew continuously from its own probabilities; and Professor Bernal has made it plain that they are inherent in its simplest atoms.

J. BRONOWSKI.

BLEULER ON SCHIZOPHRENIA

Dementia Praecox or the Group of Schizophrenias. By E. Bleuler. Translated by Joseph Zinkin, M.D. Foreword by Nolan D. C. Lewis, M.D. Monograph Series on Schizophrenia No. 1. (Pp. 548. £3 3s.) London: Methuen and Co. 1951.

It would be an interesting exercise to consider what the effects on Anglo-Saxon psychiatry might have been had this classical monograph been translated from the German shortly after its first appearance in 1911. Certain it is that much of the confusion and controversy over the concept of schizophrenia—the name dates from Bleuler's book—would never have arisen if British and American psychiatrists had had earlier access to this clear exposition. It is true that excerpts have been incorporated in our popular English textbooks, so that the salient features of Bleuler's conception are familiar to all. But for many readers this translation will give the first opportunity to observe how a searching and creative mind took a mass of carefully collected clinical observations and out of these welded a comprehensive theory of the disease which has largely stood the test of time. The achievement is all the more remarkable when we recall that it took place in an era when Continental psychiatrists had not emerged from the necessary but comparatively limited "classificatory" phase.

Bleuler's restricted and cautious application of Freudian psychology to the major psychoses, his unorthodox and courageous approach to practical problems of treatment, and his penetrating and independent power of observation have made him one of the most influential personalities in twentieth-century psychiatry. All these facets of the true scientist are to be seen in this book, and here for the first time he distinguishes between primary and secondary psychological symptoms—that is, between those specific symptoms caused by the basic disease process and those accretions which are the reaction of the mind to the primary changes. Although Bleuler's application of this principle to schizophrenia has dated—as naturally many other of his ideas have dated with the passage of time—the principle itself has found wide recognition and from it has grown the "pluridimensional approach" (of Kretschmer and Birnbaum) to psychiatric symptomatology and diagnosis. Bleuler's concept of a hierarchy of symptoms—specific, constitutional, reactive, accidental, etc.—has proved far superior to the uniform sequence of "reaction types" which was conceived about the same time by Adolph Meyer. Dr. Zinkin has made a faithful rendering of Bleuler's thought and couched it in easily readable English.

W. MAYER-GROSS.

COELIAC DISEASE

Management of Celiac Disease. By Sidney Valentine Haas, M.D., and Merrill Patterson Haas, M.D. (Pp. 188; 12 illustrations. £2.) Philadelphia and London: J.B. Lippincott Company. 1951.

It is a misfortune that this book should have appeared just at a time when, thanks to the work of Dicke and others in Holland and Sheldon in London, the exact part played in this malady by carbohydrates is becoming clearer. The distinction which can now be made between the effects of wheat flour and those of wheat starch must surely lead to some modification of the Haas hypothesis, which condemns all polysaccharides. This hypothesis pervades the whole book and detracts

inevitably from its value, but students of the subject will be grateful for the history of coeliac disease, for the full discussion of clinical symptoms, and for a most useful bibliography. (It is again a minor piece of bad luck that in quoting a small contribution to the subject by the reviewer the authors have spelt his name wrongly and repeated this error in the bibliography.)

Experience gained over many years of treating hundreds of patients gives the authors much to discuss, but it has perhaps also blinded them to the value of the work of others. Coeliac disease to-day can be cured without the bananas which Professor Haas pioneered. Few would accept (pp. 123–4) that, "if cystic fibrosis of the pancreas is treated by the same dietary regimen that is used in celiac disease, the diarrhea will cease, nutrition will become normal, and if the pulmonary infiltration has not become too severe, it too will clear up." After this it is not surprising to find that the authors make light of the diagnostic value of estimating the trypsin in duodenal juice. The authors' final summarized hypothesis reads as follows: "The diarrhea of celiac disease is caused by an anthroquinone irritant produced by a micro-organism from a polysaccharide substrate." Various paths of investigation to test this hypothesis are outlined.

ALAN MONCRIEFF.

U.S. PUBLIC HEALTH SERVICES

Medical Care of Seamen. The Origin of Public Medical Service in the United States. By Robert Straus. With preface by Leonard A. Scheele, Surgeon General, Public Health Service. (Pp. 166. £1 4s.) Merchant Seaman Studies, Volume 1. New Haven: Yale University Press. London: Geoffrey Cumberlege (Oxford University Press). 1950.

The title of this book is misleadingly restricted, for the author defines the conditions under which the U.S. Federal Government has entered the field of medical services, and he traces certain trends which in his view indicate the future development of a general medical service. He shows how the Federal services have evolved through expansion and amalgamation of schemes started to meet new needs. The process is illustrated by the history of the Public Health Service, which has grown out of the Marine Hospital Service, founded in 1798 on a contributory basis.

American merchant seamen appear to have been less socially integrated than those of other countries, who came within the framework of the general public medical provision. This factor, together with the concentration of the population on the Atlantic coast, the many inland waterways crossing state boundaries, and the boarding-house racket, created a problem peculiar to the U.S.A., and one which only the Federal Government could solve. Dr. Straus summarizes the developments made in the service and the contributions from welfare agencies, unions, and ship-owners; in tabular form he compares these with the services in other countries. He shows how in 1884 the service ceased to be contributory and how it became responsible for certain preventive measures protecting the whole nation, so that in 1912 its title was changed to the Public Health Service. Dr. Straus discusses the impetus which it received from two world wars and from the Social Security Act of 1935, and brings its history up to date with brief references to its growing responsibilities and authority. The early emphasis on preventive measures is remarkable, and quotations reveal a strong social medical approach as early as 1873.

This brief study is presented in a pleasant and clear style, but the weighty reading on which it rests is apparent in the references. The author is incorrect in stating that the Marine Hospital Service had a precedent in the United Kingdom. The mistake is due to his believing that the Chatham Chest and Greenwich Hospital made provision for merchant seamen as well as for naval ratings. He has high authority for his error, since it was apparently made in Congress in 1884. It would, however, be ungenerous to dwell on this minor point in a book which so completely fulfils its purpose and which provides English readers with much information about American public medical services, previously available to them only from scattered and obscure sources.

J. J. KEEVIL.

BOOKS RECEIVED

Review is not precluded by notice here of books recently received

Human Anatomy and Physiology. By N. D. Millard, R.N., M.A., and B. G. King, Ph.D. 3rd ed. (Pp. 596. 22s.) London: W. B. Saunders. 1951.

Science News 21. Edited by A. W. Haslett. (Pp. 126. 2s.) Harmondsworth: Penguin Books. 1951.

Handbook of Experimental Psychology. Edited by Professor S. S. Stevens. (Pp. 1,436. 120s.) London: Chapman and Hall. 1951.

The British Encyclopaedia of Medical Practice. Edited by Lord Horder, G.C.V.O., M.D., F.R.C.P. 2nd ed. Vol. 6: Gastritis to Hypermetropia. (Pp. 712. 60s.) London: Butterworth. 1951.

Microbiology for Nurses. By M. E. Morse, M.D., and others. 8th ed. (Pp. 540. 20s.) London: W. B. Saunders. 1951.

Estado Actual de la Terapéutica Antimalárica. By Dr. R. V. Ulloa. (Pp. 203. 20 pesetas.) Barcelona: Byp. 1951.

Bevölkerungsdynamik und Bevölkerungsbilanz. By Professor F. Burgdörfer. (Pp. 116. M. 8.) Munich: J. F. Lehmanns. 1951.

Die Narkoanalyse als initiale Methode in der Psychotherapie. By Professor C. Fervers. (Pp. 120. M. 7.50.) Munich: J. F. Lehmanns. 1951.

Die Lungentuberkulose im Röntgenbild. By Dr. W. Hirsch and Dr. H. Liebau. (Pp. 142. M. 20.) Leipzig: Georg Thieme. 1951.

Atlas der Pathologischen Anatomie. By Dr. R. Rössle and Dr. A. Apitz. (Pp. 298. M. 87.) Stuttgart: Georg Thieme. 1951.

Wissenschaftstheoretische Aufsätze für Ärzte. By Professor G. Ricker. 2nd ed. (Pp. 82. M. 5.70.) Stuttgart: Georg Thieme 1951.

Das Verstehen und Begreifen in der Psychiatrie. By Professor F. A. Kehrer. (Pp. 58. M. 5.70.) Stuttgart: Georg Thieme. 1951.

Bionome Psychotherapie. By Professor J. H. Schultz. (Pp. 186. M. 11.70.) Stuttgart: Georg Thieme. 1951.

Die Intravenöse Anwendung der Lokalanästhetika in der Inneren Medizin. By Dr. G. K. Kraucher. (Pp. 116. 13s.) Vienna: Springer. 1951.

Arzneitherapie der Herzkrankheiten. By Dr. H.-J. Oettel. (Pp. 253. M. 27.) Stuttgart: Georg Thieme. 1951.

Fizyopatoloji. By Professor S. Tavat. (Pp. 775. No price.) Istanbul: Mazlum-Kitabevi. 1949.

Pratikte iç Hastaliklari. By Professor R. P. McCombs, B.S., M.D., F.A.C.P. (Pp. 733. No price.) Istanbul: Mazlum-Kitabevi. 1949.

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LUNG RESECTION FOR PULMONARY TUBERCULOSIS

The common-sense concept of the radical treatment of pulmonary tuberculosis by removing the offending organ has been attractive for many years, and sporadic attempts to execute it have been made since towards the end of the nineteenth century. Successes were exceptional until the last few years, but to-day excision is the treatment of choice for many types of tuberculosis of the lung: perhaps it will soon be accepted—in practice, as in theory—for all cases of localized disease which will not heal on their own. The results of other longer-established methods of treatment certainly allow no complacency, for, although often highly successful in individuals, considered as a whole they are far from reassuring. Snell[1] has recently reviewed 2,472 cases with positive sputum admitted to Colindale Sanatorium from 1938 to 1950; in only 27.8% did the sputum become negative. The patients in this series were to some extent selected, and the criteria of conversion strict, but these figures are not exceptional.

Fifteen years ago resections were seldom done, because fatalities, complications, and failures were so common. The different results to-day are due, first, to the advances in knowledge of pulmonary surgery and, secondly, to the use of antibiotics, particularly streptomycin. The indications for resection remain to some extent controversial. It is accepted as sound treatment for patients in whom collapse therapy—such as thoracoplasty—has failed, or is likely to fail, because of lower-lobe disease, solid foci or tuberculomas, tuberculous bronchiectasis, or severe bronchial stenosis. It is often done for giant cavities or extensively destroyed lungs or lobes. For children or adolescents who need surgical treatment resection is usually preferable, since loss of lung tissue is well compensated, whereas thoracoplasty leads to severe deformity. Resection may be done when the diagnosis is in doubt before operation and neoplasm is suspected, and sometimes for severe haemoptysis. It can be combined with excision of an overlying empyema if an extrapleural dissection is performed, as Sarot described.[2] Some surgeons, such as Bickford and his colleagues[3] in Liverpool, have extended the indications to include cases of localized disease in which thoracoplasty would have been expected to succeed. For small lesions an excision will often result in less loss of function than would effective collapse treatment. Among the contraindications to resection are extensive active disease outside the area to be resected; poor function of the remaining lung tissue from any cause; active endobronchial disease at the proposed site of division of the bronchus; and infection with organisms insensitive to streptomycin. Whereas collapse operations are seldom indicated except in patients with a high general resistance and stable radiographic findings, an excision may succeed in a toxic patient, occasionally even in one desperately ill with high fever and copious sputum.

Pulmonary tuberculosis is very commonly a bilateral disease, and often more widespread than radiographs suggest. By resection only the major lesion is removed. Small areas of disease are usually left behind; these remain or become healed in the same way as does the bladder after removal of a tuberculous kidney. The extent of resection necessary is indicated by preoperative radiographs. If contralateral disease is present it should be controlled by artificial pneumothorax or have shown no signs of spread for at least 12 months. Whether pneumonectomy or lobectomy is performed will depend on the distribution of the disease, but when it is localized segmental resection is often indicated, as advocated by Chamberlain.[4] In such cases tomography, particularly in the lateral plane, should be carried out to exclude active foci in the residual tissue, and the findings confirmed by palpation at the time of operation. Local excision or enucleation of a small focus may perhaps be the ideal treatment for a contralateral lesion or for a solitary tuberculoma, but its place is not established. As microscopic tubercles are often present in apparently normal lung adjacent to the diseased area a fairly generous margin should be left; if the intersegmental or interlobar plane is obliterated a little of the adjacent normal segment can be included with the resection.

Details of operative technique vary a little in different surgeons' hands. The patient is often put into the prone position, since it allows secretions to drain into the trachea during the operation. The extrapleural approach to the hilum may make dissection easier and is said to leave the tissues less liable to secondary infection. Reinforcement of the sutured bronchus by a pleural or muscular flap may reduce the incidence of imperfect healing. Streptomycin,

1 *Lancet*, 1951, **2**, 415.
2 *Thorax*, 1949, **4**, 173.
3 Ibid., 1951, **6**, 25.
4 *J. thorac. Surg.*, 1950, **20**, 843.
5 *British Medical Journal*, 1951, **2**, 839.
6 *Thorax*, 1951, **6**, 230.
7 Ibid., 1951, **6**, 369.
8 *J. thorac. Surg.*, 1950, **20**, 854.

with P.A.S., effectively reduces the incidence of complications and of post-operative spread of disease, and should always be given as a cover for operation. Most surgeons advise a period of three to six months' rest in bed under sanatorium conditions after the operation; the principal reason for this is to ensure healing of the residual disease. Perhaps it will later be found that in strictly localized lesions this can be dispensed with. It is hoped and expected that one of the advantages of resection as a method of therapy is that it will markedly shorten the total period of treatment. Surgeons have not yet discovered the best way of dealing with the dead space left after resection. As there are so often small healed areas of disease in the remaining lung, its overstretching by compensatory emphysema should be avoided, since this might cause a flare-up. Sometimes, especially after pneumonectomy, foreign bodies such as plastic spheres have been left in the space,[5] but more often it is closed by thoracoplasty. This may be combined with division or crush of the phrenic nerve and pneumoperitoneum, which is best induced before the operation. After lobectomy the thoracoplasty may be less extensive, or unnecessary, and in most cases of segmental resection the space is small and no special measures are needed to close it. Thoracoplasty is usually done two or more weeks after the resection, but recently it has been shown that it can be performed at the same time, as described by Waddington,[6] and by Cruickshank and El Papamichael,[7] without appreciably increasing the risk.

Serious complications of lung resection for pulmonary tuberculosis are bronchial fistula and empyema, which often occur together and may be due to tuberculous or to secondary infection. Spread or reactivation of disease is less common. No series of patients have yet been followed for very long. Bickford and his colleagues have reported on nearly 100 cases, observed for a year or longer: two of the patients died while under observation, but a positive sputum had become negative in 87% of the survivors. Day and his colleagues[8] treated 202 patients by resection; 25 died, but of the remainder 85% had negative sputum. Similar figures have been reported by other American authors.

HOUSE DUST AS AN ALLERGEN

It is surprising that more effort is not being devoted to the study of allergy, for according to one authority "allergic diseases, with a prevalence of 1,337 per 100,000 population, are commoner than gastric, duodenal, peptic, and anastomotic ulcers combined, than all forms of anaemia, between three and four times as common as angina and valvular heart disease combined, and rheumatoid arthritis, osteoarthritis, and spondylitis combined."[1] Unfortunately the techniques used by earlier investigators were qualitative only, and the initial enthusiasm surrounding the discovery of so striking a phenomenon led during the immediately succeeding years to much uncritical work and earned for the subject a certain degree of disrepute in this country. Despite the unpopularity of allergy as a subject of investigation, certain outstanding investigators have during the last two or three decades added greatly to our knowledge of the fundamental principles governing allergic responses. A new era seems now to be dawning in this field of research, owing largely to the application of the techniques of microchemistry and biophysics, which render possible investigations upon a quantitative basis.[2] The importance of the working hypothesis in the advancement of medical science still remains, as Professor J. R. Squire ably demonstrates in the paper published in the opening pages of this issue, but the validity or otherwise of hypotheses in the realm of allergy can be more readily tested when a quantitative approach can be made.

It appears evident at once that there is no satisfactory method for the standardization of the commonly occurring allergens (such as pollens, dander, or dusts), since there is no relation between potency as tested on the patient and either weight or content of total nitrogen or protein nitrogen. The present stage of development is similar to that reached in the early days of vitamin research, and the only possible recourse seems to be to an arbitrary standard preparation of the material in question, but with the added difficulty that the human subject should really be used for comparison—though multiple sensitivity is just as likely to occur in such a subject as did multiple deficiencies in the animals used for vitamin assay. There is still a great need for further purification and characterization of the known common allergens.

House dust is one of the commoner causes of specific sensitization, estimates of its incidence in asthmatics having varied between 33 and 79%.[3] Assessment of the exact incidence of hypersensitization is made difficult by the possible occurrence of weak positive reactions due either to low-grade sensitivity in patients without clinical symptoms or to non-specific irritant material. By its very nature house dust might be expected to contain a great

1 Williams, D. A., *1st International Congress of the International Association of Allergists*, Zurich, September 23–29, 1951.
2 Rimington, C., ibid
3 —— in H. A. Abramson's *Somatic and Psychiatric Treatment of Asthma*, 1951, Baltimore.
4 *Brit. J. exp Path.*, 1947, **28**, 309.
5 Ibid., 1947, **28**, 326.
6 *Ann. Intern. Med.*, 1937, **11**, 505.
7 *1st International Congress of the International Association of Allergists*, Zurich, September 23–29, 1951.
8 Ibid.

variety of allergens, yet most investigators have been struck by the rather highly specific character of house-dust sensitivity. Rimington, Stillwell, and Maunsell,[4] by purifying the active material, obtained a product which proved to be a polypeptide-like unit combined with a polysaccharide, or a complex of such chemically similar materials. Biological activity was shown to reside in the nitrogen-containing portion of the molecule, since controlled degradation removed the greater part of the carbohydrate without decrease in potency. Acid hydrolysis liberated several common amino-acids, but the basic and aromatic amino-acids were notably deficient. The purified allergen did not give the usual protein reactions, and it is noteworthy that solutions of it may be boiled without loss of activity. It would appear, like the blood group specific substances, to belong to a class of biochemical materials, so far little investigated, in which amino-acids and carbohydrates are associated in a large complex molecule. From three different moulds (*Caldariomyces fumago, Penicillium roqueforti,* and *P. tardum*) grown in pure culture the same workers[5] obtained products similar in composition to the house-dust allergen and reacting specifically in hypersensitive persons. Further research upon these muco- or glycoprotein-like materials is urgently required.

Three principal hypotheses have been put forward to explain the presence of the specific material in house dust: first, that it is derived from the air-borne spores of common moulds; secondly, that it arises from the disintegration of textile fibres, such as cotton, under physical influences (light, heat, etc.); and, thirdly, that it is formed as a result of the action of micro-organisms upon fibres or furnishing materials and is not present in either separately. A brief examination of these possibilities may be of interest. Much work has been devoted to the identification of moulds inside and outside houses and to the testing of dust-sensitive patients with mould extracts, but little support has been gained for the first hypothesis—there is in general a lack of quantitative relationship between dust and mould sensitivity. Similarly the support for the second hypothesis is but meagre. Extracts of "old" fibres often cause large reactions, but in an experiment by Wagner and Rackemann,[6] in which new kapok was "aged" under sterile conditions, no active material was produced in six months. Subsequent spraying with moulds (themselves incapable of giving positive skin reactions) from old kapok quickly led to the formation in the kapok of typical biologically active material. Such a result supports the third hypothesis. Still further support for this possible origin of the house-dust allergen is afforded by Maunsell's[7] investigations of the situation of the homes (in the London area) of dust-sensitive patients with bronchial asthma or perennial rhinitis. Thirty-eight out of 49 patients lived, at the onset of their disease, in houses within 180 yards from open or underground waterways, as against 17 out of 49 strictly comparable controls. Though many of London's small waterways have for long been enclosed in concrete sewers, the clay in their neighbourhood probably has a higher humidity than elsewhere, because rain water over a large area must still gravitate to the regions occupied by these drains. Moulds probably grow more freely in houses built on such damp ground than in houses further from the watercourses. Harsh[8] has pointed out that the warm, humid coast of California, with its low pollen and fungus counts, constitutes an ideal natural laboratory for the study of the effect of climate in allergy, especially since more than 75% of the adult population has lived previously in drier inland areas. As a result of his observation of patients with respiratory allergic diseases who are sensitive to house dust or pollen he concluded that the effect of a damp climate may not be due to external operation of the climate *per se* but rather to an effect of the humidity in potentiating the allergen.

At this stage it would be well to recall Professor Squire's analysis of the place of hypothesis in the advancement of medical science. The problem of house-dust sensitivity is difficult, and the hypotheses briefly referred to above are provocative; but it will be interesting to see how they bear up under further well-directed experimental assault.

SPECIFIC LANGUAGE DISABILITY

The occurrence of specific language disabilities in children of normal intelligence has long been recognized. Under the rubric of "developmental aphasia" a variety of clinical pictures have been described in which the main feature is "lack of facility in the various aspects of handling words: reading, spelling, talking, and writing." It is rare, however, for all uses of language to be affected equally, and severe retardation in reading or spelling (or both) without any difficulty with speech is quite common. Curiously enough, calculation is seldom affected. The incidence of such defects in the general population has been placed as high as 10%, and there is some reason to believe that they are commoner among boys than girls. The causes and treatment of specific language defects should be more intensively studied, for educational reasons as well as for their relevance to the theory of aphasia. Gallacher,[1] for instance, feels that school medical officers and others concerned with the management of retarded children should give fuller recognition to the

[1] *N. Engl J. Med.*, 1950, **242**, 436.
[2] *Acta psychiat., Kbh.*, 1950, Suppl. 65.

Reports of Societies

CRIMINAL RESPONSIBILITY

The Section of Psychiatry of the Royal Society of Medicine held a joint meeting with the Medico-Legal Society on December 11, 1951, at 1, Wimpole Street. Dr. DESMOND CURRAN, the president of the Section, was in the chair. The subject was "Different Approaches to the Problem of Criminal Responsibility."

An extremely interesting evening resulted, limited only by the time available, many of those present being still anxious to contribute to the discussion when the meeting ended at 10.30 p.m. One speaker made a very relevant observation when he said that the witness-box was not a platform from which to ventilate psychiatric theories, and from the general response it was clear that the meeting agreed with this view. The meeting did, in fact, afford a good opportunity for the presentation of the various opinions on the subject without the intrusion of the sensational element usually associated with the ordinary murder trial. Weight was undoubtedly added to the discussion by the obvious experience and authoritative opinion of the various speakers. It seemed that the general opinion was that the M'Naghten rules could not be improved upon, offering as they did a fair legal approach, at the same time the accused's interests being safeguarded by the various other sieves through which his case is passed. One speaker went so far as to declare that psychiatry was not yet in a position to give an opinion sufficiently definite to demand changes in the law. There also appeared to be a strong feeling that, as fitness to plead was not the same as insanity, the case should not be lightly taken from the jury merely because the prisoner showed mental changes.

Fitness to Plead

Sir NORWOOD EAST opened the discussion by indicating that he proposed to deal only with responsibility in cases of murder and in connexion with (1) certification without trial; (2) fitness to plead; (3) guilty but insane; (4) irresistible impulse; and (5) medical inquiry after trial. Throughout his paper he quoted freely from the evidence given before the Royal Commission on Capital Punishment, and emphasized the contrary views expressed by eminent legal and medical authorities. He said that although certification without trial could take place, this in fact rarely did occur. On the other hand, the question of fitness to plead was a common issue to be tried by a jury in England, while in Scotland the so-called plea in bar of trial was frequently decided by the judge alone. He felt that whenever possible the accused should not be deprived of his right to plead and assert his innocence and prove it if possible, and this was particularly applicable when the accused would be left with a feeling afterwards of not having had the opportunity of a full and fair trial. He did, however, feel that he should mention that four experienced prison medical officers had given evidence before the Royal Commission to the effect that they felt that a man, if certifiable as insane, should not be placed in peril by trial. But he added that this did not express the view of some other equally experienced prison medical officers. Divergent opinions on this matter were also expressed by authorities outside the prison service.

The M'Naghten Rules

The issue of insanity at the time of commission of the offence was covered by the M'Naghten rules, which had stood the test of time and defined not insanity according to medical tests but the legal concept of the responsibility of a person for his action. The rules were probably more liberally interpreted nowadays and for that reason had kept up to date with any change in views. At the same time, it was of interest that the British Medical Association, in evidence before the Royal Commission, had agreed with the rules but had suggested that irresistible impulse should be grounds for acquittal. The difficulty, however, was to establish when an impulse is irresistible and when not resisted. In his experience a true irresistible impulse had not been the cause of murder except in association with mental disease, and had then been accepted as ground for acquittal.

The Home Secretary's Powers

Sir Norwood went on to discuss the medical examination which the Home Secretary might order to be carried out by two or three doctors after a person had been convicted of murder, for the purpose of establishing whether he was, or was not, sane at the time of the examination as in contradistinction to the time of the offence. He here quoted an eminent legal authority as having said that it did not seem proper for doctors to express an opinion on a matter which had already been decided by a jury when insanity had been put forward as a defence at the trial, except in very special cases. He himself thought that the method was just and merciful, and would take into consideration any question of mental deficiency. He also mentioned that evidence during such an inquiry was always taken from the prison chaplain and that he had been most impressed by the agreement of the chaplains with the eventual findings.

The Jury

Mr. ANTHONY HAWKE spoke on the legal aspects. He said that the whole basis of the matter was "Justice shall be done" and "Injustice shall not be done." He felt that he had nothing new to add but would like again to stress that the question of criminal responsibility should be left to be decided by the good sense of the fellow men and women of the accused, properly directed and assisted by the lawyers and doctors. If the jury was to be the right tribunal then it was essential to remember what the issue really was—namely, not "Is this man insane?" but "Is he to be held responsible for the act that he has committed?" If this was right, then there must be some sensible and intelligible limits within which criminal responsibility could be measured, and the M'Naghten rules satisfied this as well as anything. He pointed out that the legal principles on which the rules were based had existed long before 1843. He said that the rules had two limbs, the first of which seemed to present no great difficulty—namely, "whether the person understands the nature and quality of the act." The second limb, however—"Did not appreciate at the time that what he was doing was wrong"—was much more difficult. He thought that the second limb would cover the question of irresistible impulse, for if the person thought that what he did was the only possible thing to do, and so must be done, then if this feeling was prompted by a defect of the mind, substantiated by medical evidence, it must come within the second limb. If, on the other hand, it was not prompted by such a defect of reason, then it would seem that the impulse could have been resisted.

Refusal to Plead Insanity

He was strongly in favour of the medical inquiry after conviction in proper cases, and said that he could not agree with the authority who had said that holding such an inquiry after conviction was liable to result in a conflict with the findings of the jury, because what the jury had decided was not that the person was sane but that he had been responsible for the act that he had done. Perhaps it was not realized that unless the accused instructed his counsel to do so a plea of insanity could not be raised, and he himself had had experience of more than one case in which the accused was, in fact, insane (and was so found by the doctors after conviction), but would not allow such a defence to be put forward at the trial.

On the question of the issue of fitness to plead he entirely agreed with Sir Norwood East that a person should not, save in exceptional cases, be deprived of the right to establish his innocence, or for that matter to demand that the prosecution should prove his guilt.

Discussion

Professor E. W. ANDERSON agreed with Sir Norwood East in doubting the so-called irresistibility of impulses. He further said that the extravagance of some of the exponents of this thesis had led psychiatry into disrepute. Finally, after describing an extremely interesting case he had been able to investigate of a well-to-do young man resident in a mental hospital instead of prison, he said that, although he felt that punishment should fit the criminal and not the crime, that end was not always attained by such measures.

Dr. J. C. McI. MATHESON had seen only one case of certification before trial, but he could envisage a person whose mental condition was so serious that he required urgent and immediate treatment. He mentioned that once a person had pleaded guilty to an offence he could be certified only from the prison and not in court. He himself was sometimes surprised by the ease with which the court accepted evidence of unfitness to plead, especially as it involved the risk of an innocent person being detained without trial. He quoted the case of a man with general paralysis of the insane who, although medically certifiable, had contested the charge against him and had been acquitted upon the evidence. Finally, he referred to the electroencephalograph, and pointed out that it could never resolve the question of responsibility.

Dr. T. C. N. GIBBENS, who had studied the problem in the United States of America, said that most States employed a variation of the M'Naghten rules, but there were one or two interesting deviations. In one State there were no tests and the matter of responsibility was treated as fact and decided by the jury, while in another there were two separate trials by jury—one on responsibility and the other on guilt. He suggested that the verdict of "Guilty but insane" was illogical; in America, if you were found insane, you were not guilty. The question of diminished responsibility was covered by the various degrees of murder. He thought the modern interpretation of the M'Naghten rules was broad. The law in respect of provocation was far from being in tune with modern psychiatric views, but no lawyer thought it could be amended.

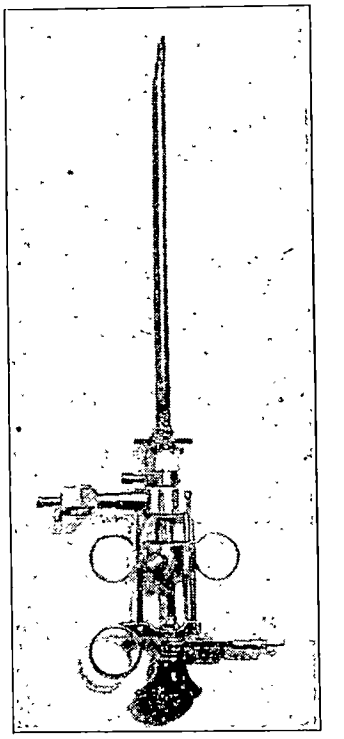
Dr. J. A. HOBSON said that if it was true, as suggested by the opening speakers, that justice was always done, it was not because of the M'Naghten rules but because of the common sense with which the Courts misapplied them. Though he was prepared to believe that insane murderers did not hang, he also believed that justice was not always done in the opposite direction. There seemed no doubt that many sane murderers became Broadmoor patients.

The Minister of Health has approved the appointment of Mr. B. O'Brien to be solicitor and legal adviser to the Ministry of Health in succession to Sir Thomas Harrison, who has retired from the Civil Service. Mr. O'Brien will also act as solicitor and legal adviser to the Ministry of Housing and Local Government. Mr. O'Brien joined the Ministry of Munitions in the first world war and transferred to the Treasury Solicitor's Office in 1920. He became a member of the legal staff of the Ministry of Health in 1929, and has been closely concerned with legislation connected with many aspects of the work of the old Ministry of Health. During the last war he was seconded to the Ministry of Food, where as an assistant secretary he was in charge of supplies of food to hotels, restaurants, and other catering establishments as well as to hospitals, schools, and institutions. Sir Thomas Harrison entered the Ministry of Transport after military service in the first world war, and became an assistant solicitor to the Ministry of Health in 1929. He was appointed solicitor and legal adviser in 1934.

Preparations and Appliances

A ROTATABLE SHEATH RESECTOSCOPE

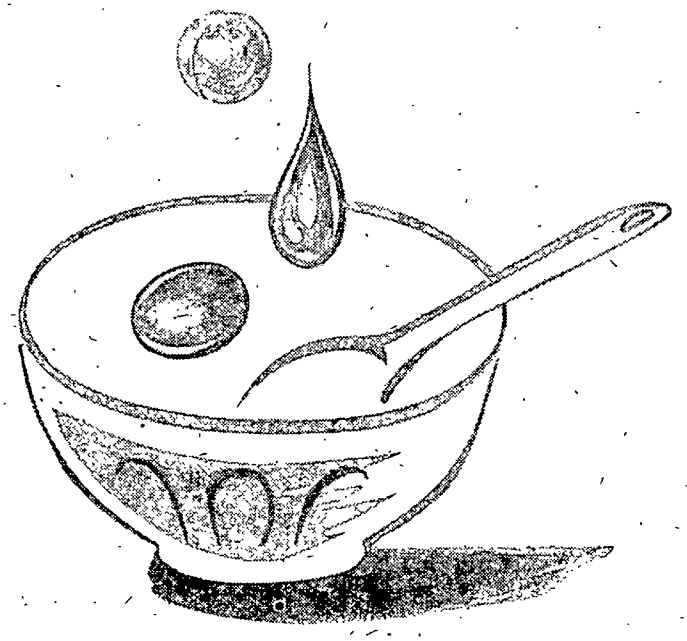
Mr. J. E. SEMPLE, F.R.C.S., surgeon, St. Paul's Hospital for Genito-Urinary Diseases, London, writes: The importance of being able to resect the anterior part of the prostate gland as easily as the posterior, while manipulating the resectoscope with one hand, has given rise to a demand for an instrument in which the sheath and cutting loop can be freely rotated through a full circle without moving the position of the operating hand. It seemed that this could be most easily accomplished if the metal cone on to which the bakelite sheath is locked could be extended backwards in the form of a metal tube, which would rotate freely within the framework of the instrument and down which the telescope could be inserted. On this metal tube a bobbin of bakelite would slide freely up and down, but rotating with the tube, to which it would be keyed; into this bobbin would be fixed the proximal end of the loop electrode and through it connexion with the diathermy machine would be made.



The main feature of the instrument here illustrated is its extreme simplicity in design and construction. The telescope is of the wide-field, fore-oblique, McCarthy type, which gives an excellent view without loss of definition. In this resectoscope the telescope remains stationary throughout the cut, but if preferred it can be made to withdraw at the end of the cut by the usual mechanism, which is an optional fitting. The cutting loop is controlled by a scissors type of grip, by which the bobbin holding the proximal end of the electrode is advanced or withdrawn by the index and middle fingers while the thumb controls the framework of the instrument. The loop can be made to return automatically to the forward position, after the cut has been finished, by a spring incorporated in the framework, if such is desired, but the control seems more delicate if finger pressure alone operates the loop. The bakelite sheaths are supplied in two sizes for each instrument, F 26 and F 28, so that a urethra of small calibre need not be unduly injured to admit the sheath, yet the advantages of a large-loop electrode are not forfeited. The sheath is attached to the rotating spindle by a ready release-and-lock cone, which makes removal of the telescope and electrode especially easy. The irrigating system is a fixed part of the framework, and is controlled by a wide-bore two-way irrigating tap. The whole instrument can be made boilable.

This resectoscope has been proved to cut very well in all positions and is very pleasant to operate, making the preliminary dissection of the anterior segment of the prostate much easier and therefore more complete.

I have to thank Mr. Lowery and the staff of the Endoscopic Instrument Co., 62, Shirland Road, London, W.9, for their help in constructing this resectoscope.



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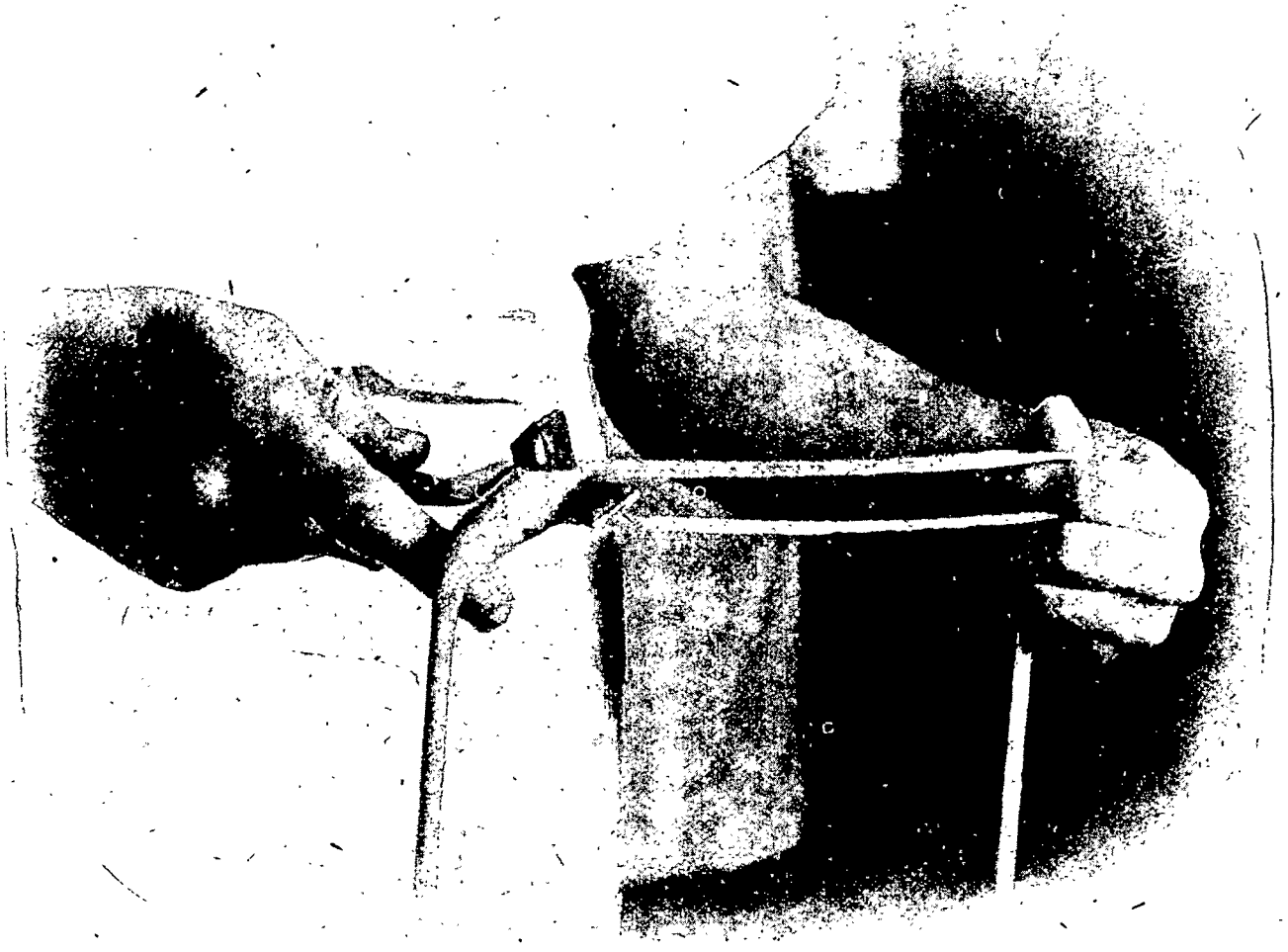

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Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Death on the Roads

SIR,—I read with interest the report in the *Journal* of December 8, 1951 (p. 1399), of the discussion on "Alcohol and Road Accidents" at the Pedestrians' Association's Conference, November 24, 1951. I agree with many of the points made by various speakers, but it would appear that some statements were made which are ill-founded and may be quite misleading. For example, although it is true that many accidents occur between 10 and 11 p.m. it is not necessarily true that this is due to the advent on the roads at this hour of an increased number of drunken motorists. Perhaps there are more drunken motorists about; perhaps it is simply that there are more motorists about. It may be that there are more drunken pedestrians on the road; or simply that there are more pedestrians. It is very unsafe to come to a definite conclusion that any one factor is responsible for the 10 to 11 p.m. peak.

Indeed, a graph which I prepared some years ago (*Practitioner*, 1945, **154**, 205) showed that there were four peak periods. On week-days the highest peak was between 5 and 6 p.m.; the second highest between 12 noon and 1 p.m.; the third highest between 7 and 8 a.m., and the fourth highest between 10 and 11 p.m. On Saturdays the highest peak was between 12 noon and 1 p.m., and the second highest between 10 and 11 p.m. It is most improbable that the 12 to 1 p.m. peak has anything to do with alcohol consumption, and it is most unwise to assume that the 10 to 11 p.m. peak is necessarily related, solely or even mainly or at all, to the fact that the public houses close about 10 p.m. Cinemas, theatres, and concert halls also disgorge their clients about this time, and it is not only the drunken motorist who is bustling to get home.

The figures on which my references are based were those of the Ministry of Transport Report on *Road Accidents in Great Britain involving Personal Injury* for 1936–7. Now that the five-day working week is fairly widely operative, it may be that more recent figures would show an alteration in the Saturday peak periods.

A further interesting point which emerged from my analysis of the 1936–7 figures was that, whereas there were altogether nearly 173,000 accidents involving car drivers, cyclists, and pedestrians, only 0.8% were definitely attributable to the effect of alcohol in either the driver or the pedestrian, and only 0.3% in which the driver was definitely under the influence of alcohol. A further remarkable fact was that of all the fatal accidents during that period (5,645), there were only 25 in which the car driver was clearly under the influence of alcohol. Of course, as Dr. Goodhart stated, these figures of proved drunken drivers take no account of the large numbers of drivers whose sense of responsibility has been weakened by doses of alcohol which might not be clinically discernible. There is no doubt whatever that an amount of alcohol which is insufficient to cause clinical symptoms, and might be looked upon as not particularly important, can in certain cases produce an effect on the control of the individual.

It seems to me that medical tests in "sub-clinical" cases are of little value. If it is felt that the case against alcohol is sufficiently established, the only course open would appear to be to insist on a blood examination in all cases and to regard the finding of any alcohol at all in the blood as being sufficient to warrant prosecution and conviction. This obviously would mark a serious departure from the present conception of crime and of the rights of the individual, but it would seem to be the only logical way of approaching the problem legally. Motorists would then know that they dare not drink at all if they are in charge of a car, and if they must go out to dinner they must make arrangements for their return home by taxi or otherwise. Whether this proposal is advisable is an entirely different matter.—I am, etc.,

Edinburgh. SYDNEY SMITH.

SIR,—I read with interest the report in the *Journal* of December 8 (p. 1399) of the discussion at the Pedestrians' Association's Conference of November 24, 1951. I have been concerned in the large number of cases of "Drunk in Charge" both at the Metropolitan Police Laboratory and more particularly at the North-eastern Forensic Science Laboratory, and as a result of this experience there are one or two points on which I should like to comment.

First, Dr. A. L. Goodhart, K.C., says that it is not the drunken driver who was the main concern of the meeting. I regret that my experience does not bear this out. Ultimately, I have no doubt this statement may be true, as it is now true in the Scandinavian countries. Unfortunately, in this country we have not yet succeeded in dealing satisfactorily with the drunken driver. In the *Medico-Legal Journal* (1951, **19**, 98) I and my colleagues published a graph of our results on the examination of somewhat over 600 cases, which peaks strongly at 0.30% alcohol in the urine. This means that the drivers had consumed not less than 6 pints (3.4 litres) of a strong beer, such as draught Bass, or nearly half a bottle of spirits. This can scarcely be regarded as a moderate consumption, and this peak of 0.30% is considerably higher than Andresen's peak of about 0.22%.

Secondly, Captain A. Popkess refers to the variation of accident rate with the time of day. Our information is in strong agreement with Captain Popkess's suggestion. The following is a tabulation of the time of arrest of the last 543 cases examined in the counties of Durham and Yorkshire between May 1, 1949, and December 18, 1951. This Table shows that the percentage of the total arrests which occurred during the hours 10 p.m. to 12 p.m. is extraordinarily large. There is also a small hump which would appear to coincide with the afternoon closing hours.

Time	Number
Before noon	4
12 noon to 2 p.m.	1
2 p.m. to 4 p.m.	28
4 p.m. to 6 p.m.	34
6 p.m. to 8 p.m.	29
8 p.m. to 10 p.m.	74
10 p.m. to 12 midnight	263
12 midnight to 2 a.m.	92
2 a.m. to 4 a.m.	16
4 a.m. to 6 a.m.	2
	543

—I am, etc.,

New Scotland Yard, S.W. L. C. NICKOLLS,
Director, Metropolitan Police Laboratory.

SIR,—For many years I was a police surgeon and I have read with great interest the correspondence following the report (December 8, p. 1399) of the discussion on this subject. I fully agree that any reliable test of the alcohol content of either blood or urine would not only act as a deterrent to the dangerous driver who may drive too soon after a party but definitely help to distinguish the real alcoholic, probably sobered by the accident before examination by the police surgeon, from the nervous hysteric whom the fright of an accident may render incoherent.

Whilst, however, not intending to minimize the danger of the loss of fine control and quick reaction after very slight doses of alcohol, I would like to draw attention to the obvious unfairness of any legislation so extreme as is suggested, such as the prohibition of driving within two hours of even one small drink. So many other conditions are, in my experience, at least equally conducive to loss of efficiency in drivers—namely, fatigue, hunger, lack of sleep. It was a matter of regular experience on pre-war Sundays, when road accidents occurred every week, that most

happened between 12.30 and 1.30 p.m. or between 5 p.m. and 6 p.m. I think that hypoglycaemia must be a factor in the "accident prone." It will be most helpful to drivers and to doctors if some observations could be made and published on the complete physiology of the drivers in accidents.

It is pertinent to remind your readers that the question of alcoholism cannot have influenced my observations on the times of accidents, as there are no licensing hours in Wales on Sundays, and we live twenty miles from the border. —I am, etc.,

Ruthin. TREVOR HUGHES.

Fantus Estimation of Urinary Chloride

SIR,—It is still widely believed that the urinary chloride level usually reflects the serum chloride level, and the Fantus test is commonly employed as a guide to electrolyte therapy, especially in surgical practice. Dr. W. H. Taylor has performed a valuable service in drawing attention to the fallacies of the test (November 10, p. 1125). As he points out, however, even more accurate methods of determining the urinary chloride concentration are not necessarily a reliable guide to serum levels. We are particularly interested in those cases, mainly post-operative, in which the urinary chloride concentration is normal or high and yet the serum chloride is low. Following major abdominal operations in children, particularly when there is loss of gastric or intestinal secretions by continuous aspiration, fistulae, or diarrhoea, these findings are not uncommon and are often associated with potassium depletion. Dr. D. A. K. Black (November 17, p. 1207) has described the clinical manifestations of potassium deficiency and the circumstances in which it is liable to occur. In the surgical cases there is excessive potassium loss in the urine as well as in the gastric and intestinal secretions. Potassium is excreted in the urine mainly as chloride, thus leading to a fall in the serum chloride level. Attempts to correct the chloride deficit by enthusiastic infusion of sodium chloride lead to an increasing loss of potassium, mainly in the urine, and a dangerous state of potassium depletion may arise. Diuresis may also occur following such infusions even though the clinical state of dehydration is not fully corrected and may, in fact, even become worse. At this stage the condition may be incorrectly interpreted as being due to sodium deficiency only, and even more sodium chloride may be given, with possibly fatal consequences. As Dr. Black points out, the clinical picture of potassium deficiency may be difficult to assess, but valuable assistance can be obtained from the electrocardiogram, estimations of the serum and red cell potassium, and of the urinary potassium excretion.

The point we wish to emphasize is that potassium deficiency in this type of case is common, at any rate in children, and is often unrecognized. The combination of low serum chloride and high urinary chloride levels should suggest the possibility of potassium deficiency and should call for fuller investigation in order that adequate electrolyte therapy can be given. If these investigations are not practicable potassium therapy, either parenterally in the form of Darrow's solution, or orally, should be carefully considered in all such cases. Although Darrow's solution can be given safely intravenously so long as the rate is not too rapid and renal function is satisfactory, we have found that it may not be sufficient to correct the potassium deficiency and may have to be supplemented by oral therapy.—We are, etc.,

B. E. COHEN. J. T. IRELAND.
Liverpool. E. G. HALL. S. E. KEIDAN.

Hip Reconstruction by Acrylic Prosthesis

SIR,—Many surgeons will have welcomed the letter of Mr. W. Gissane (December 8, 1951, p. 1401), and the warning which he sounded against premature adoption of the method of femoral head replacement for subcapital fractures of the femoral neck. He still favours insertion of the triflanged nail under radiographic control, and expects that this will achieve from 50–60% of successes. Only when this has failed would he resort to the acrylic replacement operation. Dr. R. Judet, who, with his brother and other French surgeons, has developed the use of the acrylic prosthesis, is also emphatically against the general abandonment of the nailing operation in favour of this new method.

The nailing operation, under radiographic control, has always occupied a peculiar position in surgery. If we accept Mr. Gissane's figure of 60% successes, there can be few procedures, outside cancer surgery, where an operation with such modest claims has held its place as the standard procedure for many years. It is an operation of precision and in successful cases gives a perfect result. If unsuccessful, failure is usually complete. It may be said that the nailing operation has remained the standard one because of its very low rate of mortality, even in the very aged, and because there has been no real alternative operation of wide application. Although there have been innumerable contributions to surgical literature on this subject, most of them have been concerned with modifications of technique and new devices for avoiding the causes of failure. Few papers have appeared which have given the long-term results of the nailing operation. Such series as have been reported have, in the main, shown very disappointing results. It is not surprising, therefore, that there should be a ready welcome for what purports to be a promising alternative to an operation which has to admit to a 40% rate of failure.

The most important thing, as Mr. Gissane points out, is that this new operation should be given its trial under the most favourable conditions. That means good selection of cases, a high standard of operative technique, and careful post-operative management in the initial stages. In this latter respect there is a marked contrast to the nailing operation, in which the chief problem of after-treatment has centred on the resumption of weight-bearing.

The results of the nailing operation, in my opinion, have never been adequately reported, and even now it would help to clarify the situation if more results were published. It is greatly to be hoped that a better method may be found for the assessment of the results of the acrylic replacement operation. It should not be difficult for one of the surgical associations to set up a bureau or register to collect data of a large number of subcapital fractures treated by the acrylic method, and their progress at regular intervals. Only by the fullest clinical reporting can an early valuation be made of this new method, which may have such far-reaching possibilities.—I am, etc.,

Guildford. G. N. GOLDEN.

Pre- and Post-operative Treatment of Dehydration

SIR,—Dr. W. H. Taylor's criticism of urinary chloride estimation (November 10, p. 1125) must have been welcomed by many who see it being used as the sole guide to intravenous therapy, especially in the post-operative period. Dr. H. L. Marriott's letter (November 24, p. 1284) must, however, be accepted as a well-balanced survey of the value of urinary estimations in the treatment of dehydration compared with plasma concentrations. He did not, I feel, emphasize sufficiently the fact that in this post-operative or post-traumatic period the widespread faith in Fantus's test can be entirely misleading.

Dr. Marriott suggests that the post-operative retention of sodium is due to a renal attempt to bolster the diminished plasma volume; he therefore suggests plasma *or* saline as a replacement fluid. Saline, however, will be split between the vascular and interstitial compartments, while plasma or plasma substitute will be retained in the vascular compartment. Surely, if any intravenous fluid is to be given during an operation or after other trauma to bolster plasma volume, plasma is always indicated. In view of the many suggested causes of post-operative retention of sodium (Darrow and Pratt, 1950) and the suggestion by many of the importance of an adrenocortical mechanism (Selye, 1949; Wilkinson *et al.*, 1951; Finley *et al.*, 1951) there is further cause for not administering saline in these patients. Finley *et al.* have also shown that there is still sodium retention in patients who have plasma volume maintained by infusions of plasma substitute.

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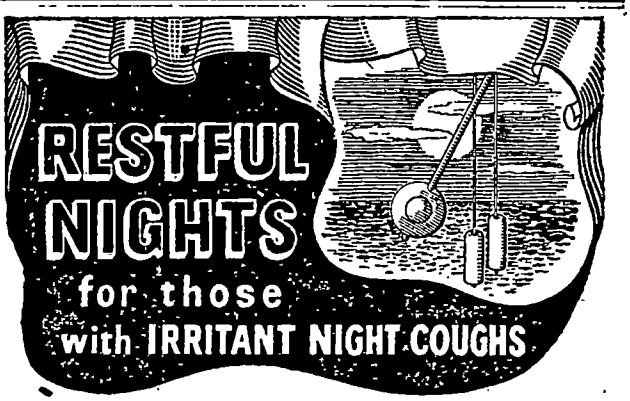

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Obituary

A. GARRICK WILSON, M.Chir., F.R.C.S.

Mr. A. Garrick Wilson, senior consulting surgeon to the Royal Hospital, Sheffield, died on December 10, aged 76.

Of Scottish descent, the son of a well-known medical officer of health, Wilson was early imbued with a deep sense of medical responsibility. From Cambridge he went on to St. Mary's Hospital with a university scholarship, and he graduated M.B., B.Ch. in 1899. Deciding to specialize in surgery, he took the F.R.C.S. in 1901 and the M.Ch. four years later. After holding resident posts at St. Mary's he became surgical registrar there. His appointment as senior house-surgeon at the Sheffield Royal Infirmary was followed later by his election to the visiting surgical staff of the Royal Hospital. In the course of the many years that he served this hospital he became widely recognized for the soundness of his work and the thoroughness with which he carried out everything to which he put his hand. No detail was too trivial for his attention if it might possibly contribute towards the welfare of any patient. He had the reputation of a skilful, safe, and tireless operator, but these qualities were dwarfed when laid beside his outstanding attention to the minutiae which so often made the difference between failure and success. In collaboration with his colleagues on the physicians' side he was at his best: courteous, attentive, ready to state a firm opinion, but more than willing to accept a contrary viewpoint when reasonably probable. In carrying out the necessary surgical procedure resulting from a consultation he was loyalty itself. Highly sensitive to any form of injustice or arbitrary use of power, he became sometimes involved in disputes with those whom he considered lacking in full sense of responsibility, and in such respects his annoyance was not easily allayed. But it was generally recognized by his colleagues that any outburst sprang from essentially noble impulses and were untinged by personal envy.

Wilson held many appointments in and near Sheffield: He was lecturer in clinical surgery at the university, orthopaedic surgeon to the Chesterfield Royal Hospital, consulting surgeon to the King Edward VII Hospital for Surgical Tuberculosis, president of the Sheffield Medico-Chirurgical Society, and chairman of the Sheffield Division of the B.M.A. (1924–5). During the first world war he served in the R.A.M.C. as a major.

Among residents, students, and the humbler members of the hospital surgical service Wilson was noted for the care with which he guarded their interests; he went out of his way to investigate their welfare. In his family and among his more intimate friends he was deeply beloved and respected. Suffering much both in personal ill-health and in bereavement, he bore all with cheerful equanimity. His premature resignation from the staff on account of ill-health left a blank that was deeply felt. In his retirement he was a happy man, enjoying his garden in Beaminster, Dorset, and the simple domestic duties of a country life.—A. E. N.

The death of Dr. N. MOOTATAMBY on November 8 came as a shock to his family and to his numerous friends throughout Malaya. He was born in Ceylon in 1892, but went out to Malaya at an early age. He qualified from the College of Medicine, Singapore, in 1917, and except for the following three years, which he spent in the Johore Medical Service, he was a private practitioner in Johore Bahru for the rest of his life. He was an enthusiastic member of the British Medical Association and took a keen interest in all its activities, being chairman of the Southern Division of the Malaya Branch in 1950–1. He was a true Malayan at heart and gave freely of his services to the country of his adoption, being on numerous committees and boards besides having served three periods of three years each on the State Council of Johore. His services to the Johore State were recognized by the Sultan when he was awarded the Dato Paduka Makota Johore in 1950. In addition to this he was an ideal medical practitioner and a very lovable person, as all his friends know. There must be numerous old Malayans in the United Kingdom who will remember him and regret his death.—C. H. C.

Dr. LUDOLPH BRAUER, emeritus professor of medicine at Hamburg, died on November 25, aged 86. He was educated at Bonn, Marburg, Munich, and Freiberg, and qualified at Heidelberg in 1897. In 1905 he was appointed director of the medical clinic at Marburg. Five years later he became director of the Hamburg-Eppendorf Hospital, a position which he held for many years. In 1919 he was appointed to the chair of medicine at Hamburg, and he also served as rector of the university for some years. Brauer's principal work was in the field of tuberculosis. He was founder and director of the Deutsche Forschungsanstalt für Tuberkulose, and his name is perpetuated in *Brauer's Beiträge zur Klinik der Tuberkulose*, of which he was an editor. He was also joint editor of the *Zentralblatt für die gesamte Tuberkuloseforschung* and of the *Handbuch der Tuberkulose* (Leipzig, 1914–22). He advocated collapse therapy by extrapleural thoracoplasty, and induced artificial pneumothorax by the injection of nitrogen ("Brauer's method"). The treatment of chronic adhesive mediastino-pericarditis by cardiolysis, a procedure now known as "Brauer's operation," was first suggested by him in 1903. Besides receiving honorary doctorates at Bonn, Cordoba, and Shanghai, Brauer was honorary professor of the University of Istanbul and a corresponding member of 51 scientific societies in Germany and elsewhere.

Dr. L. R. J. RINKEL, medical superintendent of the British Legion Sanatorium, Nayland, died on November 10, aged 43. Lambert Ronald Joslin Rinkel was educated at Blundells School, Clare College, Cambridge, and St. Thomas's Hospital. While he was at school it soon became apparent that he would become an athlete of the first rank, and he was in Blundells sports eight. At Cambridge he secured his Blue for the 100-yards in 1929, and he won this event at the Oxford and Cambridge Sports at the White City in 1930. He qualified in 1933, and was appointed to a resident post at St. Thomas's Hospital. At this time he became seriously ill with tuberculosis, and after his recovery he specialized in diseases of the lungs, holding appointments at the Royal National Hospital, Ventnor, and the Kelling Sanatorium, Holt. In 1946 he was appointed medical superintendent to the British Legion Sanatorium at Nayland.

S. A. P. writes: Ronnie Rinkel will be sadly missed by his many friends: he had accomplished much in his short span. I first knew him at Cambridge, where he won renown as a sprinter. He was a gay and amusing companion as a student, and a conscientious worker. In those early days the strong character which was to stand him in good stead in later trials was already evident. At St. Thomas's Hospital, where he found quite a number of his old Cambridge friends, he quickly made many new ones and took a full and active part in the hospital's corporate life. After qualification he was appointed to one of the coveted resident posts, and was a most popular member of "College House." It was during this, his first job, that he developed pulmonary tuberculosis. Gloom descended on College House when the desperate situation was understood; his past athletic career added starkness to the event. But he

faced what seemed hopeless odds most courageously—one operation followed another, but for long we had no good news. Contrary to expectations, he recovered, as he himself had never doubted he would. I met his future wife when he was recovering and understood what her staunch support had meant to him. His long illness probably helped him a great deal to know the disease in which he later specialized, and made him the understanding doctor he was. Our paths diverged, but I heard from time to time of the good work he was doing at Kelling Sanatorium, Holt, and later at Ventnor. In 1946 he was appointed medical superintendent to the Nayland Sanatorium, and it was a delight to welcome to one's own neighbourhood an old friend who, one knew, would add so much to the local fraternity. His worth was soon appreciated in the Essex–Suffolk countryside, and, though he was only with us a few years, his parting leaves an irreplaceable gap among his doctor friends. He will be deeply mourned by the past and present sanatorium patients whom he served so well. It is sad indeed that when he had won such a notable victory over tuberculosis his brave heart yielded at last to hypertension. Our kind thoughts go out to his wife and to his two children.

THOMAS LANDLES GORDON, surgeon to out-patients in the Western Infirmary, Glasgow, died in the Gardner Institute of Medicine on November 29, aged 49. Tom Gordon was educated at the Glasgow Academy and the Glasgow University, graduating M.B., Ch.B. in 1925. While he had an early leaning towards surgery, it was not until the middle nineteen-thirties that he finally adopted surgery as a career and joined the staff of the Western Infirmary. He became a Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow in 1937, and a Fellow of the Royal College of Surgeons of Edinburgh in 1938. It was obvious before long that he was a surgeon of great promise. From the very outset his judgment was sound and his manipulative dexterity rapidly became of a high order. His most comforting attribute was his absolute reliability. During the second world war he was a tower of strength in the unit to which he was attached. He was an indefatigable worker, and his strong physique made him appear untiring. He was a most helpful and considerate colleague and a recognized guide, philosopher, and friend to the younger members of the staff. He was a capable teacher and a penetrating clinician. For a period he served as an examiner for the triple qualification on behalf of the Royal Faculty. He was an all-round sportsman. In his youth he excelled at rugby football (he was a notable forward for Glasgow Academicals in their halcyon days), cricket, swimming, and tennis. Later he took up golf and became a scratch player. In 1949 he was captain of the Western Golf Club at Gailes, and in that same year he had the added distinction of being the champion of the club. His untimely death came as a stunning blow to his colleagues and friends. On December 1 a funeral service was held in the David Elder Memorial Chapel of the Western Infirmary, where a large congregation of colleagues, friends, and West of Scotland golfers fully testified to the regard and respect in which he was held by the community. Mr. Gordon is survived by his wife, to whom we offer our deepest sympathy.—A. J. H.

The Services

Surgeon Lieutenant-Commander I. G. W. Pickering, R.N.V.R., has been awarded the R.N.V.R. decoration.

Brigadier (Temporary Major-General) J. C. Collins, C.B.E., late R.A.M.C., has been appointed Honorary Surgeon to the King, in succession to Major-General J. M. Macfie, C.B., C.B.E., M.C., late R.A.M.C., retired.

Colonel (Temporary Brigadier) Albert Sachs, late R.A.M.C., has been appointed Honorary Physician to the King, in succession to Major-General K. A. M. Tomory, C.B., O.B.E., late R.A.M.C., retired.

Medico-Legal

DIVORCE FOR INCURABLE INSANITY

"Continuously Under Care and Treatment"

By Section 2 of the Matrimonial Causes Act, 1937, a divorce petition can be founded in England on the ground that one party to the marriage is incurably of unsound mind and has been "continuously under care and treatment" for a period of at least five years immediately before the presentation of the petition. Being under care and treatment includes detention pursuant to inquisition or order under the Lunacy or Mental Treatment Acts, or order or warrant under the Naval Discipline Act or Army or Air Force Acts, detention under the Criminal Lunatics Act, and treatment as a voluntary patient under the Mental Treatment Act, 1930.

The Court of Appeal recently[1] had to decide the meaning of "continuously" on an appeal by a husband whose petition for divorce on the ground of incurable insanity had been dismissed. The wife first came under care and treatment on admission to a mental hospital in October, 1945. Her condition did not improve, and she was discharged and removed to a hospital in Scotland, where she remained under detention until March, 1948. She then came to London, and was within a few days admitted to hospital in Surrey, where she had remained until the petition was presented. Mr. Commissioner Bush James dismissed the petition on the ground that the wife was not under detention during the journey from one hospital to another, and therefore had not been "continuously" under care and treatment for the necessary period.

The Court of Appeal allowed the husband's appeal and granted him a decree. The Lords Justices held that the period of detention in Scotland could be added to the periods in England, and that it was not the intention of Parliament that the five-years period of detention should be broken by the removal of the patient from one hospital to another.

[1] *Scotsman*, July 7, 1951.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Denis Haigh Marrian, Ph.D., has been appointed an Assistant Director of Research in Radiotherapeutics, from October 1, 1951.

The Raymond Horton-Smith Prize for 1950–1 has been awarded to Dr. Hugh Reginald Jolly for his essay entitled "A Study of Sexual Precocity." *Proxime accessit*: Dr. J. A. R. Miles, for his essay on "Diet and Exercise in Relation to Certain Infections."

In Congregation on December 15, 1951, the following medical degrees were conferred:

M.D.—N. C. Lendon, D. H. Mackenzie, B. F. Brearley, H. B. Dodwell.

M.B., B.CHIR.—H. A. Sanford (by proxy), Patricia L. Broadhead (by proxy).

UNIVERSITY OF GLASGOW

On December 5, 1951, the degree of M.D. (with commendation) was conferred *in absentia* by diploma upon J. Vaughn, M.B., Ch.B.

UNIVERSITY OF EDINBURGH

At a Graduation Ceremonial on December 14 the following medical degrees and diplomas were conferred:

M.D.—[2]P. F de Caires, [1]R. McK. Fulton, [2]C. E. L. Haffner, [2]T. Harrison, H. Oswald-Smith, A. S. L. Rae, [1]A. R. Somner.

PH.D.—*In the Faculty of Medicine:* D. P. Basu, M.B., B.S., A. S. Outschoorn, M.B.

M.B., CH.B.—Audrey N. H. Andrew (née Robertson), W. R C. Andrew. E. S. Blackadder, F. K. P. Brydon. R. C. Buchanan, Isobel C. Campbell, G. M. Dewar, J. M. P. Dippenaar, W. F. M. Dorward, [2]Margaret J. Field, P. T. Fraser, P. W. E. Hayward, R. S. Jarema, J. H. Jennings, D. F. Kerr, Margaret L. Liddell, D. W. Lyon, Mary I. McArthur, R. Macdonald, M. A.

McFadyen, D. W. Maxa, A. E. Meek, C. C. Moir, G. D. E. Morris, J. E. Munro, A. E. M. Reekie, W. D. Riddell, A. A. Robertson, A. H. I. Scott, W. A. Simpson, R. M. Stewart, J. H. Sutherland, G. P. Syme-Thomson, J. M. Tainsh, Jean C. Taylor, C. G. M. Third, F. A. Viapree, F. E. B. Wills.

DIPLOMA IN MEDICAL RADIODIAGNOSIS.—A. Lien-yiu Chen, J. MacG. McKay, M. K. Mitter.

DIPLOMA IN MEDICAL RADIOTHERAPY.—W. D. Rider.

The following scholarships, bursaries, and prizes were awarded in the Faculty of Medicine: *Vans Dunlop Scholarship in Forensic Medicine and Obstetrics*, J. P. Laidlaw. *James Cropper Scholarship and Waldie Griffith Prize Scholarship*, Rena E. Hogg. *Andrew Graham Ritchie Bursaries*, A. W. McKenzie and Margaret A. Loraine. *Mackie Bursaries*, A. J. Duff and K. McL. Stewart. *Coldstream Memorial Medical Missionary Bursary*, A. B. Partridge. *Llewellyn Bevan Prize*, J. F. O. Mitchell, M.D. *Russell Crighton Prize*, Margaret A. Loraine.

[1]Highly commended for thesis. [2]*In absentia.*

UNIVERSITY OF DURHAM

In Congregation on December 14, 1951, the following medical degrees were conferred:

M.B., B.S.—J. R. B. Ball, E. I. Blenkinsop, R. Bruce, G. Y. Caldwell, A. I. A. Charlton, Z. H. Cywicki, J. Dixon, J. Fitzgerald, Joyce H. Hindmarsh, W. Holmes, W. E. J. Kirby, P. H. D. Lewars, J. B. Lilly, Jean M. McIvor, J. F. Mather, F. C. Pickering, I. R. Pyle, J. B. Richardson, T. M. C. Saint, W. A. Shiells, Margaret Sibson, H. Tubmen.

UNIVERSITY OF LONDON

Dr. Charles Felix Harris has been appointed representative of the Faculty of Medicine on the Senate for the remainder of the period 1950–4, in place of the late Mr. J. B. Hunter.

The following have been appointed, or nominated for appointment, or reappointment, as representatives of the University on the governing bodies indicated in parentheses: Professor W. D. Newcomb (Institute of Orthopaedics); Professor J. M. Mackintosh (London School of Economics and Political Science); Mr. P. H. Mitchiner (Royal College of Veterinary Surgeons); Dr. C. F. Harris (School of Pharmacy).

The appointment of house-surgeon to the neurosurgery department at the London Hospital has been approved for the purposes of Branch I of the M.D. examination.

Dr. Norman Henry Ashton has been appointed to the University Readership in Pathology tenable at the Institute of Ophthalmology, from January 1, 1952.

Dr. Ian Donald has been appointed to the University Readership in Obstetrics and Gynaecology tenable at the Postgraduate Medical School of London and attached to the Institute of Obstetrics and Gynaecology, from January 1, 1952.

The title of Reader in Veterinary Physiology in the University has been conferred on Hans Friedrich Rosenberg, M.D., Ph.D., in respect of the post held by him at the Royal Veterinary College.

The following candidates have been approved at the examinations indicated:

ACADEMIC POSTGRADUATE DIPLOMA IN MEDICAL RADIOLOGY (DIAGNOSIS).—P. Purcell, Una Scorer, R. F. Stubbs, Tha Din.

ACADEMIC POSTGRADUATE DIPLOMA IN MEDICAL RADIOLOGY (THERAPY).—Ethel P. Johnson.

UNIVERSITY OF MANCHESTER

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—*Old Regulations:* J. R. Jaffe, D. W. Preston. *New Regulations:* J. Ashworth, F. N. Bamford, Freda A. Broadhurst, Barbara Clough, E. M. Coates, J. Cragg, L. Duggan, J. H. A. Dwek, Margaret J. Foulds, P. Fulton, P. W. Gilman, T. T. Glancy, E. N. Gold, Dorothy M. Gratton, P. G. Haddock, C. S. Hajikakou, E. G. R. Jones, R. J. Lande, J. B. Law, B. E. Marks, G. H. Mazey, Elsa M. Mellor, G. W. H. Oldfield, L. Poller, H. J. Reynolds, G. B. Ross, D. Rothwell, G. J. Ryder, F. Smith, G. F. Smith, O. T. Taylor, P. R. Ward, W. A. Whittaker, A. Withnell.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—H. S. Coulsting, M. M. Lidgate, Edith M. Thorp.

UNIVERSITY OF LIVERPOOL

The following candidates have been approved at the examinations indicated:

M.D.—K. McCarthy, I. P. Madhok, H. Roberts.

M.CH.ORTH.—W. J. Betts, P. Chandra, K. R. Daymond, G. F. Fischer, F. J. Gruar, D. R. Gunn, A. K. Gupta, M. Natarajan, J. A. O'Garra, J. S. Roarty, I. W. Winchester, W. H. de W. de Wytt.

FINAL M.B., CH.B.—*Part IV:* Jean D. Birtles, J. H. G. Brown, R. W. H. Clarke, Josephine Dec, K. M. Fraser, B. Freeman, Morilee Garside, Pamela Garside, K. C. Greenwood, F. R. Howell, Roma McDonald, J. J. D. Macpherson, Marianne A. A. Phillips, M. A. H. Rayman, S. J. Rogers, J. A. Seddon, Ellen G. Williams, D. Winter. *Part III:* Elizabeth Bownass, W. E. Cooper, G. Corney, Enid C. Davies, J. C. Denmark, A. J. Entwistle, L. A. Guile. F. B. Hartley, Margaret J. Hellaby, N. St. J. Hennessy, Joan Knowles, A. M. Laylee, I. Miller, S. Naylor, L. A. Nettleton, W. G. W. Parry, H. G. Row, W. A. Weston, A. H. Wilde, J. D. Wright.

D.P.H.—*Part I:* M. S. Boparai, D. Brahott, J. L. Cotton, Hla Han, V. Israngura Na Ayudhia, O. Jitavare, N. N. Kanyarutoke, A. R. Kennedy, E. Lutfi, Lillie L. Munro, R. Muscat, R. C. O'Grady, W. H. Parry, T. Sukhanenya, T. A. J. Thorp, K. O. Torgersen, P. H. Waage.

CERTIFICATE IN PUBLIC HEALTH.—H. Frederiksen, E. F. W. Richards.

UNIVERSITY OF BRISTOL

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—C. Barwick, Audrey M. Blake, G. V. Catford, Ann M. Haines, G. J. Hillier, R. J. Hunt, D. J. A. Jarvis, June P. Lawson, Mary Motton, I. C. Murison, P. Norris, A. J. Rowland, N. Sartori, M. Sheldrick, N. C. Tricks, D. W. Trump, D. W. Wright *In Group I completing the examination:* R. A. Iles, M. H. B. Joyce, Gillian F. Peacock. *In Group II completing the examination:* Denise G. Macleod, Antonina J. Sidorowicz. *In Group II (Surgery and Obstetrics) only:* Helena B. M. Bailey, S. H. Brown, A. G. Walker.

CONJOINT BOARD OF IRELAND

The following candidates were duly admitted licentiates in medicine and midwifery on December 7, having passed the final examination in medicine, surgery, and midwifery of the Conjoint Board of Ireland: A. S. Beilin, F. Coyne, Anita C. Doherty, J. E. Flanigan, R. F. Frost, N. L. G. Gough, Mary M. B. Hillery, B. J. P. Leahy, Maire M. P. Leahy, M. J. Murphy, Mary P. Murray, G. J. McManus, D. J. O'Kelly, E. O'Neill, D. O'Reilly, J. F. X. O'Sullivan, Katherine P. Prendiville, B. D. Quigley, Mary T. C. Rahill, M. J. Ryan, M. Ryan, W. A. Ryan, J. P. Stewart, R. A. Wade.

The following candidates have been approved at the examinations indicated:

DIPLOMA IN ANAESTHETICS.—C. A. G. Armstrong, J. C. Clarke, Patricia Delany, E. A. Frayworth, L. McArdle, J. A. McNeilly, Patricia O'Neill, J. H. Tyrrell, N. Zwick.

DIPLOMA IN CHILD HEALTH.—V. Barry, D. C. J. Carter, G. Cremer, C. P. Nanavati, W. P. O'Keeffe, K. J. Quinn, Carmel P. Ryan.

ROYAL SOCIETY

The Council of the Royal Society has appointed Alan Lloyd Hodgkin, F.R.S., to be a Royal Society Research Professor from January 1, 1952. Mr. Hodgkin will continue to work at the physiological department of the University of Cambridge on the processes of excitation and conduction in nerve.

Vital Statistics

Salmonella Minnesota Infection

A large outbreak of food-poisoning caused by *Salmonella minnesota* has occurred in Northamptonshire and the surrounding country. Several hundred people have been affected, and a man and a woman have died. The source of infection has been traced to meat pies manufactured at a pie factory in Northamptonshire. In nearly all cases the symptoms are very mild, lasting for about three days. They include headache, nausea, and diarrhoea, and the patient is often left feeling rather depressed. As is usual in such outbreaks, elderly people are more liable to show symptoms of infection than the young. The incubation period is about 18 hours.

The first case was identified on December 21, 1951. The source was traced the next day and immediate action taken. No fresh cases are known to be occurring now. The precise origin of the infection in this outbreak is not yet known—that is, how the meat pies came to be infected.

They contained meat imported from Denmark, but that cannot necessarily be incriminated, for *Salmonella minnesota* is by no means unknown in Britain. We are grateful to the Salmonella Reference Laboratory, Colindale, for informing us that on December 10 this organism was identified by the laboratory in a specimen obtained from a patient in Northamptonshire.

In 1951 this laboratory identified the organism in 23 cases before the Northamptonshire outbreak. Most of them came from Inverness and the Aberdeen area. Two fatal cases in Aberdeen were identified in October. The infection was also identified in a case in London in November. In 1950 four human cases were discovered, but no case is known to have occurred in Britain before that.

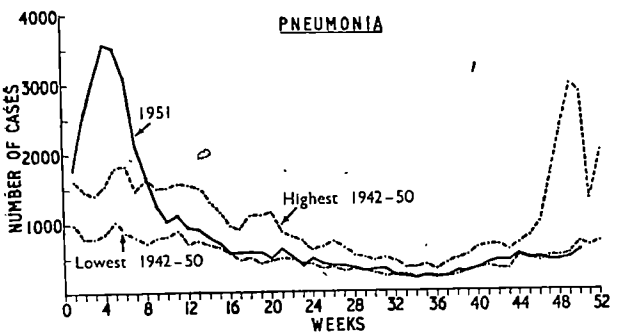
Salmonella minnesota was isolated by Dr. B. S. Pomeroy in 1936 from a three-weeks-old turkey poult in Minnesota and its characteristics were first described by Edwards and Bruner (*J. Hyg., Camb.*, 1938, **38**, 716). This is the first large outbreak in Britain known to be caused by this organism.

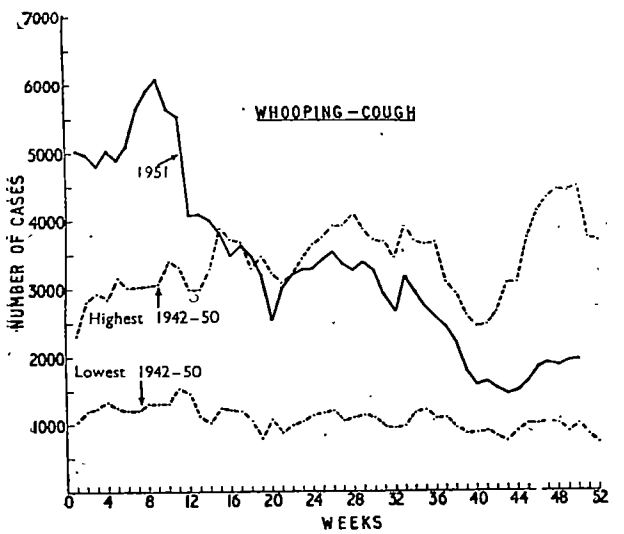
Week Ending December 22

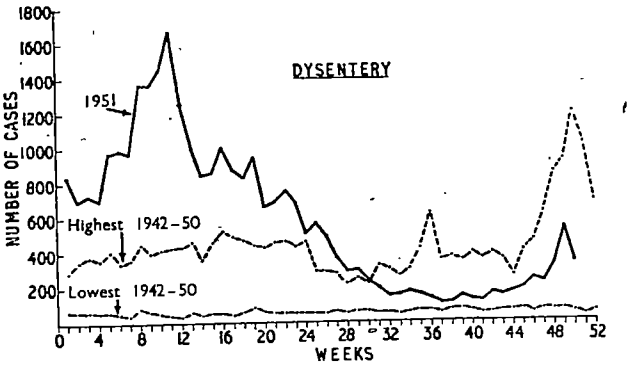
The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,552, whooping-cough 1,819, diphtheria 54, measles 2,321, acute pneumonia 681, acute poliomyelitis 28, dysentery 422, paratyphoid fever 17, and typhoid fever 6.

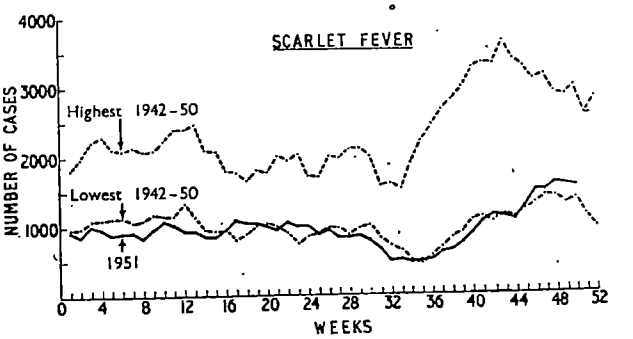
Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1942–50 are shown thus -------, the figures for 1951 thus ———. Except for the curves showing notifications in 1951, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.









Infectious Diseases

The chief fluctuations in the trends of infectious diseases in England and Wales during the week ending December 15 were increases in the number of notifications of acute pneumonia 121 and measles 104, and a decrease of 200 for dysentery.

Only small variations were reported in the trends of scarlet fever and whooping-cough; the totals for these diseases were 18 and 1 respectively fewer than in the preceding week. The rise in the incidence of measles was contributed by the midland counties; elsewhere a small decrease occurred. The largest increases were Warwickshire 128 and Staffordshire 73, and the largest decrease was Yorkshire West Riding 56. The notifications of diphtheria were 12 more than in the preceding week. The largest of the local fluctuations were rises in Lancashire 9 and Warwickshire 4, and falls in Staffordshire 6 and Yorkshire West Riding 4. A small rise in the incidence of acute pneumonia was reported from every region of the country except London.

Of the 17 cases of paratyphoid fever 10 were notified in Suffolk (Stowmarket U.D. 7).

The number of notifications of paralytic acute poliomyelitis were 1 and non-paralytic cases 8 fewer than in the preceding week. The largest returns during the week were: Middlesex, 7; Lancashire 5; Cambridge, Cambridge M.B. 4; Warwickshire, Birmingham C.B. 4; Kent, 4.

A further 104 cases of dysentery were notified in Norfolk, Norwich C.B. This brings the total cases for this city up to 446 for the past four weeks. The other large returns of dysentery were London 43, Middlesex 40, Lancashire 19, County of Southampton 17, Warwickshire 13, and Northumberland 11.

Industrial Accidents and Diseases

The number of workpeople (other than seamen) in the United Kingdom whose deaths from accidents in the course of their employment were reported in November was 122, compared with 139 in the previous month and 155 (revised figure) for November, 1950. Of these deaths 16 were underground in coal mines and 23 were in building operations.

The following cases of industrial disease were notified during the month: lead poisoning 8, mercurial poisoning 1, anthrax 2, epitheliomatous ulceration 18, chrome ulceration 50; total 79. There were no deaths (*Ministry of Labour Gazette*, December, 1951).

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **December 15** (No. 50) and corresponding week 1950.

Figures of *cases* are for the countries shown and London administrative county Figures of *deaths* and *births* are for the 126 great towns in England and Wales (London included), London administrative county, the 16 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 13 principal towns in Eire

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1951					1950				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	42	2	12	1	4	50	4	11	2	2
Dysentery	337	43	39	1	2	1,214	52	147	7	
Encephalitis, acute	7	1	0	0	1	6	1	1	0	
Enteric fever:										
Typhoid ..	1	0	0	0	0	2	0	0	0	0
Paratyphoid ..	17	0	7(B)	0		5	0	3(B)	0	
Food-poisoning ..	55	13		0		95	11		1	
Infective enteritis or diarrhoea under 2 years				13	18				10	18
Measles*	2,448	16	139	179	98	14,223	1534	255	100	157
Meningococcal infection	29	3	14	2	4	29	0	14	1	1
Ophthalmia neonatorum	37	3	5	0	1	23	0	12	1	
Pneumonia† ..	583	30	183	9		684	36	291	10	
Poliomyelitis, acute:										
Paralytic ..	36	1	8	0	3	107	5	6	1	4
Non-paralytic ..	8	0								
Puerperal fever§ ..	226	35	5	0	1	66	3	16	0	
Scarlet fever ..	1,543	131	312	31	44	1,348	101	203	37	82
Tuberculosis:										
Respiratory ..			136	30				131	35	
Non-respiratory..			29	5				31	7	
Whooping-cough ..	1,929	51	324	57	88	4,503	424	620	35	68

DEATHS in Great Towns	1951					1950				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	0	0	0	0	0	0	0	0	0	0
Dysentery		0		0			0		0	
Encephalitis, acute..		0			0		0			0
Enteric fever ..	1	0	0	0		0	0	0	0	
Infective enteritis or diarrhoea under 2 years	5		3	0	3	26		3	2	1
Influenza	17	3	2	0	0	33	2	6	0	0
Measles		0	0	0	1		0	0	0	2
Meningococcal infection		0	2				0	0		
Pneumonia ..	192	33		8	6	283	38		21	7
Poliomyelitis, acute	2	0			0	8	2			0
Scarlet fever ..		0	0	0	0		0	0	0	0
Tuberculosis:										
Respiratory ..	151	22	21	5	7	167	21	38	5	14
Non-respiratory..		2	1	1	1		4	7	1	0
Whooping-cough ..	3	0	0	0	0	9	1	0	0	0
Deaths 0–1 year ..	230	33	25	10	15	258	27	37	17	21
Deaths (excluding stillbirths)	5,119	855	600	122	154	6,080	924	789	172	234
LIVE BIRTHS ..	6,161	1000	768	187	328	6,436	1092	823	190	261
STILLBIRTHS ..	167	26	20			178	22	28		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.

Medical News

Dr. N. Gerald Horner

Dr. Horner, who was Editor of the *British Medical Journal* from 1928 to 1946, celebrated his 70th birthday on Tuesday, January 1. A message of congratulations was sent to him from the staff of the *Journal*.

Government Scheme for Refresher Courses

Many general practitioners are not aware that, subject to certain conditions which are readily satisfied, they are entitled to 22 half-day sessions of postgraduate refresher work in each academic year. This can be spent as a fortnight's whole-time attendance at a refresher course, or the period may be split up in a variety of ways, of which attendance once a week is one example. Refresher courses are organized by the universities in each hospital region throughout the country, and the fees for approved practitioners are paid by the Ministry of Health through the university which sponsors the course. Doctors attending courses under this Government scheme can claim travelling expenses. Where absence from home is necessary or a locum is needed during attendance on a whole-time course, they can claim subsistence allowance and a grant towards the expenses of a locum. These courses are advertised in the medical journals from time to time, and the postgraduate dean or director in any university will always give information on the postgraduate facilities in his region. In last week's advertisement columns will be found the programme of courses so far arranged for 1952 by the British Postgraduate Medical Federation (University of London). These courses are open to approved practitioners from any part of the country.

Chelsea Clinical Society

The third meeting of the 55th session was held on December 11, when a discussion on "The Doctor in the Magistrate's Court" was opened by Sir Laurence Dunne, the senior metropolitan magistrate, and Dr. Philip Addison, assistant secretary of the Medical Defence Union. The date of the next meeting was announced as January 15.

St. Thomas's Day Service

The 400th anniversary of the refounding of St. Thomas's Hospital was commemorated by a service held at Southwark Cathedral on December 21, 1951, attended by the Queen and Princess Alice. The Archbishop of Canterbury reminded the congregation that the cathedral was the original priory church of the hospital, which was founded for a second time in 1551 by Edward VI after it had been plundered by Henry VIII. The Bishops of Southwark, Kingston, and Woolwich took part in the service and paid tribute to various people who had helped to develop and support the work of St. Thomas's, including Florence Nightingale, who established her school of nursing in the new buildings.

Harveian Society Prize Essay

Jaundice is to be the subject for the Buckston Browne Prize Essay. The prize, consisting of a medal, together with the sum of £100, will be awarded for the best essay on the subject, and is open to any member of the medical profession registered in the British Isles or Dominions, and is limited to candidates under 45 years of age. Essays must be sent in by December 1, 1952, and further particulars may be obtained from the hon. secretaries, the Harveian Society of London, 11, Chandos Street, Cavendish Square, W.1.

American Journal of Tropical Medicine

The American Society of Tropical Medicine and the National Malaria Society have both been dissolved and are to be replaced by a new body, the American Society of Tropical Medicine and Hygiene. The respective journals of these organizations have been amalgamated to form the *American Journal of Tropical Medicine and Hygiene, incorporating the Journal of the National Malaria Society.*

Louis Braille

On January 6 occurs the centenary of the death of Louis Braille. He was 42, and had been blind from birth. By his introduction of the system of embossed types he made the greatest single contribution ever devised to compensate for the handicap of blindness. He actually modified a system which had been invented by Charles Barbier in 1820, and he first publicly expounded it in 1829, while his book on the subject, *Procédé pour Ecrire au Moyen des Points*, appeared in 1837. Braille symbols each consist of a series of up to six dots arranged like the dots on a domino, and giving a range of combinations enabling all the letters, punctuation signs, etc., to be represented.

Royal Faculty of Physicians and Surgeons of Glasgow

The President and Fellows of the Royal Faculty of Physicians and Surgeons held their biennial dinner in the Faculty Hall on December 7, with the President, Mr. Walter W. Galbraith, in the chair. There was a large attendance of Fellows and guests. The principal guest was the Rt. Hon. James Stuart, M.P., the Secretary of State for Scotland, and others included Dr. W. A. Alexander, Sir Hector Hetherington, Dame Hilda Lloyd, Sir David Allan Hay, and Sir David K. Henderson. Professor David Campbell, president of the General Medical Council, in proposing the toast of "The Sister Corporations," said that the Royal Corporations had become exclusive of the general practitioner, and he doubted if this was necessary or wise. It had given rise to the demand for a new College. He suggested that if the Scottish Royal Corporations wished to fulfil their function in Scotland they should consider union, with the setting up of a Scottish College or Academy of Medicine.

Fellowships in Clinical Research

The Medical Research Council invites applications for a second series of Fellowships in Clinical Research, tenable at centres in the United Kingdom during the academic year 1952–3. These Fellowships are open to suitably qualified medical graduates who desire to prepare themselves for a career in clinical research. In general, it is intended that each Fellow appointed under the scheme should be given an opportunity, as part of his training for clinical research, to study methods of research in the basic subject most germane to his particular clinical interest.

The awards will be made for a period of one year in the first instance and will be renewable annually in approved cases up to a maximum of three years in all. Stipend will be at the rate of £850 per annum, rising by annual increments of £75 to £1,000 per annum, and in addition superannuation provision will be made (or continued within the National Health Service scheme, if applicable, by arrangement with the Ministry of Health and the Department of Health for Scotland).

Candidates for these Fellowships must be medically qualified and clinically experienced, and should preferably have worked for a period in a department in which clinical research was in progress. Applicants will be invited to submit their own proposals as to type and place of work, but the Council will be glad to advise successful candidates on the selection of suitable centres of study and to assist in placing them in departments or laboratories where the desired training and experience can be obtained.

Applications must be sponsored in each case by the head of the appropriate department in the candidate's university or medical school, and an undertaking will be required that a suitable academic post in a clinical department will be available to the candidate in that institution on satisfactory completion of the period of study under the Fellowship.

Forms of application for these Fellowships may be obtained from the Secretary, Medical Research Council, 38, Old Queen Street, London, S.W.1, with whom applications should be lodged as soon as possible, and in any event not later than March 1.

French Honour

The President of France has conferred upon Mr. R. W. Raven the Cross of Chevalier of the Legion of Honour.

Emergency Bed Service: Applications and Admissions

During the seven days ending December 31 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,015, of whom 93.1% were admitted.

Wills

The Medical Research Council is to receive about £80,000 to support research on cancer, under the will of Mr. John A. Hopps, of Leicester, a director of F. Hewitt and Son, Ltd., who publish the *Leicester Mercury* and other papers.

Sir Allen Daley, who retires from the post of M.O.H. to London County Council next month, will then become part-time associate health officer to Baltimore (Maryland) for four months and will lecture in several American schools of public health.

Professor W. Melville Arnott, of the University of Birmingham, who holds a W.H.O. Senior Travelling Fellowship, is visiting centres of medical education and cardio-respiratory research in the U.S.A. during the first quarter of 1952.

COMING EVENTS

British Association of Physical Medicine

The annual meeting of the British Association of Physical Medicine, 45, Lincoln's Inn Fields, London, W.C.2, will be held in London on Friday and Saturday, April 25 and 26.

Hunterian Oration

Dr. George Day will deliver the Hunterian Oration before the Hunterian Society at the Mansion House, London, E.C., on Monday, February 25, at 8.30 p.m.

Course on the Prostate

The Institute of Urology is holding an intensive short course on the prostate from January 14 to 25. In addition to daily lectures there will be operative sessions at St. Peter's and St. Paul's Hospitals each afternoon. Full details from the Secretary, Institute of Urology, Henrietta Street, London, W.C.2.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Monday

OXFORD UNIVERSITY.—At Radcliffe Infirmary, Oxford, January 7, 8 p.m., "*The Use of Gelatinized Bone in the Repair of Skeletal Defects*," by Dr. Wilson A. Swanker (New York).

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 17, Bloomsbury Square, London, W.C.—January 7, 7.30 p.m., "*The Nomenclature of Drugs*," by Mr. Frank Hartley, Ph.D., Ph.C., F.R.I.C.

ROYAL EYE HOSPITAL, St. George's Circus, Southwark, London, S.E.—January 7, 5 p.m., "*Convergence, Convergence Abnormalities, and Heterophoria*," by Dr. T. H. Whittington.

Tuesday

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 8, 5.30 p.m., "*Sarcoid*," by Dr. R. M. B. MacKenna.

Wednesday

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 9, 5.30 p.m., "*X-ray Technique*," by Dr. C. W. McKenny.

PHYSICAL SOCIETY: COLOUR GROUP.—At Institute of Ophthalmology, Judd Street, London, W.C., January 9, 3.30 p.m., 64th science meeting. "*A Preliminary Report on Some Experiments on Tritanopia*," by Professor W. D. Wright; "*Light- and Dark-adaptation and the Perception of Colour*," by Mr. R. W. G. Hunt

SOCIETY OF CHEMICAL INDUSTRY: MICROBIOLOGY GROUP.—At Institution of Structural Engineers, 11, Upper Belgrave Street, London, S.W., January 9, 2.15 p.m., joint meeting of group with Society for Applied Bacteriology. Symposium on Disinfectants. "*The Bactericidal Action of Phenols in Aqueous Solutions of Soap*," by Professor H. Berry; "*A Substitute for the Rideal-Walker Test*," by Dr. P. Maurice; "*Some Factors Affecting the Bactericidal Action of Chlorine*," by Dr. L. A. Allen; "*The Antibacterial Action of Quaternary Ammonium Compounds*," by Mr. J. C. L. Resuggan; "*Some General Considerations Concerning the Activities of Disinfectants*," by Dr. S. E. Jacobs.

YORKSHIRE SOCIETY OF ANAESTHETISTS.—At Leeds General Infirmary, January 9, 8 p.m., "*The Heart and Anaesthesia,*" by Dr. B. G. B. Lucas.

Thursday

ALFRED ADLER MEDICAL SOCIETY.—At 11, Chandos Street, London, W., January 10, 8 p.m., "*Some Problems of Homosexuality,*" by Dr. Erwin Popper. Discussion to be opened by Dr. A. R. Redfern.

FACULTY OF HOMOEOPATHY, Royal London Homoeopathic Hospital, Great Ormond Street, London, W.C.—January 10, 5 p.m., "*Potentized Medicines for Use in Homoeopathy—Some Points on their Preparation and Care,*" address by Dr. W. R. McCrae.

GLASGOW UNIVERSITY MEDICO-CHIRURGICAL SOCIETY, The Union, University Avenue, Glasgow.—January 10, 7.30 p.m., Honorary Presidential Address by Professor Stanley Alstead.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 10, 5.30 p.m., "*Histopathology of Lichen Planus and Lichenoid Eruptions,*" by Dr. H. Haber.

LIVERPOOL MEDICAL INSTITUTION, 114, Mount Pleasant, Liverpool.—January 10, 8 p.m., ordinary meeting. "*Duodenal Ulcer,*" by Professor R. A. Gregory and Mr. James Moroney.

MEDICAL ART SOCIETY.—At 11, Chandos Street, London, W., January 10, 8 p.m., "*The Use of Pastels,*" talk and demonstration by Mr. J. K. Popham. He will afterwards criticize members' work.

ROYAL ARMY MEDICAL COLLEGE.—At Lecture Theatre, John Islip Street, London, S.W., January 10, 5 p.m., "*The Proper Sphere of Social Medicine,*" by Dr. Andrew Topping.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—January 10, 5 p.m., "*The Carcinogenic Process,*" Imperial Cancer Research Fund Lecture by Professor Alexander Haddow

Friday

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 11, 5.30 p.m., "*Medical Photography,*" by the Institute Photographer.

OSLER CLUB.—At Medical Society of London, 11, Chandos Street, Cavendish Square, W.C., January 11, 7.45 p.m., History of Pneumonia Evening. "*Osler and Pneumonia,*" by Lord Horder; "*The Advent of the Sulphonamides,*" by Sir Lionel Whitby; "*The Changing Character of the Disease,*" by Sir Adolphe Abrahams.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—January 11, 8 p.m., "*Hypnotism and Medicine,*" by Mr. J. A. Gillies.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Revill.—On December 23, 1951, to Vivienne (formerly Macpherson), wife of Dr. Hugh Revill, of Snodland, Kent, a sister for Timothy.

Wyman.—On December 15, 1951, at Westminster Hospital, London, S.W., to Joan (formerly Beighton), wife of Dr. J. B. Wyman, a son.

MARRIAGES

Swan—Ede.—On December 19, 1951, at Edinburgh, Dr. Harold T. Swan to Dr. Elisabeth A Ede.

Williams—Thomas.—On October 27, 1951, at Machynlleth, Montgomeryshire, David Lloyd Williams, L.R.C.P.&S.Ed., L.R.F.P.S., to Gwyneth Thomas.

DEATHS

Brownlie.—On December 13, 1951, at his home in Hamilton, Lanarkshire, Andrew Brownlie, M.B Ch B., aged 75.

Busteed.—On December 18, 1951, at 31, Glenleigh Avenue, Bexhill-on-Sea, Sussex, John Hancock Busteed, L.R.C.P.&S.Ed., L.R.F.P.S., aged 85.

Fletcher.—On December 21, 1951, Nigel Corbet Fletcher, O.B.E., M.B., B.Chir., of 166, Haverstock Hill, London, N W., aged 74.

Gibson.—On December 11, 1951, at Banbridge, Co. Down, Thomas Jordan Gibson, M.B., F.R.C S.Ed., aged 57.

Hugo.—On December 24, 1951, at his home in Richmond Surrey, Edward Victor Hugo, C.M.G., M.D., F.R.C.S., Lieutenant-Colonel, I.M.S., retired, aged 86

Kelly.—On December 18, 1951, at Wareham, Dorset, William Davenport Crawley Kelly, D.S.O., M.B., B.Ch., Colonel, A.M.S., retired, aged 74.

McComas.—On December 13, 1951, at a hospital, Dorking, Surrey, Cyril Henry McComas, M.D.

Maskew.—On December 25, 1951, at The Wilderness, Langton Matravers, Dorset, Charles Henry Maskew, M.B., Ch.B., of 17, Weymouth Avenue, Dorchester, Dorset, aged 90.

Nathan.—On December 13 1951, Nestor John Stanley Nathan, M.R.C.S., L.R.C.P., D.P.H., D.Obst.R.C.O.G., of Talke, Stoke-on-Trent, Staffs, formerly of Dewsbury, Yorks, aged 41.

Patterson.—On December 19, 1951, at a hospital, Edinburgh, William Berwick Urc Patterson, M.B., Ch.B., of 6, Magdala Crescent, Edinburgh.

Robinson.—On December 22, 1951, at Little Globe, Fontwell, Arundel, Sussex, Charles Allen Robinson, M.B., B.Ch., D.M.R.E.

Smith.—On December 18, 1951, at Hemel Hempstead, Herts, Frederick Hugh Smith, M.B., Ch.B., formerly of Leeds, aged 56.

Square.—On December 18, 1951, William Holberton Square, L.R.C.P.&S. Ed.&L.M., J.P., of Bridge House, Leighton Buzzard, Beds, aged 91.

Strasheim.—On December 17, 1951, at Rondebosch Hospital, Capetown, South Africa, Pietrus Albertus Strasheim, M.B., Ch.B.

Sumpter.—On December 21 1951, at Brancaster Staithe, Norfolk, Berners George Sumpter, M.B., M.R.C.S., aged 87.

Witney.—On December 15, 1951, Myfanwy Dyfed Witney, M.B., Ch.B., late of South India.

Any Questions ?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Seasickness

Q.—*How may seasickness best be prevented and treated?*

A.—L-Hyoscine hydrobromide is probably the best preventive against seasickness, although some people will be seasick whatever treatment they get and others can be prevented only from vomiting but continue to feel nausea. Hyoscine is best taken about one hour before exposure to motion, and it is less effective, though by no means ineffective, if taken five to ten minutes beforehand. It can be used to treat seasickness after vomiting has begun, but only if it is retained for a little while. The dose is 0.6 to 1 mg. This dose will cause drowsiness in some people, but other remedies also cause drowsiness, and so does untreated seasickness. The dose can be repeated at intervals of 6 to 12 hours up to a total of 2 mg. in 24 hours. If rough weather persists most people become adapted to the motion after about two days, but they soon lose this adaptation in calm weather or ashore and then treatment must be renewed. There is no evidence that seasickness remedies either hasten or delay the onset of adaptation.

Some antihistamine substances also prevent seasickness, but recent evidence suggests that they are less effective than hyoscine and, if anything, more toxic. Promethazine hydrochloride ("phenergan") is probably the best seasickness remedy among the antihistamine substances, and the dose is 25 mg. for adults, one to two hours before sailing.

Impulses from the vestibular apparatus are lessened if a person lies down, and people are less liable to seasickness when they do so.

All that has been said above applies also to other forms of motion sickness, although there are great differences in the way in which people respond to various types of motion.

Molluscum Contagiosum

Q.—*What treatment is recommended for molluscum contagiosum? Are antibiotics effective?*

A.—Individual lesions are easily removed with a small sharp spoon, and the base may then be cauterized with pure phenol or trichloracetic acid applied on a blunt stick. No anaesthetic is needed for this treatment and recurrences are unusual. It is perhaps as well, however, to warn the patient that further lesions may be "on the way" and may require treatment in two or three weeks' time. Recently there have been three reports from America of single cases of molluscum contagiosum treated apparently successfully with "aureomycin" (*Arch. Dermat. Syph.*, 1949, **60**, 629; *J. Pediat.*, 1949, **36**, 797; *Pediatrics*, 1951, **7**, 206).

It is of interest to note that although molluscum contagiosum seems to be auto-inoculable, case-to-case infection is not very common. Dr. B. B. Barrack, in Brisbane, has raised the question whether bird mites could be carriers of the virus.

Safe Period

Q.—*Where can I find information on the reliability of the "safe period"?*

A.—On p. 124 of the book "*Any Questions?*" The book can be obtained for 7s. 6d. (postage 6d.) from the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1.

Chronic Paronychia

Q.—*Can you recommend any treatment, apart from surgical, for chronic paronychia of the fingers?*

A.—Chronic paronychia is commonly due to pyogenic cocci or to monilia infection. With the former there is from time to time a discharge of pus; cultures from this may indicate a particular antibiotic, best given as general rather than local treatment. A wisp of cotton-wool saturated with pure carbolic may be packed into the sac, under the nail fold, by means of a matchstick the end of which has been tapered to a wedge shape. This is removed after an interval of 30 to 60 seconds; the object being to cauterize the infected walls of the sac. This may be followed by a fractional dose of *x* rays (120 to 150 r units, unfiltered, at 60 kV), and the procedure may be repeated once or twice at monthly intervals if necessary.

With monilia infection the nail fold is more swollen, "bolstered," and there is no pus, though it may be possible to express a cheese-like material. The use of aniline dyes in solution or in an emulsified ointment base together with *x*-ray treatment is usually effective.

In either condition there are invariably other factors demanding attention, such as a poor peripheral or "chilblain" circulation, debility or malnutrition, or unsuitable employment, particularly wet work and cooking.

Paronychia is sometimes due to ringworm fungus, when the nail is also involved, and the latter must be removed before the application of fungicides.

Calciferol and Boeck's Sarcoidosis

Q.—*Calciferol, 100,000 units daily, has been recommended for the treatment of Boeck's sarcoidosis. (1) For how long may this treatment be continued? (2) What toxic effects may occur, and what are the indications for interrupting therapy? (3) Are any biochemical or other tests useful in controlling treatment?*

A.—(1) The response of sarcoidosis to calciferol therapy is good. Necessary treatment may vary from a few months to a year or more, and relapses sometimes occur. Toxic manifestations are more readily provoked in patients with sarcoidosis than in those with lupus vulgaris, possibly because the patients tend to be older and the disease is more systemic. When calciferol is given by injection or in capsule, once a week in a dose of 600,000 i.u., toxic symptoms are less likely to occur than with tablets given daily in the same total weekly dose. It is unwise to give calciferol if there is any renal or cardiovascular disease.

(2) The earliest toxic symptoms are nausea, thirst, loss of appetite, abdominal pain, dehydration and pallor, headaches, and general malaise. Blood pressure and urine should be watched, and treatment should be interrupted if these symptoms arise or if albumin or sugar appear in the urine.

(3) Estimation of the blood urea is the most important guide to a toxic state. An increase in the diffusible calcium is often one of the first signs, but the investigation requires special facilities.

Toxic Reactions to P.A.S.

Q.—*(1) What toxic reactions may follow para-aminosalicylic acid (P.A.S.) therapy for pulmonary tuberculosis? (2) Which should be regarded as an indication for stopping treatment? (3) A patient treated for 28 days with 18 g. daily in divided doses (one day a week without treatment) developed a generalized erythema, which took a week to subside, but with no headache, nausea, vomiting, fever, or jaundice. Was this due to the P.A.S., and should treatment therefore be stopped?*

A.—(1) The most frequent and troublesome toxic reactions to P.A.S. are nausea, vomiting, and diarrhoea. Hypersensitivity to the drug, as shown by fever or rashes, together or separately, is not uncommon. Muscular weakness or heart irregularities, attributed to decrease in the serum potassium levels, have been described but are not often encountered. Jaundice may occur, but it has not been definitely demonstrated that this is attributable to P.A.S.; most of such cases have had injections of some kind and might be suffering from homologous serum jaundice. In animals, P.A.S. has an antithyroid action, but manifestations of hypothyroidism in patients having the drug are very rare and probably occur only in debilitated subjects or children given exceptionally large doses.

(2) Nausea, vomiting, and diarrhoea can often be minimized by taking the drug towards the end of a meal and by other simple measures. In a few cases it may be necessary to stop the drug for a day or two and then give gradually increasing doses. Exfoliative dermatitis, and possibly jaundice, are probably the only indications for stopping P.A.S. permanently. Other toxic symptoms may necessitate a temporary cessation.

(3) The generalized erythema in the case mentioned is probably due to hypersensitivity to P.A.S. From the way the question is put it appears that the rash subsided without the drug being stopped, in which case there is no necessity to stop treatment now. But if the rash subsided only after the drug was stopped, then the patient should be put back on treatment. If the symptom recurs, the drug should be stopped until the rash subsides and then the patient should be desensitized. An initial dose of 0.1 g. four times a day should be increased daily, successively to 0.5, 1, 2, 3, 4, and 5 g. Exceptionally, very sensitive patients require smaller initial doses or more gradual increases.

Anticoagulants and Cerebral Thrombosis

Q.—*What is the present status of the anticoagulant drugs in the treatment of cerebral thrombosis?*

A.—In general, anticoagulant drugs are not advised in cases of cerebral thrombosis, for the following reasons: (1) the differential diagnosis between intracerebral haemorrhage and thrombosis may in some cases be a matter of considerable difficulty; (2) it is recognized that a certain number of patients who have a cerebral thrombosis may have a cerebral haemorrhage a week or more after the thrombosis, probably due to alterations in the arterial wall in relation to the area of cerebral softening (*Lancet*, 1948, **2**, 561); and (3) in a proportion of cases of cerebral softening no actual arterial thrombosis is found pathologically although there is atheroma and reduction of calibre in the relevant arteries.

Adrenal Ascorbic Acid

Q.—*What is the function of the ascorbic acid in the adrenal cortex?*

A.—The function of the ascorbic acid in the adrenal cortex is not known. Decrease in adrenal ascorbic acid after stimulation with adrenocorticotrophic hormone has led many to postulate that it is a precursor of adrenal steroids. On the other hand, the fact that the ascorbic acid content of other endocrine glands (i.e., pituitary and gonads) is high has been interpreted by others as an indication of non-specific metabolic hyperactivity.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499. TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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CONTENTS

Reform of the National Health Service - - - - 1
Compensation - - - - - - - - - 3
General Medical Services Committee - - - - 3
Consulting Pathologists Group Committee - - - 4
The F.F.M. and the B.M.A. - - - - - - - 5
Medical Officers of Health - - - - - - - 5
Heard at Headquarters - - - - - - - - 5
Correspondence - - - - - - - - - 6
Diary of Central Meetings - - - - - - - 8
Branch and Division Meetings to be Held - - - 8

British Medical Association

REFORM OF THE NATIONAL HEALTH SERVICE

RECOMMENDATIONS OF THE REPRESENTATIVE BODY

For the convenience of readers we list below the recommendations passed by the Special Representative Meeting on December 13, 1951. A full report of the meeting appeared in the *Supplement* of December 22 (page 269).

Recommendation 1: That an amending Act should provide for the establishment of a National Health Service Court of Arbitration to which could be referred by the Ministers or representatives of the Management or Staff Side of Whitley Council disputes on the terms of service including remuneration, without the consent of the other party, whether existing terms or new terms affecting any section or individual member of the profession; but that the proposed arbitration on remuneration should be carried to a conclusion without waiting for the passing of any amending Act.

Recommendation 2: That the Court should have power to settle such disputes.

Recommendation 3: That the terms of service settled by the Court should be legally binding and enforceable on both sides.

Recommendation 4: That the Court of Arbitration should be composed of a legally qualified independent President appointed by the Lord Chancellor on a permanent basis, with other members having special knowledge of the subject-matter and being selected, in equal numbers, by the Lord Chancellor from panels nominated respectively by the Management Side and the Staff Side of the appropriate committees of the Medical Functional Council.

Recommendation 5: That the Minister's powers to make changes by regulation in the conditions of service (including remuneration) of any section of the profession be restricted to those items which are either agreed by the medical profession or determined by arbitration.

Recommendation 6: That in Section 5 of the National Health Service Act of 1946 the words "may set aside" "may allow" and "may make available" should be replaced by "shall provide" "shall allow" and "shall make available" respectively.

Recommendation 7: That with reference to Section 5 (2) of the National Health Service Act of 1946, all maximum charges should be abolished.

Recommendation 8: That the power of any Minister to acquire compulsorily medical equipment privately owned and also professional premises be rescinded.

Recommendation 10: That the power of the Minister to prescribe by regulation the terms of service of general practitioners and to make provision for the issue of an unlimited number of certificates without payment should be repealed and replaced by the procedure recommended by the Council in Recommendations 1–5 above.

Recommendation 11: That the Third Schedule of the Act of 1946 dealing with the constitution of regional hospital boards, hospital management committees, and boards of governors of teaching hospitals be amended so as to ensure (*a*) a democratic procedure of election, (*b*) the election of not less than one-fifth of the members by the medical staff of the hospitals concerned, (*c*) the election of a chairman by the members.

(Amendments 43, 44, 47, 48, and 210, dealing with details of the manner of election, were referred to the Council to consider in connexion with this Recommendation, which was approved as a general line of policy.)

Recommendation 12: That the chairman of a regional hospital board should be elected by the members, such members being elected as follows:

(*a*) Not less than one-fifth of the total members should be elected by the medical staff of the hospitals in the region under the control of the regional hospital board.

(*b*) Persons elected by the hospital management committees in the region.

(*c*) Persons elected by the board of governors of teaching hospitals in the region.

(*d*) Persons elected by the university.

(*e*) Persons elected by local executive councils in the region.

(*f*) Persons elected by local medical committees in the region.

(*g*) Persons elected by local health authorities in the region.

(*h*) Persons elected by other interested bodies (e.g., nurses).

Apart from the overriding consideration of (*a*), the number of persons elected in the various categories should be determined by the geographical requirements of the region.

At least one of the members of the board should be a person with experience in mental health services and one

should be a public health medical officer. These two members should be over and above one-fifth of the total members mentioned in para. (*a*). The election of at least one general practitioner actively engaged in general practice should be assured to each regional hospital board.

The direct nomination of members by political parties as such is to be deplored.

Recommendation 13: The chairman of a board of governors should be elected by the members of the board, such members being elected as follows:

(*a*) Not less than one-fifth of the total membership should be elected by the senior medical and dental teaching staff of the hospital.

(*b*) Not less than one-fifth elected by the university with which the hospital is associated.

(*c*) Not less than one-fifth elected by the regional hospital board for the area in which the hospital is situated.

(*d*) Persons elected by the hospital management committees in the area.

(*e*) Persons elected by the local health authorities in the area.

(*f*) Persons elected by the local executive councils in the area.

(*g*) Persons elected by the local medical committees in the area.

(*h*) Persons elected by the public health medical officers in the area.

(*i*) Persons representing the matrons and nursing staff of the hospitals served.

(*j*) Persons representing other interested bodies. Apart from the overriding consideration of (*a*), the number of persons elected in the various categories should be determined by the geographical requirements of the area. The direct nomination of members by political parties as such is to be deplored.

Recommendation 14: That the present control exercised by regional hospital boards be modified so as to permit to hospital management committees (*a*) a wider measure of executive powers; (*b*) a greater measure of financial authority; and (*c*) that these committees should include representatives of the general practitioners and public health medical officers elected by the profession in the area.

Recommendation 15: That a scheme of block grants similar to the university grants system be devised for hospital grants, the grants being paid to hospital management committees with amounts for capital and maintenance expenditure to cover as long a period as possible, surpluses being carried on from year to year.

Recommendation 16: That there should be set up at all levels of hospital administration co-ordinating machinery between regional hospital boards, boards of governors, and hospital management committees, local executive councils, local medical committees, and local health authorities in the form of cross representation and liaison of all branches of medical practice in the medical aspects of hospital administration.

Recommendation 17: That Medical Advisory Committees to advise boards of governors, regional hospital boards, and hospital management committees be elected respectively by the medical staff committees of teaching hospitals, by the medical staff committees of the non-teaching hospitals in the regions, and the medical staff committees of the hospital group, statutory recognition to be given to the committees so electing and so elected. These advisory committees should include representation from the local medical committee and the medical members of the local health committee and should elect their own chairmen. Local medical committees should be recognized as advisory committees to hospital management committees on all matters affecting general practitioners. In addition statutory recognition should be given to the medical staff committees of individual hospitals.

Recommendation 18: That Section 14 (2) of the National Health Service Act, 1946, be amended in such a way as to ensure that the consultants holding appointments at the hospital affected should see the applications and the candidates and should have adequate representation upon the advisory appointments committee.

Recommendation 19: That in order to preserve for the patient adequate facilities for private treatment (1) it be made obligatory upon the Minister to set aside adequate pay-bed accommodation in all hospitals where a need can be shown to exist; (2) the charges for hospital maintenance to a patient electing to receive treatment in a private hospital bed provided under Section 5 be reduced to a reasonable level and that the right of the patient to receive free hospital accommodation under the Act should be recognized by allowing him in effect a grant-in-aid for accommodation in a private bed, should he elect to receive treatment from a registered medical practitioner in a disclaimed hospital or in a registered institution. (As far as possible the charges for maintenance in private beds should be standardized as between one hospital and another in each hospital group.)

(The abolition of amenity beds was referred back to the Council.)

Recommendation 20: It should be embodied in the Act that local authorities must exercise their powers of co-option to secure the inclusion in the Statutory Health Committees appointed under Section 19 (3) of the Act of not fewer than two medical practitioners representative of the local medical profession selected from among those nominated by appropriate local medical committee(s). Part-time employment by the local authority should not be a bar to co-option.

Recommendation 21: That the proviso in Section 10 of the National Health Service (Amendment) Act, 1949, be amended to read as follows:

Provided that the remuneration to be paid under such arrangements to a practitioner who provides general medical services shall, with certain exceptions to be agreed with representatives of the profession, be by capitation fee or by item of service or other method of remuneration except that it shall not be by fixed salary and it shall not be possible to vary this arrangement except by amendment of the Act preceded by proper consultation with the profession. In the event of any disagreement, such consultation shall be followed by arbitration as laid down in Recommendations 1–4.

Recommendation 24: That Section 38 of the National Health Service Act, 1946, be amended to such extent as is necessary to entitle patients obtaining their medical care privately to obtain drugs, spectacles, and appliances at the public expense on the prescription of the attending practitioner on Form E.C.10 or any other necessary form, and any other hospital services including pathology, *x* rays, and physiotherapy on the same terms as patients registered in the National Health Service, and that doctors treating private patients with State drugs and appliances be subject in those matters to the normally accepted discipline.

(A parallel resolution for the supply of surgical appliances now supplied through the hospital service on Form A.O.F.2 of the Ministry of Pensions was also passed.)

Recommendation 25: That the National Health Service Regulations be extended so as to provide disciplinary arrangements for the patient and that where it appears that a complaint to a medical services subcommittee has been found to be unjustifiable, frivolous, vexatious, malicious, or fraudulent the subcommittee shall have the power to recommend and the Minister to order that the expenses of the subcommittee. respondent, and witnesses be defrayed by the complainant.

Recommendation 26: That the Minister and the Association should draw up a code of conduct for patients and that the Minister should take determined steps to bring it to the notice of every patient at regular intervals.

COMPENSATION

Section 36 of National Health Service Act, 1946

The Ministry of Health announces that the rate at which compensation will be payable, expressed in years' purchase, is 1.5847. This figure is the result of dividing the global sum of £66m. by the total of all assessments which is referred to in the regulations as "the aggregate annual loss."

All doctors entitled to compensation have been notified of their assessments, and the Ministry will inform each doctor as soon as possible of the exact sum, calculated to the nearest pound, which will eventually be payable to him. In the interest of the doctors themselves, therefore, absolute accuracy in the calculation of these sums is essential. Careful scrutiny and cross-checks will be necessary, and this is bound to take some time. Meanwhile doctors will be able, without difficulty, to apply the above factor to their own assessments.

In notifying practitioners of the amount of their compensation priority will be given to those doctors who have retired and the representatives of those who have died. In these cases payment of the whole or balance of the capital sum due to them will be made as soon as possible. There will be no need for them to submit any further application.

The consequential adjustment of the interest provisionally paid on the capital sum will also be made as soon as possible.

GENERAL MEDICAL SERVICES COMMITTEE

THE FORTHCOMING ADJUDICATION

A meeting of the General Medical Services Committee was held on December 20, 1951, with Dr. S. WAND in the chair. Dr. W. Neil Darling, of Edinburgh, was appointed to fill a vacancy among the Scottish members on the Committee, and Mr. D. C. Bowie was appointed as a co-opted member. Two representatives of the Assistants and Young Practitioners Subcommittee, Dr. A. Joffe and Dr. A. D. Manning, were also co-opted. The new members were welcomed to the meeting by the Chairman.

It was formally reported that Mr. Justice Danckwerts had been appointed adjudicator in the forthcoming arbitration on remuneration; also that counsel, led by Mr. J. Millard Tucker, K.C., to represent the profession's case, were now being instructed. The Committee would be called together later for the special purpose of considering the evidence, and it might be that this would occupy more than one day.

A resolution from the Liverpool Local Medical Committee professed serious disturbance at the lack of information received in regard to the question of the arbitration. The Liverpool representative, Dr. GIBBONS, also pressed that, without awaiting the result of the arbitration, an interim payment should be made to practitioners based on the revised figures for population. He said that the *per capita* payments had steadily dropped in his area during the last two years. After some brief discussion a resolution of confidence in the Distribution Committee was carried without dissent.

In reply to Dr. CARDEW, the CHAIRMAN said that any retrospective payment must obviously follow the old lines of distribution. Dr. Cardew wanted it established that retrospective payment depended in no way whatever on an agreement on a method to be applied in the future. Dr. HOWIE WOOD said that they were all agreed that the inquiry should determine not only the extent to which they were underpaid but what their underpayment had been during 1950, 1949, and the last six months of 1948. This having been accepted, it should be possible to disentangle the sums in respect of those years and to reimburse the practitioners who had actually done the work and earned the money which they had so far been denied. Dr. DAVIES suggested that when the final adjudication was made the Working Party should be requested to attempt to separate from the award the appropriate amount for back payment and to consider the best method of distributing it on behalf of those who had earned it.

It was agreed that the matter be referred to the Working Party for consideration and action at the appropriate time.

Inflation of Doctors' Lists

A letter was read from the Birmingham Local Medical Committee expressing dissatisfaction at the means adopted by executive councils to attain the desired end of "cleansing" doctors' lists. Birmingham was not convinced that the letter addressed to patients was in every case reaching the hands of those for whom it was intended. It was also considered very undesirable that, where an executive council had received no reply to its communication, doctors should be required to call at the addresses; conceivably it might expose them to a charge of canvassing.

The CHAIRMAN said that the whole of these difficulties had been raised with the Ministry, and as a result he could promise that a number of changes would be made in the present arrangement.

The Committee proceeded to discuss a number of recommendations on action to be taken in furtherance of some 60 or more matters which were the subject of resolutions at the recent Annual Conference of Local Medical Committees. One of these concerned the provision of diagnostic facilities for practitioners, and had already been conveyed to the Ministry with an intimation that in many parts of the country diagnostic facilities were not yet available to the general practitioner direct and asking for increased support in meeting this need. Measures were discussed for bringing to the notice of hospital authorities the necessity for this provision.

Public Relations

The proposals made at the recent Annual Representative Meeting for an enlargement of the Public Relations Committee were considered. Dr. BREACH said that one possible source of difficulty in public relations was that at a certain stage the matters which were being pursued by representatives of the Association or of the Committee were fully publicized and a considerable measure of enthusiasm aroused, and then, for the excellent reason that negotiations were proceeding, nothing further was published for weeks or months, and those concerned in the negotiations were apt to forget that those outside were not aware that these were in progress.

Dr. DAIN, Chairman of the Public Relations Committee, pointed out that the function of the Public Relations Committee was the mechanics of putting Association policy to the public; the publication of these policies within the profession itself was the work of the medical secretariat and the *Journal*. It must not be thought that everything of a publishing nature must be done through the Committee because it bore the title of "public relations."

Eventually it was agreed to recommend to the Council that the number of members of the Public Relations Committee should not exceed twelve, four of whom should be appointed by the General Medical Services Committee.

Filling of Vacancies

The Annual Conference did not accept the Committee's recommendation concerning the filling of vacancies. The Committee had recommended that the terms of service should be amended in order to protect the position of a successful applicant to a practice vacancy who found that the practice premises had been secured by another doctor. The refusal to accept was mainly on the ground that this would be a still further restriction of freedom. Owing to an unfortunate working out of the rules of procedure, Dr. WAND had not been able to put forward at the Conference the case for the recommendation, and he now addressed to the Committee the observations he would have made, in which he pointed out that there was an essential difference between granting freedom to the incoming doctor who had

secured the practice by the established machinery and to the "pirate" who had succeeded in thwarting that machinery at the expense of the successful applicant. He invited those who objected to the method to put forward counter-proposals, at the same time reminding the Committee of the element of urgency in this matter.

It was agreed after a brief discussion to constitute a small subcommittee, including a representation of the Assistants and Young Practitioners Subcommittee, to consider any counter-proposals, with a view to bringing forward the whole matter for final decision at the next meeting of the Committee.

Much other business on the day's agenda included a consideration of the memorandum of evidence proposed to be given by the Society of Medical Officers of Health to the committee of the Central Health Services Council appointed to study general practice; a report by Dr. Gray from the Committee on the Association of General Practitioners and Hospital Work; the minutes of the G.M.S. Subcommittee (Scotland), and other correspondence and resolutions from local committees. The representative of the British Dental Association on the Committee (Mr. Gilbert) reported that his association had decided to establish a General Dental Services Committee as a standing committee of its representative board, and a place on the Committee was allocated to a representative of the British Medical Association. Dr. Frank Gray was nominated for the position.

CONSULTING PATHOLOGISTS GROUP COMMITTEE

At the meeting of the Group Committee on October 26 Dr. J. G. GREENFIELD was appointed chairman for the session 1951–2. Dr. E. N. Allott, Dr. S. C. Dyke, and Professor R. J. V. Pulvertaft, who had been re-elected to the Committee after their retirement at the end of last session, were cordially welcomed back. Dr. Allott was reappointed the Committee's representative on the Central Consultants and Specialists Committee.

Retiring Age and Superannuation

Dr. A. G. Shera, of Eastbourne, attended the meeting for the discussion of a letter which he and others had sent to the Group Committee calling attention to a hardship which confronts pathologists approaching retiring age. Having for the most part been attached to voluntary hospitals before the appointed day with no superannuation scheme, they have no previous service which may be reckoned in the assessment of their pension.

Another problem which the Committee considered at the same time was the difficulty in filling consultant posts in pathology. It was pointed out that, whereas in other specialties there is an ample supply of medical men and women waiting to be absorbed into the consultant grade, the reverse is true of pathology; and often when a consultant post is filled a gap is created elsewhere in the specialty.

Extension of Contracts

The Committee felt that both these problems would to some extent be solved if for the time being pathologists could have their contracts extended on reaching retiring age, and it was decided to recommend that representations be made to the Ministry that regional boards be asked to consider exercising their discretion, under para. 15 of the Terms and Conditions of Service, to do this.

In regard to honorary contracts, which may be granted under para. 15 (2) of the Terms and Conditions, it was pointed out that these were valueless unless pathologists had access to laboratories. There had been at least one case of difficulty in this connexion. The Committee was strongly of the opinion that an honorary contract should carry with it the right to use a laboratory, and that this was implied in para. 15 (2).

Pension for Services

On the question of pension, in the Committee's view the elderly pathologist with a considerable amount of voluntary-hospital service to his credit who immediately before the appointed day was attached to voluntary hospitals for more than 50% of his time should be afforded some pension in respect of his services. The Committee decided to ask the Compensation and Superannuation Committee to raise this matter with the Ministry in conjunction with the problem of the elderly general practitioner with previous service as an N.H.I. practitioner, for whom that committee is endeavouring at the request of the Representative Body to negotiate a similar concession.

The present position under the Superannuation Regulations is that an officer who was transferred under the N.H.S. Act from a voluntary hospital where there was no superannuation scheme may count his voluntary hospital service as qualifying service—i.e., service which may be added to N.H.S. service—only if necessary to make up a minimum qualifying period—e.g., 10 years for pension: it does not affect the actual amount of his N.H.S. pension. A few officers, although not in a pension scheme before the appointed day, nevertheless had reasonable expectations of receiving superannuation benefits from the voluntary-hospital authority on retirement, and in such cases the Minister may make payments supplementary to their N.H.S. pension.

Difficulty in Securing Pathologists' Services

Consideration was given to a suggestion of the Law Society, referred to the Committee by the Association of Clinical Pathologists, that in view of the difficulty in obtaining the services of pathologists a list should be prepared of those who are willing to conduct post-mortem examinations or to give evidence on behalf of persons charged or likely to be charged with criminal offences. The Law Society also sought advice on appropriate fees for pathologists' services in legal aid cases.

The Committee agreed to call a meeting, under the chairmanship of Dr. J. G. Greenfield, to discuss these matters, and to invite the Association of Clinical Pathologists, the Association of Pathologists, and the Medico-Legal Society to send representatives.

Form for Post-mortem Reports

The Committee had been invited to consider drawing up for the benefit of coroners a standard form which pathologists could use when reporting on post-mortem examinations.

The Committee was not in favour of having a detailed form, and indeed it was considered impracticable to draw up such a form which would be appropriate for all examinations. There was no objection, however, to a form which would cover the essential points common to all examinations, provided that the information recorded was strictly confined to the facts observed in the examination and the cause of death as shown by these facts. Other information—e.g., an opinion on the cause of death where this is not evident from the facts observed—should be given separately.

Since the meeting a suitable form has been devised in consultation with the members of the Committee and has been submitted to the appropriate quarter.

Other Matters

The Group Committee decided to support the Tuberculosis and Diseases of the Chest Group Committee in its request that the staff side of Whitley Committee B should continue to press for allowances to whole-time officers towards car and telephone expenses, subscriptions to learned societies, and the cost of medical textbooks and periodicals, and if necessary to refer the matter to arbitration.

It was reported that the Central Consultants and Specialists Committee (Scotland) still had under consideration a resolution

of the Group Committee viewing with concern the fact that all appointments in Scotland in pathology were whole-time, and there were thus no pathologists available for private work or entitled to receive remuneration for domiciliary consultations. The Committee requested that the attention of the Central Consultants and Specialists Committee (Scotland) again be called to the matter.

The Committee expressed support for efforts which are being made to raise the status of animal-house attendants, with the object of attracting more suitable candidates to these posts.

Consideration of a number of applications for Group membership had to be deferred owing to lack of time. At the next meeting the Committee will review the criteria of membership and the name of the Group.

Other matters to be discussed at the next meeting of the Committee include fees for pathological services outside the scope of the N.H.S., and the items of service which may properly be regarded as outside the scope.

THE F.F.M. AND THE B.M.A.

The keynote of the speeches at the dinner held by the Fellowship for Freedom in Medicine on December 13, 1951, was that the Fellowship was not antagonistic to the Association. In the opening speech Dr. J. A. GORSKY said, "I am and always have been a loyal member of the B.M.A." The force of their criticism, he went on, was in direct proportion to their loyalty to the Association and to the profession. After reference to Mr. Bevan's pledge (not fulfilled) in May, 1948, that he would discuss any amending Bill fully with the profession before introducing it, Dr. Gorsky observed that amendments must be so far-reaching as to change fundamentally the nature of the Service. He acclaimed the fact that the Amending Acts Committee was now a standing committee of the B.M.A. Its chairman was a member of the F.F.M.; the Fellowship could justly pride itself on the results of the interim report on amending the Act. The Fellowship was always striving for unity of the profession. It recognized that the whole concept of the N.H.S. was based primarily on the hospital service, the role of the G.P. being subsidiary—the N.H.S. was thrown out of balance at the outset.

Dr. E. C. WARNER, praising the leadership given the Fellowship by Lord Horder in the autumn of 1948, said that to-day they had 3,163 medical members. The first three objects of the Fellowship were: "(1) To insist on the preservation of the highest standards of medical practice. (2) To protect the public and the medical profession from State monopoly in medicine. (3) To define the limits of State medicine so as to protect the rights of the public and of the medical profession in relation to all types of independent practice." They recognized that some kind of national health service had come to stay—"Let us bend all our energies to alter it and amend it so drastically that it can be made workable." The Fellowship believed that those practitioners who wished to do so should own the freehold of the goodwill of their practices. To prevent State monopoly in medicine the Fellowship would encourage every form of independent practice outside the N.H.S. General practitioners must be given the status, the time, and the opportunity to be the family doctors and the family friends of their patients. They deplored the expulsion of general practitioners from general-practitioner hospitals, and had supported the Kingston doctors in their fight.

Dr. M. H. F. COIGLEY pleaded for the establishment of more group practices where general practitioners could have available miniature pathological and radiological services. "Such a group should have available to them all the diagnostic aids available to a hospital out-patient clinic."

Dr. R. HALE-WHITE said that the aim of the Fellowship was to secure conditions "in which doctoring can flourish to the best advantage of the public." Before the N.H.S. came into being many of them had realized that the great danger was that the State would come between them and their patients in a way that would interfere with the doctor-patient relationship. In the relationship between medicine and the State they should see to it that they were not divided into little groups of this and that. "For we are all doctors and unity is of the very first importance in all our dealings with the State."

MEDICAL OFFICERS OF HEALTH

RELAXATION OF CONTROL

Various ways in which the Minister of Health should relax control of medical officers of health are set out in the second report of the Local Government Manpower Committee (H.M.S.O., 1s. 6d.). The report has been approved by the Government.

It states that the requirement of the Minister's approval to individual salaries of medical officers of health and salary variations should be revoked; they should be replaced by a general provision requiring salaries to be paid in accordance with nationally recognized scales.

The Minister's approval should no longer be required for appointments of medical officers of health made in accordance with the arrangements formulated by county councils under Section 111 of the Local Government Act, 1933 (or in London in accordance with a plan for the joint appointment of borough medical officers of health when formulated for the county). The requirement to report vacancies to the Minister should be dispensed with, and there should be no obligation to obtain the Minister's approval to proposals for filling a vacancy before advertising it.

In place of the present provision requiring the Minister's consent to any alteration in the terms of engagement of an individual officer there should be substituted a provision that an officer aggrieved by the alteration of the terms of his engagement may appeal to the Minister. Control over dismissal should be retained by the Minister.

Heard at Headquarters

The Press and the S.R.M.

Nearly every newspaper in the country seems to have had something to say about the Special Representative Meeting, and at the meeting itself there was a record attendance of Press representatives. Many of the papers devoted leading articles to discussing the proposed reforms, as well as giving substantial reports of the meeting in their news columns. As would be expected, to most of the national dailies the principal feature of the meeting seems to have been the proposed code of conduct for patients. None of them liked it very much, and the *Daily Express* even had as its main headline, "Now Punish Patients." Most of the provincial newspapers, on the other hand, selected for their headlines subjects that doctors may think to have played a more important part in the meeting, though very few discussed at any length the main items on the morning's agenda—namely, the independent court of arbitration and its constitution.

Inky Drop

On the whole the publicity was both well informed and favourable to the doctors' contentions, though mingled with plenty of fair criticism. But there was no favourable publicity about the code of conduct, which the *Birmingham Mail* described as a fatuous proposal "all nicely calculated to antagonize public opinion." Certainly this drop in the ocean of the agenda, when converted into printers' ink, has spread through and coloured some of the publicity given to the meeting. Papers that discussed the main reforms at length in leading articles included the *Manchester Guardian*, *The Times*, the *Scotsman*, and the *Yorkshire Post*. The first two were among the few newspapers which carefully analysed the profession's apprehensions about the

powers of the Minister of Health and the proposals for limiting them. Both were doubtful whether the policy would ever be acceptable to the Government.

Constitutional Powers

After saying that there would be sympathy for the reasons which had driven the B.M.A. to call for a statutory arbitration tribunal, *The Times* added that legal experts would argue fiercely about what would become of the sovereignty of Parliament if such a law were passed. "The B.M.A. and the Ministry are both committed to arbitration in accordance with an agreed procedure in case of dispute. They have failed after protracted argument to agree on a procedure and conditions of arbitration—except for *ad hoc* arrangements for dealing with one dispute. It is difficult to believe that the matter could not be settled voluntarily by a display of good will on both sides."

The *Manchester Guardian*, after drawing attention to the great importance that doctors attach to the principle of compulsory arbitration before a tribunal independent of the Government, goes on: "The B.M.A. is on sound ground in arguing that . . . the Minister, if he retains the final decision on terms, is acting as a judge of his own cause. But there was something in Mr. Bevan's contention, too, that he could not discharge his responsibility to Parliament if such questions as terms of service determining the public cost of the scheme were taken out of his hands. It will be interesting to see whether Mr. Crookshank finds it possible to accept the limitation on his constitutional powers which Mr. Bevan so vigorously repudiated."

The S.R.M. was a stiff dose to administer to the public in daily newspapers, but the Press gave it in full measure and much valuable publicity was gained.

General Practitioners and Hospitals

Mr. Sangster Simmonds, in his presidential address to the West London Medico-Chirurgical Society, put forward a mass of ideas, deriving from his recent visit to the United States, on the subject of general practitioners and hospitals. But although discussion was invited only one member, and he a general practitioner, joined in. Mr. Sangster Simmonds suggested an experimental unit in the form of a general hospital comprising a medical school for undergraduate and general-practitioner postgraduate students, one or more general-practitioner clinics with simple equipment, and a registrar consultation clinic for patients needing a fuller examination than a general practitioner had time or equipment to give. The general practitioner who took part in the debate declared that two rather different things were needed to re-establish the family doctor under the National Health Service. One was more nursing and clerical help for the doctor in his own consulting-room and surgery. The other was not registrar consultation clinics at hospital, nor minor ones for general practitioners, but the generous provision of diagnostic facilities at hospital. The general practitioner, he said, could often draw his own conclusions from the pathological report or the *x*-ray picture, and if he then needed more help he could ask the consultant to assist him. Such a plan would not only give the patients a better service but would make the general practitioner a better doctor. The added responsibilities of the general practitioner would themselves bring the necessary endowment to cope with them.

Voluntary Spirit Not Dead

Not so long ago people were exclaiming that the National Health Service Act had killed the voluntary spirit, at least so far as hospitals were concerned. But Dr. Godber, Deputy Chief Medical Officer of the Ministry of Health, reminded a conference in London the other day that there were 450 hospital boards and management committees in this country, and he estimated that there must be at least 10,000 people engaged in serious and continuous voluntary work on behalf of hospitals, giving up their time to these labours without reward, many of them inspired by a tradition of public service and others by a pity for hospital sufferers.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Amenity Beds

SIR,—The medical profession is being forced into a wrong position on the question of amenity beds. As doctors we warmly welcome every practicable amenity for our patients that does not interfere with medical treatment. If, for example, it were possible from economic, organizational, and nursing standpoints for all hospital beds to be composed of single-room units, we should welcome this course to the extent that our patients felt it to be an amenity. For some categories of patients—for example, children—some increased segregation is very desirable on medical grounds. Our anxiety about amenity beds under present circumstances is that often they are not used to the best advantage of our patients as a whole. With the majority of patients nursed in wards, and a comparatively very small number of single-bed units, the demanding of one of these units as a right in return for a nominal charge may prevent our using them for such purposes as an emergency admission in the middle of the night, a patient who disturbs a ward at night, or a dying patient.

The present situation should be dealt with not by abolishing the principle of amenity beds (on the contrary, within the limits of what is practicable, they should be increased), but by abolishing the nominal charge for amenity beds. In this way the beds could be used primarily for the amenity of our patients as a whole, and secondarily to meet the wishes and natural susceptibilities of individual patients. With the full co-operation of the medical profession in dealing with the amenity bed question on its merits, we should be entitled to demand that the question should not be used as a back-stairs attack on the principle of independent non-State medical practice.—I am, etc.,

London, W.1. DAVID H. PATEY.

Tracing Patients

SIR,—Dr. Cyril Shepherd (*Supplement*, December 22, 1951, p. 284) has taken me to task for my strictures upon Dr. Bladon and himself. He points out that he has been able to trace at least 60% of his missing patients. I must therefore concede him the point that I was wrong when I suggested that it would hardly be worth while trying to trace many of the listed patients. I am, however, unable to find anything in his original letter which suggests in a positive way that he realizes "the absolute necessity of conducting this purge," and Dr. Bladon, for his part, seems to feel that if the problem cannot be solved by the authorities without the help of the doctors there is nothing further to be done about it.

The main stimulus that provoked me into writing my original letter was the fact that, whenever doctors are asked to do anything to help the authorities to organize things better, there is always an outcry somewhere that we are being unreasonably put upon. In this case the doctors concerned have, after all, managed to assist the local executive council to trace a large number of persons who, for one reason or another, could not be contacted in other ways. They have thus performed a service of considerable value to the efficient functioning of the N.H.S., which I venture to suggest, at the risk of being considered even more schoolmasterly, they might have done in the first place willingly and in a co-operative spirit.

I wonder incidentally what Dr. Shepherd would have said if he had been sent a list of those 200 patients who have not been traced with a notice saying that, as they were presumably no longer resident locally, they would be removed from his list forthwith without his being given an opportunity

to try to locate them. After all, he agrees that the purge is absolutely necessary and he cannot really have it both ways.—I am, etc.,

Margate. M. CURWEN.

SIR,—I have received a list of names and addresses of my National Health Service patients whom the executive council is unable to trace, and a request to supply any information I have concerning these patients. Failing any information being given, these patients' names will be removed from my list in a short time.

My object in writing is not to raise the question whether general practitioners should be put to the trouble of carrying out this investigation (this matter has already been ventilated in your correspondence columns), but rather to stress the importance of doctors examining the list carefully when they receive it.

An analysis of the names gives the following categories under which the patients fall:

(1) Patients who have moved to a new address which is known to me and who have received medical attention recently	42%
(2) Patients who have moved to a new address which is known to me but who have not received medical attention recently	23%
(3) Patients about whom I have no information	19%
(4) Patients who can be presumed to have died	14%
(5) Patients whose names have already been removed from my list	2%

I think that I can reasonably assume that, in view of the information which I am able to give to the executive council, practically the whole of categories (1) and (2)—viz., 65%—will *not* be removed from my list of patients. I happened to notice that in category (4) there are quite a few patients who, if still living, are well over 100 years of age.

As I have no reason to think that my list is other than average, I feel that doctors would be well advised to peruse their lists carefully when they receive them.—I am, etc.,

Swinton, Manchester. JAMES O'GRADY.

SIR,—There is little doubt that all members of the medical profession will agree with the Coventry doctors (*Supplement*, November 24, p. 231) and join with them in their protests against having the onus of tracing patients put on to them as an extra burden to their already onerous duties. Dr. M. Curwen defends this imposition (*Supplement*, December 8, p. 258), but I wonder if he has ever had this task to do.

When I was appointed to a practice two years ago I soon received some special E.C. 22 A forms informing me that some 52 patients had been removed from my list (not transfers to other doctors). It so happened that at the time I was treating some of these persons, and neither they nor I could understand why they had been removed from my list. They were in possession of medical cards with the name of my predecessor thereon, and I was in possession of the medical records for these persons. I have never been able to find out the real cause of their removal. In order to save my list I was put to the trouble of tracing these persons, which proved no easy task, as it was not ethical to approach them and ask them if they wanted to remain on my list. By tactful means in time I managed to get in touch with several of them, mainly when members of their family came to the surgery, but there were many whom I was unable to approach. It was necessary to get these persons to fill up new E.C. 1 cards, and in the majority of cases, while they were willing to do so, they were angry that they should have been removed from my list for apparently no reason whatsoever.

Only recently I received another E.C. 22 A from the executive council, and among the names thereon were three of the very persons who had signed E.C. 1 cards two years previously when they had been taken off my list. These persons once again were indignant that they should be removed, and, I believe, wrote to the executive council voicing their protests.

As well as the list which I received as stated above, I later received from the executive council about 100 or more slips, each stating that the usual letter which is sent when a new doctor takes over a practice had been returned by the post office as they had been unable to trace the addressee, and unless I could notify the executive council of the whereabouts of these persons within six months they would be removed from my list. Another task for me—that is, if I did not want my list diminished by 100 or more.

In the area where I practise there are continual movements of the residents, some to other addresses in the area, others to addresses in adjoining areas and within reach of my surgery, and these persons do not notify me till they come at some later date for treatment. Yet the task of knowing their addresses, or their new names if they have married, is put on the poor doctor when even their next-door neighbours do not know their new address.

Has anyone ever tried to trace anyone from an electoral register? I tried to trace some of my "missing patients" and soon gave up the uneven task. I even asked the food office if they would help, but met with a blank refusal. How, then, is the doctor to trace these missing patients? Perhaps Dr. Curwen will enlighten the profession, as he so strongly upholds the "purge" and the onus being put on the G.P.

No doctor wishes to get paid for someone who is dead, or who has changed to a doctor in another district, but when a patient has registered with a doctor that doctor should receive credit till the machinery of the registrar of deaths notifies the executive council of the patient's decease, or the machinery of the executive councils gets a notification that a patient wishes to be transferred to another doctor or moves to another district and registers with a doctor there. Is this "purge" a confession of the failure of the executive councils that their system of working has broken down?

There are very many persons who go to another area and do not register with the doctor there till they need treatment, and vice versa there are patients in the first area who have come to live in the former area and who likewise have not registered; this balances out matters. The onus of tracing patients who have been and are registered with the executive councils as on the list of a doctor should rest with the executive councils, and this new task should not have been placed on the profession.

Does this new burden have the blessing of the B.M.A.? Was the B.M.A. consulted before the "purge" was started? And did it agree that one more burden should be added to the G.P.'s duties? The B.M.A. is the organization which exists for the protection of the profession and should strongly oppose any oppression, but if it has been consulted why does it in this imposition turn a blind eye?

What the medical profession will be asked to do next unless some steps are taken to relieve the general practitioners from existing burdens is a matter of conjecture, but I join the Coventry doctors, as do many other members of our profession, in protesting against being turned into private inquiry agents, even if it is to save our lists. The keeping of correct lists is the duty of the executive councils, and this should be their responsibility alone.—I am, etc.,

London, S.W.18. C. J. SHORTT.

SIR,—As a doctor having 38 years' experience in general practice, I feel I am conversant with many changes that have taken place during my lifetime, and so I was interested in the letters of Drs. C. Shepherd and D. M. Bladon (*Supplement*, November 24, p. 231) and the reply of Dr. M. Curwen (*Supplement*, December 8, p. 258) and his attempt to forestall any outcry against the purge being carried out by the Ministry.

I would like to say to Dr. Curwen that I believe no honest practitioner is aggrieved at the removal of dead persons or persons proved by the Ministry to be no longer a risk in his area, but certainly he is aggrieved by the removal of persons whom they only *assume* are no longer living in his area and may at any time be a risk. I have come across several cases in my practice of this assumption and their consequent removal. I would ask Dr. Curwen if the respective Ministries of England and Northern Ireland will reimburse the doctors for the periods these persons have been removed.

Surely the time and money spent in intensive study by the average student—about seven years—is deserving of work better worth while, and surely a panel doctor's leisure time should be relegated to building body, mind, and soul and freed from this iniquitous imposition.

It would be interesting to know how the Commissioners of Inland Revenue keep trace of all the folk liable to income tax. If one happens to remove from his address, does he cease to pay income tax because he has omitted to inform the authorities of his whereabouts? If it is the business of tax authorities to trace their clients, is there any reason why another Government department should be less efficient?—I am, etc.,

Belfast. DAVID CALWELL.

Prescribing in the N.H.S.

SIR,—Since the beginning of the National Health Service it has been apparent that the great increase in the general practitioner's work is due to the requirement that he must write a prescription for every item of drugs or dressings used by his patients. If a satisfactory solution of the repeat-prescription problem could be found it would be worth all the reforms suggested by the Amending Acts Committee put together.

With things as they are, the demand for prescriptions will inevitably increase. Many people are only now beginning to realize how much can be obtained on a doctor's prescription. As a result our surgeries are thronged, the drug fund soars, and in inverse proportion our time available for diagnosis diminishes.

Most doctors would agree that vast economies could be effected in the drug bill without any very great loss in therapeutic value. It is equally obvious that any practicable scheme to do so must necessarily be a national one.

I have two suggestions to offer: either (*a*) to return to the N.H.I. system, wherein proprietary medicines were not allowed, except in those instances where there was no *B.P.* equivalent; or (*b*) for the Cohen Committee to occupy itself in drawing up a list of therapeutically indispensable drugs which *can* be prescribed under the National Health Service. All other medicines, flavouring agents, elegant proprietaries, etc., could still be prescribed by the doctor without hindrance, but the patient would be required to pay for those himself.

I favour the latter solution. It would be unlikely to cause hardship. It would ensure better value for the public money spent on the drug fund. Above all, it would free the general practitioner from an intolerable burden and thereby arrest that fall in status which is being deplored on all sides.—I am, etc.,

Thornton, Fife. JAMES B. FLEMING.

Health Service Discipline

SIR,—Dr. R. W. Cockshut's letter (*Supplement*, December 29, 1951, p. 291) is long overdue. There are so many open pitfalls to any medical man these days that the possibility of further dangers to us all from unwritten regulations should be met at once. I hope that Dr. Cockshut's letter, which expresses clearly the sentiments of most of us, will induce many to write to you.—I am, etc.,

London, E.15. H. J. HARCOURT.

Vetting Local Authority Posts

SIR,—I note that, when certain hospital appointments are advertised, applicants can visit the hospitals and clinics concerned and that this does not constitute canvassing. I feel that local authorities should insert a similar clause in their advertisements for public health staff. Local authorities go to considerable trouble to vet their applicants, and I feel that applicants should be given every opportunity to vet the local authorities when they apply for posts.

If this procedure was adopted, progressive local authorities who provide good facilities for medical staff, and a high standard of service to the public, would get the best applicants. In time local authorities with poor facilities and indifferent services would either have to improve conditions to attract medical staff or remain understaffed.—I am, etc.,

Caernarvon. G. W. ROBERTS.

Compensation

SIR,—I understand from a question in Parliament on December 6, 1951, that there are at least a dozen practitioners who for various reasons have not established with the Ministry of Health their claim for compensation for loss of the selling right of the goodwill of their practices. As one of those so affected, I should like to get in touch with the others, if they would communicate with me at the address below.—I am, etc.,

66, South Street, Ponders End, Middlesex. J. S. FIRTH.

Association Notices

Diary of Central Meetings

JANUARY

7	Mon.	Armed Forces Committee, 2 p.m.
8	Tues.	Organization Committee, 2 p.m.
9	Wed.	Amending Acts Committee, 11.30 a.m. and 2 p.m.
9	Wed.	Assistants and Young Practitioners Subcommittee, General Medical Services Committee, 2 p.m.
9	Wed.	Occupational Health Committee, 2 p.m.
10	Thurs.	Journal Committee, 2 p.m.
11	Fri.	Subcommittee on Constitution and Procedure of Medical Service Committees, General Medical Services Committee, 10.30 a.m.
11	Fri	Colonies and Dependencies Committee, 2 p.m.
16	Wed.	General Practice Review Committee, 11 a.m.
17	Thurs.	Publishing Subcommittee, 10.30 a.m.
17	Thurs.	General Medical Services Committee, 11 a.m.
18	Fri.	Consulting Pathologists Group Committee, 2 p.m.
22	Tues.	Staff Side of Committee C (at 1, Richmond Terrace, Whitehall, S.W.), 10 a.m.
22	Tues.	Whitley Committee C (at 1, Richmond Terrace, Whitehall, S.W.), 12 noon.
23	Wed.	**Council**, 10 a.m.
24	Thurs.	Registrars Group Executive Committee, 2 p.m.

FEBRUARY

1	Fri.	Committee *re* Fees for Part-time Work under Local Authorities, 2 p.m.
6	Wed.	General Practice Review Committee, 11 a.m.

Branch and Division Meetings to be Held

BOLTON DIVISION.—At Gymnasium, Bolton Royal Infirmary, Tuesday, January 8, 8.30 p.m., meeting in conjunction with Bolton Medical Society. B.M.A. Lecture by Professor J. McMichael: "The Management of Hypertensive Disease."

CROYDON DIVISION.—At Croydon General Hospital, Tuesday, January 8, 8.30 p.m., general meeting. B.M.A. Lecture by Dr. Keith Simpson: "Crime Reconstruction" (illustrated).

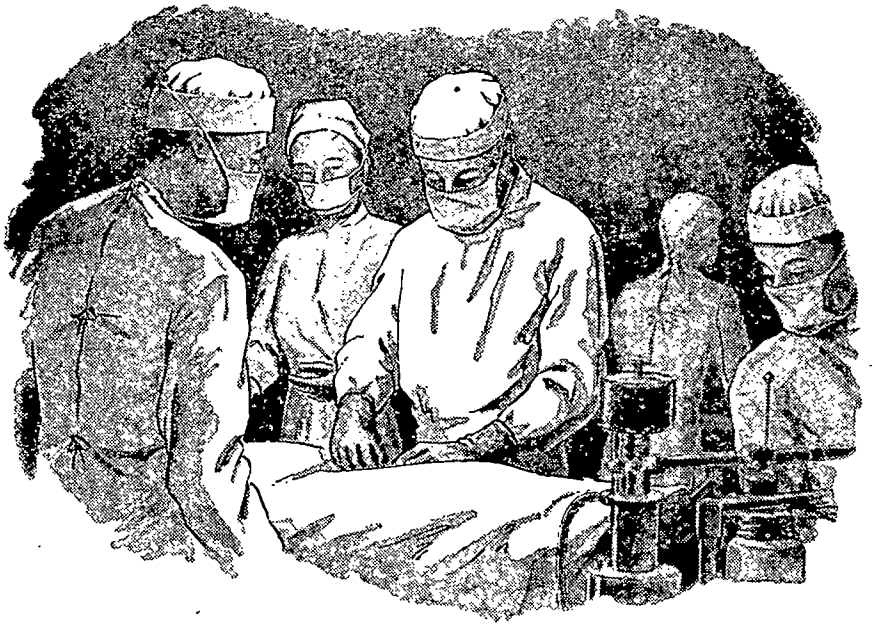
GUILDFORD DIVISION.—At Royal Surrey County Hospital, Guildford, Thursday, January 10, 8.30 p.m., lecture by Mr. R. Rowden Foote: "Varicose Veins and Ulcers."

HENDON DIVISION.—At Hendon Hall Hotel, London, N.W., Tuesday, January 8, 8.45 p.m., Mr. D. H. Patey: "Chronic Mastitis—a Non-existent Disease."

MID-HERTS DIVISION.—At Cell Barnes Colony Cinema Hall, Friday, January 11, 8.30 p.m., film demonstration and commentary by Mr. D. J. MacRae: (1) "Normal Labour"; (2) "Forceps Delivery"; (3) "Replacement Transfusion."

SOUTH-EAST ESSEX DIVISION.—At Southend General Hospital, Friday, January 4, 8.30 p.m., address by Dr. Walter Hedgcock, Assistant Secretary, B.M.A.: "Current Medical Affairs."

TUNBRIDGE WELLS DIVISION.—At Kent and Sussex Hospital, Tunbridge Wells, Wednesday, January 9, 8.30 p.m., B.M.A. Lecture by Dr. R. A. Trevethick: "First Aid," with coloured film.



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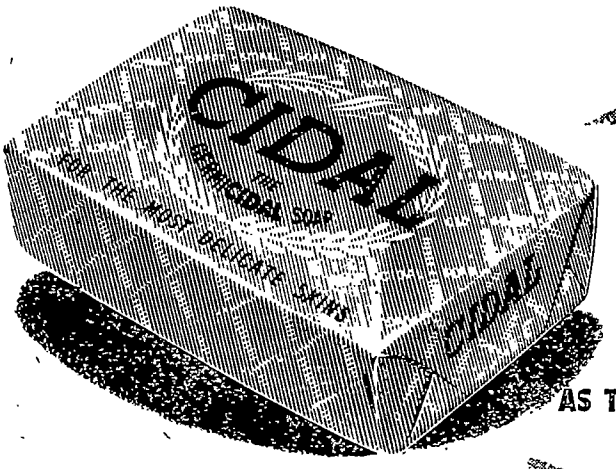

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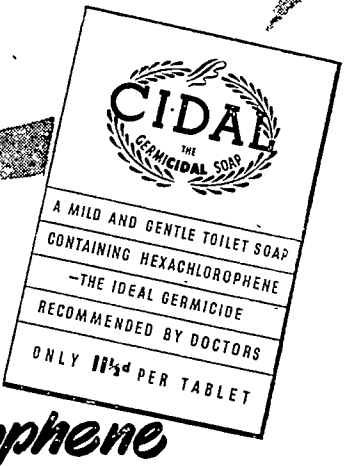

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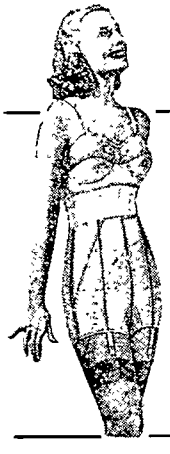

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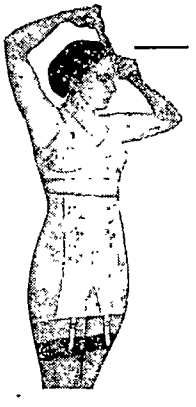

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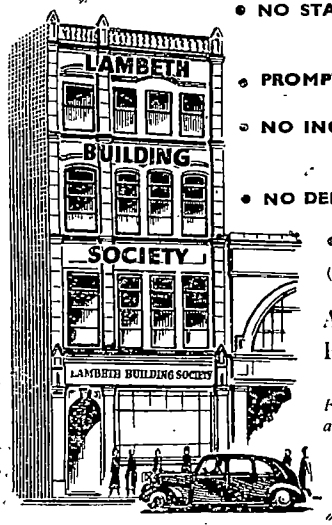

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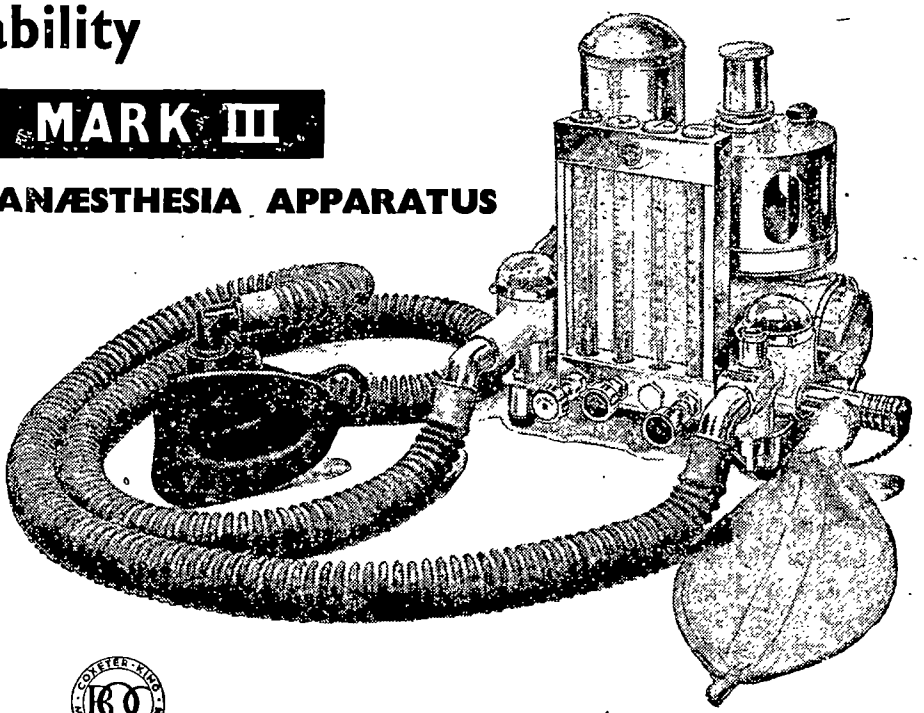

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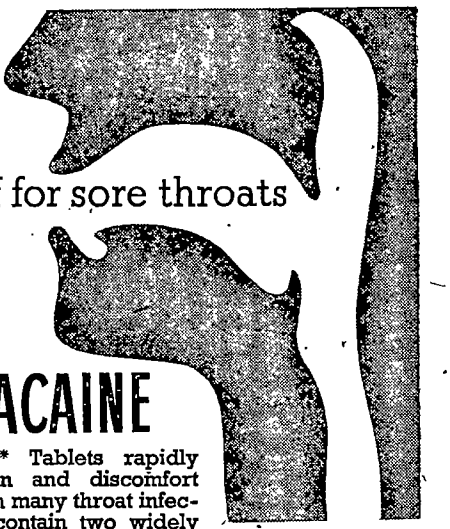

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Medical Registrar (car owner), desires Evening Surgeries, week-end duties.—Riv. 6095.

Nottingham. Lady doctor requires Part-time Work. Would consider permanent part-time assistantship.—Box 1739, B.M.J.

Postgraduate free evenings and week-ends, single, male. Accommodation desirable. Alternatively evening surgeries, S.E. London or accessible.—Box 2031, B.M.J.

Young general practitioner, principal in small partnership practice, is free three days a week and seeks part-time medical employment in London. What offers?—Box 2018, B.M.J.

LOCUMS (Vacant)

Bristol (near), Winford Orthopaedic Hospital.—Locum Registrar required to commence immediately. Salary £775 per annum. Previous experience in orthopaedic and traumatic surgery essential. Application, stating previous experience and age, to Secretary, South-Western R.H.B., 5-6, Cotham Lawn Road, Bristol, 6, immediately. (5431)

Chester (near), Meadowslea Hospital, Penyffordd, Wrexham, Powys and Mawddach Hospital Management Committee.—Applications are invited for a **Resident Locum Tenens** at the above hospital to commence immediately. Salary will be at the rate of £700 to £1,000 per annum, according to experience. —Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, to be addressed to the Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (5326)

Cotswold Sanatorium, Cranham, Gloucester.—Locum Resident Physician-in-Charge required in Private Sanatorium for Tuberculosis. Probable duration six months. Salary at the rate of £1,000 per annum, all found. (5341)

Leeds Regional Hospital Board invites applications for a **Locum Tenens** appointment in **Obstetrics and Gynaecology** for duties at the Harrogate and District General Hospital. The appointment, which is to commence as soon as possible, will be for six weeks in the first instance and the salary will be at the rate applicable to a first or second year Registrar, according to qualifications and experience. The appointment will be resident, for which the appropriate deduction will be made. Applications, stating age, qualifications and details of previous appointment (with dates), together with the names of three referees, should be forwarded to the Secretary to the Board, Park Parade, Harrogate, as soon as possible. (5340)

Leeds Regional Hospital Board.—Short term Locum Tenens appointments in the Registrar Grade are constantly available at hospitals in the area of the Board, particularly in the specialties of general medicine and general surgery. Suitably experienced practitioners interested in such appointments are invited to communicate with Sec., Joint Registrars Committee, Park Parade, Harrogate. (5255)

REPLIES TO BOX NUMBER ADVERTISEMENTS

The names and addresses of advertisers using box numbers are held by us in strict confidence and cannot be disclosed. Applications should be separately enclosed and clearly addressed:

Box No. .. ..
British Medical Journal,
B.M.A. House,
Tavistock Square, W.C.1.

All communications are forwarded to advertisers under plain cover.

It is not possible for this office to accept telephone messages for relay to advertisers.

Redruth, Camborne-Redruth Miners' and General Hospital (four residents). West Cornwall Hospital Management Committee.—Applications are invited for the post of **Locum Senior House Officer (Surgical)** for a period of two months, pending review of establishment. Salary at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, qualifications, and experience, together with copies of three testimonials, should be sent to the Administrative Assistant. (4802)

Shrewsbury Group 15 Hospital Management Committee.—Locum Medical Officer required for the **Cross Houses Hospital, Cross Houses, near Shrewsbury (183 beds).** Vacant immediately. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications should be made to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7039)

Southend-on-Sea, General Hospital.—Required Locum Anaesthetic Senior House Officer (Male or female) for the period January to April, 1952, for duties at various hospitals in the Group. Applications, etc., to be sent as soon as possible to the undersigned at the hospital.—J. C. Field, Secretary. (5559)

LOCUMS (Available)

Wanted, Locums by medical woman. Experienced. Car.—Box 2021, B.M.J.

Jewish Edinburgh graduate, age 41, hospital and G.P. experience, available for Locums or Part-time Work. London area.—Box 2022, B.M.J.

Locum Resident Obstetric Post sought by ex-H.S., H.P., H.S. (obstetrics and gynaecology). Rotunda trained. Now available. Two months.—Box 2023, B.M.J.

APPOINTMENTS

ANAESTHETICS

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of
CONSULTANT ANAESTHETIST
whole-time or part-time, nine half-days per week, to the Board's Western Area Thoracic Unit, which is being set up with the main centre at Southampton and subsidiary centres at Portsmouth, Bournemouth, and Ventnor (total of 70 beds, to be increased as the service develops). Candidates must have considerable experience in the administration of anaesthetics for major thoracic surgery. The candidate appointed will be responsible to the Director of the Unit. Residence in the Southampton area will be a condition of appointment. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than January 31, 1952. Applicants may visit the hospitals concerned by arrangement with Dr. J. Revans, Beeston House, Water Lane, Winchester. (5290)

WOLVERHAMPTON EYE INFIRMARY
(100 beds)
Wolverhampton Group
Birmingham Regional Hospital Board

Applications are invited for the appointment of
PART-TIME CONSULTANT ANAESTHETIST
(one notional half-day weekly). Candidates should possess D.A., and wide experience in specialty essential. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before January 22, 1952. Candidates may visit the hospital concerned. (5345)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of
WHOLE-TIME ASSISTANT ANAESTHETIST
(S.H.M.O. scale)
resident in or near Pontefract for duties mainly at hospitals in the Pontefract and Castleford Hospital Management Committee Group, together with additional duties at hospitals in the Wakefield "A" and Leeds "A" Hospital Management Committee Groups. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than February 2, 1952. (5291)

ROYAL FREE HOSPITAL GROUP

Applications are invited from either men or women medical practitioners for the appointment of
SENIOR ANAESTHETIC REGISTRAR (Resident)
Applicants must not be more than ten years qualified, and should possess the D.A. qualification. The appointment is for one year in the first instance, duties to commence on April 1, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Application forms may be obtained from the Secretary to the Board of Governors, The Royal Free Hospital, Gray's Inn Road, W.C.1, to whom they should be returned not later than Jan. 31. (5361)

COVENTRY GROUP
Birmingham Regional Hospital Board

Applications are invited for the appointment of
WHOLE-TIME REGISTRAR in Anaesthetics
Duties mainly at Hospital of St. Cross, Rugby (168 beds), which is recognized for D.A. Experience in specialty essential. Possession of D.A. an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before January 22. Candidates may visit the hospital concerned. (5349)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the post of
REGISTRAR in Anaesthetics (Non-resident)
for duties at hospitals in the Hull "A" Hospital Management Committee Group together with additional duties as may be required at other hospitals in the Hull "B" and East Riding Hospital Management Committee Groups. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than Jan. 19. (5292)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL

Applications are invited for the position of
RESIDENT ANAESTHETIC REGISTRAR
Duties will include work in the neurosurgical theatre. The appointment is subject to review after one year. A local charge will be made for residential amenities provided. Applications (in duplicate), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, January 19, 1952. (5354)

SHEFFIELD, UNITED, HOSPITALS
Royal Infirmary Unit

Applications are invited from registered medical practitioners for the non-resident post of
REGISTRAR in Anaesthetics
at the above hospital. Applications, stating age, qualifications and experience, together with the names of three referees, should be forwarded immediately to the undersigned.—Kenneth Sumner, Chief Administrative Officer, The United Sheffield Hospitals, Central Office, Royal Hospital, Sheffield, 1. (5355)

BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
The post is recognized for the D.A. examination and is tenable for one year. Salary £670 per annum, less an appropriate deduction in respect of board residence. Applications, stating age, qualifications, nationality and experience, etc., with names of two persons for reference, should be addressed to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (5050)

BURNLEY AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)

Applications are invited for the above appointment. The salary and conditions of service are those published by the Ministry of Health. The post is recognized for the Diploma in Anaesthetics and the person appointed will be trained under the personal supervision of the Consultant Anaesthetist. Applications, together with the names and addresses of three referees, should be addressed to the Secretary, Burnley and District Hospital Management Committee, General Hospital, Casterton Avenue, Burnley. (4308)

BURY GENERAL HOSPITAL
(183 beds—mainly surgical, with beds for other specialties)
Bury and Rossendale Hospital Management Committee

There is a vacancy for a
SENIOR HOUSE OFFICER (Anaesthetics)
at the above hospital. The post is now vacant, and is recognized for the D.A. examination. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (3584)

CHELMSFORD, ST. JOHN'S HOSPITAL

Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
to large surgical units, for a period of twelve months, commencing February 14, 1952. The appointment will include duties at the Chelmsford and Essex Hospital a short distance away. Applications, stating age, sex, qualifications and experience, with recent testimonials, should reach the Secretary, Hospital Management Committee, Chelmsford Group, Chelmsford and Essex Hospital, London Road, Chelmsford, not later than January 22, 1952. (5447)

DARLINGTON MEMORIAL HOSPITAL
RESIDENT ANAESTHETIST (S.H.O.)

Applications are invited from male or female practitioners for the above appointment, to commence February 1, 1952. Salary £670 per annum. Previous experience in anaesthesia an advantage, but not essential. Apply, with references and full details, to the undersigned forthwith.—G. W. Beckwith, Secretary. (4954)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding (Full Consultant Staffs)

Applications are invited for the appointment of
SENIOR HOUSE OFFICER IN ANAESTHETICS
(Either sex)
for duty at the above hospitals for the acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment. Vacant now. Salary £670 per annum. National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. Jonn's Hospital, Keighley. (5270)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT ANAESTHETIC SENIOR HOUSE OFFICER
Duties to commence as soon as possible. Terms and conditions of service as published by the Ministry of Health. £150 deducted for emoluments. Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to the undersigned as soon as possible. —Henry M. Stanley, Secretary. (5271)

Anaesthetics—contd.

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer Grade)
(Recognized for D.A.)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5356)

SOUTH SHIELDS DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of
SENIOR HOUSE OFFICER ANAESTHETIST
which will be vacant early January, for principal duty at the Ingham Infirmary and General Hospital, South Shields. Applicants should intend to study for the D.A., the former hospital being recognized for this qualification. The post is resident and the appointment will be for a period of one year, at a salary of £670 per annum. Applications, stating age, qualifications and experience, together with the names of three referees, to be sent to the Secretary to the Committee, Ingham Infirmary, South Shields. (4479)

STOURBRIDGE (near), WORDSLEY HOSPITAL (450 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
(Resident Anaesthetist)
Post now vacant. Applicants should have held house appointments and had previous experience in anaesthetics. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications, with dates, experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (6601)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(681 beds—11 Residents)
Taunton Hospital Management Committee

Applications are invited from registered medical practitioners for the following post:
SENIOR RESIDENT HOUSE OFFICER
(Anaesthetics)
Salary in accordance with the National Health Service scale. The post is for a period of one year, and the successful applicant will be required to take up duties on February 1, 1952. The post is recognized as a qualifying appointment for the Diploma of Anaesthetics. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (4805)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds—8 Residents)
West Cornwall Hospital Management Committee

Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer status)
which falls vacant on February 4, 1952. The post is tenable for one year at a salary of £670, less £100 for emoluments, and subject to the regulations of the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5257)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee

Applications are invited for the appointment of
RESIDENT ANAESTHETIST AND HOUSE PHYSICIAN
vacant February, 1952. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications and experience, with a copy of two recent testimonials, and the name of one referee, should be sent immediately to Group Sec., St. Helier Hospital, Carshalton, Surrey. (5293)

ENFIELD, MIDDLESEX, CHASE FARM HOSPITAL
Enfield Group Hospital Management Committee
RESIDENT HOUSE OFFICER in Anaesthetics
(Second or third post)

Vacant March 1, 1952. Post recognized for the D.A. Six months' appointment. Applications, stating age, nationality, qualifications and experience, with the names of two referees, to the Acting Medical Director of the hospital by Jan. 21. (5192)

ISLE OF MAN, NOBLE'S HOSPITAL

Applications are invited for the post of
RESIDENT ANAESTHETIST
in busy hospital with over 150 beds and the usual ancillary departments. Post will provide ample and varied experience in pleasant surroundings. Salary £400 per annum, less £100 per annum for board and lodging. Duties may include acting in the medical wards or casualty. Appointment for six months in first instance. Applications, with copies of two recent testimonials, to the Secretary, Noble's Hospital, Douglas. (5123)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
(Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

LANCASHIRE COUNTY COUNCIL
(Assistant Divisional Medical Officers)

By Order of the Council,

A. MACRAE,
Secretary.

January 1, 1952.

GATESHEAD AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Queen Elizabeth and Bensham General Hospitals

Applications are invited for the following appointment at the above hospitals:
RESIDENT ANAESTHETIST (House Officer)
(The post is recognized for the purposes of D.A.)
This appointment becomes vacant on February 1, 1952, and applications, together with copies of two recent testimonials, should be addressed to the Medical Superintendent, Queen Elizabeth Hospital, Sheriff Hill, Gateshead, 9, Co. Durham, as soon as possible. The appointment will be in accordance with the national terms and conditions and the National Health Service Regulations. (5421)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
ANAESTHETICS HOUSE OFFICER

Vacant on April 1, 1952. The appointment is for six months at a salary of £400 or £450 per annum, with a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Applicants should have had experience in the specialty. Applications to be made on forms obtainable from the undersigned, and to be returned not later than January 12, 1952.—F. J. Cable, Sec. to the Board of Governors. (5448)

READING, ROYAL BERKSHIRE HOSPITAL
(403 beds)

Applications are invited from registered medical practitioners for the appointment of
RESIDENT ANAESTHETIST
vacant February 6, 1952, for period of five to six months. Salary £400 to £450 per annum, less £100 board residence. Recognized resident anaesthetic post for purpose of taking the D.A. Applications, stating age, nationality, qualifications (with dates), present post, with copies of three recent testimonials, to Administrative Officer. (5363)

BLOOD TRANSFUSION

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified practitioners for the whole-time appointment of
DEPUTY BLOOD TRANSFUSION OFFICER
(S.H.M.O. scale) of the Blood Transfusion Service in the Leeds Region
The person appointed will be required to act as Deputy to the Regional Blood Transfusion Officer and opportunities will be given for original work and research of an academic nature. Applicants must have been qualified at least six years and some previous experience in clinical pathology would be desirable. The headquarters of the service is at the Regional Blood Transfusion Centre, Bridle Path, York Road, Seacroft, Leeds. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary to the Board, Park Parade, Harrogate, not later than Feb. 2. (5294)

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of
WHOLE-TIME ASSISTANT MEDICAL OFFICER
(J.H.M.O. Grade)
at the Regional Blood Transfusion Centre, Northfield Road, Sheffield. Applicants should have had previous clinical experience. The appointment affords scope in all aspects of blood transfusion work and serology, including research. Applications, stating present appointment, date of birth, qualifications, and experience, and the names of three referees, should be sent to the Secretary, Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, not later than February 2, 1952. Applicants may visit the Blood Transfusion Centre by arrangement with the Director. (5272)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the whole time appointment of
SENIOR HOUSE OFFICER
in the Blood Transfusion Service for the Leeds Region
The person appointed would be required to have one year's experience in house appointments and would be given opportunities to obtain experience in all branches of blood transfusion technique. Previous experience with a regional blood transfusion service is not essential. The headquarters of the service is at the Regional Blood Transfusion Centre, Bridle Path, York Road, Leeds. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary to the Board, Park Parade, Harrogate, not later than Feb. 2. (5295)

CARDIOLOGY

NATIONAL HEART HOSPITAL
Westmoreland Street, London, W.1
(With which is associated the Institute of Cardiology)
REGISTRAR

A vacancy for this post will occur as from February 1, 1952. Applicants should have been fully trained in general medicine and should possess a higher medical qualification. The selected candidate will be trained for from one to two years in all aspects of cardiology and should be then ready for a consultant post. Applications, with copies of three recent testimonials, should be sent to me not later than Monday, January 21, 1952.—Robert G. E. Whitney, Secretary to the Board of Governors. (5560)

CHEST AND TUBERCULOSIS

ST. THOMAS' HOSPITAL, London, S.E.1
CHEST SURGEON

With full consultant status and membership of the Medical Committee. Four half-day sessions a week. F.R.C.S. essential. Applications, twelve copies, including names and addresses of three referees, to Clerk of the Governors by February 16, 1951. (5364)

LIVERPOOL REGIONAL HOSPITAL BOARD
Regional Thoracic Unit

Applications are invited for the post of
CONSULTANT THORACIC SURGEON
either whole-time or maximum part-time, to assist the visiting senior surgeons with duties in the Thoracic Unit, with headquarters in Broadgreen Hospital and with regular visits to other major hospitals and sanatoria in the Region. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than January 19, 1952.—Vincent Collinge, Secretary to the Board. (5425)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the post of
WHOLE-TIME ASSISTANT CHEST PHYSICIAN
(S.H.M.O. scale)
for duties at the Leeds Chest Clinic. The appointment offers considerable scope for experience in tuberculosis and diseases of the chest and there is close collaboration with the thoracic surgery unit at the Teaching Hospital. The person appointed will work under the immediate direction of the Senior Chest Physician and the duties will include attendance at chest clinic sessions, general hospitals and tuberculosis hospitals within the area, together with such domiciliary visits as may be necessary. Candidates must possess good qualifications and previous experience of the diagnosis and treatment of chest diseases. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary to the Board, Park Parade, Harrogate, not later than Feb. 2. (5296)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Chest and Tuberculosis—contd.

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time post of
TUBERCULOSIS PHYSICIAN
in the Wigan and Leigh Hospital Areas to work under the general guidance of a consultant chest physician. Previous experience in general and thoracic medicine and tuberculosis essential. Salary £1,300 by £50 to £1,750. The appointment may be made in conjunction with the Local Health Authorities concerned, for whom the appointee will carry out duties in connexion with prevention, care and after-care. Forms of application may be obtained from the Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than January 21, 1952. (5365)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest
Applications are invited for two vacancies of
PART-TIME MEDICAL REGISTRAR
(Registrar Grade)
Appointment is for one year in the first instance and attendances are equivalent to five sessions a week. Applications, stating age, qualifications (with dates), and previous appointments held, together with copies of three testimonials, should be sent to the undersigned not later than January 24, 1952. —House Governor, London Chest Hospital, London, E.2. (5451)

BRISTOL CLINICAL AREA
Board of Governors of the United Bristol Hospitals and South-Western Regional Hospital Board
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
REGISTRAR in Diseases of the Chest
Previous experience in diseases of the chest is essential. The successful applicant will be based on either Ham Green Hospital or Frenchay Hospital, Bristol. Excellent training facilities exist at both these hospitals for the study of tuberculous and non-tuberculous cases. The appointment will be held for one year in the first instance, and be renewable for a further year. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than January 14, 1952. (5452)

GATESHEAD TUBERCULOSIS ADMINISTRATIVE AREA
Newcastle Regional Hospital Board
REGISTRAR CHEST PHYSICIAN (Whole-time)
For the above area, including Whinney House Hospital. Appointment up to August 31, 1952, in the first instance. Salary £775 per annum. Applications, together with names and addresses of one to three referees and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, within fourteen days. (5273)

LEICESTER, MARKFIELD SANATORIUM AND ISOLATION HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
REGISTRAR (Chest Diseases and I.D.)
to the above hospital, where minor thoracic surgery (T.B.) is undertaken. The duties are mainly in the hospital, but clinic work may be undertaken under the supervision of the Consultant. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5297)

LIVERPOOL, AINTREE HOSPITAL
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME REGISTRAR in Chest Diseases
with duties in the Regional Thoracic Service, mainly at the above hospital, together with a period of training in a non-tuberculous unit. Possession of a higher qualification in general medicine will be an advantage. The post is non-resident but single accommodation is available if required, for which a deduction of £130 would be made. The post is tenable, in the first instance, until September 30, 1952. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than January 19, 1952.—Vincent Collinge, Secretary to the Board. (5453)

VENTNOR, ROYAL NATIONAL HOSPITAL FOR DISEASES OF THE CHEST
Isle of Wight (249 beds)
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident, unmarried)
Hospital has all facilities for major thoracic surgery. Applications, with names of two referees, should be sent to Physician Superintendent. (5172)

ABERGELE SANATORIUM, North Wales
(245 beds—57 adult pulmonary, 188 children pulmonary and non-pulmonary)
Clwyd and Deeside Hospital Management Committee
JUNIOR HOSPITAL MEDICAL OFFICER
(Male or female)
Required at the above Sanatorium. Applications, stating full name, age, nationality, professional qualifications, particulars of present and previous appointments, to be addressed to the undersigned, together with the names and addresses of two referees, to reach him within fourteen days from the date of publication of this advertisement. —William Roberts, Secretary, Rhianfa, Russell Road, Rhyl. (5258)

BRIDGE OF WEIR SANATORIUM
Board of Management for Greenock and District Hospitals
Applications are invited from suitably qualified medical practitioners for the following appointment:
RESIDENT JUNIOR HOSPITAL MEDICAL OFFICER
Experience in the diagnosis and treatment of tuberculosis is desirable. Applications, giving details of age, experience and qualifications, together with copies of three recent testimonials, should be forwarded to the Secretary and Treasurer at Headquarters, 47, Eldon Street, Greenock, not later than thirty days after the publication of this advertisement. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (5454)

ROCHDALE AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
RESIDENT JUNIOR HOSPITAL MEDICAL OFFICER (Chest Diseases)
Applications are invited for the above position. The successful applicant will be a member of the chest team for the Rochdale Group of hospitals, be mainly employed in Wolstenholme Pulmonary Hospital, Springfield Sanatorium, and Tuberculosis Clinics and will be required to reside at Marland Hospital. Remuneration will be £700 by £50 to £1,000 per annum, and there will be a deduction of £130 per annum in respect of board and lodging. Applications, stating age, qualifications, experience, and giving the names of two referees, should be forwarded to the undersigned immediately.—S. Hodkinson, Secretary, Central Offices, Birch Hill Hospital, Rochdale. (9710)

NORTHAMPTON (near), CREATON SANATORIUM (130 beds)
Northampton and District Hospital Management Committee
Applications are invited from suitably qualified registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Non-Resident)
The sanatorium is for the treatment of both pulmonary and non-pulmonary tuberculosis, and has a thoracic surgery unit. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, experience, and qualifications, together with the names and addresses of two referees, should be sent to the Secretary, Northampton and District Hospital Management Committee, General Hospital, Northampton, within seven days of the appearance of this advertisement. (5274)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT HOUSE PHYSICIAN (Male)
Required for wards taking cases of pulmonary tuberculosis (56 beds) under supervision of the visiting Consultant Physician. Opportunity to acquire knowledge of the modern treatment of acute tuberculosis. Six months' appointment. Post vacant early January. National Health Service salary and conditions of service. Applications, stating age, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by January 12, 1952. (5109)

BRISTOL, FRENCHAY HOSPITAL
(428 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee
HOUSE SURGEON
(Thoracic Surgery Department)
Vacancies occur shortly in the above department which is the Regional Thoracic Surgery Centre (108 beds) for the South-West. Applications, with full particulars, should be addressed to the Secretary, Frenchay Hospital, quoting "Thoracic." (3239)

LIVERPOOL, 14, BROADGREEN HOSPITAL
Applications are invited for the following post, falling vacant on April 1, 1952, and tenable for six months:
RESIDENT MEDICAL OFFICER
(Thoracic Surgery Unit)
Salaries in accordance with the national scale for House Officers, i.e., £350, £400 or £450 per annum, according to experience, and subject to a deduction of £100 per annum in respect of residential emoluments. Applications on forms obtainable from the undersigned to be returned not later than January 31, 1952.—H. Blythe, Secretary, Broadgreen Hospital, Liverpool, 14. (5455)

EDINBURGH CITY HOSPITAL
HOUSE OFFICER (Male or female)
Required for tuberculosis wards. Previous hospital experience desirable and appointment is for six months in first instance. National Health Service salary and conditions of service. Applications, stating age and experience, with names of two referees, or copies of two testimonials, to the Secretary, Board's Office, City Hospital, Greenbank Drive, Edinburgh, 10. (5409)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER
at the Manchester Regional Hospital Board Centre for Non-tuberculous Thoracic Surgery
This post is now vacant. Salary and conditions in accordance with the National Health Service terms of service of hospital medical and dental staff, i.e., £350 to £450 per annum, according to experience. £100 per annum will be deducted for residential accommodation and services. Six months' appointment. The hospital is recognized for training for the F.R.C.S. Diploma. Vacancies occur periodically in the various departments, and the House Officer (Thoracic Surgery) is eligible for appointment to the post of House Officer in another specialty at the end of the term of service as House Officer (Thoracic Surgery) when such vacancies exist. Application forms may be obtained from the Secretary. (9098)

DERMATOLOGY

DUNDEE ROYAL INFIRMARY
(which is a teaching hospital of 510 beds) and Clinics in the Region
Eastern Regional Hospital Board (Scotland)
Applications are invited for the post of
SENIOR REGISTRAR in Dermatology
Established training post. Higher qualification desirable. Appointment for twelve months in first instance. Salary and conditions of service in accordance with national agreement. Further particulars and forms of application from the Secretary, 430, Blackness Road, Dundee, with whom applications must be lodged not later than January 19. (5449)

EAR, NOSE, AND THROAT, etc.

FARNHAM (SURREY) GROUP OF HOSPITALS
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
PART-TIME CONSULTANT E.N.T. SURGEON
(four half-days per week). Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than January 31, 1952. Applicants may visit the hospitals by local arrangement. (5298)

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the post of
SENIOR REGISTRAR in E.N.T. Surgery
to serve the Glantawe Hospital Management Committee. Applicants should preferably be Fellows of a Royal College of Surgeons. The successful applicant will be based on Swansea Hospital (403 beds). The post is non-resident, will be held in the first instance for one year and will be subject to revision annually. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (5450)

MANCHESTER THROAT AND CHEST HOSPITAL, Bowdon, Cheshire (53 beds)
North and Mid-Cheshire Hospital Management Committee
SENIOR E.N.T. HOUSE OFFICER
Required to commence on or about February 15, 1952. Twelve months' appointment. This appointment is in a busy hospital staffed by Manchester Consultants and offers excellent opportunities of practical experience to suitably qualified candidates. Salary £670 per annum. Conditions as laid down in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, qualifications, etc., should be forwarded to the Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (4727)

STOCKPORT AND BUXTON HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the non-resident post of
SENIOR HOUSE OFFICER
to the Ear, Nose and Throat Departments in the Group
National Health Service salary and conditions of service. Applications, stating age, nationality and qualifications, together with the names of two referees, or copies of two testimonials, to be addressed to the undersigned immediately.—H. G. Price, Secretary, 59b, Shaw Heath, Stockport, Cheshire. (5357)

Ear, Nose, and Throat, etc.—contd.

STOKE-ON-TRENT, NORTH STAFFS ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (E.N.T.)
(Male or female)
Post recognized for D.L.O. and F.R.C.S.(Eng.). Apply, with copy testimonials, stating age, nationality and full details of previous service, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (4897)

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON
for E.N.T. and Ophthalmic Department
Recognized for D.L.O. and D.O. First or second post. Vacant now. Please apply with two testimonials, to the Secretary-Superintendent as soon as possible. (5299)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL
Birmingham (Dudley Road) Group of Hospitals
Applications are invited for the post of
RESIDENT HOUSE SURGEON
in the Ear and Throat Department
This is a busy hospital of 900 beds, with 36 E.N.T. beds. Applications, stating age, qualifications, nationality and experience, accompanied by copies of two recent testimonials, should be forwarded to the undersigned.—J. Preston, Secretary to the Hospital Management Committee, Dudley Road Hospital. (5194)

GLASGOW, STOBHILL GENERAL HOSPITAL
E.N.T. and Dermatology (Combined post)
Applications are invited for the post of
RESIDENT HOUSE OFFICER
for the six months beginning February 1, 1952, and should be addressed to the Medical Supt. (5434)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
HOUSE SURGEON
Required in the Ear, Nose and Throat Department at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. Recognized for D.L.O. National scales and conditions. Six-monthly appointment, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8468)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE SURGEON (E.N.T. and Ophthalmic)
Post recognized for D.L.O. Applications immediately to the Secretary, Hospital Management Committee. (5444)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for the post of
E.N.T. AND OPHTHALMIC HOUSE SURGEON
at the above hospital. The appointment will be subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to the number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Folkard, Sec. to the Committee. (4740)

MANCHESTER EAR HOSPITAL, Manchester, 15
South Manchester Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER
at the above hospital. Daily out-patient clinics are held with Manchester Consultants in attendance. Applications, stating age, qualifications, experience, and names of two referees, to be forwarded to the Secretary at the hospital immediately. (5545)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 230 beds, 8 residents)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
JUNIOR HOUSE PHYSICIAN AND HOUSE SURGEON, E.N.T.
Salary £350 to £450 per annum, depending on experience, with £100 per annum deduction in respect of residential emoluments. Applications, stating age, qualifications and experience, with copies of two recent testimonials, should be forwarded to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (8538)

GERIATRICS

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (First, second or third (preferably second or third) post)
Required for Geriatric Unit. Resident post. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to the Secretary, Management Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date January 15, 1952. (5561)

INFECTIOUS DISEASES

COTTINGHAM, EAST YORKS, CASTLE HILL HOSPITAL (200 beds)
(Modern Infectious Diseases Hospital with full laboratory facilities)
WHOLE-TIME HOUSE OFFICER
(Second or third post)
Required for duties under the supervision of the Consultant in infectious diseases. Application forms obtainable from the Secretary, Hull (B) Group Hospital Management Committee, De la Pole Hospital, Willerby, East Yorks. (5241)

PARKSTONE, DORSET, ALDERNEY INFECTIOUS DISEASES HOSPITAL (60 beds)
Bournemouth and East Dorset Hospital Management Committee
HOUSE PHYSICIAN
Required immediately. Applications to the Assistant Secretary of the hospital. (5052)

NEUROSURGERY

BRISTOL, FRENCHAY HOSPITAL
(448 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee
SENIOR HOUSE OFFICER
(Regional Neurosurgery Unit)
Applications invited for the above post. This post offers useful surgical experience and the opportunity of gaining a working knowledge of neurological diagnosis. Two referees required. Applications to the Secretary, Frenchay Hospital, quoting "N.S.F." (3238)

EDINBURGH, ROYAL INFIRMARY OF
Applications are invited from registered medical practitioners for the following appointments in the Department of Surgical Neurology based on the Royal Infirmary of Edinburgh, commencing on April 1, 1952, for a period of six months:
TWO RESIDENT HOUSE OFFICERS
with placing on the scale of £350 to £450 per annum, according to experience. Applications, giving particulars of age and previous experience, together with the names and addresses of two referees, should be submitted to the Secretary, Department of Surgical Neurology, Royal Infirmary, Edinburgh, 3, within twenty-one days. (5456)

OBSTETRICS AND GYNAECOLOGY

MANCHESTER, PARK HOSPITAL, Davyhulme
(73 obstetric beds, 29 gynaecological beds)
Manchester Regional Hospital Board
Applications are invited for the whole-time post of
CONSULTANT OBSTETRICIAN/GYNAECOLOGIST (Assistant)
Candidates must be of high professional standing and possess higher qualifications. The successful candidate will be required to live near the hospital. Forms of application can be obtained from the Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than January 21, 1952. (5527)

WHITTINGTON HOSPITAL
Highgate Hill, N.19
North-West Metropolitan Regional Hospital Board
WHOLE-TIME OBSTETRICAL AND GYNAECOLOGICAL REGISTRAR
Required for one year in the first instance. The unit contains 85 maternity and 56 gynaecological beds and is recognized for the M.R.C.O.G. Candidates are welcome to visit the hospital by direct appointment with the Medical Superintendent. Application forms obtainable from, and returnable to, the Secretary, Archway Group Hospital Management Committee, 46, Cholmeley Park, N.6, by January 14, 1952. (5242)

CHESTER CITY HOSPITAL
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME RESIDENT REGISTRAR
in Obstetrics and Gynaecology
with duties at the above hospital. The post is recognized for the M.R.C.O.G. in Obstetrics and is tenable until September 30, 1952. A deduction in respect of emoluments will be made valued at £150. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than January 17, 1952.—Vincent Collinge, Secretary to the Board. (5366)

DERBY CITY HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
REGISTRAR (Obstetrics and Gynaecology)
to the above hospital which is a recognized training for the D.(Obst.)R.C.O.G. and M.R.C.O.G. The appointment is for one year in the first instance and may be renewed for a further year. The appointed person to commence duty on March 21, 1952. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5300)

GRIMSBY HOSPITAL MANAGEMENT COMMITTEE
Sheffield Regional Hospital Board
Applications are invited for the non-resident whole-time post of
REGISTRAR (Obstetrics and Gynaecology)
to the Grimsby group of hospitals. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualification, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than Jan. 21. (5275)

BIRMINGHAM, 16, ST. CHAD'S HOSPITAL
Hagley Road
Birmingham (Dudley Road) Group of Hospitals
Applications are invited from registered medical practitioners for the appointment of
SENIOR HOUSE OFFICERS
in the Obstetric and Gynaecological Unit of the above hospital. The appointment is for twelve months. Residential emoluments £160 per annum. The post, which falls vacant on February 1, 1952, is recognized by the Royal College of Obstetricians and Gynaecologists for the D.Obst.R.C.O.G. and the unit is affiliated to the University of Birmingham for undergraduate clinical tuition. Applications, stating age, qualifications and experience, accompanied by copies of two recent testimonials, to be sent immediately to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (5457)

BOSTON GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER
for the Obstetrics and Gynaecological Department
vacant January 8, 1952. Two other Resident House Officers. Salary £670 per annum, with deduction for residential emoluments. Applications, stating age, qualifications and posts held and giving names of two referees, should be sent to the Administrative Officer, Boston General Hospital, South End, Boston, Lincs. (5053)

CARDIFF, ST. DAVID'S HOSPITAL
Cardiff Hospital Management Committee
SENIOR HOUSE OFFICER (Obstetrics)
Required for the above hospital. Applications, with names of two referees, to the Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (5259)

LANCASTER, ROYAL INFIRMARY (230 beds)
Lancaster and Kendal Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)
Applications are invited from registered medical practitioners for the above appointment. The post is vacant January, 1952, and normally tenable for one year. The successful applicant will work with the specialist unit. Applications, stating age, qualifications, experience and nationality, along with the names of two referees, should be forwarded immediately to the Secretary, Lancaster and Kendal Hospital Management Committee, Royal Lancaster Infirmary Lancaster. (5146)

LIVERPOOL, 14, BROADGREEN HOSPITAL
Applications are invited for the post of
SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)
at a salary of £670 per annum. Applications, on forms obtainable from the undersigned at the above address, should be returned within ten days of the appearance of this advertisement.—H. Blythe, Secretary (5458)

NEWCASTLE-UPON-TYNE, UNITED HOSPITALS
Applications are invited from registered medical practitioners for the appointment of
RESIDENT SENIOR HOUSE OFFICER
to the Gynaecological and Obstetrical Department of the Royal Victoria Infirmary
This is the Teaching Hospital of the University of Durham and the successful candidate will have opportunity for clinical experience in in-patient and out-patient work under the direction of the head of the department. He will also be responsible for clinical emergency duty as required. The appointment is for one year and will be subject to national terms and conditions of service. The salary is at the rate of £670 per annum, subject to the appropriate deductions, including £100 per annum for residential emoluments. Applications, giving age, nationality, experience and qualifications, with the names and addresses of three referees, should be sent to the undersigned within two weeks of the appearance of this advertisement.—A. W. Sanderson, House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne. (5358)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Obstetrics and Gynaecology—contd.

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell

Applications are invited from fully qualified medical practitioners for the post of

SENIOR HOUSE OFFICER (Obstetrics)

in the Obstetrical and Gynaecological Departments (48 obstetrical beds, 11 gynaecological beds, and a small block for puerperal pyrexia). This hospital is recognized for training for the D.R.C.O.G. The appointment is for a period of one year commencing February 1, 1952. Preference will be given to candidates who have experience in obstetrics and gynaecology. Salary will be as published by the Ministry. Applications, stating age, experience, qualifications and nationality, with copies of three recent testimonials, should be sent to H. M. Stanley, The Secretary, Nottingham No. 1 Hospital Management Committee, The General Hospital, Nottingham. (5276)

WORCESTER, RONKSWOOD HOSPITAL
Newtown Road (326 beds)
Group 25 Birmingham (Selly Oak) Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

RESIDENT SENIOR HOUSE OFFICER
(Gynaecology and Genito-Urinary)
(for which there are 40 beds allotted)

Applications, with copies of testimonials, to the Administrator. (5399)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1

Applications are invited from registered women medical practitioners for the post of

HOUSE SURGEON
to Gynaecological Department
(Recognized for M.R.C.O.G.)

Duties to commence March 1, 1952. Appointment for six months. Salary according to national scale for House Officers. Applications, with copies of three recent testimonials, should be sent to the Secretary by January 16. (5367)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1

Applications are invited from registered women medical practitioners for the post of

HOUSE SURGEON
for Gynaecological and Special Departments

Duties to commence March 1, 1952. Appointment for six months. Salary according to national scale for House Officers. Applications, with copies of three recent testimonials, should be sent to the Secretary by January 16. (5368)

GERMAN HOSPITAL, Dalston, London, E.8

Applications are invited for the post of

HOUSE SURGEON
(Obstetrics and Gynaecology)

at the above hospital, vacant during January, 1952, and should be sent to the Secretary, Hospital Management Committee, Hackney Hospital, E.8, within six days of appearance of this advertisement. (5459)

THE MOTHERS' HOSPITAL (SALVATION ARMY), Clapton, E.5 (Maternity, 110 beds)

Applications are invited from registered medical practitioners (women) for the posts (two) of

RESIDENT OBSTETRIC HOUSE SURGEON
(House Officer, Second or third post)

The vacancies occur on March 1, 1952, and April 1, 1952, respectively. The posts are recognized for the M.R.C.O.G. and the appointments will be for a period of six months. Candidates should have held resident surgical or medical posts. Applications, giving age, nationality, qualifications and experience, with copies of three testimonials, should be submitted not later than January 31, 1952, to the Secretary, Hospital Management Committee, Hackney Hospital, London, E.9. (5369)

BILLERICAY, ST. ANDREWS HOSPITAL
(34 beds. New unit)
South-East Essex Hospital Management Committee
OBSTETRIC HOUSE SURGEON

Applications are invited for the above appointment from registered medical practitioners, male or female. Resident. Six months' appointment in the first instance. Post vacant immediately. Applications, stating age, qualifications and experience, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Sec., Thurrock Hospital, Grays, Essex. (4118)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for the posts of

TWO HOUSE SURGEONS
to the Department of Obstetrics and Gynaecology

The appointments are for a period of six months commencing February 5, 1952, and March 17, 1952. There are about 1,500 deliveries per year in this department, and the posts are recognized for the D.R.C.O.G. and the M.R.C.O.G. in obstetrics. Applications, giving full particulars, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5460)

COLCHESTER, ESSEX COUNTY HOSPITAL
(21 Gynaecological beds)
COLCHESTER MATERNITY HOSPITAL
(22 Obstetric beds)
Colchester Group Hospital Management Committee
HOUSE OFFICER (Male or female)
(Obstetric and Gynaecological)
(First, second or third post)

Appointment tenable for six months. Salary in accordance with the terms of service issued by the Ministry of Health. Applications, with copies of three recent testimonials, should be forwarded to the Secretary, Colchester Group H.M.C., 14, Pope's Lane, Colchester. (5110)

DOVER, BUCKLAND HOSPITAL
South-East Kent Hospital Management Committee

Applications are invited from medical practitioners for the post of

RESIDENT HOUSE SURGEON
(Obstetric and Gynaecological)

at the above hospital. The appointment is recognized for the D.Obst.R.C.O.G., and will be tenable for a period of six months. Salary £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone. (5391)

DUMBARTON, OVERTOUN MATERNITY HOSPITAL

Applications are invited for the appointment of

RESIDENT HOUSE OFFICER

Salary in accordance with terms and conditions of service of hospital medical and dental staff. Applications, together with copies of three recent testimonials, should be sent immediately to the Secretary, Board of Management for Dunbartonshire Hospitals, Duntocher Hospital, Duntocher. (5461)

GATESHEAD AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Queen Elizabeth and Bensham General Hospitals

Applications are invited for the following appointment at the above hospitals:

HOUSE SURGEON to the Gynaecological Unit

This post is now vacant and applications should be addressed to the Medical Superintendent, Queen Elizabeth Hospital, Sheriff Hill, Gateshead, 9, Co. Durham, together with copies of two recent testimonials, as soon as possible. (5169)

GATESHEAD AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Queen Elizabeth and Bensham General Hospitals

Applications are invited for the following appointments at the above hospitals:

TWO RESIDENT OBSTETRIC OFFICERS
(House Officers)

These appointments become vacant on February 1, 1952, and applications, together with copies of two recent testimonials, should be addressed to the Medical Superintendent, Queen Elizabeth Hospital, Sheriff Hill, Gateshead, 9, Co. Durham, as soon as possible. The appointments will be in accordance with the national terms and conditions and the National Health Service Regulations. (5422)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee

Applications are invited for the post of

RESIDENT GYNAECOLOGICAL HOUSE SURGEON (Male or female)

now vacant, for duties at the above hospital and Scarthoe Road Infirmary, Grimsby. Apply Administrative Officer, Grimsby General Hospital. (5277)

HILLINGDON HOSPITAL
Near Uxbridge, Middlesex
RESIDENT HOUSE SURGEON (Male)

Required for obstetric duties. Previous obstetric experience desirable but not essential. Post recognized for D.R.C.O.G. and M.R.C.O.G. Whole-time duties under Medical Director. Applications not later than January 14, stating age, nationality, qualifications and experience, and enclosing copies of not more than three testimonials, to Medical Director. (5301)

NEWCASTLE GENERAL HOSPITAL (884 beds)
Department of Obstetrics and Gynaecology
Newcastle-upon-Tyne Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

RESIDENT OBSTETRICAL HOUSE SURGEON

to the above department (70 beds). The duration of the appointment will be for six months, but consideration may be given to the possibility of alternating the post with that of the House Surgeon to the Gynaecological Department. The department is recognized by the Royal College of Obstetricians and Gynaecologists for the Diploma of M.R.C.O.G., and D.Obst.R.C.O.G., and undertakes the training of medical students. Salary according to terms and conditions of the National Health Service, according to experience. The post is vacant on February 1, 1952. Applications should be sent without delay, together with one copy of two recent testimonials, or names and addresses of two referees, to Secretary, Newcastle General Hospital, Westgate Rd., Newcastle-upon-Tyne, 4. (5196)

LIVERPOOL, 14, BROADGREEN HOSPITAL

Applications are invited from registered medical practitioners for the undermentioned resident appointments falling vacant on April 1, 1952, and tenable for six months:

TWO HOUSE SURGEONS
(Obstetrics and Gynaecology)

Salaries in accordance with the national scale for House Officers, i.e., £350, £400 or £450 per annum, according to experience and subject to a deduction of £100 per annum in respect of residential emoluments. Applications, on forms obtainable from the undersigned, to be returned not later than January 31, 1952.—H. Blythe, Secretary, Broadgreen Hospital, Liverpool, 14. (5462)

LIVERPOOL, 6, MILL ROAD MATERNITY HOSPITAL

Applications are invited from registered medical practitioners for the undermentioned resident appointments, falling vacant on April 1, 1952, and tenable for six months:

TWO HOUSE SURGEONS
(Obstetrics and Gynaecology)

Salaries in accordance with the national scale for House Officers, i.e. £350, £400 to £450 per annum, according to experience and subject to a deduction of £100 per annum in respect of residential emoluments. Applications on forms obtainable from the undersigned, to be returned not later than January 31, 1952.—H. Blythe, Secretary, Broadgreen Hospital, Liverpool, 14. (5463)

LOUTH, LINCS, COUNTY INFIRMARY
(240 beds)
Grimsby Hospitals Management Committee
HOUSE OFFICER
(Obstetrics, Gynaecology and some Anaesthetics)

Applications are invited for the above post, which is now vacant, at this busy General Hospital. The post is resident and a deduction will be made of £100 per annum in respect of board, residence, etc. Salary £350 to £450 per annum, according to experience, and as laid down in the national scales. Applications, giving full particulars, together with names of two referees, to be addressed to the Administrative Officer. (3198)

MAIDENHEAD (near), CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow, Berks
HOUSE SURGEON
to the Unit of Obstetrics and Gynaecology

Required for post vacant March 3, 1952. Post recognized for M.R.C.O.G. Preference will be given to candidates who have had previous experience in midwifery and gynaecology. Salary on national scale. Applications, stating age, experience and qualifications (with dates), together with copies of two testimonials, should be sent to the Administrative Officer. (5243)

MIDDLESBROUGH, NORTH ORMESBY HOSPITAL (188 beds)
Tees-side Hospital Management Committee

Applications are invited for the appointment of

GYNAECOLOGICAL HOUSE SURGEON

the post is vacant from the end of January, 1952, offers excellent experience in gynaecology and is recognized for the M.R.C.O.G. examination. Applications, stating age, qualifications, and accompanied by copies of testimonials, should be forwarded as soon as possible to the Assistant Secretary, North Ormesby Hospital, Middlesbrough. (5464)

READING AREA DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

Applications are invited from registered medical practitioners for appointment as

HOUSE SURGEON

now vacant, for period of six months. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, nationality, qualifications (with dates), present post, with copies of three recent testimonials, to Administrative Officer, Royal Berkshire Hospital, Reading. (4841)

REDRUTH, CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL
West Cornwall Hospital Management Committee

Applications are invited from registered medical practitioners, male and female, for appointment of

FIRST HOUSE SURGEON
to the Obstetrical and Gynaecological Departments

at a salary according to national scale, commencing March 1, 1952. This appointment will be for six months. This hospital has been recognized in obstetrics for M.R.C.O.G. Applications, together with copies of three testimonials, should be sent to the undersigned by January 18, 1952.—Norman O. Deans, Administrative Assistant. (5302)

SHEPPEY GENERAL HOSPITAL
Minster, Sheppey, Kent
Medway and Gravesend Hospital Management Committee
OBSTETRIC HOUSE SURGEON

Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience, plus £50 per annum special allowance. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (4824)

Obstetrics and Gynaecology—contd.

SOUTH SHIELDS GENERAL HOSPITAL
Department of Obstetrics and Gynaecology
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE SURGEON
Salary £350 to £450 per annum, for a period of six months from February 1, 1952. Post recognized for both the Diploma and Membership Examinations of the R.C.O.G. Applications to be forwarded to the Medical Superintendent, General Hospital, Harton Lane, South Shields. (5147)

WAKEFIELD, MANYGATES HOSPITAL
Barnsley Road
Hospital Management Committee No. 9 Wakefield "A" Group
Applications are invited for the post of
OBSTETRICAL HOUSE SURGEON
at the above hospital and annexe. Total number of beds 50. The post is recognized for training for the D.Obst.R.C.O.G. The terms and conditions of service are in accordance with the National Health Service Act and Regulations. Forms of application may be obtained from the undersigned. —W. Read, Secretary. (5303)

WORKSOP, NOTTS, KILTON HOSPITAL
(191 beds)
Worksop and Retford Hospital Management Committee
OBSTETRIC AND GYNAECOLOGICAL HOUSE SURGEON
Required to commence duties immediately. Appointment for six months in first instance. Salary at rate of £350 to £450, according to number of posts held. A deduction of £100 per annum will be made in respect of residential emoluments. Applications, stating age, qualifications, nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Worksop and Retford Hospital Management Committee, Victoria Hospital, Worksop. (5304)

OPHTHALMOLOGY

HILLINGDON HOSPITAL
Uxbridge, Middlesex
North-West Metropolitan Regional Hospital Board
PART-TIME OPHTHALMIC REGISTRAR
Required for five sessions per week. Appointment for one year in the first instance. This is a general hospital of 705 beds, including ophthalmic beds, adults and children. Duties include work in the out-patient department, wards and operating theatre. Application forms obtainable from and returnable to the Secretary, Uxbridge Group Hospital Management Committee, Kingston Lane, Uxbridge, Middlesex, by January 15, 1952. Candidates may visit the hospital by direct appointment with the Medical Director. (5278)

SUNDERLAND H.M.C. GROUP
Newcastle Regional Hospital Board
REGISTRAR OPHTHALMOLOGIST (Whole-time)
Required at the Eye Infirmary (60 beds) up to August 31, 1952, in the first instance. Salary £775 per annum. Applications, together with names and addresses of one to three referees and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (5279)

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church Street, Birmingham, 3
Birmingham (Dudley Road) Group of Hospitals
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
vacant on February 1, 1952. Applicants must have held house appointments and have had wide experience in the specialty, possessing the Diploma in Ophthalmology. Applications, stating age, nationality, qualifications and experience, together with names of two referees, within seven days from the appearance of this advertisement to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (5197)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952. Salary £670 a year, less £100 a year for residential emoluments. Applications should be forwarded as soon as possible to Secretary, Mid-Kent Hospital Management Committee, 103, Tonbridge Road, Maidstone. (5359)

PRESTON ROYAL INFIRMARY
Applications are invited for the post of
SENIOR HOUSE OFFICER (Eye Department)
Some other duties in Group. Post recognized for D.O.M.S. Applications, with full details and references, should be sent to the undersigned at the Royal Infirmary, Preston.—John Gibson, Sec. (5168)

SUNDERLAND EYE INFIRMARY (62 beds)
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Ophthalmic)
(Resident, male or female)
The hospital has a large out-patients department and is recognized for the D.O.M.S. Post tenable for twelve months. Salary £670 per annum, less emolument value. Apply immediately to the Secretary, Sunderland Area Hospital Management Committee, General Hospital, Sunderland. (5436)

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church Street, Birmingham, 3
Birmingham (Dudley Road) Group of Hospitals
HOUSE SURGEON
Required to take up duty February 1, 1952. Salary in accordance with the terms and conditions of service of hospital medical and dental staffs (England and Wales). Appointment for six months, but renewable, and will enable successful candidate to prepare for Diploma in Ophthalmology. Applications, stating age, nationality, qualifications and experience, within seven days of the appearance of this advertisement, to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (5562)

HALIFAX, ROYAL INFIRMARY
Applications are invited for the post of
HOUSE SURGEON (Male or female)
to the Ophthalmic and E.N.T. Departments at this busy acute general hospital. The post includes part-time casualty duty and is recognized for the D.O. Applications, stating age, qualifications and experience, together with three recent testimonials, to be forwarded to the Secretary. (5465)

MANCHESTER ROYAL EYE HOSPITAL
United Manchester Hospitals
HOUSE SURGEON
Salary £350 to £450 per annum, according to the number of positions previously held, less £100 per annum for residential emoluments. Appointment of a practitioner within three months of qualification and subject to National Service Acts would be limited to six months. Applications, stating age, details of qualifications and experience, and nationality, should be forwarded immediately to H. R. North, General Superintendent. (5149)

ORTHOPAEDICS

EAST ANGLIAN REGIONAL HOSPITAL BOARD
Applications are invited for the following consultant appointment (whole-time or maximum part-time) at hospitals in the East Suffolk and Ipswich Area:
CONSULTANT ORTHOPAEDIC SURGEON
The main general hospitals are the East Suffolk and Ipswich and the Borough General, Ipswich. Applicants are required to have wide experience in their respective specialties and possess appropriate higher qualifications. Eight copies of applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 21, 1952. Applicants are invited to visit the appropriate hospitals and clinics by direct arrangement with the Hospital Management Committee Secretary at the East Suffolk and Ipswich Hospital.—K. V. F. Morton, Sec., 117, Chesterton Road, Cambridge. (5328)

HAMMERSMITH HOSPITAL AND POST-GRADUATE MEDICAL SCHOOL OF LONDON
REGISTRAR (Orthopaedics)
Required immediately. Applications, stating age, qualifications, experience, names of two referees, to Secretary, Board of Governors, Hammersmith, West London and St. Mark's Hospitals, 150, Du Cane Road, London, W.12, by January 12. (5360)

WHIPPS CROSS HOSPITAL
Whipps Cross Road, E.11
Applications are invited for the position of
ORTHOPAEDIC REGISTRAR (Non-resident)
The appointment is subject to review after one year. A local charge will be made for any residential amenities provided. Applications (in duplicate), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, January 19, 1952. (5531)

COVENTRY AND WARWICKSHIRE HOSPITAL
(346 beds)
Coventry Group
Birmingham Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME REGISTRAR in Orthopaedics
Accommodation may be available. Experience in specialty essential. Higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before January 22. Candidates may visit the hospital concerned. (5346)

NOTTINGHAM GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
REGISTRAR (Orthopaedic Surgery)
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointment (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5329)

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL (269 beds)
Scunthorpe Hospital Management Committee
ORTHOPAEDIC REGISTRAR
(Resident or non-resident)
Required in busy department offering good clinical experience. National terms and conditions of service. Applications, stating age, nationality, qualifications and experience, with names of two referees, to the Secretary at the War Memorial Hospital, Scunthorpe, Lincs. (5244)

WHISTON COUNTY HOSPITAL
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME ORTHOPAEDIC REGISTRAR
with duties in the above hospital. This is a resident post and accommodation is available for a single person, for which a charge of £130 will be made, but consideration will be given to the successful person becoming non-resident if suitable accommodation is found within reasonable distance of the hospital. The post is tenable until September 30, 1952. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than January 19, 1952.—Vincent Collinge, Secretary to the Board. (5466)

ALBERT DOCK FRACTURE AND ORTHOPAEDIC HOSPITAL, Alnwick Road, E.16
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
at £670 per annum, with authorized deductions. Applications, stating age, qualifications and experience, together with the names of three referees, should be sent immediately to the undersigned.—F. A. Lyon, Secretary, Dreadnought Hospital, S.E.10. (5532)

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL
ORTHOPAEDIC, TRAUMATIC AND CASUALTY SENIOR HOUSE OFFICER
Applications are invited for the above resident appointment. Hospital comprises 189 beds with large out-patient departments. Duties comprise service in the orthopaedic, traumatic and casualty departments, and the post is recognized for F.R.C.S. Salary £670 per annum, less £100 per annum for emoluments. Applications, with two recent copy testimonials, to be forwarded to the Secretary, Barrow and Furness Hospital Management Committee, 52, Paradise Street, Barrow-in-Furness. (5467)

BIRMINGHAM, 15, ROYAL ORTHOPAEDIC HOSPITAL, 80, Broad Street
(Acute Orthopaedic Hospital with 338 beds and extensive Out-patient Service)
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited from registered medical practitioners, preferably with previous orthopaedic experience, for the position of
SENIOR HOUSE OFFICER
Applications, with copies of testimonials, to the Administrator. (5398)

BLACKBURN ROYAL INFIRMARY (244 beds)
SENIOR HOUSE OFFICER
Required for Orthopaedic and Fracture Departments, which include the Casualty Department. Salary £670 per annum, less the appropriate deduction in respect of board residence if resident, but appointment may be non-resident if desired. The post is recognized for the F.R.C.S. examination. Applications, stating age, experience and qualifications, and accompanied by copies of two recent testimonials, or names for reference, to be addressed to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (5054)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
SENIOR ORTHOPAEDIC HOUSE SURGEON
Applications are invited for the above appointment, which is tenable for one year. Salary £670 per annum and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (5468)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Orthopaedics—contd.

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute General Hospital, mainly surgical, with beds for orthopaedic, medical and other specialties)
Bury and Rossendale Hospital Management Committee

Applications are invited for the appointment of

SENIOR HOUSE OFFICER (Orthopaedic)

at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Sec. to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9580)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

SENIOR HOUSE OFFICER

to the Orthopaedic Unit in the area of this Hospital Management Committee. The orthopaedic unit consists of 30 beds at Eryri Hospital, Caernarvon, busy Out-patient Clinics at the Caernarvon and Anglesey General Hospital, Bangor, work in peripheral hospitals, etc. The post offers excellent experience in orthopaedics and traumatic surgery. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, qualifications, details of previous hospital appointments, and three testimonials, to be forwarded to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, within ten days of the appearance of this advertisement. (5419)

EXETER, PRINCESS ELIZABETH ORTHOPAEDIC HOSPITAL (150 beds with annexe)
Exeter and Mid-Devon Hospitals Management Committee

Applications are invited for two posts of

RESIDENT SENIOR HOUSE OFFICER

for the Orthopaedic and Fracture Service centred on the Princess Elizabeth Orthopaedic Hospital and Associated Hospital. Vacancies February. The posts provide experience in the whole field of orthopaedics and opportunity for postgraduate study. Salary £670, less £100 for emoluments. Applications, stating age, qualifications, with dates, etc., and with copies of three recent testimonials, should be forwarded immediately to the Senior Administrative Officer, Princess Elizabeth Orthopaedic Hospital, Exeter, Devon. Closing date within seven days of date of advertisement. (5469)

MANCHESTER NORTH, HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the appointment of

SENIOR HOUSE OFFICER (Orthopaedics)

vacant as from January 1, 1952, with duties at Crumpsall Hospital and other hospitals within the Group. Applications, stating age, qualifications, and dates, particulars of previous appointments (with dates), along with the names and addresses of two referees, to be sent to the undersigned immediately.—A. T. Sampson, Secretary to the Committee, Crumpsall Hospital, Manchester, 8. (5305)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)

Applications are invited for the post of

SENIOR HOUSE OFFICER

to the Orthopaedic, Accident and Casualty Department of the above hospital. Salary £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible.—A. Ashworth, Secretary to the Committee. (5339)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

RESIDENT SENIOR HOUSE OFFICER (Orthopaedic)

Duties to commence as soon as possible. Duties will relate mainly to accident and fracture cases, both in- and out-patients, and include orthopaedic cases. Previous experience of this type of work is essential. Salary and conditions of service in accordance with the Ministry Regulations. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (5801)

OLDHAM ROYAL INFIRMARY
Oldham and District Hospital Management Committee

Applications are invited for the appointment of

RESIDENT SENIOR HOUSE OFFICER

in the Fracture and Orthopaedic Service at the above hospital, vacant immediately. Applications, stating age, nationality, full details of previous experience, and containing the names of two persons to whom reference may be made, should be forwarded to the undersigned. Please quote reference No. A/777.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (5470)

PAISLEY AND DISTRICT HOSPITALS, BOARD OF MANAGEMENT FOR

Applications are invited for the undermentioned posts:

Royal Alexandra Infirmary

SENIOR HOUSE OFFICER (Orthopaedic)

Salary in accordance with the terms of service of medical staff in the National Health Service, i.e., £670 per annum. This appointment is recognized by the Royal College of Surgeons for six of the twelve months period of surgical training required of candidates for the Final Fellowship examination.

HOUSE SURGEON (Orthopaedic)

Salary according to experience. Vacant February 1, 1952.

Applications should be made within seven days of the date of this advertisement to the Group Medical Superintendent, Royal Alexandra Infirmary, Paisley. Applicants for the Senior House Officer post should also include copies of two testimonials. (5343)

ROCHDALE INFIRMARY
(General—109 beds)
Rochdale and District Hospital Management Committee

SENIOR HOUSE OFFICER (Orthopaedic)

Applications are invited for the above position. The appointment will be for one year. Salary in accordance with the terms of service of medical staff in the National Health Service, i.e., £670 per annum. This appointment is recognized by the Royal College of Surgeons for six of the twelve months' period of surgical training required of candidates for the final fellowship examination. Applications should be forwarded to the undersigned.—S. Hodkinson, Secretary, Central Offices, Birch Hill Hospital, Rochdale, Lancs. (9956)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)

TWO SENIOR HOUSE OFFICERS (Orthopaedic)/CASUALTY OFFICERS

required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7795)

STOCKPORT INFIRMARY, Stockport
Stockport and Buxton Hospital Management Committee

Applications are invited for the following post, which will become vacant on February 1, 1952:

ASSISTANT RESIDENT SURGICAL OFFICER
with duties in the Orthopaedic Department
(Senior House Officer)

Salary £670 per annum, less a deduction of £155 per annum for board residence and laundry. Applications, stating age, nationality and qualifications, together with the names of two referees, or copies of two testimonials, to be forwarded to the Administrative Officer.—H. G. Price, Secretary to the Group. (5471)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (Orthopaedic)

The post is recognized for the F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5055)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee

Applications are invited for the vacancy of

SENIOR RESIDENT HOUSE OFFICER
to the Orthopaedic and Traumatic Department

which is now vacant. This is a large and busy centralized unit with two consultants, 64 beds and out-patients' departments. In addition to this there is an orthopaedic rehabilitation annexe of 45 beds. The post is tenable for one year at a salary of £670, less £100 for emoluments and subject to the regulations of the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of two recent testimonials, should be forwarded to the Administrative Assistant, Royal Cornwall Infirmary, Truro, without delay. (5260)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee

Applications are invited for the two vacancies of

RESIDENT SENIOR HOUSE SURGEON
to the Orthopaedic and Traumatic Department

which occur on January 12 and February 7, 1952. This is a large and busy specialty with two consultants, 70 beds, and deals with the greater part of the casualties in West Cornwall. The post is tenable for one year at a salary of £670, less £100 for emoluments, and subject to the terms and conditions published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of two recent testimonials, should be forwarded to the Administrative Assistant without delay. (4807)

TYNEMOUTH, VICTORIA JUBILEE INFIRMARY
South-East Northumberland Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of

RESIDENT SENIOR ORTHOPAEDIC HOUSE SURGEON and CASUALTY OFFICER

Salary £670 per annum. Applications, giving full details and with two testimonials (or the names of two referees), should be sent to the Secretary, South-East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (5424)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
Winchester Group Hospital Management Committee

SENIOR HOUSE OFFICER
in the Orthopaedic Department

The appointment will be for six months in the first instance and will be resident. Salary at the rate of £670 per annum, less £150 for board and residence. Applications should be sent to the Secretary. (5472)

ROYAL NORTHERN HOSPITAL
Holloway, London, N.7
Northern Group Hospital Management Committee

Applications are invited for the post of

ORTHOPAEDIC HOUSE SURGEON

Post involves occasional casualty duties. Salary £400 to £450 per annum, according to experience, less £100 per annum for board residence. Applications, stating age, qualifications (with dates), and nationality, together with copies of three recent testimonials, to be sent immediately to the Assistant Secretary. (5111)

ST. ALFEGE'S HOSPITAL
Vanbrugh Hill, Greenwich, S.E.10 (506 beds)

Applications are invited for the post of

HOUSE SURGEON

to the orthopaedic and special departments at the above hospital, for a period of six months from approximately January 14, 1952. Salary £350 to £450, according to experience, less £100 per annum for board and lodging. Applications, together with copies of not more than three recent testimonials, should reach Secretary, Greenwich and Deptford Hospital Management Committee, at the above hospital as soon as possible. (5410)

AMERSHAM GENERAL HOSPITAL, Bucks
(124 acute beds)

RESIDENT HOUSE OFFICER
Orthopaedic and Accident Department

Applications are invited. Duties include charge of casualty department under visiting consultant staff and care of in-patient beds. Hospital is a peripheral centre of Oxford Regional Orthopaedic Service based on Wingfield Morris Orthopaedic Hospital. Applications, with copies of three recent testimonials, to Medical Director. (5330)

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL

HOUSE SURGEON

Required for the Department of Children's Surgery and Orthopaedics which is centred on this hospital for the area. There are 35 orthopaedic beds and 10 children's beds. First or second post. Vacant now. Please apply, with two testimonials, to the Secretary-Supt. as soon as possible. (5307)

BRADFORD ROYAL INFIRMARY

ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Sec. (5473)

BRADFORD, ST. LUKE'S HOSPITAL

ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (5474)

CAMBRIDGE, UNITED, HOSPITALS

Applications are invited for the post of

HOUSE SURGEON (First or subsequent post)
to the Orthopaedic and Fracture Department at Addenbrooke's Hospital

vacant on February 28, 1952. Salary, terms and conditions as approved for hospital medical staff. Applications, stating age, qualifications (with dates) and nationality, and accompanied by copies of three recent testimonials, should be sent to the undersigned not later than Saturday, January 12, 1952.—J. A. Beardsall, Secretary. (5245)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee

ORTHOPAEDIC AND GENERAL SURGICAL HOUSE SURGEON

The above post, which is recognized for the F.R.C.S. Diploma, becomes vacant at the end of January. National Health Service salary and conditions. Applications to be addressed to the Chief Administrative Officer at the hospital. (5533)

Orthopaedics—contd.

DURHAM, DRYBURN HOSPITAL (355 beds)
Durham Hospital Management Committee
Applications are invited from registered medical practitioners for the resident post of
ORTHOPAEDIC HOUSE SURGEON
Duties to include some casualty work. Applications to be sent to the undersigned as early as possible.—A. W. Youngs, Secretary. (5151)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Vacant now. National scales and conditions. Six-monthly appointment, terminable at any time by one month's notice on either side. Forms of application from the Administrative Officer. (7138)

IPSWICH BOROUGH GENERAL HOSPITAL
(301 beds—recognized for D.A. and R.C.S. examinations)
HOUSE SURGEON
Required for Fracture and Orthopaedic Department, together with duties of Casualty Officer. Vacancy occurs mid-February. Applications, together with copies of recent testimonials, or names of two referees, to Secretary, Ipswich Group Hospital Management Committee, Ipswich. (5432)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
HOUSE OFFICER
for Orthopaedic and Traumatic Surgery
The post is recognized for the Fellowship of the Royal College of Surgeons. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (5046)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds)
Applications are invited for the post of
HOUSE OFFICER (Orthopaedic)
vacant about February 1. The post is recognized for the Fellowship of the Royal College of Surgeons. The fracture and orthopaedic department is a self-contained unit of 36 beds with its own X-ray, out-patient department, etc., and affords an excellent opportunity of gaining considerable experience. Apply, with the names of three referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (4777)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE HOUSE SURGEON
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
ORTHOPAEDIC HOUSE SURGEON
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference number A/778, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (5475)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5534)

CONNAUGHT HOSPITAL
Walthamstow, E.17
CLINICAL ASSISTANT
Required in the Orthopaedic Department at Connaught Hospital for two out-patient sessions per week, on Monday and Friday afternoons. Salary in accordance with paragraph 10 (b) of service conditions, i.e., £175 a year for each weekly notional half-day. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, Hospital Management Committee, Forest Group (No. 11), Langthorne Road, Leytonstone, E.11. (5080)

PAEDIATRICS

LIVERPOOL, ALDER HEY CHILDREN'S HOSPITAL
Liverpool Regional Hospital Board
Department of Child Health, University of Liverpool
Applications are invited for the post of
WHOLE-TIME MEDICAL REGISTRAR AND TUTOR to the Department of Child Health
at the above hospital. The appointment will be in the Registrar grade. The person appointed will work under the direction of the Professor of Child Health and will carry out such duties as may be assigned to him. Previous experience in paediatrics is essential, and the possession of a higher qualification desirable. Application forms obtained from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than January 19, 1952.—Vincent Collinge, Secretary to the Board. (5476)

LIVERPOOL REGIONAL HOSPITAL BOARD
Mill Road Maternity Hospital
Applications are invited for the post of
WHOLE-TIME RESIDENT REGISTRAR
in Paediatrics
for duties with the newly born at the above hospital. The post is tenable to September 30, 1952. A deduction in salary will be made in respect of emoluments valued at £130. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than January 17, 1952.—Vincent Collinge, Sec. to the Board. (5370)

SHEFFIELD CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
REGISTRAR (Paediatrics)
to the above hospital, which is a recognized training hospital for the D.C.H. The appointment is for one year in the first instance and may be renewed for a further year, and will become vacant on March 1, 1952. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5306)

MANCHESTER, 9, BOOTH HALL CHILDREN'S HOSPITAL
RESIDENT SENIOR HOUSE OFFICER (Medical)
Conditions are those of the national scale. Post vacant in February, 1952. Previous paediatric experience essential. State age, nationality and usual relevant particulars and enclose copies of two recent testimonials. Applications should reach the Medical Supt. not later than January 19. (5477)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
RESIDENT HOUSE OFFICER
Required in Paediatric Department, including neo-natal department. Post recognized for D.C.H. Appointment for six months from February 1, 1952. Applications to Medical Director by January 12, 1952. (5372)

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke Road (140 beds)
Brighton and Lewes Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant January, 1952, for a period of six months. Duties include a certain amount of medical work. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with copies of recent testimonials, to be submitted to the Administrative Officer before January 19, 1952. (5479)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
to the Paediatric Department
The appointment is for a period of six months, commencing March 17, 1952. The department is recognized for D.C.H. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5480)

MANCHESTER, 19, DUCHESS OF YORK HOSPITAL FOR BABIES
Manchester Babies' and Children's Hospital Management Committee
HOUSE PHYSICIAN (Male or female)
Required for six months from March 1, 1952. Salary in accordance with national scale. Applications, with copies of three testimonials, to be sent to the Administrative Officer of the hospital before January 25, 1952. (5481)

MANCHESTER (near), ROYAL MANCHESTER CHILDREN'S HOSPITAL, Pendlebury
Salford Hospital Management Committee
Applications are invited from medical practitioners, male and female, for the post of
RESIDENT HOUSE SURGEON
(House Officer Status)
falling vacant on February 22, 1952. The appointment is for a period of six months. Applications, stating age, qualifications (with dates), and nationality, accompanied by copies of three recent testimonials, to be sent to the Superintendent at the hospital, to be received immediately. (5373)

MANCHESTER, 9, BOOTH HALL CHILDREN'S HOSPITAL
HOUSE OFFICER (Surgical)
Post vacant now. National scale conditions. Applications should state age, nationality and usual relevant particulars and should be sent to the Medical Supt. not later than January 19. (5478)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
Applications are invited for the post of
HOUSE SURGEON
with duties in the Paediatric Department. Salary £350 to £450, according to previous posts held, with deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications, and experience, together with names of two referees, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible.—A. Ashworth, Secretary to the Committee. (4813)

NOTTINGHAM CHILDREN'S HOSPITAL
(134 beds)
RESIDENT HOUSE SURGEON
RESIDENT HOUSE PHYSICIAN
Applications are invited for the above posts. That of Resident House Surgeon is immediately vacant. The post of House Physician will fall vacant on March 1, 1952. Both appointments are tenable for six months in the first instance. Salary £350 to £450 per annum, less emoluments. Applications, with copies of two testimonials, should be sent to the Assistant Secretary, Nottingham Children's Hospital, Chestnut Grove, Nottingham. (5482)

ROCHDALE, BIRCH HILL HOSPITAL
Rochdale and District Hospital Management Committee
Applications are invited for the position of
HOUSE OFFICER
for duties in the Paediatric Department, together with general duties in the Hospital. Salary and conditions in accordance with the terms of service for medical staff in the Health Service. Applications should be forwarded to the undersigned.—S. Hodkinson, Secretary, Central Offices, Birch Hill Hospital, Rochdale. (5112)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL
(964 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Paediatrics)
vacant February 15, 1952. Post recognized for D.C.H. examination. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5056)

PATHOLOGY

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
WHOLE-TIME CONSULTANT PATHOLOGIST
to work under the Group Pathologist in the Croydon Group of Hospitals, with duties as necessary at Queen Mary's Hospital for Children, Carshalton, Surrey. Candidates should have wide experience in all branches of clinical pathology. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than January 31, 1952. Applicants may visit the hospitals by local arrangement. (5308)

SOUTHAMPTON GROUP OF HOSPITALS
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME CONSULTANT PATHOLOGIST
Candidates should have wide experience in all branches of pathology with preferably a special interest in haematology. The successful candidate would work under the Director of Pathology, main duties being at the Southampton General Hospital, with visits to outlying hospitals in the Group as necessary. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than January 31, 1952. Applicants may visit the hospitals by local arrangement. (5246)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
RESIDENT ASSISTANT CLINICAL PATHOLOGIST
Applications are invited for the above appointment, with status of J.H.M.O. Previous experience in pathology desirable but not essential. The laboratory is recognized for the Diploma in Clinical Pathology, University of London, and the post offers excellent scope for training in hospital pathology. Applications, with copy testimonials, and details of previous experience, should be forwarded as soon as possible to the Secretary, Hospital Management Committee, Princes Road, Hartshill, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5484)

Pathology—contd.

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
RESIDENT SENIOR HOUSE OFFICER

Required in Pathological Department to take part in 24 hour service. Experience in all branches of pathology desirable. Appointment for six months, renewable for further six months. Applications to Medical Director by January 12. (5371)

ENFIELD, MIDDLESEX, CHASE FARM HOSPITAL
Enfield Group Hospital Management Committee
RESIDENT PATHOLOGIST
(Senior House Officer Grade)

Required in the Group Laboratory. Vacant now. General pathological duties. Twelve months' appointment. Applications, stating age, qualifications, experience, nationality and the names of two referees, to the Secretary of the Management Committee at Chase Farm Hospital by Jan. 10. (5485)

SHEFFIELD, UNITED, HOSPITALS
Royal Hospital/Royal Infirmary Units

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER in Clinical Pathology

resident at the Royal Hospital, at a salary of £670 per annum, less a deduction for emoluments (at present £130 per annum). Pathological experience is not essential but candidates must have previous clinical experience. The successful candidate will be responsible for emergency pathological and blood transfusion duties at the hospital and will work in different branches of clinical pathology in the laboratories of the United Sheffield Hospitals. Applications, stating age, qualifications and experience, together with the names of three referees, should be forwarded immediately to the undersigned.—A. P. Prentice, Superintendent, The Royal Hospital, West Street, Sheffield, 1. (5488)

READING, ROYAL BERKSHIRE HOSPITAL
(403 beds)

Applications are invited from registered medical practitioners (male) for the post of

RESIDENT ASSISTANT PATHOLOGIST

vacant January 7 for six months. Previous experience in pathology not necessary. £100 deduction for board residence (£350 to £450 per annum). Applications, stating age, qualifications (with dates), nationality, and present post, with copies of three recent testimonials, to Administrative Officer. (3937)

PHYSICAL MEDICINE

HIGHLANDS HOSPITAL
Winchmore Hill, N.21
North-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of

PART-TIME ASSISTANT PHYSICIAN

in the Department of Physical Medicine for seven half-days a week. Salary scale £1,300 to £1,750 per annum. This hospital, which has some 818 beds, has a small number of general medical and surgical beds, a large orthopaedic unit and all the usual special departments. The hospital is in process of reorganization as a district general hospital. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 2, 1952. Candidates are invited to visit the hospital by direct appointment with the Medical Supt. (5374)

CONNAUGHT HOSPITAL
Walthamstow, E.17
CLINICAL ASSISTANT

Required in the Department of Physical Medicine at Connaught Hospital for two sessions per week on Tuesday and Friday mornings. Salary in accordance with paragraph 10(b) of service conditions, i.e., £175 a year for each weekly notional half-day. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, Hospital Management Committee, Forest Group (No. 11), Langthorne Road, Leytonstone, E.11. (5247)

PSYCHIATRY

BIRMINGHAM, HIGHCROFT HALL HOSPITAL
(1,227 beds)
Birmingham (Mental C) Group
Birmingham Regional Hospital Board

Applications are invited for the appointment of

WHOLE-TIME CONSULTANT PSYCHIATRIST

Non-resident appointment. Candidates should possess D.P.M. Wide experience in specialty essential. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies of applications, stating name, age, nationality, qualifications, present and previous appointments and details of three referees, to Secretary, 10, Augustus Road, Edgbaston, Birmingham, 15, before January 22, 1952. Candidates may visit the hospital by appointment. (5347)

HORNSEY CHILD GUIDANCE CLINIC
"The Priory," Priory Road, N.8
North-West Metropolitan Regional Hospital Board

Applications are invited from suitably qualified medical practitioners with relevant experience for the appointment of part-time

ASSISTANT CHILD PSYCHIATRIST

(salary scale £1,300 to £1,750 per annum) for four half-days a week. The successful candidate will be in the employment of the Board, but the child guidance service will be administered by the Education Department of the Middlesex County Council. Applications, stating date of birth, qualifications, and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than Jan. 26. (5535)

BASINGSTOKE, HANTS, PARK PREWETT HOSPITAL (1,400 beds)
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of

WHOLE-TIME ASSISTANT PSYCHIATRIST

to work under Consultant Psychiatrists. Salary scale £1,300 by £50 to £1,750 per annum. Candidates should possess the D.P.M. and have considerable experience in psychiatry. Residential accommodation, for which an appropriate charge would be made, is available for a single man. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a Portland Place, London, W.1, to arrive not later than January 19, 1952. Applicants may visit the hospital by local arrangement. (5249)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time post of

DEPUTY MEDICAL SUPERINTENDENT AND ASSISTANT PSYCHIATRIST
at Calderstones Hospital, Whalley, near Blackburn
(2,378 beds for mental defectives)

Married or single quarters available. Candidates should have had good experience in the care of mental defectives and possess the D.P.M. Salary £1,300 to £1,750 per annum. Forms of application may be obtained from the Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than January 21, 1952. (5375)

PORTSMOUTH, ST. JAMES HOSPITAL
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of

WHOLE-TIME ASSISTANT PSYCHIATRIST

to work under the Consultant Psychiatrists. Candidates should possess the D.P.M. The successful candidate will be responsible to the Physician Superintendent for the management of the E.E.G. department and the post gives clinical opportunities in other departments of the hospital's activities, which include the treatment of the neuroses and psychoneuroses and the maladjusted child. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than January 19, 1952. Applicants may visit the hospital by local arrangement. (5248)

RADCLIFFE-ON-TRENT, NOTTS, SAXONDALE HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners, preferably holding a higher qualification in psychiatry, for the whole-time post of

ASSISTANT PSYCHIATRIST

A house on the hospital estate is available for the successful candidate. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further particulars may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms should be returned to the Secretary not later than January 26, 1952. (5057)

TWICKENHAM CHILD GUIDANCE CLINIC
58, Hampton Road, Twickenham
North-West Metropolitan Regional Hospital Board

Applications are invited from suitably qualified medical practitioners with relevant experience for the appointment of part-time

ASSISTANT CHILD PSYCHIATRIST

(salary scale £1,300 to £1,750 per annum) for four half-days a week. The successful candidate will be in the employment of the Board, but the child guidance service will be administered by the Education Department of the Middlesex County Council. Applications, stating date of birth, qualifications, and experience, with the names of three referees, should reach the Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than January 26. (5537)

UXBRIDGE CHILD GUIDANCE CLINIC
255-6, High Street, Uxbridge, Middlesex
North-West Metropolitan Regional Hospital Board

Applications are invited from suitably qualified medical practitioners with relevant experience for the appointment of part-time

ASSISTANT CHILD PSYCHIATRIST

(salary scale £1,300 to £1,750 per annum) for three half-days a week. The successful candidate will be in the employment of the Board, but the child guidance service will be administered by the Education Department of the Middlesex County Council. Applications, stating date of birth, qualifications, and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than Jan. 26, 1952. (5536)

FRIERN HOSPITAL
New Southgate, N.11 (2,470 beds)
North-West Metropolitan Regional Hospital Board
PSYCHIATRIC REGISTRAR

Required for one year. Candidates should have adequate general medical and psychiatric experience. Candidates may visit the hospital by direct arrangement with the Physician Superintendent. Application forms obtainable from, and returnable to, the Secretary, Friern Hospital Management Committee, Friern Hospital, New Southgate, N.11, by January 19, 1952. (5563)

BURNTWOOD, ST. MATTHEW'S HOSPITAL
(1,234 beds)
Burton-on-Trent Group
Birmingham Regional Hospital Board

Applications are invited for the appointment of

WHOLE-TIME REGISTRAR in Psychiatry

Resident appointment. Experience in specialty essential and possession of D.P.M. an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before January 22, 1952. Candidates may visit the hospital concerned. (5348)

CAMBRIDGE (near), FULBOURN MENTAL HOSPITAL
East Anglian Regional Hospital Board
REGISTRAR in Psychiatry

There are 750 beds in the hospital, which includes a very active early treatment unit. It affords facilities for teaching and research to the department of experimental psychology of Cambridge University and runs out-patient clinics in general hospitals. The appointment will be for one year, renewable for a second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 21, 1952. Candidates are invited to visit the hospital by direct arrangement with the Medical Superintendent.—K. V. F. Morton, Sec., 117, Chesterton Road, Cambridge. (5309)

COULSDON, SURREY, CANE HILL HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of

REGISTRAR (Whole-time)

at the above psychiatric hospital. The hospital serves a large area in South London, where it has four out-patient clinics; it also undertakes postgraduate teaching in association with the Institute of Psychiatry. Candidates should have had previous general and psychiatric hospital experience. Every facility will be given for further study, both within the hospital and outside. Holders of the post may be resident (if unmarried) or non-resident. Canvassing will disqualify, but candidates may visit the hospital by arrangement with the Physician Superintendent. Application forms, for which a stamped addressed foolscap envelope should be supplied, may be obtained from the Secretary at the above address, and are returnable not later than fourteen days after the appearance of this advertisement. (5280)

IPSWICH, ST. CLEMENT'S MENTAL HOSPITAL
East Anglian Regional Hospital Board
REGISTRAR in Psychiatry

The hospital, which has 400 beds, is situated in the town and does a large volume of out-patient work both on the premises and in the general hospitals. The appointment includes the opportunity to make regular weekly attendances at a modern child guidance clinic under the direction of a full-time consultant. The appointment will be for one year, renewable for a second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 21, 1952. Candidates are invited to visit the hospital by direct arrangement with the Medical Superintendent.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5310)

Psychiatry—contd.

GOODMAYES MENTAL HOSPITAL
Batley Lane, Goodmayes, Essex
Applications are invited for the position of
RESIDENT REGISTRAR IN PSYCHIATRY
Accommodation for single candidate. Some experience in a general hospital and in general practice advantageous. The appointment is subject to review after one year. A local charge will be made for residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, January 19, 1952. (5538)

AMENDED ADVERTISEMENT
PORTSMOUTH, ST. JAMES HOSPITAL FOR MENTAL AND NERVOUS DISEASE
South-West Metropolitan Regional Hospital Board
Group 49 Management Committee
PSYCHIATRIC REGISTRAR
The post is full-time and furnished accommodation with board is available in the hospital for a single officer at a charge of £150 per annum. The hospital has special departments for electro-encephalography and child psychiatry, and has responsibility for the mental health service of Portsmouth. Intending candidates may visit the hospital by arrangement. Application forms may be obtained from the Secretary, St. James Hospital, Portsmouth, and five copies should be returned to him, duly completed, within fourteen days of the appearance of this advertisement. (5483)

ARGYLL AND BUTE MENTAL HOSPITAL
Lochgilphead, Argyll
(Beds: Male 300, female 250)
JUNIOR HOSPITAL MEDICAL OFFICER
Salary according to national scales. The appointment is subject to the terms and conditions of service set out in Circular R.H.B.(S) (49) 16. Applications, stating age, experience and qualifications, to be sent along with three recent testimonials to the Medical Superintendent. (5486)

LIVERPOOL (near), RAINHILL HOSPITAL
Rainhill Mental Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
JUNIOR HOSPITAL MEDICAL OFFICER or SENIOR HOUSE OFFICER
according to qualifications and experience, at the above hospital. There are approximately 2,800 beds and opportunities exist for gaining experience in all branches of psychiatry, and facilities are available for attending a D.P.M. course. Residential facilities available at a charge of £150 per annum. Applications, stating age, qualifications and experience, together with names and addresses of two referees, or, alternatively, two testimonials, to be sent to the Medical Superintendent within seven days of the appearance of this advertisement. (5174)

NEWPORT, MON, ST. CADOC'S HOSPITAL
Caerleon
(For Neurological and Psychiatric Disorders)
Applications are invited for the appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
Salary £700 by £50 to £1,000 per annum, less £150 residential charge if applicant is single. Appointment is subject to the National Health Service (Superannuation) Regulations, and to terms and conditions published by the Ministry of Health. Opportunity for experience in all branches of psychiatry, including out-patient work, and all forms of modern treatment are undertaken at the hospital. Applications, in writing, stating age, qualifications, and experience, together with the names of two referees, to be sent to the Medical Superintendent as soon as possible. (5539)

YORK, THE RETREAT
(An Independent Registered Hospital for Mental and Nervous Illnesses, managed by a Committee of the Society of Friends (Quakers))
JUNIOR HOSPITAL MEDICAL OFFICER
(Woman)
Preference will be given to members of the Society of Friends, but applications will be welcomed from those who are in sympathy with the aims and objects of the society. Accommodation will be provided and the salary is according to the National Health Service scale. Applications, together with the names of two referees, should be addressed to the Physician Superintendent, The Retreat, York. (5217)

BIRMINGHAM, HOLLYMOOR HOSPITAL
(630 beds)
Birmingham No. 6 Group (Mental B) Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
(Male or female)
Duties commence at once. Resident or non-resident. Post offers good experience in the diagnosis and treatment of psychosis and neurosis. Previous post-graduate psychiatric experience not essential. Applications, stating name, age, nationality, qualifications and experience, and providing the names and addresses of three referees, to be sent immediately to the Secretary, Offices of the No. 6 Group Hospital Management Committee, Rubery Hill Hospital, Birmingham. (5311)

BIRMINGHAM, 18, WINSON GREEN HOSPITAL
Birmingham (Mental A) Group No. 5 Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Male or female)
Salary at the rate of £670 per annum, less a charge of £120 per annum for board and lodging if resident. The post, which will be for one year in the first instance, will be subject to the terms and conditions of service for medical and dental staff and subject to the National Health Service (Superannuation) Regulations. The hospital is associated with the University of Birmingham for the teaching of psychiatry, and training for the Diploma in Psychological Medicine will be provided. Applications, stating age and qualifications, to be sent to the Medical Superintendent at the hospital. (5153)

BRENTWOOD MENTAL HOSPITAL
Brentwood, Essex
SENIOR HOUSE OFFICER
Required at once. The hospital has over 2,000 beds and an annual admission rate of over 600 patients. All modern treatments are carried out and the post affords a means of gaining valuable experience in modern psychiatry. Instruction will be given by Senior Staff. Salary is at the rate of £670 per annum, less £150 for residential amenities. Applications, stating age, experience and qualifications to the Physician Superintendent, with names of two referees, as soon as possible. (5564)

GOODMAYES HOSPITAL
Goodmayes, Ilford, Essex
SENIOR HOUSE OFFICER
Required for modern mental hospital situated in easy reach of the centre of London. All forms of modern psychiatric treatment available. Facilities given to study for higher qualifications. Salary £670 per annum, less £150 for residential amenities if resident. Applications, stating age, experience and qualifications, to the Physician Superintendent, with two copies of recent testimonials, as soon as possible. (5376)

LANCASTER, ROYAL ALBERT HOSPITAL
The Royal Albert Hospital Management Committee invite applications for the post of
SENIOR HOUSE OFFICER
at the Royal Albert Hospital for Mental Deficiency. Salary on the approved scale. The appointment is open to a single or married man, there being residential quarters for a single applicant or a small house available for rental for a married man. Applications should be forwarded to the Medical Supt. not later than January 14. (5487)

MAIDSTONE, OAKWOOD HOSPITAL
SENIOR HOUSE OFFICER
Required immediately for the above Mental Hospital of 2,200 beds. Full residential accommodation is available for single officers. Applications, in writing, giving details of experience and the names of two persons to whom reference can be made, to be sent to the Medical Supt. (8721)

BOW GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE OFFICER
Required for the Psychiatric Unit, which consists of 24 observation beds and 36 beds for the short-term treatment of psychoses and neuroses. O.P. facilities exist for the follow-up of cases and the unit is visited by Consultants from the London and Claybury Hospitals. Training facilities for the D.P.M. exist. Post will be vacant on February 1, 1952. Apply, stating age, qualifications and experience, together with the names and addresses of two referees, to the Assistant Secretary, St. Clement's Hospital, 2a, Bow Road, London, E.3. (5426)

ST. THOMAS' HOSPITAL, London, S.E.1
RESIDENT HOUSE PHYSICIAN
(Second or third appointment)
for Department of Psychological Medicine. Out-patients and in-patients, 15 beds
Applications, including names and addresses of three referees, to the Clerk of the Governors by January 19, 1952. (5411)

DUMFRIES, CRICHTON ROYAL MENTAL HOSPITAL
Applications are invited from registered medical practitioners for the resident post of
HOUSE OFFICER
Salary according to national scale, plus £50 special payment. Previous experience in psychiatry not required. Every facility for training in psychiatry on the most modern lines. Forms of application to be obtained from the Physician Superintendent, to whom they should be returned, with copies of testimonials. (5412)

GLASGOW, STOBHILL GENERAL HOSPITAL
Psychiatric Unit (314 beds)
(Recognized Training School for D.P.M.)
Applications are invited for the post of
RESIDENT HOUSE OFFICER
for the six months beginning February 1, 1952, and should be addressed to the Medical Supt. (5435)

CONNAUGHT HOSPITAL
Walthamstow, E.17
CLINICAL ASSISTANT
Required in the psychiatric department of Connaught Hospital for one session per week, Friday p.m. Salary in accordance with paragraph 10(b) of service conditions, i.e., £175 a year for each weekly notional half-day. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, Hospital Management Committee, Forest Group (No. 11), Langthorne Road, Leytonstone, E.11. (5250)

RADIOLOGY

EAST ANGLIAN REGIONAL HOSPITAL BOARD
Applications are invited for the following consultant appointment (whole-time or maximum part-time) at hospitals in the East Suffolk and Ipswich Area:
CONSULTANT RADIOLOGIST
The main general hospitals are the East Suffolk and Ipswich and the Borough General, Ipswich. Applicants are required to have wide experience in their respective specialties and possess appropriate higher qualifications. Eight copies of applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 21, 1952. Applicants are invited to visit the appropriate hospitals and clinics by direct arrangement with the Hospital Management Committee Secretary at the East Suffolk and Ipswich Hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5331)

LEEDS, UNITED, HOSPITALS
Applications are invited from registered medical practitioners for the whole-time post of
CONSULTANT RADIOTHERAPIST
The successful candidate will be required to assist the Director with the work of the Radiotherapy Centre at the above hospitals, but he will also be expected to help at other centres in the region when required. Candidates must have a Diploma in Radiotherapy and considerable experience in this specialty. A higher general or radiotherapeutic qualification will be an advantage. Salary will be on the scale of £1,700 to £2,750 per annum. Applications, stating date of birth, qualifications and experience, with the names of three referees, must reach the Secretary, United Leeds Hospitals, The General Infirmary, Leeds, 1, not later than February 1, 1952. (5377)

LIVERPOOL RADIUM INSTITUTE
Myrtle Street, Liverpool, 7
Liverpool Regional Hospital Board
Applications are invited for the consultant post of
WHOLE-TIME SENIOR RADIOTHERAPIST
to work under the administrative control of the Director of Radiotherapeutic Services at the Radium Institute, from whom any further information should be obtained. Applicants must possess a Diploma in Radiology and have previous experience in radiotherapy. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than January 26, 1952.—Vincent Collinge, Secretary to the Board. (5565)

ROYAL CANCER HOSPITAL
Fulham Road, London, S.W.3
Applications are invited for the full-time appointment of **ASSISTANT RADIOTHERAPIST**
commencing salary £1,300 by £50 to £1,750 per annum. Candidates must hold a Diploma in Medical Radiology. Forms of application are obtainable from the House Governor, to whom applications, together with copies of three recent testimonials, should be sent not later than January 28, 1952. (5176)

LEEDS, UNITED, HOSPITALS
Applications are invited from registered medical practitioners for the whole-time post of
ASSISTANT RADIOTHERAPIST
(Senior Hospital Medical Officer scale)
The major part of the work will be carried out at the above hospitals, but the successful candidate will be expected to work anywhere in the region when required. Candidates must have a Diploma in Radiotherapy and considerable experience in this specialty. A higher general or radiotherapeutic qualification will be an advantage. Salary will be on the scale of £1,300 to £1,750 per annum Applications, stating date of birth, qualifications and experience, with the names of three referees, must reach the Secretary, United Leeds Hospitals, The General Infirmary, Leeds, 1, not later than February 1, 1952. (5378)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Radiology—contd.

HAMMERSMITH HOSPITAL AND POST-GRADUATE MEDICAL SCHOOL OF LONDON
REGISTRAR (Diagnostic)
Required February 1. Applicants should hold a Diploma in Diagnostic Radiology. Applications, stating age, qualifications, experience, names of two referees, to Secretary, Board of Governors, Hammersmith, West London and St. Mark's Hospitals, Du Cane Road, London, W.12, by Jan. 12. (5490)

LONDON HOSPITAL, Whitechapel, E.1
Applications are invited for two vacancies for
SENIOR REGISTRARS
to the Radiodiagnostic Department, both becoming vacant on February 1, 1952. Candidates must hold a Diploma in Radiology or Radiodiagnosis. The appointments will be for one year in the first instance. Applications (twelve copies), giving the names and addresses of three referees, should be addressed to the House Governor (from whom further particulars may be obtained) to arrive not later than January 19, 1952.—H. Brierley, House Governor. (5540)

BRISTOL, UNITED, HOSPITALS
(Joint Appointment with the South-Western Regional Hospital Board)
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
SENIOR REGISTRAR or REGISTRAR in Radiology (Diagnostic)
The appointment will be subject to the terms and conditions of service of hospital medical and dental staff negotiated between the Minister and the profession. The successful applicant will be appointed to work in the first instance for one year in the United Bristol Hospitals, the Teaching Hospital for Bristol University. Applications, stating age, qualifications, experience and giving the names of two referees, should be sent not later than January 14, 1952, to Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (5177)

AMENDED ADVERTISEMENT
CHERTSEY, SURREY, ST. PETER'S HOSPITAL
(Late Botleys Park War Hospital, 430 beds)
South-West Metropolitan Regional Hospital Board
Woking and Chertsey Group Hospital Management Committee
RADIOLOGICAL REGISTRAR (Diagnostic)
Required mainly at St. Peter's Hospital, occasional duties at other local hospitals. Vacancy on April 1, 1952. Requests for application forms to the undersigned within fourteen days of the appearance of this advertisement. Canvassing will disqualify, but candidates may visit the hospital.—J. F. Lomer (Lieutenant Colonel), Secretary, St. Peter's Hospital, Chertsey, Surrey. (5261)

LIVERPOOL REGIONAL HOSPITAL BOARD
Sefton General Hospital
Applications are invited for the post of
WHOLE-TIME SENIOR RADIOLOGICAL REGISTRAR
with duties at the above hospital. The post is tenable until September 30, 1952, and applicants should possess a Diploma in Radiology. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than January 17, 1952.—Vincent Collinge, Secretary to the Board. (5379)

NEWCASTLE-UPON-TYNE, UNITED, HOSPITALS
Royal Victoria Infirmary
Applications are invited from registered medical practitioners for the whole-time appointment of
REGISTRAR in the Department of Radiotherapy
This is the Teaching Hospital of the University of Durham and the successful candidate, who will work under the direction of the Head of the Department, will be expected to undertake some teaching in his subject. The possession of D.M.R. or D.M.R.T. is an advantage but not essential for this appointment. This appointment, which is non-resident, will be for one year in the first instance subject to the national terms and conditions of service for hospital medical and dental staff and will be in the grade of Registrar at a salary of £775 or £890 per annum, according to the qualifications and experience of the successful candidate. Applications, giving age, nationality, experience and qualifications, with the names and addresses of three referees, should be sent to the undersigned within two weeks of the date of appearance of this advertisement.—A. W. Sanderson, House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne. (5380)

SCUNTHORPE, LINCOLNSHIRE RADIOTHERAPY CENTRE, WAR MEMORIAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the non-resident whole-time post of
REGISTRAR (Radiotherapy)
to the above centre. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5312)

WOLVERHAMPTON GROUP
Birmingham Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME REGISTRAR in Radiology
Duties mainly at Royal Hospital, Wolverhampton (310 beds). Non-resident appointment. Experience in radiodiagnosis essential. Higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before January 22. Candidates may visit hospital concerned. (5350)

ST. THOMAS' HOSPITAL, London, S.E.1
SENIOR HOUSE OFFICER
(Radiotherapy Department)
Candidates should preferably have held resident house post for one year. Applications, including names and addresses of three referees, to the Clerk of the Governors by January 16, 1952. (5413)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
(Diagnostic Radiology) (Non-resident)
Duties to commence immediately. The successful candidate will be required to undertake routine visits to other hospitals in the Nottingham area. Salary and conditions of service in accordance with the Ministry of Health Regulations. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the Secretary, General Hospital, Nottingham. (3578)

NORTHWOOD, MIDDLESEX, MOUNT VERNON HOSPITAL
Harefield and Northwood Group Hospital Management Committee
Applications are invited from registered medical practitioners for
HOUSE SURGEON
to Radiotherapy and E.N.T. Departments
Vacant January 17, 1952. Applications, accompanied by testimonials, to be forwarded immediately to the Secretary and House Governor. (5440)

RHEUMATOLOGY

BATH, ROYAL NATIONAL HOSPITAL FOR RHEUMATIC DISEASES
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Salary, terms and conditions of service in accordance with those published by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to the undersigned as soon as possible. The hospital is recognized for Part II of Diploma of Physical Medicine.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (5332)

MEDICINE

MANCHESTER, CRUMPSALL HOSPITAL
(1,200 beds)
Manchester Regional Hospital Board
Applications are invited for the part-time consultant post (eight half-days) of
GENERAL PHYSICIAN
Higher qualifications are essential and the person appointed will be required to live within reasonable distance of the hospital. Forms of application may be obtained from the Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than January 21, 1952. (5381)

CONNAUGHT HOSPITAL, Oxford Road, E.17
Applications are invited for the position of
PART-TIME MEDICAL REGISTRAR
Five sessions a week. Non resident. The appointment is subject to review after one year. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, January 19, 1952. (5541)

HOSPITAL FOR TROPICAL DISEASES
4, St. Pancras Way, N.W.1
(University College Hospital)
Applications are invited for the post of
SENIOR REGISTRAR IN TROPICAL MEDICINE (Non-resident)
from February 1, 1952. Applications, together with the names of two referees, should be submitted to the Secretary, University College Hospital, Gower Street, W.C.1, by January 9, 1952. (5542)

NORTH MIDDLESEX HOSPITAL AND ANNEXES, Silver Street, Edmonton, N.18
Applications are invited for the position of
MEDICAL REGISTRAR (Non-resident)
Duties may include teaching. Registrar will be required to sleep in on duty nights. The appointment is subject to review after one year. A local charge will be made for any residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, January 19, 1952. (5543)

BARNET GENERAL HOSPITAL, Barnet, Herts
Barnet Group Hospital Management Committee
Applications are invited for the post of
SENIOR MEDICAL REGISTRAR
to an Acute Unit of 50 beds
The post, which is immediately available, is temporary pending the approval of a permanent appointment by the Regional Board. Candidates should possess a higher qualification. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent to the Med. Director. (5382)

BRISTOL CLINICAL AREA
Board of Governors of the United Bristol Hospitals and the South-Western Regional Hospital Board
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
REGISTRAR in General Medicine
This post becomes vacant on February 1, 1952. Candidates should have had previous experience in general medicine. The appointment will be held for one year in the first instance, and be renewable for a further year. The successful candidate will be required to work for the first year at Southmead Hospital, Bristol. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 6, Cotham Lawn Road, Bristol, 6, not later than January 14, 1952. (5383)

DARLINGTON MEMORIAL HOSPITAL
(210 beds)
Newcastle Regional Hospital Board
Darlington Hospital Management Committee Group
REGISTRAR PHYSICIAN (Whole-time)
Appointment up to August 31, 1952, in the first instance. Salary £775 per annum. Applications, together with the names and addresses of one to three referees and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (5281)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
SENIOR REGISTRAR to a General Medical Unit
Vacant on March 1, 1952. Whole-time non-resident post, tenable for twelve months, renewable. Applicants must possess a higher qualification and preference will be given to those interested in neurology. Applications to be made on forms obtainable from the undersigned and to be returned not later than January 23, 1952.—F. J. Cable, Secretary to the Board of Governors. (5491)

LINCOLN, ST. GEORGE'S HOSPITAL (126 beds)
Lincoln No. 1 Hospital Management Committee
Applications are invited for the post of
RESIDENT MEDICAL OFFICER
within the J.H.M.O. Grade at the above hospital. Salary and conditions of service in accordance with the terms for hospital medical staff. Salary being at the rate of £700 by £50 to £1,000 per annum. Applications, stating age, qualifications and experience, together with copies of recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary, County Hospital, Lincoln. (5313)

BURY GENERAL HOSPITAL (183 beds)
Bury and Rossendale Hospital Management Committee
There is a vacancy for a
SENIOR HOUSE OFFICER (Medical)
at the above hospital. Salary and conditions of service in accordance with the national scales. Applications, stating age, qualifications and experience, together with the names of two referees, should be sent to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (5566)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for the posts of
SENIOR HOUSE PHYSICIAN
HOUSE PHYSICIAN
The posts will fall vacant in February, and are tenable for one year and six months respectively. Applications, together with the names of two referees, should be sent to the Administrative Officer, Grimsby General Hospital. (5282)

Medicine—contd.

CROMER AND DISTRICT HOSPITAL, Norfolk
Applications are invited for the post of
RESIDENT MEDICAL OFFICER
(Senior House Officer Status)
which is now vacant, at a salary of £670 per annum, in accordance with conditions of service issued by the Ministry of Health. This is a busy general hospital of 50 beds which has a pre-convalescent annexe of 64 beds and an out-patient department where consultants in all the major specialities hold regular sessions. The appointment thus offers practical experience of an all-round kind particularly useful to those contemplating entry into general practice. Applications, stating age, qualifications, experience, sex, and the names of two referees, should be addressed to the Secretary, Cromer Area Hospital Management Committee, Cliff Avenue, Cromer, within fourteen days of the publication of this advertisement. (5058)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
SENIOR HOUSE OFFICER in Medicine
(Non-resident)
Vacant February 1. Salary £670 per annum in accordance with the National Health Service conditions. Applications to be sent to the Assistant Secretary as soon as possible. (4880)

LIVERPOOL, 14, BROADGREEN HOSPITAL
Applications are invited from qualified medical practitioners for the post of
SENIOR HOUSE OFFICER (Non-resident)
for both in-patient and out-patient duties with a medical unit at the hospital. Salary in accordance with the national scale, i.e., £670 per annum. Applications, on forms obtainable from the undersigned at the above address, to be returned within ten days of the appearance of this advertisement.—H. Blythe, Secretary. (5492)

BETHNAL GREEN HOSPITAL
Cambridge Heath Road, London, E.2
Central Group Hospital Management Committee
(General—313 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
The appointment is for six months only, and includes some work in the children's ward. The salary, depending upon the number of previous posts held, is £350, £400 or £450 per annum, less residential charge of £100 per annum. Applications, stating age, nationality, qualifications and experience, together with copies of three testimonials, should reach the Assistant Secretary of the Hospital by January 15, 1952. (5384)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
TWO RESIDENT HOUSE OFFICERS
(Gastro-Enterological Department)
Appointment for six months from January 31, 1952. Applications to Medical Director by January 12, 1952. (5385)

PRINCE OF WALES'S GENERAL HOSPITAL, N.15 (218 beds)
Tottenham Group Hospital Management Committee
(Group 4)
Applications are invited from registered medical practitioners for the appointment of
RESIDENT JUNIOR HOUSE PHYSICIAN
(First or second post)
for a period of six months. Application form from the Secretary, Tottenham Group Hospital Management Committee, The Green, Tottenham, N.15, to be returned to the Sec. by January 12, 1952. (5131)

PRINCE OF WALES'S GENERAL HOSPITAL, N.15 (218 beds)
Tottenham Group Hospital Management Committee
(Group 4)
Applications are invited from registered medical practitioners for the appointment of
RESIDENT SENIOR HOUSE PHYSICIAN
(Third post)
for a period of six months, commencing on February 21, 1952. Application form from the Secretary, Tottenham Group Hospital Management Committee, The Green, Tottenham, N.15, to be returned to the Secretary by January 12, 1952. (5130)

ROYAL NORTHERN HOSPITAL
Holloway, London, N.7
Northern Group Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
for a period of six months from February 5, 1952. Salary £400 to £450 per annum, according to experience, less £100 per annum for board residence. Applications, stating age, qualifications (with dates), and nationality, together with copies of three recent testimonials, to be sent to the Assistant Secretary not later than January 12, 1952. (5114)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER
(Physician and Casualty)
to commence duties on February 13, 1952. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid-Cheshire H.M.C., The Hospital, Sinderland Road, Altrincham, Cheshire. (5086)

ASHFORD HOSPITAL, Ashford, Kent
South-East Kent Hospital Management Committee
Applications are invited from medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
at the above hospital. The appointment will be for a period six months. Excellent facilities for gaining experience in Clinical Medicine are provided by 50 medical beds under the supervision of a Consultant Physician who visits hospital on four occasions weekly. There are full diagnostic facilities and a rapidly developing Out-patients Department. In affiliation with a nearby hospital in the Group a fully equipped Cardiac Centre is provided. Some casualty work shared with other House Officers. Salary £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkstone. (5395)

ASHFORD (near), WILLESBOROUGH HOSPITAL, Willesborough, Kent
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE PHYSICIAN
at the above hospital. The person appointed will be required for duty in the Medical Wards and busy Out-patient Department under the supervision of Consultants visiting four times weekly. Fully equipped Cardiographic Unit. Salary £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone. (5394)

ASHTON-UNDER-LYNE, LAKE HOSPITAL
(600 beds)
Ashton, Hyde and Glossop Hospital Management Committee
HOUSE PHYSICIAN
Required late January. Salary £350 to £450, according to experience, less £100 per annum for board and lodging, etc. Applications, giving age, nationality, qualifications and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (4410)

BATLEY, GENERAL HOSPITAL, Carlinghowhill
(102 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER
This hospital is a general hospital at present but will shortly specialize in orthopaedic and general surgery, ophthalmology and oto-rhino-laryngology. Applications, giving full details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Sec., 20, Oxford Rd., Dewsbury. (4420)

BEDFORD GENERAL HOSPITAL (426 beds)
Applications are invited for the posts of
HOUSE PHYSICIANS
at the above hospital, which consists of two wings. The post at the South Wing is vacant on February 1, 1952, and at the North Wing on February 11, 1952. Applications, stating age, nationality, qualifications, previous appointments, together with the names of two referees, should be sent to the Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton Road, Bedford. (5251)

BLACKBURN, QUEEN'S PARK HOSPITAL
(651 beds)
HOUSE PHYSICIAN
Required, post tenable for six months. Salary £350 to £450 per annum, according to previous post held, less £100 for board residence. Applications, giving age, nationality, qualifications, etc., accompanied by copies of two testimonials, to be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (5059)

BOURNEMOUTH, CHRISTCHURCH HOSPITAL
Hants (298 beds)
Bournemouth and East Dorset Hospital Management Committee
HOUSE PHYSICIAN
Required immediately. The Consultant Physicians are the same as at the Royal Victoria Hospital. Applications to be forwarded to the Assistant Secretary, Christchurch Hospital, Christchurch, Hants. (5314)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE PHYSICIAN, vacant January 17, 1952.
HOUSE PHYSICIAN, vacant January 25, 1952.
HOUSE PHYSICIAN, vacant February 14, 1952.
Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (5493)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
HOUSE PHYSICIAN
to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
HOUSE PHYSICIAN
The above post becomes vacant in the middle of January. N.H.S. salary and conditions. Applications to be addressed to the Chief Administrative Officer at the hospital. (5544)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE PHYSICIANS
Applications are invited from registered medical practitioners for the above posts. Vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (4823)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
Duties attached to this post will incude work with the Chest Unit. The appointment is for a period of six months commencing February 17, 1952. Applications, giving age, experience and qualifications, together with copies of two recent testimonials, should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5494)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
The appointment is for a period of six months, commencing February 17, 1952. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5495)

DARTFORD, SOUTHERN HOSPITAL
HOUSE PHYSICIAN
A six months' appointment to commence immediately. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications and experience, together with the names of two persons to whom reference may be made, should be sent to the Medical Superintendent, The Southern Hospital, Dartford, Kent. (5333)

DERBYSHIRE ROYAL INFIRMARY, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Vacant January 25, 1952. Applications, stating full details, together with copies of two recent testimonials, should be sent as soon as possible to the Sec., Derbyshire Royal Infirmary, Derby. (5315)

DOVER, BUCKLAND HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN (Male or female)
at the above hospital. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made for residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone. (5397)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Medicine—contd.

DUDLEY, GUEST HOSPITAL
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

RESIDENT HOUSE OFFICER (Physician)

Post vacant February 1, 1952, and will be tenable for six months. The post will be House Officer status and salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (5496)

DURHAM HOSPITAL MANAGEMENT COMMITTEE

Applications are invited from registered medical practitioners, male or female, for the resident posts of

HOUSE PHYSICIAN

at the undermentioned hospitals. The posts, which will become vacant on February 1, 1952, are tenable for six months: Dryburn Hospital, Durham (355 beds) (two posts), General Hospital, Chester-le-Street (233 beds), County Hospital, Durham (120 beds). Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, and/or copies of three recent testimonials, should be sent to the undersigned not later than January 8, 1952, stating choice of hospitals in order of preference.—A. W. Youngs, Secretary. (5155)

EASTBOURNE, ST. MARY'S HOSPITAL
(261 beds)

Applications are invited from registered medical practitioners for the post of

HOUSE PHYSICIAN for General Medicine

Staff of five House Officers. Salary in accordance with terms and conditions as published by Ministry of Health. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, to the Secretary, 29, Bedfordwell Road, Eastbourne. (5283)

ELLESMERE PORT HOSPITAL (50 beds)
XIII Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for the post of

HOUSE PHYSICIAN (General)

The appointment is for a period of six months, commencing April 18, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5156)

FALMOUTH, DISTRICT HOSPITAL
(62 beds, 2 Residents)
West Cornwall Hospital Management Committee

Applications are invited for the post of

HOUSE PHYSICIAN

vacant February 26, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Falmouth and District Hospital, Falmouth. (5262)

FOLKESTONE, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

RESIDENT HOUSE PHYSICIAN (Male or female)

at the above hospital. Salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone, Kent. (5396)

GATESHEAD AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Queen Elizabeth and Bensham General Hospitals

Applications are invited for the following appointments at the above hospitals:

TWO HOUSE PHYSICIANS

The appointments become vacant on February 1, 1952, and applications, together with copies of two recent testimonials, should be made to the Medical Superintendent, Queen Elizabeth Hospital, Sheriff Hill, Gateshead, 9, as soon as possible. (5170)

HARROW HOSPITAL
(In association with Charing Cross Hospital)
HOUSE PHYSICIAN

Required for service at Harrow Hospital (122 beds) immediately. Resident post for six months. Applications, with the names of three referees, should be sent as soon as possible to George J. Jones, Secretary to the Board of Governors, Harrow Hospital, Roxeth Hill, Harrow, Middlesex. Telephon: BYRon 2232. (5498)

GLOUCESTER, CITY GENERAL HOSPITAL
Great Western Road (350 beds)
Gloucester, Stroud and the Forest Hospital Management Committee

Applications are invited for the post of

HOUSE PHYSICIAN

at the above hospital. The appointment is for six months and will become vacant in mid-January, 1952. Salary £350 to £450, according to experience, less £100 per annum in respect of residential emoluments. Applications, giving full particulars of age, qualifications, nationality and experience, together with copies of two recent testimonials, should be forwarded to the Medical Superintendent as soon as possible.—C. J. Adams, Group Secretary. (5497)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)

Applications are invited for the post of

HOUSE PHYSICIAN (Second or subsequent post)

for a term of six months from February 21, 1952. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (5499)

HILLINGDON HOSPITAL
Near Uxbridge, Middlesex
RESIDENT HOUSE PHYSICIAN (Male)

Appointment recognized for M.D. (Lond.) Branch 1, tenable for six months. Applications, not later than January 14, stating age, qualifications, nationality and experience, with copies of not more than three recent testimonials, to be made to the Medical Director. (5252)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE PHYSICIAN

Required to commence duty as soon as possible after February 1, 1952. Salary in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, together with copies of three recent testimonials, should be addressed to the undersigned.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (5500)

HULL, KINGSTON GENERAL HOSPITAL
(398 beds, 5 Residents)
Hull (A) Group Hospital Management Committee
TWO HOUSE PHYSICIANS

Required immediately for general medicine at the above hospital. Applications, with full particulars, to be forwarded to the Administrative Officer. (5253)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley, Yorkshire, West Riding
(General Hospital of 146 beds. Full Consultant Staff)

Applications are invited for the appointment of

HOUSE PHYSICIAN (Either sex)

six months' appointment, vacant February 1, 1952. First, second or third term. Salary in accordance with National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley. (5284)

KILMARNOCK, KIRKLANDSIDE HOSPITAL

Applications are invited for the post of

RESIDENT HOUSE OFFICER (Medical)

at above hospital, which falls vacant on February 1, 1952. Salary, terms and conditions according to national scale. Applications for above, stating age, qualifications and any previous experience, to Physician Superintendent, Ayrshire Central Hospital, Irvine. (5441)

LEIGH INFIRMARY, Leigh, Lancashire
HOUSE PHYSICIAN

Required at the above hospital, resident post, vacant January 19, 1952. Applications, stating age, qualifications, and details of previous employment, together with the names of two referees, should be forwarded to the Secretary, Wigan and Leigh Hospital Management Committee, Knowsley House, Wigan, as early as possible. (5501)

LIVERPOOL, 14, BROADGREEN HOSPITAL

Applications are invited for the following posts falling vacant on April 1, 1952, and tenable for six months:

FOUR HOUSE PHYSICIANS

Salaries in accordance with the national scale for House Officers, i.e., £350, £400 or £450 per annum, according to experience, and subject to a deduction of £100 per annum in respect of residential emoluments. Applications, on forms obtainable from the undersigned, to be returned not later than January 31, 1952.—H. Blythe, Secretary, Broadgreen Hospital, Liverpool, 14. (5502)

NEWPORT, MON, ST. WOOLOS HOSPITAL
(379 beds)

Applications are invited for the post of

HOUSE OFFICER (Medical)

vacant at the end of January, who will work under the directions of the Consultant-Physician. The successful candidate will also have an opportunity of attending the out-patient department of another hospital with the consultant. National salary scale and conditions. Apply, stating age, and the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (4745)

NORTHWOOD, MIDDLESEX, MOUNT VERNON HOSPITAL
Harefield and Northwood Group Hospital Management Committee

Applications are invited from registered medical practitioners for

HOUSE OFFICER

(General Medicine, Dermatology and Neurology). Vacant January 17, 1952. Applications, accompanied by testimonials, to be forwarded immediately to the Secretary and House Governor. (5440A)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
(Male or female)

Required for the above hospital. Duties to commence on or about January 31, 1952. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5285)

PAISLEY AND DISTRICT HOSPITALS, BOARD OF MANAGEMENT FOR
Royal Alexandra Infirmary Annexe (Craw Road)
HOUSE PHYSICIAN/SURGEON

Required for general medicine and surgery. Salary according to experience. Applications should be made within seven days of the date of this advertisement to the Group Medical Superintendent, Royal Alexandra Infirmary, Paisley. (5344)

READING, AREA DEPARTMENT OF MEDICINE

Applications invited from registered medical practitioners for posts of

THREE HOUSE PHYSICIANS

vacant February 8, 20, and March 1, 1952, each for period of six months. Salary £350 to £450, less £100 board residence, etc. Successful applicants will be required to carry out duties at following Reading hospitals: Royal Berkshire (403 beds), Battle (364 beds), and Prospect Park (104 beds), where 40 acute medical beds will be opened shortly. The experience to be gained in these appointments is exceptional as it covers the whole field of clinical medicine, including children's diseases, fever, pulmonary T.B., and geriatrics. Applications, stating age, qualifications with dates, nationality, present post, with copies of three recent testimonials, to Administrative Officer, Royal Berkshire Hospital, Reading. (5386)

ROCHDALE INFIRMARY (General, 109 beds)
Rochdale and District Hospital Management Committee
HOUSE PHYSICIAN

Applications are invited for the above position. The appointment will be for six months. The remuneration will be in accordance with the terms of service for hospital medical staff—i.e., £350, £400, or £450 per annum, according to experience. Applications should be sent to the undersigned immediately.—S. Hodkinson, Sec., Central Offices, Birch Hill Hospital, Rochdale, Lancs. (5115)

ROCHFORD, ESSEX, GENERAL HOSPITAL
(602 beds)
Southend-on-Sea Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of

RESIDENT HOUSE PHYSICIAN
(House Officer Grade)

The appointment is tenable for six months and will be vacant on January 30, 1952. Applications, etc., should be forwarded to the undersigned at the General Hospital, Rochford, Essex, not later than January 11, 1952.—J. C. Field, Secretary. (5157)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid-Herts Group Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of a

HOUSE PHYSICIAN (House Officer grade)

to one of the two medical teams. Post vacant immediately and tenable for six months. Applications, together with the names of two referees, should be forwarded to the Secretary, Normandy Road, St. Albans. (5089)

SALISBURY GENERAL HOSPITAL
Salisbury Group Hospital Management Committee

Applications are invited for the appointment of

RESIDENT HOUSE PHYSICIAN

The appointment is vacant on February 22, 1952, and is for a period of six months. Applications, together with the names of two referees, should be sent immediately to the Secretary to the Committee, Odstock Hospital, Salisbury. (5503)

SHREWSBURY (near), CROSS HOUSES HOSPITAL (183 beds)
Shrewsbury Group 15 Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of

RESIDENT MEDICAL OFFICER

Vacant immediately. Preference will be given to those applicants with previous obstetrical experience. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (6063)

Medicine—contd.

SCARBOROUGH HOSPITAL
Yorkshire (163 beds)
Applications are invited from male or female registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
which will become vacant in early February. The salary is in accordance with the national scale and the appointment will be for six months. Applications, stating age, and qualifications, with testimonials, to be sent to the Secretary. (5159)

SHEPPEY GENERAL HOSPITAL
Minster, Sheppey, Kent
Medway and Gravesend Hospital Management Committee
HOUSE PHYSICIAN
Applications are invited from registered medical practitioners for the above post, now vacant. Salary £350 to £450 per annum, according to experience, plus £50 per annum special allowance. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (4825)

SHOTLEY BRIDGE GENERAL HOSPITAL
(582 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Medical)
now vacant. The appointment will be for six months in the first instance. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications and experience, together with copies of three testimonials, should be sent immediately to the Secretary, Shotley Bridge General Hospital, Shotley Bridge, Consett, Co. Durham. (5567)

SOUTH SHIELDS GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
(two appointments, respectively vacant on February 3 and 12, 1952) for General Medicine in a busy, well-equipped hospital. There are three House Physicians in the Medical Department. Applications, with copies of not more than three recent testimonials, to be addressed to the Medical Superintendent, General Hospital, Harton Lane, South Shields. (5116)

SOUTHAMPTON GENERAL HOSPITAL
(453 beds)
TWO RESIDENT HOUSE PHYSICIANS
Posts vacant early January, 1952, and end of same month, and tenable six months. Salary and terms and conditions of service as published by the Ministry of Health. Applications, with copies of testimonials, to be forwarded to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (4193)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL
(964 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
TWO RESIDENT HOUSE OFFICERS (Medical)
Posts vacant immediately and February 1 respectively. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5062)

STOKE-ON-TRENT, NORTH STAFFS ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
(Medical and Paediatrics)
vacant February 1, 1952. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5063)

SUNDERLAND GENERAL HOSPITAL (534 beds)
HOUSE PHYSICIAN (Male or female)
Required at the above hospital. Post vacant January 27, 1952. Apply immediately to the Secretary, Sunderland Area Hospital Management Committee, General Hospital, Sunderland. (5437)

SWINDON HOSPITALS (500 beds)
Swindon and District Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
in acute medical unit of 64 beds at St. Margaret's Hospital. Full details, together with copies of three recent testimonials, to Secretary, 7, Okus Road, Swindon, Wilts, as soon as possible. (5317)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN (Male or female)
Post vacant March 1, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, giving details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5263)

TILBURY AND RIVERSIDE GENERAL HOSPITAL, Orsett Branch
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the above hospital. The duties for this post cover a wide range of medical work, i.e., general medical, skins, neurology, infectious diseases. The appointment will be for six months in the first instance. Salary scale will be at the rate of £400 to £450 per annum, according to experience, less £100 for residential emoluments. Applications for the post, which is vacant from January 21, 1952, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (4735)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL (350 beds)
Tunbridge Wells Group Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for post of
RESIDENT HOUSE PHYSICIAN
for six months in first instance or for locum duties (vacant February 1, 1952). Applications, stating age, experience, with copies of recent testimonials, to Administrative Officer. (5158)

WAKEFIELD, CLAYTON HOSPITAL (200 beds)
Hospital Management Committee No. 9 Wakefield "A" Group
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN
at the above hospital. Terms and conditions of service in accordance with national recommendations. Application forms may be obtained from the Administrative Officer.—W. Read, Sec. (5316)

WALSALL HOSPITAL MANAGEMENT COMMITTEE
Walsall General Hospital (181 beds)
HOUSE PHYSICIAN
Required at the above hospital. Post vacant February 1, 1952. Apply Secretary.
Manor Hospital (333 beds)
HOUSE PHYSICIAN (General Medicine)
HOUSE PHYSICIAN (Paediatrics)
Required at the above hospital. Posts now vacant. Apply Administrative Officer. These are two busy General Hospitals within easy reach of Birmingham and Wolverhampton, offering wide experience. (4901)

WEST HARTLEPOOL GENERAL HOSPITAL
Hartlepools Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
Salary and conditions in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary, Hartlepools Hospitals Management Committee, General Hospital, West Hartlepool, as soon as possible. (8684)

SURGERY

NORTH MIDDLESEX HOSPITAL AND ANNEXES, Silver Street, Edmonton, N.18
Applications are invited for the position of
SURGICAL REGISTRAR (Non-resident)
Duties, which may include teaching, consist mainly of general and traumatic surgery. Registrar will be required to sleep in on duty nights. The appointment is subject to review after one year. A local charge will be made for any residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, January 19, 1952. (5546)

GRANTHAM AND KESTEVEN GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
SURGICAL REGISTRAR
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5334)

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of a
SURGICAL REGISTRAR
for the hospitals in the area of the Clwyd and Deeside Hospital Management Committee, and to be based on the Royal Alexandra Hospital, Rhyl. The post is non-resident and will be subject to review at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Bd., Cathays Pk., Cardiff. (5387)

SOUTHEND-ON-SEA GROUP OF HOSPITALS, Essex
Applications are invited for the position of
RESIDENT SURGICAL REGISTRAR
Duties principally at Victoria Hospital, 55, King's Road, Westcliff-on-Sea (35 beds for surgical cases), together with out-patient and in-patient duties in the other large general hospitals in the Group. The appointment is subject to review after one year. A local charge will be made for residential amenities provided at Victoria Hospital. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, January 19, 1952. (5547)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Group
Birmingham Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME SURGICAL REGISTRAR
This senior post of Deputy Resident Surgical Officer and Officer-in-charge of Casualty Department offers exceptional practical experience for candidates preparing for higher surgical qualification. Appointment subject to National Health Service (Superannuation) Regulations. Applications (ten copies), stating name, age, nationality, qualifications, present and previous appointments and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before January 22, 1952. Candidates may visit the hospital concerned. (5351)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
SENIOR HOUSE OFFICER (Resident)
Required to commence duties on February 26, 1952. Twelve months' appointment. Salary £670 per annum, less a deduction of £155 for residential emoluments. Post recognized for the F.R.C.S. qualification. This resident surgical appointment in a busy general hospital staffed by Manchester Consultant Surgeons offers excellent opportunities of practical surgical experience to suitably qualified candidates. Applications, stating qualifications, previous hospital experience, age, nationality, names and addresses of three referees, should be forwarded to the Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (5091)

CARMARTHEN, WEST WALES GENERAL HOSPITAL (134 beds)
(Visiting Specialist Staff)
West Wales Hospital Management Committee
RESIDENT SURGICAL OFFICER
(Senior House Officer grade)
Appointment for one year. Applications are invited from registered medical practitioners for the appointment. Three other resident medical staff. Salary in accordance with national scales. Full residential emoluments.—A. W. Youngs, Secretary, Glangwili, Carmarthen. (7258)

DUNDEE ROYAL INFIRMARY
TWO SENIOR HOUSE OFFICERS
Surgical Out-patient and Casualty Departments
Salary £670 per annum, with deduction for residence, etc. Applications, stating qualifications and experience, with names of two referees, to the Medical Superintendent. (5504)

GLASGOW, WESTERN INFIRMARY OF
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgery)
The appointment will be for one year in the first instance and will be subject to the National Health Service (Scotland) (Superannuation) Regulations. Applications, stating age, qualifications and present appointment, and giving the names of three referees, should be submitted not later than January 15, 1952, to the Secretary, Board of Management for Glasgow Western Hospitals, 10, Park Circus, Glasgow, C.3. (5505)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL (Non-sectarian)
(General Hospital—105 beds)
North Manchester Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Surgical)
now vacant, to act as Deputy Resident Surgical Officer. Applications, stating age, qualifications and dates, particulars of previous appointments (with dates), along with names and addresses of two referees, to be sent to the undersigned immediately.—A. T. Sampson, Secretary to the Committee, Crumpsall Hospital, Manchester, 8. (5320)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Surgery—contd.

LINCOLN, COUNTY HOSPITAL (200 beds)
Lincoln No. 1 Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
in Surgery and E.N.T.
The post is recognized for the F.R.C.S. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary. (5319)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE SURGEON
at the above hospital. The post is recognizable for the F.R.C.S.(Eng.). Salary will be £670 a year, with a deduction at the rate of £150 for residential emoluments. Applications should be forwarded to the Secretary of the Mid-Kent Hospital Management Committee, 103, Tonbridge Road, Maidstone. (4969)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
SENIOR SURGICAL HOUSE OFFICER
Required to commence on March 1, 1952. Whole-time training post. The officer will reside at Barnes Recovery Hospital, acting as Senior Surgical Resident there, and undertake duties at the Manchester Royal Infirmary in General Surgical Units, Orthopaedic Unit and Surgical Out-patients Departments in rotation. Appointment for six months, renewable for a second six months. Salary £670, with a deduction of £100 per annum for residence. Applications to be made on forms obtainable from the undersigned and to be returned not later than January 12, 1952.—F. J. Cable, Secretary to the Board of Governors. (5506)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
TWO SENIOR SURGICAL HOUSE OFFICERS
Whole-time surgical training posts, vacant on April 1 and 10, 1952. Duties include those of Orthopaedic Casualty Officer, Out-patient Junior Surgical Registrar and Senior House Officer to a Surgical Unit. The appointments are for six months, renewable for a second six months. Salary £670 per annum. Applications to be made on forms obtainable from the undersigned, and to be returned not later than January 12, 1952.—F. J. Cable, Secretary to the Board of Governors. (5507)

MANCHESTER, WYTHENSHAWE HOSPITAL
South Manchester Hospital Management Committee
Applications are invited from registered practitioners for the resident post of
SENIOR HOUSE OFFICER (Surgical)
which will become vacant early in February, 1952. Post will give experience in general surgery, E.N.T. surgery, and there will be opportunities for experience in plastic surgery during the period of the appointment. Applications, stating age, qualifications, present post, experience, and names of two referees, to be forwarded to the undersigned as soon as possible, and not later than January 12, 1952.—A. H. Keates, Secretary to the Committee, Christie Hospital and Holt Radium Institute, Manchester, 20. (5549)

MERTHYR GENERAL HOSPITAL
Merthyr Tydfil (120 beds)
RESIDENT SURGICAL OFFICER
The post offers a very good all-round experience in general surgery. Salary £670 per annum, less £100 per annum for board, lodging, etc. Applicants must have been registered not less than one year as a medical practitioner and have previously held house appointments. Appointment for one year in the first instance. Applications, with names of two referees, to the Secretary, Merthyr and Aberdare Hospital Management Committee, St. Tydfil's Hospital, Merthyr Tydfil, as soon as possible. (4755)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence as soon as possible. Salary £670 per annum and conditions of service in accordance with the published conditions of the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (4133)

SOLIHULL HOSPITAL
Lode Lane, Solihull, Birmingham
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
RESIDENT SURGICAL OFFICER
(Senior House Officer)
which becomes vacant at the end of January, 1952. This is a busy general hospital with five other resident medical staff. Applications, stating age, nationality, qualifications, and experience, together with copies of three testimonials, to be sent to the Medical Superintendent within fourteen days of the appearance of this advertisement. (5550)

SUTTON-IN-ASHFIELD, NOTTS, KING'S MILL HOSPITAL
Mansfield Hospital Management Committee
Applications are invited for the post of
RESIDENT SURGICAL OFFICER
(Senior House Officer Grade)
Applicants should have had previous surgical experience. The hospital contains 115 surgical beds and the post offers good facilities for practical experience in general surgery. A flat is available for the successful candidate if married, for which an appropriate deduction will be made from salary. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary. (4817)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
RESIDENT HOUSE OFFICER
(General Surgical and Urological Department)
Post now vacant. Appointment for six months. Applications to Medical Director by January 12, 1952. (5388)

GERMAN HOSPITAL, Dalston, London, E.8
Applications are invited for the post of
HOUSE SURGEON (First, second or third post)
at the above hospital, vacant during January, 1952, and should be sent to the Group Secretary, Hospital Management Committee, Hackney Hospital, London, E.8, within six days of the appearance of this advertisement. (5508)

MILLER GENERAL HOSPITAL
Greenwich, S.E.10 (180 beds)
(Recognized by the Royal College of Surgeons)
Applications are invited for the post of
HOUSE SURGEON
at the above hospital for a period of six months from approximately January 12, 1952. Salary £350 to £450 per annum, according to experience, less £100 per annum for board. Apply, with full particulars and copies of testimonials, to Secretary, Greenwich and Deptford Hospital Management Committee, St. Alfege's Hospital, Greenwich, S.E.10, as soon as possible. (5509)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT SURGICAL OFFICER
vacant February, 1952. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications and experience, with a copy of two testimonials and the name of one referee, should be sent immediately to Group Sec., St. Helier Hospital, Carshalton, Surrey. (5321)

ST. ALFEGE'S HOSPITAL
Greenwich, S.E.10 (506 beds)
(Recognized by the Royal College of Surgeons)
Applications are invited for the post of
HOUSE SURGEON
for a period of six months, from an early date. Salary £350 to £450, according to experience, less £100 per annum for board and lodging. Applications, with full particulars and copies of testimonials, should reach Secretary, Greenwich and Deptford Hospital Management Committee at the above hospital as soon as possible. (5510)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

ST. GILES' HOSPITAL
Camberwell, London, S.E.5
Camberwell Hospitals Management Committee
Applications are invited for appointment as
HOUSE OFFICER (Surgical duties)
Position vacant from February 4, 1952. Salary £350 to £450 a year, according to posts held, with deduction at rate of £100 a year in respect of residence. Appointment tenable for six months in first instance. Applications, stating age, qualifications and experience, enclosing copy testimonials, to the Secretary, Camberwell Hospitals Management Committee, Dulwich Hospital, S.E.22, as soon as possible. (5264)

WILLESDEN GENERAL HOSPITAL
Harlesden Road, N.W.10
RESIDENT HOUSE SURGEON
Salary £350 to £450 per annum, less £100 per annum for residence. Appointment for six months from February 1, 1952, plus locum duty from January 18 (fourteen days). Applications, stating age, qualifications (with dates), nationality, and present post, with copies of two testimonials, to Assistant Secretary by January 9, 1952. (5133)

ACCRINGTON, VICTORIA HOSPITAL
(112 Acute beds)
HOUSE SURGEON
Required, post tenable for six months. Salary £350 to £450 per annum, according to previous posts held, less £100 for board residence. Applications, giving age, nationality, qualifications, etc., accompanied by copies of two testimonials, to be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (5065)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Surgical)
Required to commence duties on February 15, 1952. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (5093)

ARBROATH INFIRMARY AND LITTLE CAIRNIE HOSPITAL
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE OFFICER
at the above hospitals, tenable for a period of six months from February 1, 1952. Duties will involve two months' casualty and chronic sick, four months' surgery. Commencing salary in accordance with National Health Service terms and conditions, with appropriate deductions for board, lodgings and superannuation. Applications, stating age, qualifications, experience and nationality, along with copies of three recent testimonials, to be lodged with the Medical Superintendent, Board of Management for Angus Hospitals, Arbroath Infirmary, not later than ten days after the appearance of this notice. (5511)

ASHFORD HOSPITAL, Ashford, Kent
(125 beds)
South-East Kent Hospital Management Committee
Applications are invited from medical practitioners for the post of
RESIDENT HOUSE SURGEON
at the above hospital. The appointment will be for a period of six months. Excellent experience to be obtained of emergency and general surgery with rapid turnover. Two General Consultant Surgeons and a Consultant Orthopaedic Surgeon hold sessions at this modern hospital. Some casualty work shared with other House Officer. Salary £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability should be addressed to the Secretary, South-East Kent H.M.C., Ash-Eton, Radnor Park West, Folkestone. (5392)

BANBURY, HORTON GENERAL HOSPITAL
(170 beds)
HOUSE SURGEON (Male or female)
Required immediately for general surgical and gynaecological beds. Four other residents. Post tenable six months in first instance. Salary from £350, according to experience. Recognized for six months' training F.R.C.S.(Eng.). Applications, stating age, nationality, qualifications and names of two referees, to the Secretary, Hospital Management Committee, Horton General Hospital, Banbury, Oxon. (4095)

BARNSTAPLE, NORTH DEVON INFIRMARY
(110 beds)
North Devon Hospital Management Committee
TWO HOUSE SURGEONS
Posts now vacant. Applications to Secretary and Finance Officer, 19, Alexandra Road, Barnstaple, Devon. (4832)

BEDFORD GENERAL HOSPITAL (South Wing)
HOUSE SURGEON
This appointment is recognized for F.R.C.S. and offers exceptional opportunities for general experience in a busy acute surgical unit. Applications, stating age, nationality, qualifications, previous appointments, together with copies of two testimonials, should be addressed to the Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton Road, Bedford. (3174)

BILLERICAY, ST. ANDREW'S HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
for the General Surgery and Orthopaedic Departments. These departments of this hospital provide interesting and active traumatic experience. Six months' appointment in the first instance. Resident. Post now vacant. Salary scale £350 to £450 per annum according to experience, less £100 residential emoluments. Applications, together with copies of not more than three testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (3221)

Surgery—contd.

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL (900 beds)
Birmingham (Dudley Road) Group of Hospitals
THREE HOUSE SURGEONS (Resident)
Applications are invited for the above appointments. These appointments are approved as resident posts required for the final F.R.C.S (Eng.) Applications, stating age, qualifications, nationality and experience, accompanied by copies of three recent testimonials, to the Secretary, Hospital Management Committee, Dudley Road Hospital (5180)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for a
RESIDENT HOUSE OFFICER (Surgical)
(First or second post)
Salary £350 to £450 per annum, less £100 per annum for residential emoluments. Appointment to commence immediately. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent as soon as possible to the Administrative Officer. (5416)

BLACKBURN ROYAL INFIRMARY (244 beds)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
to the General Surgical Unit
The appointment will be for a period of six months in the first instance, and the salary, etc., will be in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, giving age, nationality, qualifications, etc., with copies of two testimonials, to be sent to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn, as soon as possible. (5066)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (General)
Vacant March 1, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials to Secretary. (5512)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON
Vacant March 1, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (5513)

BRAINTREE, ESSEX, BLACK NOTLEY HOSPITAL
HOUSE OFFICER (First, second or third post)
Tenable for six months. Duties to include work in General Surgical and Gynaecological Wards. Salary in accordance with the terms of service issued by the Ministry of Health, plus £50 per annum Recognized under F.R.C.S. regulations. Applications, with copies of three recent testimonials, should be forwarded to the Secretary, Colchester Group Hospital Management Committee, 14, Pope's Lane, Colchester (5118)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
HOUSE SURGEON
Vacant immediately. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, should be sent to the Administrative Officer of the hospital within seven days of the appearance of this advertisement. (5414)

BURNLEY, GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is vacant now, and is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. The post is recognized for the F.R.C.S. examination. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (9287)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical, with beds for orthopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments:
Caernarvon and Anglesey General Hospital, Bangor
RESIDENT HOUSE SURGEON
RESIDENT HOUSE SURGEON for Casualties and Special Departments
Llandudno General Hospital, Llandudno
Eryri General Hospital, Caernarvon
RESIDENT HOUSE SURGEONS
The appointments are for a period of six months. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, experience and qualifications, together with copies of three testimonials, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor. (5420)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
GENERAL SURGICAL AND UROLOGICAL HOUSE SURGEON
The above post, which is recognized for the F.R.C.S. Diploma, is now vacant. N.H.S. salary and conditions. Applications to be addressed to Chief Administrative Officer at the hospital. (5551)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant on January 14, 1952 Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (5119)

CHERTSEY, SURREY, ST. PETER'S HOSPITAL
(Late Botleys Park War Hospital) (400 beds)
RESIDENT HOUSE SURGEON
Required for the Gynaecological and Special (E.N.T., Eye, etc.) Departments. Salary in accordance with terms and conditions of National Health Service. Hospital within easy reach of London Applications, together with testimonials or names of referees, should be sent to the Physician Supt., St. Peter's Hospital, as soon as possible. (4758)

DERBY CITY HOSPITAL
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
HOUSE SURGEON
Apply to Medical Superintendent, City Hospital, Derby, as soon as possible. (5095)

DOVER, ROYAL VICTORIA HOSPITAL
South East Kent Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE SURGEON (Male or female)
at the above hospital. The hospital is recognized by the Royal College of Surgeons. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent H.M.C., Ash-Eton, Radnor Park West, Folkestone. (5393)

DURHAM HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners (male or female) for resident posts of
HOUSE SURGEON
at the undermentioned general hospitals. The posts, which will become vacant on February 1, 1952, are tenable for six months.
Dryburn Hospital, Durham (355 beds)
General Hospital, Chester-le Street (233 beds)
County Hospital, Durham (120 beds)
Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees and/or copies of three recent testimonials, should be sent to the undersigned not later than January 15, 1952, stating choice of hospitals in order of preference.—A. W. Youngs, Secretary. (5552)

EASTBOURNE, ST. MARY'S HOSPITAL (261 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON for General Surgery
Staff of five House Officers. Salary in accordance with terms and conditions published by Ministry of Health. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, to the Secretary, 29, Bedfordwell Road, Eastbourne. (5286)

EPPING, ST. MARGARET'S HOSPITAL (500 beds)
HOUSE SURGEON
Required at the above hospital. Applications, with copies of two recent testimonials, to be forwarded immediately to the Secretary, Epping Group Hospital Management Committee, St. Margaret's Hospital, Epping. (5254)

EPSOM, SURREY, EPSOM DISTRICT HOSPITAL
Dorking Road (300 beds)
RESIDENT HOUSE OFFICER (Surgical)
Required at the above hospital. Full Consultant staff. The post, recognized by the Royal College of Surgeons, is vacant on February 15, 1952. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent as soon as possible to the Secretary at above address. (5335)

FALMOUTH, DISTRICT HOSPITAL
(62 beds, 2 Residents)
West Cornwall Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
vacant February 8, 1952, in an extremely active general hospital doing major surgery and with both out patient and casualty departments. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, nationality, qualifications, and experience, and accompanied by copies of two recent testimonials, should be forwarded to the Administrative Assistant, Falmouth and District Hospital, Falmouth. (5265)

GATESHEAD AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Queen Elizabeth and Bensham General Hospitals
Applications are invited for the following appointments at the above hospitals:
THREE HOUSE SURGEONS
Two of these appointments become vacant on February 1, 1952, and one post is vacant now. Applications, together with copies of two recent testimonials, should be made to the Medical Supt., Queen Elizabeth Hospital, Sheriff Hill, Gateshead 9, Co. Durham, as soon as possible. (5171)

GLOUCESTERSHIRE ROYAL HOSPITAL
Southgate Street Unit (245 beds)
Gloucester, Stroud, and The Forest Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
which becomes vacant on or about January 14, 1952. The post is recognized for the F.R.C.S. examination. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copies of three recent testimonials, should be forwarded to the Administrative Officer. (5389)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON
With opportunity for experience in Obstetrics and Gynaecology
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, nationality, qualifications, and experience, to be addressed to the Administrative Officer. (4826)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, now vacant. Salary £350 to £450 per annum, according to experience. Applications, stating age, nationality qualifications and experience, to be addressed to the Administrative Officer. (4828)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications invited for the post, now vacant, of
HOUSE OFFICER (Male or female)
for General Surgery, E.N.T. and Ophthalmic Departments. The hospital is approved for the D.L.O. Apply to the Administrative Officer, Grimsby General Hospital, Grimsby. (4309)

HALIFAX GENERAL HOSPITAL (425 beds)
Applications are invited for the post of
HOUSE SURGEON (Male or female)
Salary according to experience. Applications, stating age, nationality, qualifications and experience, with copies of three testimonials, to be addressed to the Secretary at the Royal Halifax Infirmary, Halifax. (5514)

HARTLEPOOLS HOSPITAL
Friar Street, Hartlepools (126 beds)
Applications are invited for the appointment of
HOUSE SURGEON (with obstetric duties)
vacant immediately. Salary and conditions in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (3929)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Surgery—contd.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL
(170 beds—4 Residents)
Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
for a term of six months from February 8, 1952. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (5515)

HEREFORD GENERAL HOSPITAL (154 beds)
Herefordshire Hospital Management Committee
Applications are invited from registered medical practitioners for appointment of
HOUSE SURGEON
(Casualty, E.N.T. and Fracture Departments)
Applications, with copies of two recent testimonials, should be sent to the Secretary, Hospital Management Committee, County Hospital, Hereford. (8343)

HERTFORD COUNTY HOSPITAL
Hertford, Herts (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
HOUSE SURGEON (Male) (for General Surgery)
(First, second or third post held)
Six months' appointment. Salary is at the rate of £350 to £450 per annum, less £100 per annum for residential emoluments. Duties to commence immediately. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (5415)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
RESIDENT HOUSE SURGEON
Required at the above busy acute general hospital. Four other resident medical staff. Busy casualty and out-patient departments. Applications, stating age, qualifications and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (5336)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant now. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8754)

IPSWICH BOROUGH GENERAL HOSPITAL
(301 beds—recognized for D.A. and R.C.S. examinations)
HOUSE SURGEON
Required for a General Surgeon mid-February. Large turnover of surgical cases of all types, including children. Considerable experience in emergency surgery. Good off-duty. Appointment normally for six months. Applications, together with copies of recent testimonials, or names of two referees, to Secretary, Ipswich Group Hospital Management Committee, Ipswich. (5433)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE SURGEON to Senior Consultant General Surgeon
Post recognized for F.R.C.S. Large out-patient and busy casualty departments. Applications immediately to the Secretary, H.M.C. (5445)

ISLE OF WIGHT GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE SURGEON
Royal I.W. County Hospital, Ryde, I.W., but may be required to undertake duty at any hospital in the Group in emergency. Vacant February 20, 1952. Salary £350, £400 or £450 per annum, according to experience. National terms of service. Applications, stating age, qualifications, experience and nationality, to H. Forshaw, Chief Administrative Officer, Hospital Management Committee, St. Mary's Hospital, Newport, I.W., as soon as possible. (5553)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton (64 beds)
(Yorkshire, West Riding)
(Full Consultant Staffs)
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
(Either sex)
at each of the above hospitals. First, second or third appointments. Now vacant. Six months' appointments. Salary in accordance with the National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley. (5287)

KILMARNOCK INFIRMARY
Applications are invited for the posts of
TWO RESIDENT HOUSE OFFICERS (Surgical)
at above Infirmary, which fall vacant on February 1, 1952. Salary, terms and conditions according to national scale. Applications, stating age, qualifications and any previous experience, to Physician Supt., Ayrshire Central Hospital, Irvine. (5442)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL (141 beds)
King's Lynn Area Hospitals Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
at the above hospital. Appointment will be for six months in the first instance. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Duties of the post offer valuable experience in general surgery, E.N.T. work and anaesthetics in a busy acute general hospital. Applications to be forwarded as soon as possible to the Secretary of above Committee, c/o St. James' Hospital, King's Lynn. (5067)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners (male and female) for the post of
HOUSE SURGEON (Genito-Urinary Surgery)
The person appointed will attend the Cystoscopic Clinic at the above hospital and the Out-patient Clinic at the teaching hospital. The appointment is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Folkard, Secretary to the Committee. (4738)

LIVERPOOL, 14, BROADGREEN HOSPITAL
Applications are invited from registered medical practitioners for the undermentioned resident appointments falling vacant on April 1, 1952, and tenable for six months.
TWO HOUSE SURGEONS
Salaries in accordance with the national scale for House Officers, i.e., £350, £400 or £450 per annum, according to experience, and subject to a deduction of £100 per annum in respect of residential emoluments. Applications, on forms obtainable from the undersigned, to be returned not later than January 31, 1952.—H. Blythe, Secretary, Broadgreen Hospital, Liverpool, 14. (5516)

LOUGHBOROUGH GENERAL HOSPITAL
(120 beds)
Applications are invited for the immediate vacancy of
HOUSE SURGEON
Applications, stating age, qualifications and experience, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (5047)

LOUTH, LINCS, COUNTY INFIRMARY
(240 beds)
Grimsby Hospitals Management Committee
HOUSE OFFICER (Surgical)
Applications are invited for the above post, which will shortly become vacant at this busy general hospital. Salary £350 to £450 per annum, according to experience, and deduction of £100 per annum will be made in respect of residential emoluments. Applications, giving details of age, experience, nationality, together with names of two referees, to be addressed to the Administrative Officer at the hospital. (4112)

MAIDENHEAD HOSPITAL
St. Luke's Road, Maidenhead, Berks
HOUSE SURGEON
Required for post vacant January 8. Salary on national scale. Applications, stating qualifications (with dates) and experience, together with copies of testimonials, should be sent to the Administrative Officer. (5322)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy General Hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (4139)

NEWMARKET GENERAL HOSPITAL
Newmarket, Suffolk
Applications are invited for the post of
HOUSE SURGEON
Post now vacant. Duties include care of general surgical, E.N.T. and ophthalmic patients. The post is resident and available for six months. Applications, with copies of three recent testimonials, should be addressed to the Physician Supt. (5569)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant about February 1. The post also includes some gynaecology. The appointment is recognized for the Fellowship of the Royal College of Surgeons. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (4795)

NEWPORT, MON, ST. WOOLOS HOSPITAL
(379 beds)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant at the end of January. The Surgical Department of 62 beds consists of a full-time Consultant who works only at this hospital, a Registrar and this post. The appointment is recognized for the Fellowship of the Royal College of Surgeons. Apply, stating age, and the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (5068)

NORTH SHIELDS, PRESTON HOSPITAL
South-East Northumberland Hospital Management Committee
Applications are invited from registered medical practitioners for appointment as
HOUSE SURGEON
Applications, with two testimonials, should be sent to the Secretary, South-East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (5423)

NORTHWOOD, MIDDLESEX, MOUNT VERNON HOSPITAL
Harefield and Northwood Group Hospital Management Committee
Applications are invited from registered medical practitioners for
HOUSE SURGEON
for General and Orthopaedic Surgery
vacant January 16, 1952. This appointment is recognized for the final F.R.C.S. by the Royal College of Surgeons. Applications, accompanied by testimonials, to be forwarded immediately to the Secretary and House Governor at Mount Vernon Hospital. (5439)

NORWICH, NORFOLK AND NORWICH HOSPITAL (440 beds)
HOUSE SURGEON (Male or female)
Post vacant now, recognized for Final F.R.C.S. examination requirements. Duties entirely general surgical. Salary £350 to £450, according to experience. Deduction £100 for residential emoluments. Applications, stating age, experience, qualifications, with names of two referees, to Secretary, Norwich, Lowestoft and Great Yarmouth H.M.C., St. Stephen's Road, Norwich. (5266)

NOTTINGHAM CITY HOSPITAL (833 beds)
HOUSE OFFICER (General Surgery)
Post vacant February 8, 1952. Conditions of service in accordance with terms issued by Ministry of Health. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be sent immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (5570)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence on or about January 31, 1952. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

NUNEATON, GEORGE ELIOT HOSPITAL
(258 beds)
HOUSE SURGEON
Post offers considerable opportunity for experience in general surgery. Applications to Medical Superintendent. (5182)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (General)
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference number A/779, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (5517)

PONTEFRACT, WARDE-ALDAM HOSPITAL
South Elmsall
Pontefract and Castleford Hospital Management Committee (Yorks)
HOUSE SURGEON
Required for 32 surgical beds. Good experience in general and orthopaedic surgery. Salary £350 to £450, according to posts held. Applications to W. Bowring, Secretary, Great Northern House, Salter Row, Pontefract. (5323)

PONTYPRIDD (near), EAST GLAMORGAN HOSPITAL, Church Village
(316 beds—Committee's Base Hospital serving population of 177,000)
Pontypridd and Rhondda Hospital Management Committee
There are vacancies at this hospital for
THREE HOUSE OFFICERS (Surgical)
(First or second posts)
One to commence on January 16 and two to commence on February 1. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be sent to the Secretary, Pontypridd and Rhondda H.M.C., Courthouse Street, Pontypridd. (5204)

Surgery—contd.

PRESTON ROYAL INFIRMARY (400 beds)
GENERAL HOUSE SURGEON
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5554)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)
Applications are invited for the post of
JUNIOR HOUSE SURGEON (Male or female)
resident at Blagrave Hospital, for a period of six months. Vacant immediately. Post provides opportunity for further medical studies. Salary £350 to £450, according to experience, less £100 for residential emoluments. Apply, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (8738)

RHONDDA, PORTH AND DISTRICT HOSPITAL (110 beds)
(This hospital is visited regularly by consultants from the Cardiff Royal Infirmary)
Pontypridd and Rhondda Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (First or second post)
Duties mainly surgical. Applications, stating age, qualifications, experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary, Pontypridd and Rhondda Hospital Management Committee, Courthouse Street, Pontypridd. (5205)

ROCHFORD, ESSEX, GENERAL HOSPITAL (602 beds)
Applications are invited from registered medical practitioners for
RESIDENT HOUSE SURGEON (House Officer Grade)
for a period of six months. The post becomes vacant on January 17, 1952. Applications, etc., should be forwarded to the undersigned at the General Hospital, Rochford, not later than January 11, 1952.—J. C. Field, Secretary. (5163)

ROMFORD, ESSEX, RUSH GREEN HOSPITAL (247 beds)
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE SURGEON (Woman)
for duties in the Gynaecological Unit comprising 25 gynaecological and 6 maternity beds at the above hospital. Previous experience not necessary. Post tenable for six months from February 1, 1952. Applications, stating (in order) age, qualifications with dates, present appointment and details of experience, accompanied by copies of two recent testimonials, or names of referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. Applicants may see the hospital by arrangement with the Medical Superintendent. Tel.: Romford 7711. (5069)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid-Herts Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of a
HOUSE SURGEON (House Officer Grade)
for one of the two surgical teams. Recognized for the F.R.C.S. Post vacant January 13, and tenable for six months. Applications, together with the names of two referees, should be sent to the Secretary, Osterhills, Normandy Rd., St. Albans. (5337)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
HOUSE SURGEON
Required immediately. Post tenable for six months. Applications, with copies of testimonials, to be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (3039)

SHOTLEY BRIDGE GENERAL HOSPITAL (582 beds)
Applications are invited for the posts of
TWO RESIDENT HOUSE OFFICERS (Surgical)
now vacant. The appointments will be for six months in the first instance. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent immediately to the Secretary, Shotley Bridge General Hospital, Shotley Bridge, Co. Durham. (5571)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON (Second or third post)
to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners (male or female) for appointment of
RESIDENT HOUSE SURGEON (Second or third post)
to a General Consultant Surgeon. The post is vacant immediately, tenable for six months, and recognized for the F.R.C.S. Salary as published by the Ministry of Health. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (9391)

SOUTHPORT AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Promenade Hospital (General)
HOUSE SURGEON (Resident)
Post now vacant.
Southport General Infirmary
TWO HOUSE SURGEONS (Resident)
Appointments vacant January 29 and February 8, 1952, respectively.
Apply immediately, with details of age, nationality, and qualifications, together with copies of two testimonials, to T. Crook, Secretary, Promenade Hospital, Southport. (5518)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (General Surgery)
vacant February 1, 1952. The post is recognized for F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent. (5070)

STOKE-ON-TRENT, NORTH STAFFS ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Surgery)
vacant immediately. Post recognized for F.R.C.S. examination. Applications, with copy testimonials, should be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (4896)

SUNDERLAND, ROYAL INFIRMARY (300 beds)
GENERAL HOSPITAL, Sunderland (534 beds)
HOUSE SURGEONS (Male or female)
Post vacant at Royal Infirmary immediately (recognized for F.R.C.S.) and at the General Hospital, January 27, 1952. Apply immediately to Secretary, Sunderland Area Hospital Management Committee, General Hospital, Sunderland. (5438)

SUTTON-IN-ASHFIELD, NOTTINGHAMSHIRE
KING'S MILL HOSPITAL
Applications are invited for the post of
HOUSE SURGEON
The hospital contains 115 surgical beds and the post offers facilities for practical training in general surgery and E.N.T. surgery. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Salary £350 to £450, according to previous posts held, with a deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary to the Committee. (4818)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Orsett Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
for General Surgery and Orthopaedic Departments
The appointment will be for six months in the first instance and the salary scale £400 to £450 per annum, according to experience, less £100 residential emoluments. Applications, together with copies of not more than three testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (5579)

TORQUAY, TORBAY HOSPITAL (177 beds)
HOUSE SURGEON (Male or female)
Required immediately. Appointment for six months. Minimum salary £350 per annum, less £100 in respect of accommodation and services. Applications, stating qualifications, nationality, and age, with copies of testimonials, to be sent to the Secretary, Torquay District Hospital Management Committee, 62-64, East Street, Newton Abbot, South Devon. (5519)

TRURO, ROYAL CORNWALL INFIRMARY (General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the office of
HOUSE SURGEON
in an extremely active general hospital doing major surgery and with busy out-patient departments. Post vacant February 1, 1952. The appointment will be resident and tenable for six months. The salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, enclosing copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5267)

WARRINGTON GENERAL HOSPITAL (372 beds)
There are immediate vacancies for
TWO RESIDENT HOUSE SURGEONS
The hospital is modern and offers excellent experience in general surgery. Salary and conditions in accordance with national scales.—H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington. (4667)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

. . . the Doctor's own Insurance Agency

offers
★ HOUSE PURCHASE—Assistance "up to the hilt" in suitable cases.
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Hon. Secretary: Henry Robinson, DL, JP
General Manager: A. N. Dixon, ACII

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MEDICAL INSURANCE AGENCY
CHIEF OFFICE: B.M.A. House, Tavistock Sq., London, W.C.1. Telephone: Euston 5561-2-3
EDINBURGH: 6 Drumsheugh Gardens.
BIRMINGHAM: 154 Great Charles Street.
LEEDS: 20/21 Norwich Union Bldgs., City Sq.
NEWCASTLE-UPON-TYNE: 16 Saville Row.
GLASGOW: 234 St. Vincent Street.
MANCHESTER: 33 Cross Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.

Surgery—contd.

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for
HOUSE SURGEON (Male or female)
for General Surgery and Gynaecology
Post vacant March 18, 1952. The successful candidate will be responsible jointly with the House Surgeon for the 74 beds allocated to the two specialties. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, qualifications and experience, and enclosing copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5268)

WALSALL HOSPITAL MANAGEMENT COMMITTEE
Walsall General Hospital (181 beds)
TWO HOUSE SURGEONS
Required at the above hospital. Posts vacant immediately. Apply Secretary.
Manor Hospital (333 beds)
HOUSE SURGEON
required at the above hospital. Post now vacant. Apply Administrative Officer. These are busy General Hospitals within easy reach of Birmingham and Wolverhampton, offering excellent experience in all branches of general surgery. (4900)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the following appointment:
HOUSE SURGEON (General Surgery) now vacant. This appointment is tenable for six months and is in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of testimonials, should be sent to the Secretary. (8077)

WORKINGTON INFIRMARY (86 beds)
West Cumberland Hospital Management Committee
HOUSE SURGEON
Required on February 1 for six months' appointment. Salary in accordance with national scales (£350 to £450). Applications, stating qualifications (with dates) and experience, and accompanied by copies of two testimonials, to be sent to the Secretary, Workington Infirmary, Workington, Cumberland. (5318)

WORKSOP, NOTTS, VICTORIA HOSPITAL
(127 beds)
Worksop and Retford Hospital Management Committee
HOUSE SURGEON
Required to commence duties immediately. Appointment for six months in first instance. Salary at rate of £350 to £450, according to number of posts held. A deduction of £100 per annum will be made in respect of residential emoluments. Applications, stating age, qualifications, nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Worksop and Retford Hospital Management Committee, Victoria Hospital, Worksop. (5324)

WORTHING GROUP HOSPITAL MANAGEMENT COMMITTEE
Worthing Hospital and Courtlands Recovery Hospital (273 beds—5 Resident Officers)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
Applications to Administrative Officer, Worthing Hospital, Lyndhurst Road, Worthing, stating age, qualifications (with dates), nationality and details of experience, with two testimonials.—A. V. Oakton, Secretary Administrator. (4721)

CASUALTY

KING EDWARD MEMORIAL HOSPITAL, Ealing
South-West Middlesex Hospital Management Committee
SENIOR HOUSE OFFICER
Required immediately at King Edward Memorial hospital for duty in the casualty and fracture departments. Resident at Clayponds Hospital, South Ealing, and in charge of beds there. Applications, stating age, nationality, qualifications (with dates), and details of experience, together with copies of two recent testimonials, should be sent to the Secretary of the Committee, West Middlesex Hospital, Isleworth. Closing date January 15, 1952. (5417)

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL
SENIOR HOUSE OFFICER
(Accident and Orthopaedic Service)
Vacant now. Duties include main charge of the Casualty Department under a visiting Consultant together with those of Senior Resident. The accident and orthopaedic department of the area is centred on this hospital. Salary £670 per annum, less a deduction of £140 for residence, etc. Applications, with two testimonials, to the Secretary-Superintendent as soon as possible. (5325)

BILLERICAY, ST. ANDREW'S HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
at St. Andrew's Hospital, Billericay, for the Casualty, Orthopaedic and General Surgery Departments. Resident. The appointment will be for six months in the first instance, and the post is vacant immediately. Applications, together with copies of not more than three testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (7747)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL
Birmingham (Dudley Road) Group of Hospitals
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Casualty Department
The post may be resident or non-resident, and will become vacant on March 1, 1952. The appointment will be made in accordance with the terms and conditions of service of hospital medical and dental staffs (England and Wales). Applications, stating age, qualifications and experience, accompanied by copies of three recent testimonials, to the Secretary, Hospital Management Committee, Dudley Road Hospital, within seven days of the appearance of this advertisement. (5206)

CHELMSFORD AND ESSEX HOSPITAL
London Road, Chelmsford (163 beds)
SENIOR HOUSE OFFICER (Casualty)
Required, to commence duties immediately. Applications, with copies of three recent testimonials, should be sent to the Secretary, Chelmsford Group Hospital Management Committee, London Road, Chelmsford. (3029)

DARLINGTON MEMORIAL HOSPITAL
CASUALTY OFFICER (S.H.O.)
Applications are invited from male or female practitioners with experience for the above post. Salary £670 per annum, deduction of £150 per annum for full residential emoluments. The post is tenable for twelve months and is renewable annually. Apply, with references, stating age and experience, to the undersigned.—G. W. Beckwith, Secretary. (8990)

EPSOM DISTRICT HOSPITAL
Epsom, Surrey (300 beds)
SENIOR HOUSE OFFICER (Casualty)
Applications are invited for this appointment, normally held for one year. The hospital has a busy casualty and out-patient department with excellent experience in minor and traumatic surgery. Six House Officers in residence. Candidates should have held previous House Officer posts and are invited to visit the hospital. Applications, stating age, nationality, qualification and experience, with copies of three recent testimonials, to be sent as soon as possible to the Secretary at the above address. (5044)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment as
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (4827)

HUDDERSFIELD ROYAL INIFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
RESIDENT CASUALTY OFFICER
Required to commence duties immediately. Senior House Officer grade. Salary in accordance with the terms and conditions of service for hospital medical and dental staff, £670 a year, less £130 in respect of residential emoluments. Applications, together with copies of three recent testimonials, to be sent to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (5520)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary. (5418)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
SENIOR HOUSE OFFICER
Casualty Department (Non-resident)
Immediate vacancy. The Casualty Officers cover duties in the department from 9 a.m. to 7 p.m. daily. This post gives opportunity for studying for final examination for Fellowship. Applications, with copies of three testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (5048)

NOTTINGHAM, GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Casualty)
Duties to commence as soon as possible. Salary £670 per annum, less £150 emoluments. Terms and conditions of service as published by the Ministry. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (4819)

OTLEY, YORKS, GENERAL HOSPITAL
(260 beds with full consultant staff who are members of the teaching staff of Leeds University)
Ilkley and Otley Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER (Casualty)
Salary at the rate of £670 a year, less £130 for full residential emoluments. Applications, stating age, qualifications, nationality, and experience, with copies of two recent testimonials, to be addressed to the undersigned at the hospital.—E. W. Best, Secretary. (5210)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties, which include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

BANBURY, HORTON GENERAL HOSPITAL
(170 beds)
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON (Male or female)
Required immediately. Post tenable six months in first instance. Salary from £350, according to experience. Applications, stating age, nationality, qualifications and names of two referees, to the Secretary, Hospital Management Committee, Horton General Hospital, Banbury, Oxon. (4100)

EXETER, ROYAL DEVON AND EXETER HOSPITAL
(300 beds, 10 Resident Medical Staff employed)
Exeter and Mid-Devon Hospitals Management Committee
Applications are invited from registered medical practitioners, male and female, for the appointment of
CASUALTY OFFICER
and to act as House Surgeon, Ear, Nose and Throat Department, vacant on January 18, 1952. The appointment is for a period of six months. Salary £350, £400 or £450 per annum, less deduction of £100 per annum for full residential emoluments. National Health Service terms and conditions. Applications, with copies of two recent testimonials, should be forwarded to the Senior Administrative Officer by January 12, 1952. (5555)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for residential emoluments. The post will be tenable for six months and terminable by one month's notice either side. Forms of application from the Administrative Officer. (6325)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN
Busy Casualty Department. Good scope for medical experience. Applications immediately to the Secretary, H.M.C. (5446)

KILMARNOCK INFIRMARY
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Casualty)
at the above Infirmary, which falls vacant on February 1, 1952. Salary, terms and conditions according to national scale. Applications, stating age, qualifications and any previous experience, to Physician Superintendent, Ayrshire Central Hospital, Irvine. (5443)

MAIDENHEAD HOSPITAL (100 beds)
St. Luke's Road, Maidenhead, Berks
HOUSE SURGEON to the Accident Department
Required immediately. Salary authorized at £50 per annum higher than the standard rate. Applications, stating age, qualifications (with dates), and experience, together with copies of two testimonials, should be sent to the Administrative Officer. (5320A)

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
CASUALTY HOUSE SURGEON
Post vacant January 21, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6447)

Casualty—contd.

PONTEFRACT GENERAL INFIRMARY
Pontefract and Castleford Hospital Management Committee
RESIDENT CASUALTY OFFICER
(Second or third post)

Salary £400 or £450. Vacant now. An appropriate deduction will be made for emoluments. Applications, with names of two referees, to be forwarded to the Secretary of the Committee, Great Northern House, Salter Row, Pontefract, Yorks.—W. Bowring, Secretary. (7495)

ST. ALBANS CITY HOSPITAL (425 beds)

Applications are invited from registered medical practitioners for the appointment of

CASUALTY OFFICER (House Officer Grade)

Post vacant February 1, 1952, and tenable for six months. Applications, together with the names of two referees, should be sent to the Secretary, Osterhills, Normandy Road, St. Albans. (5338)

STOURBRIDGE, CORBETT HOSPITAL
(106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

HOUSE OFFICER (Resident Casualty)

Post now vacant and will be tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (5384)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

PUBLIC HEALTH

(See Important Notice page 25)

BOLTON, COUNTY BOROUGH OF

Three vacancies exist for

ASSISTANT MEDICAL OFFICERS OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICERS OF HEALTH

and applications are invited from suitably qualified registered medical practitioners for such vacancies. The duties will be mainly in connection with the Maternity and Child Welfare Service and the School Health Service, but the persons appointed will be expected to carry out such duties as may be allotted to them by the Medical Officer of Health. The possession of a D.P.H. or a D.C.H. is desirable, but not essential. The salary will be on the appropriate step of the scale, £850 rising by annual increments of £50 to £1,150 per annum, according to experience and qualifications. The appointments will be subject to the provisions of the Local Government Superannuation Acts, and the successful candidates will be required to pass a medical examination. Appointments will be terminable by one month's notice on either side. There are no forms of application, but further particulars can be obtained from the Medical Officer of Health, Civic Centre, Bolton. Applications, giving full particulars of age, qualifications, and experience, and the names and addresses of three referees, should be forwarded to the undersigned not later than January 24, 1952.—Philip S. Rennison, Town Clerk, Town Hall, Bolton. (5521)

STOCKTON-ON-TEES, BOROUGH OF

Applications are invited from duly qualified medical practitioners for the position of

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER

The salary will be at the rate of £850 per annum, rising by annual increments of £50 to £1,150 per annum. The duties of the appointment will be principally of a clinical nature and will concern the school health service and the general work of the department. Preference will be given to candidates who hold a Diploma in Public Health or a Diploma in Child Health. The person appointed will not be allowed to engage in private practice and the appointment will be subject to two months' notice. Applications, giving particulars of age, qualifications, experience and present and previous appointments, together with the names of two persons to whom reference may be made, endorsed "Assistant Medical Officer of Health," must be received by the undersigned not later than January 20, 1952.—John B. Haworth, Town Clerk, Barclays Bank Chambers, Stockton-on-Tees. (5572)

LIVERPOOL, CITY OF—PORT HEALTH AUTHORITY
ASSISTANT PORT MEDICAL OFFICER

Applications are invited for the above appointment. Salary £850 by £50 to £1,150 per annum. The duties will be in connection with the tidal inspection of ships; the medical inspection of aliens; and such other duties as may from time to time be assigned to him by the Medical Officer of Health. Possession of a Diploma in Public Health is desirable. Application forms obtainable from the Medical Officer of Health, Gordon House, Belmont Grove, Liverpool, 6, should be returned to him by January 14, 1952. The appointment is superannuable and subject to the Standing Orders of the City Council. Canvassing disqualifies.—Thomas Alker, Town Clerk and Clerk to the Port Health Authority, Municipal Buildings, Liverpool, 2. (JA.2789) (5522)

NORTHUMBERLAND COUNTY COUNCIL
School Health Service

Applications are invited from registered medical practitioners for the post of

ASSISTANT SCHOOL MEDICAL OFFICER
(Male or female)

Preference will be given to candidates who have experience in the diseases of children, and to those who have been approved by the Minister of Education for the purpose of the ascertainment of educationally subnormal pupils. The salary will be at the rate of £850 per annum, rising by annual increments of £50 to a maximum of £1,150 per annum. Previous experience may be taken into consideration in determining the commencing salary. Travelling expenses and subsistence allowances, in accordance with the Council's scale, will be paid. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, as amended by the National Health Service (Superannuation) Regulations, and the successful candidate will be required to pass a medical examination. Forms of application, which may be obtained from Dr. J. B. Tilley, School Medical Officer, County Hall, Newcastle-upon-Tyne, 1, should be returned not later than January 26, 1952.—E. P. Harvey, Clerk of the Council, County Hall, Newcastle-upon-Tyne, 1. (5402)

SOUTHAMPTON, COUNTY BOROUGH OF
Health Department
ASSISTANT MEDICAL OFFICER OF HEALTH

Applications are invited from registered medical practitioners for the above whole-time permanent post. The duties will be mainly in connection with port health work, but the person appointed will be expected to carry out such duties in connection with the Maternity and Child Welfare Service and the School Health Service as may be allotted by the Medical Officer of Health. Salary £850 per annum, rising by annual increments of £50 to a maximum of £1,150 per annum. The person appointed will be expected to pass a medical examination and to contribute to the Corporation's Superannuation Fund. Further particulars can be obtained from the Medical Officer of Health, Health Department, Civic Centre, Southampton, to whom forms of application should be returned not later than fourteen days after the appearance of this advertisement. Canvassing will disqualify. (5269)

SWINDON, BOROUGH OF
DEPUTY MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER

Applications are invited from duly qualified medical practitioners holding a Diploma in Public Health or similar qualification for the appointment of Deputy to the Medical Officer of Health and Borough School Medical Officer who is also Area Medical Officer under the Wiltshire County Council. The salary and conditions of service will be in accordance with the recent award of the Industrial Court. The present salary is at the rate of £1,034 per annum, rising by four increments of £50 to a maximum of £1,234 per annum. Assistance will be given in the provision of housing accommodation if required. Forms of application and further particulars of the post may be obtained from the undersigned with whom applications should be lodged not later than Saturday, January 19, 1952.—D. Murray John, Town Clerk, Civic Offices, Swindon. (5256)

WORCESTERSHIRE COUNTY COUNCIL
ASSISTANT COUNTY MEDICAL OFFICER WITH ADDITIONAL PUBLIC HEALTH DUTIES

Applications are invited from registered medical practitioners (men or women) for the above whole-time post. The duties will chiefly concern school health and child welfare services. The possession of the D.C.H. or the D.P.H. and experience in connexion with infectious diseases will be of advantage. The salary and conditions of service will be in accordance with the recent award of the Industrial Court, i.e. £850 per annum, rising by annual increments of £50 to £1,150. Past experience will be considered in fixing the starting point within this scale. The successful candidate must own and drive a car. The holder of this appointment (now vacant) also acted as occasional Deputy at the Hayley Green Isolation Hospital and to the Medical Officer of Health for the boroughs of Halesowen and Stourbridge, for which additional payment is made. The appointed officer will be considered for all or any of these additional appointments. The post is superannuable, subject to medical examination and determinable by three months' notice. Applications, on forms to be obtained from the County Medical Officer, County Buildings, Worcester, should be returned to him by January 12, 1952.—W. R. Scurfield, Clerk of the County Council. (4921)

GOVERNMENTAL

TREASURY MEDICAL SERVICE

Applications are invited from medical practitioners, practising in the districts detailed below, for appointment in a part-time and mainly advisory capacity as

LOCAL TREASURY MEDICAL OFFICER

for each of the places or groups of places shown. The town shown in brackets after the place-names indicates the Head Post Office Area in which the place, or group of places, is situated. Successful applicants will be required to examine and report on the condition of certain Government Officers, teachers, candidates for appointment, etc., who may be referred to them from time to time; and to attend when summoned to an emergency case of accident or sudden illness occurring in a Government office in the neighbourhood. Fees for this work, and mileage allowance where necessary, will be paid on a scale agreed with the British Medical Association. Intending applicants should write, within fourteen days, to Treasury Medical Adviser, Treasury Chambers, Whitehall, S.W.1, for a form on which application may be made. Applicants should be not more than 60 years of age.

The places for which applications are invited are as follows:

England and Wales

Honiton (Exeter).
Beckenham (Bromley).
Horwich (Bolton).
Burford (Oxford).

Scotland

Ardgay, Bonar Bridge, Rosehall (Lairg).
Forres, Brodie, Dallas, Dunphail and Glenferness (Elgin).
Linlithgow (Bathgate). (5556)

SERVICES

ROYAL NAVAL MEDICAL SERVICE

Candidates are invited for service as

MEDICAL OFFICERS

in the Royal Navy—preferably below 28 years. They must be British subjects whose parents are British subjects, and be medically fit. No examination will be held but an interview will be required. Initial entry will be for four years' short service, after which gratuity of £600 (tax free) is payable, but permanent commissions are available for selected short service officers. Officers entered on or after January 1, 1951, will be eligible to be considered for antedates of seniority up to two years for service in recognized civil hospitals, etc. For full details apply Medical Director-General, Admiralty, S.W.1.

INDUSTRIAL APPOINTMENTS

AN IMPORTANT PHARMACEUTICAL MANUfacturer in the North-West of England wishes to appoint a Consultant Physician as full-time medical adviser. His duties would include the organization and supervision of clinical trials of new and established products, and co-operation with the company's technical information department and other departments in their function of furthering the use of the company's therapeutic products. In addition to the academic qualifications and professional experience for consultant status, some experience of editorial work would be desirable, together with an appreciation of the place of pharmaceutical manufacturers in the progress of medical science. A pharmaceutical qualification would be an added advantage. Applicants should hold some honorary appointments and should be prepared to continue such of these as may facilitate their work. Applicants should be prepared to reside in the Manchester/Liverpool area, but consideration would be given to those wishing to continue living in other areas where they have established contacts. The salary offered will conform to the scale approved to be paid to consultants under the National Health Service.—Applications should be addressed to the Managing Director, Box 2005, B.M.J.

OVERSEAS

BRITISH GUIANA

Medical Officer, qualified in tropical medicine, general medicine and surgery, required by U.S. industrial company in British Guiana. Laboratory, field hospital, and general practice. Regular leave, furnished living quarters at nominal cost, three-year contract. Starting salary £1,800 annually.—Write, stating particulars, to Box 2004, B.M.J.

Overseas—contd.

ONTARIO, Canada
PHYSICIAN

Required for junior position in private psychiatric hospital. Annual salary £1,500 or more depending on qualifications and experience. Living quarters and full maintenance provided at reasonable cost. Apply by air mail to Medical Superintendent, Homewood Sanitarium, Guelph, Ontario, Canada. (5529)

ALBANY HOSPITAL, Albany, N.Y.

Internships and residencies available in Albany Hospital, Albany, New York, 750-bed general hospital, directly associated with Albany Medical College. House officers receive appointments in medical school. Salaries range from a minimum of $300 a year for interns to $1,400 a year for residents. Details on request. (9695)

ALBANY HOSPITAL, Albany, N.Y.

Residency in tuberculosis available at Albany Hospital, Albany, New York, associated with Albany Medical College, beginning July 1, 1952, for a period of twelve months. Salary ranges from $1,800 to $2,400. (9920)

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

NEW ROCHELLE HOSPITAL
New Rochelle, New York, U.S.A.
(360-bed general community hospital)

Approved by American College of Surgeons, American Medical Association for Internship and Residency training. Only graduates from approved university schools accepted. Internes, $100 per month, plus full maintenance. Vacancies on or about July 1, 1952. (5427)

ST. VINCENT'S HOSPITAL
Staten Island, New York City, N.Y.

Opening for three **Rotating Internships** starting July 1, 1952, and four **Rotating Internships** starting October 1, 1952. Opening for **Medical Resident, and Paediatric** starting July 1, 1952. Stipend $100 per month for interns, $150 for residents, plus full maintenance. Excellent educational programme. All appointments are for one year. Address applications, Dr. George W. McCormick, Chairman, St. Vincent's Hospital, Staten Island, New York City, N.Y. (5528)

BRITISH EMPIRE CANCER CAMPAIGN invites applications from British subjects for **Exchange Fellowships in Cancer Research** offered by the National Cancer Institute of Canada and the American Cancer Society. Completed applications must be received by February 29, 1952. Fellowships are of one year's tenure at a stipend of $4,000. Travelling expenses to and from centre of work will be borne by the Campaign. For further particulars and application forms apply to the Secretary-General, British Empire Cancer Campaign, 11, Grosvenor Crescent, Hyde Park Corner, London, S.W.1. (5405)

NORTHLAND HOSPITAL BOARD
Whangarei, New Zealand
JUNIOR REGISTRAR
Kaipara Hospital, Te Kopuru

Applications are invited from those qualified for the above position, which would be particularly attractive to a second year man. There is a little maternity work undertaken, with plenty of opportunity for surgery and medicine at the General Hospital, which averages 32 occupied beds daily. Accommodation: A partly furnished house is available for the successful applicant. Salary scale: £661 to £718 (one increment of £50). Applications should be addressed to the undersigned.—A. G. Wilson, Secretary, Northland Hospital Board, P.O. Box 403, Whangarei, New Zealand. (5526)

PRETORIA HOSPITAL—UNIVERSITY OF PRETORIA, South Africa
CHIEF BACTERIOLOGIST
PRETORIA HOSPITAL, AND PROFFESSOR IN BACTERIOLOGY, MEDICAL FACULTY

Applications are invited from suitably qualified Bacteriologists for the above-named full-time post in the joint service of the Pretoria Hospital and the University of Pretoria on the following conditions: Salary £2,500 per annum, plus ruling cost-of-living. Married rate £256 per annum, single rate £80 per annum. Applicants must be registrable with the South African Medical and Dental Council. Applications should be addressed to the Medical Superintendent, Pretoria Hospital, Pretoria, and should contain full particulars with regard to age, professional, academic and language qualifications, previous experience, teaching experience, if any, and when able to assume duties, should application be successful. Should the successful applicant not be proficient in Afrikaans and English he shall have to undertake to become proficient in both languages within a reasonable time. Closing date for applications February 20, 1952. (5557)

WAIKATO HOSPITAL BOARD

Applications, closing on February 25, 1952, are invited from qualified medical practitioners for the full-time position of

ANAESTHETIST

at the Waikato Hospital, Hamilton, New Zealand. Salary, according to qualifications and experience, as follows: **Senior Specialist Grading:** Minimum £1,500. Maximum £1,750 per annum. Annual increments £50, plus cost-of-living bonus of £160 per annum. Non-resident. **Junior Specialist Grading:** Minimum £1,100, maximum £1,400 per annum. Annual increments £50, plus cost-of-living bonus of £160 per annum. Non-resident. Conditions of appointment obtainable from the High Commissioner for New Zealand, 415, Strand, London, W.C.2. Transport expenses of successful applicant and of wife and dependent children, if resident in United Kingdom at the time of appointment, payable as per conditions of appointment. Applications, with copies of recent testimonials, stating age, qualifications, and experience, to be addressed to the undersigned.—A. C. Burgess, Secretary, P.O. Box 14, Hamilton, New Zealand. (5215)

HIS MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom, with one or more years' experience after qualification, are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH

for general medical and health duties. A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan medical service. Appointment is available (a) on probation for permanent establishment, (b) on employment from the National Health Service, and (c) on short term contract with gratuity. **(a) Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in His Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g. F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). **(b) National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malayan salary on leaving Malaya at the end of their engagements. Emoluments as under (a) including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their Colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. **(c) Contract terms.** The contract will be for three years' resident service, renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a) including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e. those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No 27215/242/51). (5187)

EIRE

GALWAY COUNTY COUNCIL

Applications are invited for the following posts in Galway Central Hospital as from Feb. 1, 1952:

SENIOR RESIDENT SURGICAL OFFICER for a period of six months in the first instance. Remuneration at the rate of £200 per annum, with rations, apartments, fuel, light, laundry, and attendance, together with temporary bonus of £41 18s. per annum. Applicants must not be less than 24 years of age on January 1, 1952, and must have had twelve months' experience in a hospital as a Resident Medical Officer, six months of which must have been gained in the post of Resident House Surgeon in a general hospital.

FOUR JUNIOR RESIDENT HOUSE SURGEONS (including one Obstetrical and one Casualty Officer) for a period of six months. Remuneration at the rate of £150 per annum with rations, etc., plus temporary bonus of £41 18s. per annum. Applicants must not be less than 23 years of age on January 1, 1952.

Applications, stating date of birth, together with certificate of registration, testimonials, and certificates of experience, should be lodged with the Secretary, Galway County Council, County Buildings, Galway, immediately. (5558)

UNIVERSITY APPOINTMENTS

THE BRITISH EMPIRE CANCER CAMPAIGN invites applications for **Fellowships in Cancer Research.** These Fellowships will be intermediate between the Campaign's existing Senior and Junior Fellowships, and will normally be tenable for five years at a salary of £1,500 by £100 to £1,900 per annum. Fellowships are full-time and will carry superannuation. Fellowships are open to any person of British nationality who, at the date of election, has taken a degree in any faculty in any university in the British Empire approved by the campaign, or who, if a female, has passed an examination which would have entitled her, if a male, to take any such degree. The possession by a Fellow at the date of election of a medical diploma registrable in the United Kingdom will be accepted as a qualification for a Fellowship in lieu of a degree. Elections will take place in June, 1952, and work, if possible, should be begun before the end of the year. Fellows must carry on their research initially in Great Britain or in Northern Ireland, and only at the place at which they are authorized by the Campaign to work. The fares of successful candidates from overseas will be paid by the Campaign. The closing date for the receipt of applications is May 1, 1952. For further particulars and application forms apply to the Secretary-General, British Empire Cancer Campaign, 11, Grosvenor Crescent, Hyde Park Corner, London, S.W.1. (5404)

UNIVERSITY OF ABERDEEN

Applications are invited for the post of

LECTURER IN MATERIA MEDICA

Candidates should have special experience in experimental pharmacology. Salary on medical scale £1,000 by £100 to £1,300 or £1,400 by £100 to £2,000 or on non-medical scale £800 by £50 to £1,100 or £1,100 by £50 to £1,300, scale and placing therein according to qualifications and experience, with F.S.S.U. and children's allowances. The University will pay a proportion of furniture removal expenses. Applications to be lodged with the Secretary (from whom forms of application and conditions of appointment may be obtained) not later than January 31, 1952.—H. J. Butchart, Secretary, The University, Aberdeen. (5183)

UNIVERSITY OF ABERDEEN

Applications are invited for a

LECTURER IN CLINICAL CHEMISTRY

Applicants must have a medical degree and preferably have special qualifications in chemistry and physiology. Salary £600 by £100 to £900 or £1,000 by £100 to £1,300, scale and placing therein according to qualifications and experience, with F.S.S.U. and children's allowance. The University will pay a proportion of furniture removal expenses. Applications should reach the Secretary to the University (from whom forms of application and conditions of appointment may be obtained) not later than January 31, 1952.—H. J. Butchart, Secretary, The University, Aberdeen. (5184)

UNIVERSITY OF LEEDS
School of Medicine

Applications are invited from registered medical practitioners for the post of

either LECTURER or ASSISTANT LECTURER IN PATHOLOGY

Salary scale for Lecturer £1,000 by £100 to £1,500 a year. Salary scale for Assistant Lecturer £600 by £100 to £800 a year. The initial salary may be fixed above the minimum of the scale according to the experience and qualifications of the candidate selected. Applications (three copies) should reach the Registrar, The University, Leeds, 2 (from whom further particulars may be obtained), not later than January 21, 1952. (5525)

University Appointments—contd.

UNIVERSITY OF LIVERPOOL
Department of Studies in Psychological Medicine
Applications are invited for the post of
RESEARCH ASSISTANT
at a salary within the range £1,000 to £1,200 per annum, according to the qualifications and experience of the successful candidate. The appointment will be tenable for one year, and may be renewed for a second year. Applications, stating age, academic qualifications, and experience, together with proposed subjects of research and the names of three referees, should be received not later than February 9, 1952, by the undersigned, from whom further particulars may be obtained.—Stanley Dumbell, Registrar. (5523)

UNIVERSITY OF LIVERPOOL
Applications are invited for the post of
WHOLE-TIME RESEARCH ASSISTANT IN CHILD HEALTH
from persons holding a medical qualification and possessing some experience of paediatrics. The appointment will be for one year at a salary of £1,000 per annum. Laboratory and clinical facilities will be provided in the Department of Child Health. Applications, stating age, qualifications and experience, together with proposed subjects of research and the names of three referees, should be received not later than February 16, 1952, by the undersigned, from whom further particulars may be obtained.—Stanley Dumbell, Registrar. (5524)

UNIVERSITY OF MANCHESTER
Department of Child Health
COW AND GATE FELLOWSHIP
Applications are invited for the above Fellowship, normally of the value of £900 per annum, tenable in the University and available for research into problems associated with nutrition in infants and children. Regulations governing the award of the Fellowship may be obtained from the Registrars, the University, Manchester, 13, to whom all applications should be sent not later than January 31, 1952. (4218)

UNIVERSITY OF MANCHESTER
Applications are invited for the post of
FULL-TIME RESEARCH ASSISTANT IN ANAESTHESIA
from persons possessing both clinical and research experience. Salary not less than £1,300 per annum. Membership of F.S.S.U. and children's allowance scheme. Further particulars from the Registrars, the University, Manchester, 13, to whom all applications must be submitted not later than January 31, 1952. (5428)

PERSONAL

AESTHETIC BUT NOT PLUTOCRATIC? Write for catalogue of good inexpensive antique furniture to Margery Dean, B.A., A.K.C., Wivenhoe, Essex. (Nearly 4,000 sq. ft. of showroom space.)

NEW CARS STAY NEW IF THE UPHOLSTERY is protected by loose covers. Write or 'phone the Specialists, Car-Coverall, Ltd., 168, Regent Street, London, W.1. MONarch 1601-3.

WARNER CALENDAR OF MEDICAL HISTORY. Medical practitioners resident in the United Kingdom and Eire are advised to return their cards for the 1952 Warner Calendar of Medical History immediately. A few extra copies are available for doctors who have not previously received the Diary. —Write to William R. Warner & Co., Ltd., Power Road, London, W.4.

NOTICES

PRIVATE BEDS AT ITALIAN HOSPITAL (NOT nationalized), Queen Square, W.C.1. Single room, 12 gns.; sharing, 8 gns. Open to patients of consultants of recognized standing.—Ring Secretary, Holborn 6191.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE ASSOCIATION
Keppel Street, Gower Street, W.C.1
Members of the above Association are invited to a Cocktail Party to be held at the School on Friday, February 15, 1952, at 5.30 p.m. Membership is open to anyone who has followed a recognized course of study at the School. Members of the staff will be glad to welcome old students from 4.30 p.m. onwards. Application for tickets (price 10s., which should accompany the application) should be made to Miss K. M. Shaw, Personal Assistant to the Dean, before Feb. 1, 1952. (5401)

EDUCATIONAL

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes. 1937-1950; M.D.Lond., 62; M.B., B.S.Lond., Final, 133; F.R.C.S.Eng., Primary, 212; F.R.C.S.Eng., Final, 173; M.R.C.P.Lond., 209; M.R.C.S., L.R.C.P., Final, 303; D.A., 177; D.C.H., 135; M. and D.Obst.R.C.O.G., 232; D.O., C.P.H., D.P.H., D.L.O., D.P.M., F.R.C.S.Edin., many successes. Assistance with M.D. Thesis. Prospectus, list of tutors, etc., on application to Dr. G. E. Oates, University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

COURSE ON
BONE IN HEALTH AND DISEASE
AT THE INSTITUTE OF ORTHOPAEDICS, JANUARY 21-26, 1952

MONDAY, JANUARY 21—TOWN SECTION

10.00–11.00	General Properties of Bone	PROF. J. Z. YOUNG
11.15–12.30	Chemistry of Bone	DR. T. F. DIXON
12.45	Lunch	
2.00–3.00	Bone Growth	MR. J. J. PRITCHARD
3.00–4.00	Biochemical Investigation of Bone Disorders (1)	DR. T. F. DIXON
4.00	Tea	

TUESDAY, JANUARY 22—TOWN SECTION

10.00–11.00	Biochemical Investigation of Bone Disorders (2)	DR. T. F. DIXON
11.15–12.30	The Repair of Fractures	DR. J. J. PRITCHARD
12.45	Lunch	
2.00–4.00	Bone Grafting	MR. V. H. ELLIS
4.00	Tea	

WEDNESDAY, JANUARY 23—COUNTRY SECTION

10.00–11.00	Bacteriology of Bone Infections	DR. C. H. LACK
11.15–12.30	Osteoporosis	DR. F. H. STEVENSON
12.45	Lunch	
2.00–3.30	Clinical Demonstration	MR. A. T. FRIPP
4.00	Tea	
4.30–5.30	Chronic Infective Bone Disorders	MR. H. J. SEDDON

THURSDAY, JANUARY 24—TOWN SECTION

10.00–11.00	Congenital Disorders of the Skeleton	MR. H. J. BURROWS
11.15–12.30	Congenital Disorders of the Skeleton	DR. E. H. ALLEN
12.45	Lunch	
1.45–2.45	Endocrine Disorders of the Skeleton	DR. R. NASSIM
3.00–4.00	Nutritional Disorders of the Skeleton	DR. R. NASSIM
4.00	Tea	

FRIDAY, JANUARY 25—TOWN SECTION

10.00–11.00	Bone Tumours	DR. C. GOLDING
11.15–12.30	Bone Tumours	DR. A. D. THOMSON
12.45	Lunch	
2.00–3.00	Bone Tumours	MR. K. I. NISSEN
3.00–4.00	Osteomyelitis	MR. V. H. ELLIS
4.00	Tea	

SATURDAY, JANUARY 26—TOWN SECTION

10.00–11.00	Pathological Demonstration: General Bone Disorders	DR. A. D. THOMSON
11.15–12.30	Some General Bone Disorders	MR. H. J. BURROWS

The Fee for the Course (including Lunch and Tea) is 7 gns. Early application should be made to the Dean at 234, Great Portland Street, London, W.1. (4506)

UNIVERSITY OF MANCHESTER
Faculty of Medicine
The Faculty of Medicine, in conjunction with the St. Mary's Hospitals for Women and Children, proposes to conduct a postgraduate course in Obstetrics, especially intended for general practitioners. The course is to comprise twelve weekly meetings to be held on Wednesdays from 10 a.m. to 4 p.m., commencing March 19, 1952, and concluding on June 18, 1952. The fee for the course is seven guineas, though doctors taking part in the National Health Service may be able to claim the fee and travelling expenses from the Ministry of Health. Application should be made to the Dean of Postgraduate Medical Studies not later than February 29, 1952. (5166)

INSTITUTE OF UROLOGY
In association with St. Peter's and St. Paul's Hospitals
Intensive postgraduate course on selected urological subjects, January 14 to January 25, 1952. The course will include systematic lectures, outpatient sessions, ward visits, operating sessions, and tutorial demonstrations. Hours of work, 10 a.m. to 6 p.m. The fee for this course is 10 guineas, payable in advance. Applications should be made to the Secretary, Institute of Urology, St. Peter's Hospital, Henrietta Street, London, W.C.2. (5530)

SOCIETY OF APOTHECARIES OF LONDON.—Surgery: February 11, March 10, April 15. Medicine and Pathology: February 18, March 17, April 21. Midwifery: February 19, March 18, April 22. Mastery of Midwifery: May and November. Diploma in Industrial Health: July and December. For regulations apply Registrar, Apothecaries' Hall, Black Friars' Lane, London, E.C.4.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE
Postgraduate Academic Diploma in Bacteriology
The course for the Postgraduate Diploma in Bacteriology for the Session 1952-3 will commence in October, 1952. This is a full-time day course extending over one academic year. The course may be taken by: (a) Graduates in Medicine or Veterinary Science desiring to study Bacteriology as applied to Medicine and Hygiene. (b) Graduates in Science with a First or Second Class Honours degree in Chemistry, or its equivalent. For such students, the course covers the fields of General Bacteriology, Chemical Microbiology and Industrial Microbiology. Applications for admission to the Diploma course must be received not later than March 1, 1952. Further information and application forms can be obtained from the Registrar, London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1. (5406)

POSTGRADUATE STUDY. Diploma in Anaesthetics; Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Laryngology; Diploma in Child Health; F.R.C.S.Eng., and all Surgical Examinations; M.R.C.P.Lond., and all Medical Examinations; M.D. Thesis of all Universities; Courses for all qualifying Examinations. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested. Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1.

LECTURES

INSTITUTE OF CHILD HEALTH
University of London
RECENT ADVANCES IN SURGERY OF INFANCY AND CHILDHOOD

A course of lectures for postgraduates will be given at The Hospital for Sick Children Great Ormond Street, London, W.C.1, during January–March, 1952, on Thursdays, at 5 p.m.

Jan 24	Surgery of the Brain in Childhood	PROF. H. CAIRNS
31	Surgery in the Newborn	MR DENIS BROWNE
Feb 7	Abdominal Surgery in Childhood	PROF. I. AIRD
14	Burns	MR. A B WALLACE
21	Patent Ductus Arteriosus and Pulmonary Stenosis	MR. T. HOLMES SELLORS
28	Plastic Surgery	MR. D. N. MATTHEWS
March 6	Modern Orthopaedic Principles	MR. H. J. SEDDON
13	The Ear, Nose, and Throat	MR. H. S. SHARP
20	Genito Urinary Surgery	MR. T. T. HIGGINS
27	Surgery of Chest Disease	PROF. R. S PILCHER

The fee for the course of ten lectures is £3 3s., for a single lecture 7s. 6d. Applications for tickets of admission, accompanied by a remittance, should be sent to The Secretary, Institute of Child Health, The Hospital for Sick Children, Great Ormond Street, London, W.C.1. Early application is advisable as the number of tickets is limited. (5135)

LECTURES

BRITISH POSTGRADUATE MEDICAL FEDERATION
UNIVERSITY OF LONDON
"THE SCIENTIFIC BASIS OF MEDICINE"
JANUARY–MARCH, 1952

The following lectures, which comprise the second half of the series, designed especially for research workers and specialists in training, will be delivered at THE LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, KEPPEL STREET, W.C.1, at 5.30 p.m., on *Tuesday and Thursday afternoons*. Admission free without ticket.

Date	*Lecturer*	*Title*
JANUARY		
Tues. 15	PROF. H. DINGLE, D.Sc., A.R.C.S. (University College)	The Philosophy of Science
Thurs. 17	PROF SIR GEOFFREY JEFFERSON, M.S., F.R.S., F.R.C.P., F.R.C.S. (Manchester)	Fundamentals of Cortical Physiology
Tues. 22	PROF. G. L. BROWN, C.B.E., M.Sc., F.R.S. (University College)	Involuntary Nervous System
Thurs. 24	PROF G. L. BROWN, C.B.E., M.Sc., F.R.S. (University College)	Involuntary Nervous System
Tues. 29	PROF. A. HADDOW, M.D., D.Sc., Ph.D. (Institute of Cancer Research)	Carcinogenesis
Thurs. 31	DR. L. C. THOMSON, Ph.D. (Institute of Ophthalmology)	The Physiological Basis of Visual Sensation
FEBRUARY		
Tues. 5	DR. ALICE M. STEWART, M.A., M.D., F.R.C.P. (Oxford)	Methods of Research in Social Medicine
Thurs. 7	PROF. J. M. MACKINTOSH, M.D., LL.D., F.R.C.P. (London School of Hygiene and Tropical Medicine)	Contributions in the Twentieth Century to the Practice of Health
Tues. 12	DR. J. M. TANNER, M.D. (St. Thomas's Hospital Medical School)	Growth of the Human at the Time of Adolescence
Thurs. 14	DR. DONALD HUNTER, M.D., F.R.C.P. (London Hospital Medical College)	Methods of Research in Industrial Medicine
Tues. 19	SIR ROBERT ROBINSON, O.M., D.Sc., LL.D., F.R.S. (Oxford)	Chemical Aspect of Antibiotics
Thurs. 21	PROF. H. D. KAY, C.B.E., D.Sc., F.R.S. (Reading)	Recent Light on Mammary Function
Tues. 26	PROF. E. C. DODDS, M.D., F.R.S., F.R.C.P. (Middlesex Hospital Medical School)	Research on Ageing
Thurs. 28	PROF. M. L. ROSENHEIM, M.A., M.D., F.R.C.P. (University College Hospital Medical School)	Lability of Blood Pressure
MARCH		
Tues. 4	DR. O. G. EDHOLM, B.Sc. (M.R.C. Hampstead)	The Effects of Haemorrhage on the Peripheral Circulation in Man.
Thurs. 6	PROF. G. P. CROWDEN, O.B.E., T.D., D.Sc. (London School of Hygiene and Tropical Medicine)	Environmental Factors in Work
Tues. 11	DR. D. D. REID, M.D., Ph.D. (London School of Hygiene and Tropical Medicine)	Statistical Ideas and Clinical Research
Thurs. 13	PROF. SIR CYRIL BURT, M.A., D.Sc. (University College)	The Psychology of Personality
Tues. 18	PROF. W. V. MAYNEORD, D.Sc. (Institute of Cancer Research)	Physical Techniques in the Medical Applications of Ionizing Radiations
Thurs. 20	DR. J. F. LOUTIT, D.M. (M.R.C. Harwell)	Biological Effects of Radiation (5429)

ROYAL COLLEGE OF PHYSICIANS OF LONDON

Dr. Jonas Henrik Kellgren, F.R.C.P., will deliver the Goulstonian Lectures on Tuesday, January 15, and Thursday, January 17, 1952, at 5 p.m. at the College, Pall Mall East, S.W.1. Subject: **"Some Concepts of Rheumatic Disease."** Any member of the Medical Profession admitted on presentation of card. By order of the President. —Harold Boldero, Registrar. (5407)

D.OBSTET.R.C.O.G.: COURSE OF LECTURES for March examination commencing shortly, London.—Box 2011, B.M.J.

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

SITUATIONS VACANT

British Postgraduate Medical Federation (University of London). Science Graduate, with experience in clinical biochemistry, to work on metabolic studies at the Institute of Orthopaedics, Royal National Orthopaedic Hospital, Stanmore, Middlesex. Salary £450 by £50 to £550.—Apply within fourteen days to the Secretary, Institute of Orthopaedics, 234, Great Portland Street, London, W.1.

King Edward Memorial Hospital, Ealing. South-West Middlesex Hospital Management Committee. —Applications are invited for the post of **Histological Technician,** vacant February 4, 1952. Candidates should be Associates of the Institute of Medical Laboratory Technology holding a Diploma in Histology, but consideration will be given to candidates holding the Intermediate diploma. Salary and conditions in accordance with Whitley Council scales. Applications in writing, stating age, experience, and names of two referees, to the Pathologist in Charge at the hospital.

SITUATIONS WANTED

Experienced Clinical Psychologist wishes to obtain whole- or part-time appointment in hospital or clinic. References can be given.—Box 2010, B.M.J.

RECEPTIONISTS, SECRETARIES, TYPISTS, ETC.

AVAILABLE

Experienced secretary (driver), used medical phraseology, seeks post, West End London (consider residential). Medical testimonials.—Box 2009, B.M.J.

Lady, experienced (25), Jewish, desires resident post, nannie, secretarial, dispensing or combined.—Box 2033, B.M.J.

Lady seeks part-time receptionist post to doctor or dentist, West End.—Box 2034, B.M.J.

Single lady, 30, desires Part-time Post with doctor. Experienced bookkeeper, French, typing.—Box 2024, B.M.J.

Applicants requiring testimonials, theses, copies or duplicated, should communicate with Manton Secretarial Service, Ltd., 98, Victoria Street, S.W.1 (Victoria 0141), who are specialists.

Thoroughly trained Medical Secretarial staff may be engaged through Brook Street Bureau, Ltd., 59, Brook Street, W.1, Gro. 6666, and 2, George Street, Croydon. Phone 3363.

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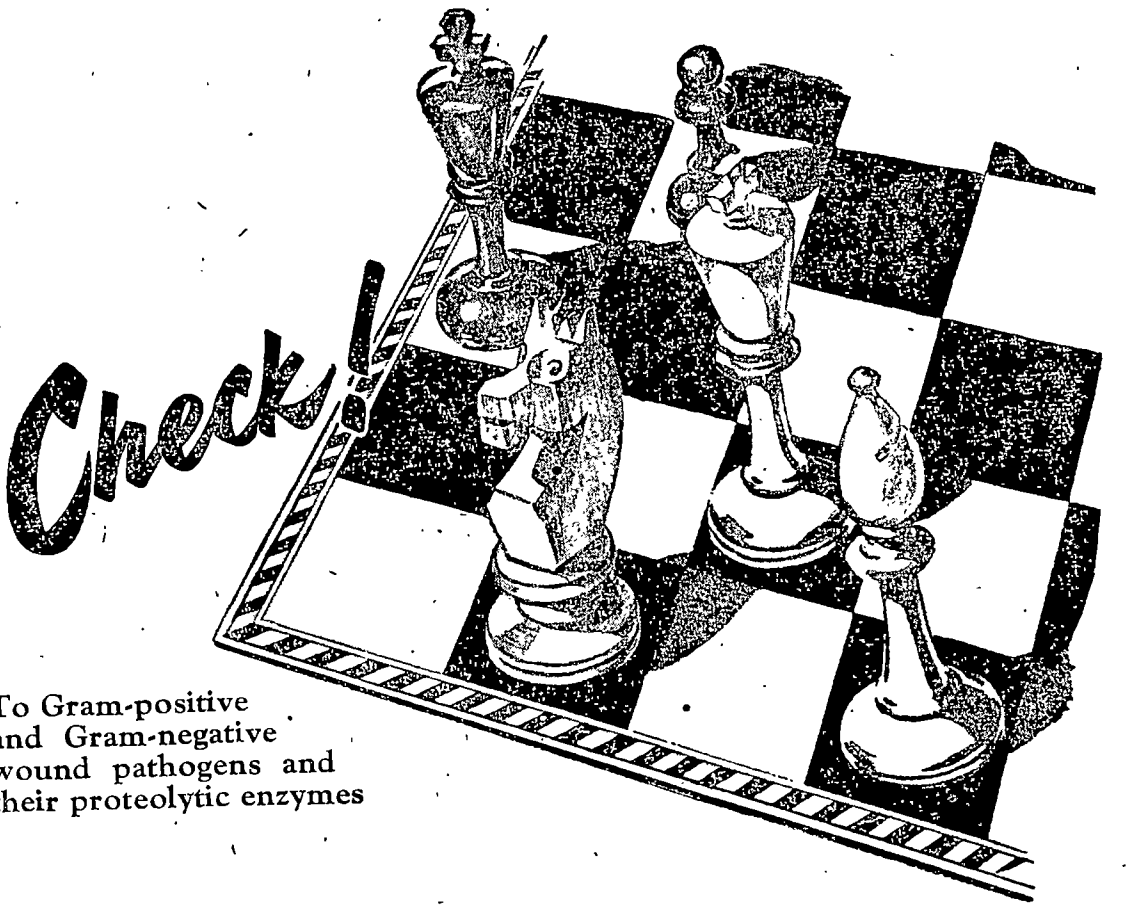

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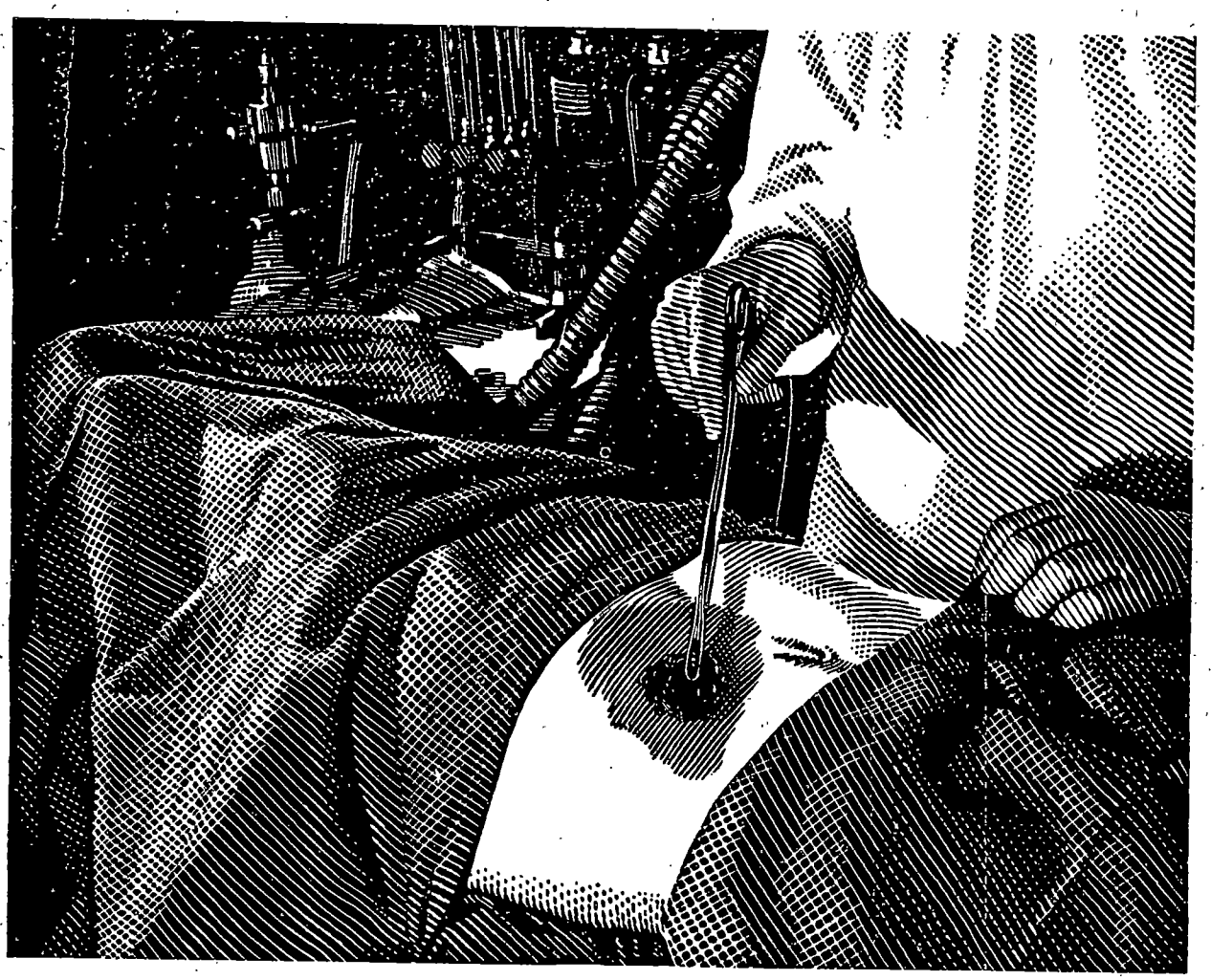

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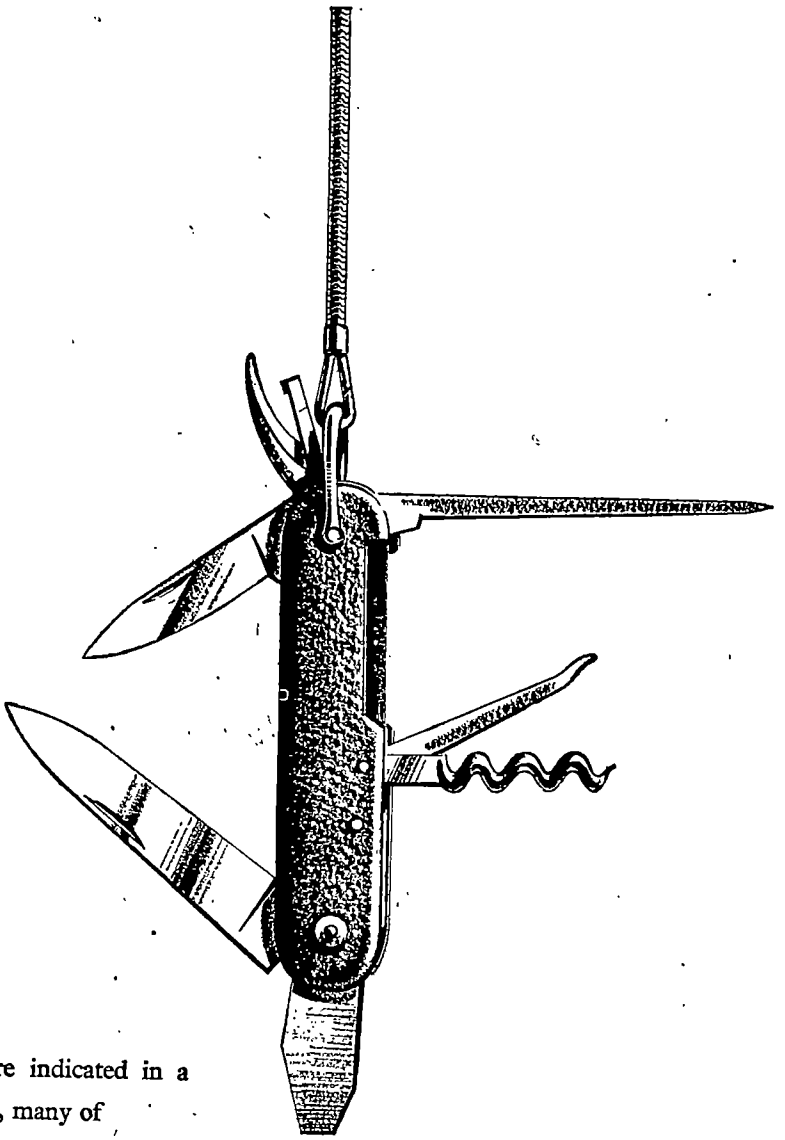

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"The subcommittee concludes that penicillin is just as good as, or possibly better than, either aureomycin or chloramphenicol in the treatment of clinical pneumonia. Moreover, aureomycin and chloramphenicol caused unpleasant toxic effects in about one-quarter of the patients to whom they were given, a drawback which out-weighs any advantage gained from the easy administration of these expensive drugs by mouth."

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 12 1952

THE PHYSIOLOGY AND RELIEF OF TRAUMATIC ARTERIAL SPASM*

BY

J. B. KINMONTH, M.S., F.R.C.S.

Assistant Director, Surgical Professorial Unit, St. Bartholomew's Hospital, London

When these lectures were founded by Edward Arris in 1646 the lecturers were called the "Readers of the Muscular Lecture." Such a title would be appropriate to-day because the studies to be described deal largely with muscle. It is not, however, the striped muscles described in the old "Public Anatomies" but the smooth muscle of blood vessels which will be considered here.

The clinical aspects of traumatic arterial spasm must be briefly discussed before considering the physiology of its production and relief. The larger vessels of the limbs such as the brachial or femoral arteries are those usually affected, and the spasm follows injury near by, often a fracture, dislocation, or gunshot wound. Sometimes the cause may be dissection of an artery during a surgical operation such as arteriography or vein ligation. A length of vessel may remain in spasm for hours or even days, and ischaemic contracture of muscle or gangrene of the limb may result. This contractile power of major arteries has been known for many years. Hunter, who with Pott gave the first Arris and Gale lectures under the Company of Surgeons, was aware of it. He described many instances in man and animals, and knew that it was part of the natural mechanism for suppressing bleeding (Hunter's Works, 1835). When, however, an artery is injured without being opened this protective mechanism is unnecessary because there is no bleeding to stop, and harmful because the circulation to the part is arrested. More recently the clinical side of the problem has been well described by Cohen (1940) and Griffiths (1940) in Hunterian Lectures, but until the work of Barnes and Trueta in 1942 there had been few investigations of the cause or cure of arterial spasm under experimental conditions. This is unfortunate, because the difficulty of obtaining standard conditions has always made it hard to judge the effects of treatment in clinical practice. The artery affected, the type of injury, and the time that has elapsed before the treatment starts may all vary from one patient to another. The present studies were chiefly made in the laboratory. They will be considered in two parts: (1) the causes of arterial spasm or other alterations in the size of large arteries; and (2) the cure of arterial spasm.

Causes of Spasm or Other Alterations in Size of Large Arteries

The concept of a nervous reflex arc has been widely held. Barnes and Trueta (1942) and Trueta and his colleagues (1947) described experiments in rabbits in which a tourniquet applied to the thigh for several hours produced shrinking of the femoral artery on the other side. These findings were taken as the basis for studies made at Harvard in 1948. The details of some of these earlier experiments have already been published (Kinmonth, Simeone, and Perlow, 1949), so that it will now only be necessary to outline them in order to understand what follows. The tourniquet experiments of Trueta and his co-workers were repeated, using a technique which allowed continuous observation and measurement of the arterial diameter. The arterial tree on the side opposite to the tourniquet shrank in the way in which they had described. This shrinking occurred gradually and coincided with a slow fall in blood pressure in a way suggesting a close relation between the two. Tourniquet experiments were then done on rabbits in which bilateral lumbar sympathectomy or denervation of the hind limb had been performed. The same shrinking of the arterial tree on the opposite side took place except in animals in which the blood pressure remained level. This suggested that a gradual fall in blood pressure might cause a parallel shrinking of the femoral artery independently of the presence of intact nerve pathways.

The next step was to see whether alterations in the blood pressure due to other causes might change the arterial diameter. Different methods of altering the blood pressure were used and the effects on the upper third of the femoral artery recorded. The results are shown in Table I. They refer to findings in the rabbit except in the case of "priscol," where these experiments were done on the cat. Priscol (tolazoline hydrochloride) is a benzyl-imidazoline compound which dilates the small vessels of the peripheral circulation. It has a depressor effect in the cat, and this makes the femoral artery shrink.

TABLE I.—*Effect of Blood-pressure Changes on the Femoral Artery*

	Blood Pressure	Arterial Diameter
Open ether	↓	↓
Pentobarbitone sodium (i.v.)	↓	↓
"Shock" due to tourniquets, haemorrhage, etc.	↓	↓
Priscol (i.v.) (cat)	↓	↓
Afferent nerve stimulation	↑	↑
Adrenaline (i.v.)	↑	↑
Tracheal obstruction	↑	↑

The arterial diameter follows the changes in blood pressure whatever the effect of any particular agent may

*Based upon an Arris and Gale Lecture given at the Royal College of Surgeons on May 29, 1951.

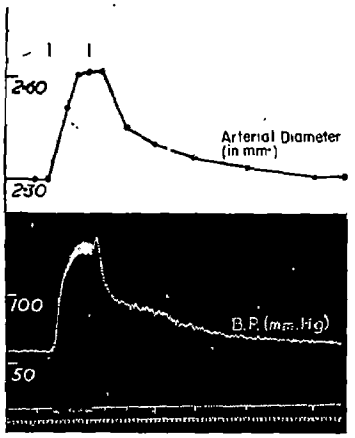

FIG. 1.—Effect of tracheal obstruction on the systemic blood pressure and femoral artery of the rabbit. Anaesthesia with urethane. Arterial diameter measured just below inguinal ligament. Trachea obstructed from second to fifth signals. Time signal (lowest record), 10 seconds.

be upon the peripheral part of the arterial tree. Fig. 1 shows how the femoral arterial diameter changes with the rise in systemic blood pressure when the trachea is temporarily closed.

It follows that the blood pressure should always be recorded in experiments on arterial spasm, otherwise changes in arterial size due to alterations in blood pressure may be falsely attributed to efforts to produce or to relieve spasm.

The concept of a nervous reflex arc was further examined by tests on its possible efferent components. The femoral artery was chosen for detailed study in the rabbit, and tests were made in three ways. First, the artery was stimulated directly with a faradic current. This had no effect on the upper third near the inguinal ligament, but further down marked contraction resulted. Secondly, the lumbar sympathetic chain was stimulated electrically. This had no effect upon the upper third of the femoral artery although shrinking of the paw recorded by a plethysmograph showed that the stimulus was effective. Lumbar sympathetic stimulation provoked a marked contraction of the more distal part of the femoral artery. The third method of testing for the efferent component of a reflex arc was to give an intravenous injection of adrenaline and record the change in the femoral arterial diameter. Fig. 2 shows the effect of an intravenous injection of adrenaline on the blood pressure and the diameters of the upper and lower parts of the femoral artery observed simultaneously with two microscopes. The lower part of the femoral artery was seen to contract, but the upper part actually dilated in phase with the rise in blood pressure. Had there been adrenergic sympathetic motor-nerve endings in the upper one-third of the artery the adrenaline would have been expected to have acted upon them to cause contraction.

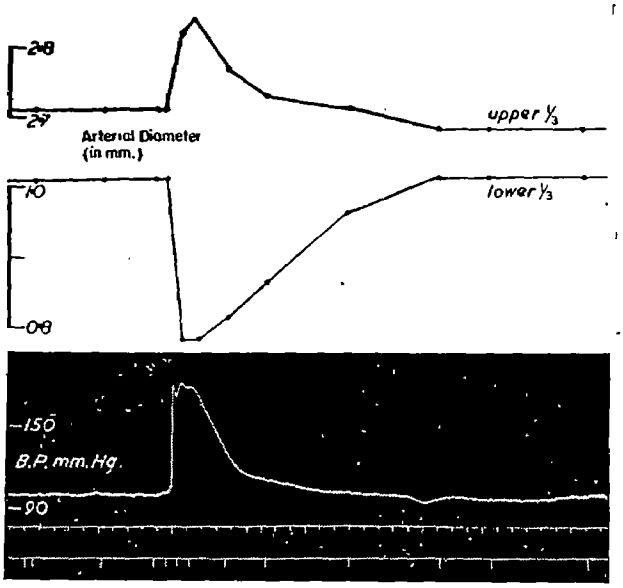

FIG. 2.—Effect of adrenaline on the systemic blood pressure of a rabbit and on its femoral artery measured simultaneously 3 mm. and 80 mm. below the inguinal ligament. Urethane anaesthesia. Injection of 1 ml. of 1 in 50,000 adrenaline intravenously at fifth signal (lowest record). Time signal, 30 seconds.

These observations were repeated many times with consistent results and recorded in detail elsewhere (Kinmonth and Simeone, 1952). They revealed no evidence of vasoconstrictor nerve supply to the upper third of the femoral artery, and yet this part of the vessel may be readily put into spasm by mechanical trauma, and on microscopical examination is found to contain much smooth muscle in its wall.

A similar state exists in man, although it has not yet been possible to determine in detail the level at which the motor-nerve supply becomes evident. Fig. 3 shows how electric stimulation of the dorsalis pedis artery of a patient during the course of a surgical operation produced a definite contraction.

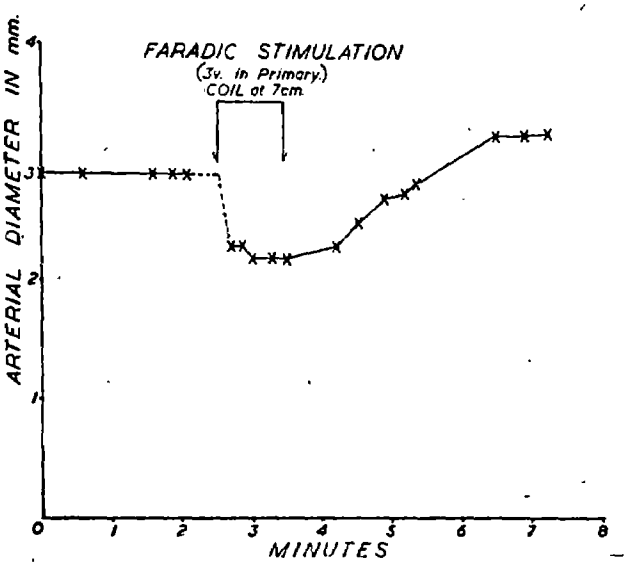

FIG. 3.—Contraction of a healthy small artery (the dorsalis pedis) in response to direct electric stimulation in a woman aged 27.

Stimulation of larger vessels such as the common femoral artery (Fig. 4) produced no contraction. This particular common femoral exhibited partial traumatic spasm when a needle was introduced later for arteriography.

Dr. F. A. Simeone has tried the effect of a variety of direct electric stimuli on large arteries during the course of surgical operations, but always without causing contraction. I have found the same, and yet these arteries will go into spasm if subjected to mechanical trauma.

Arterial spasm may be produced in the experimental animal by applying mechanical trauma to the artery in different ways. Pinching, longitudinal traction, handling with forceps, or rubbing with gauze may cause it. Sometimes additional trauma may produce a localized fusiform dilatation with spasm at each end similar to that described by Grant (1930) in the main artery of the rabbit's ear. The actual irritability of the vessels and their response to trauma vary. It is difficult to produce spasm a second time after relaxation has occurred, and sometimes an animal is found in which it cannot be produced at all. The causes of these variations in irritability are not clear, and are being studied further.

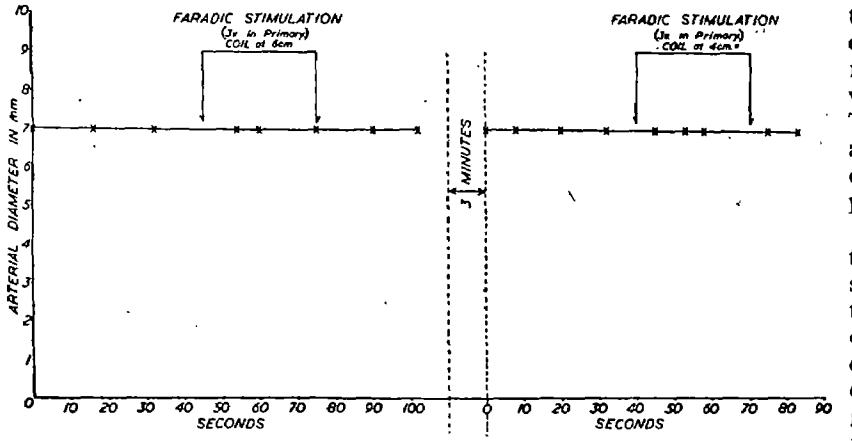

FIG. 4.—Direct electric stimulation of large arteries, in this case the common femoral of a woman aged 42, causes no contraction, although mechanical stimuli may do so.

That an intact sympathetic nerve supply was unnecessary for the maintenance of arterial spasm was shown by experiments in rabbits in which spasm was produced by deliberate periarterial stripping of the vessel. The arterial wall was cleanly stripped of its adventitia and possible nerve supply, and yet the spasm lasted for one to two hours. In man, also, local arterial spasm can persist for long periods after the sympathetic nerve supply has been removed from vessels by the operation of periarterial stripping.

It was accepted as a working hypothesis that traumatic spasm is due to mechanical stimulation of the vessel wall resulting in a sustained contraction of smooth muscle in the maintenance of which nervous factors do not play a demonstrable part. With this conclusion in mind, methods of relieving traumatic spasm were considered.

Methods of Relieving Arterial Spasm

At least a dozen different methods of relieving arterial spasm have been tried in clinical practice. They have included the intravenous injection of drugs and simple exploration as well as more drastic procedures like periarterial stripping or arteriectomy, and success has been claimed at times for almost all of them, even the most unlikely. The probable reason is that arterial spasm lasts for a variable time after the injury, and spontaneous relaxation may coincide with treatment.

In the laboratory, controlled experiments under standard conditions are possible and provide a more reliable test of the success or failure of therapeutic measures. Most of our experiments on the relief of traumatic spasm have been done on rabbits anaesthetized with urethane or "dial." A continuous record of the systemic blood pressure has been kept throughout with a carotid cannula and mercury manometer to prevent confusion due to possible changes in arterial diameter caused by alterations in blood pressure. The arterial diameter was measured by direct observation with dissecting microscopes fitted with micrometers. The upper third of the femoral artery just below the inguinal ligament was chosen for particular study, and this was put in spasm by deliberately rough dissection and then covered by normal saline solution to prevent drying. The vessel on the opposite limb was dealt with in the same way, and so far as possible at the same time, to provide a control. A series of animals were observed in this way to see how long the untreated spastic arteries took to relax. Fig. 5 is a typical example of the slow and gradual natural relaxation of the vessels, which was similar on the two sides. The rate of relaxation slowed down after two hours as the animal's condition deteriorated and the blood pressure fell.

A number of drugs were applied to arteries which had been put into spasm in the way described to see if they would relax them. The chief drugs chosen were known to have a direct action on smooth muscles, because the preliminary work had suggested that smooth-muscle contraction was the important factor in the spasm rather than nervous activity. Direct application was chosen because it was considered that substances circulating in the blood would have little chance of reaching the muscle in the arterial wall. Under clinical and experimental conditions the lumen of the spastic vessel is often totally closed and the vasa vasorum damaged by the injury which caused the spasm. Each drug was tested several times in different animals, and the results shown in the figures are typical examples.

The first substance to be used was papaverine, and Fig. 6 shows the result of applying a 2.5% solution of the sulphate to vessels which had been put in spasm in the usual way. Intravenous injection of papaverine was without effect on the spastic vessels, nor did it have effect on any of the numerous occasions on which it was tried in other animals—a finding in agreement with results in man (Learmonth, 1950, personal communication). The drug relaxed the vessels rapidly when applied direct to them, and they remained relaxed after it was replaced by saline. There was no rise in blood

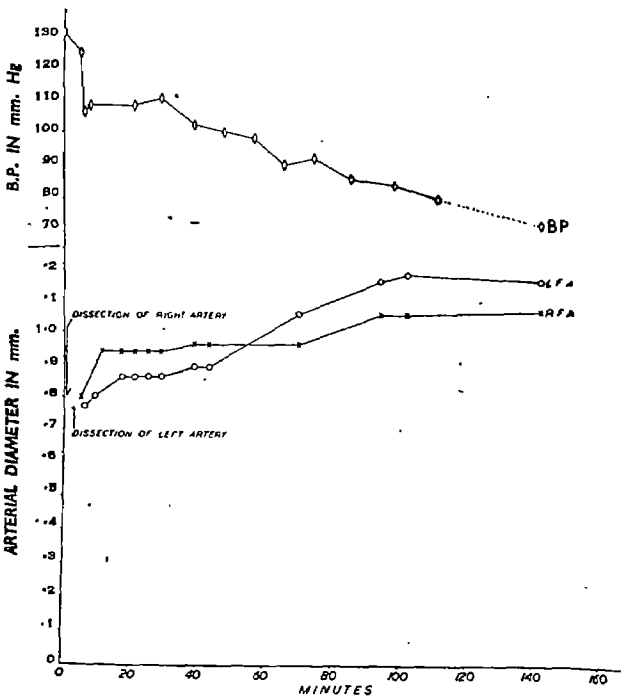

FIG. 5.—Example of the gradual and symmetrical way in which natural relaxation of traumatic spasm occurs in the femoral artery of a rabbit over a period of about two hours. Urethane anaesthesia.

pressure which could have accounted for the changes. In other animals more dilute solutions, 1% or 1.25%, were also effective when applied direct to spastic arteries.

The effect of caffeine, which is another smooth-muscle-relaxing agent, is shown in Fig. 7. Intravenous injections were without effect. Local application dilated the spastic vessels, but they contracted again after the caffeine solution was removed. The blood pressure showed some abrupt falls, perhaps due to the irritant effect of the caffeine citrate solution, but there were no peaks which could have caused the swelling of the vessels.

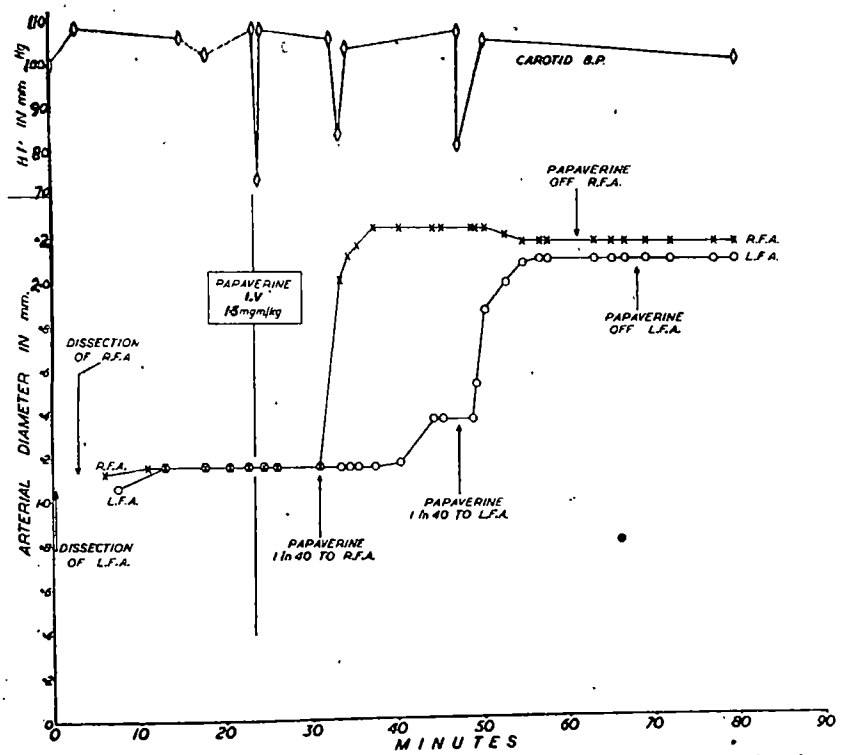

FIG. 6.—Intravenous papaverine, 1.5 mg. per kg., fails to relieve spasm which is subsequently relaxed by direct application of a 2.5% solution of the drug. The vessels remain dilated when the drug is removed. Arteries measured 11 mm. below inguinal ligaments. Rabbits anaesthetized with urethane

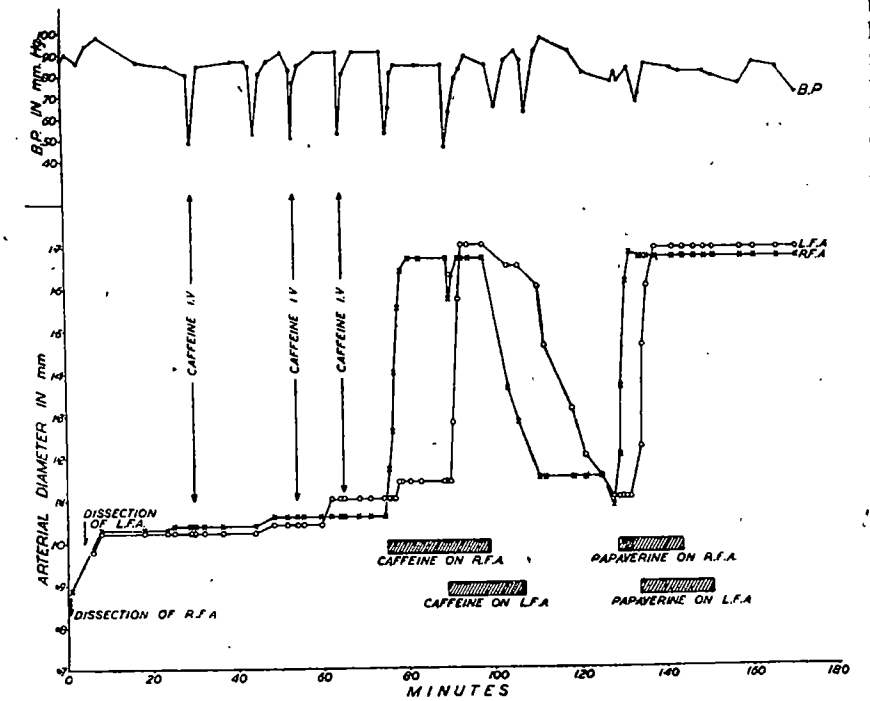

FIG. 7.—Rabbit anaesthetized with urethane. Spastic vessels unaffected by intravenous injections of caffeine citrate, 1.5 mg. per kg. Relaxation produced by direct application of 1% caffeine citrate retrogresses when this is replaced by saline. Permanent relaxation by 1% papaverine sulphate. Arteries measured 6 mm. below inguinal ligaments.

There have been some clinical reports of relief of spasm by irrigation with warm saline. Fig. 8 shows how repeated irrigation of the wound and spastic artery with saline at 50° C. at intervals produced gradual relaxation over a period of an hour. At the end of this time application of papaverine solution to the control artery on the other side caused a greater relaxation in a few minutes.

The relaxing effect of procaine on arterial spasm is shown in Fig. 9. In this animal there was no contraction of the vessels after the procaine was removed, but in others shrinking was observed. The permanence of the effect of procaine varies.

It was suggested to me by Dr. N. E. Freeman (1949, personal communication) that local application of heparin might be of value in relaxing spasm, as it is considered to have some dilating effects on small vessels as well as its effect on blood coagulation. That this might be so was also suggested by the fact that protamine sulphate, an antagonist of heparin, is known to contract arterioles and had been found in some of our experiments to produce a partial contraction of large arteries. A solution of heparin containing 1,000 units per ml. was therefore applied to the spastic femoral artery of a rabbit, but was found to have no effect upon the diameter. Subsequent application of papaverine produced prompt relaxation. In other animals, when its haemorrhagic effect did not obscure vision, heparin also failed to relieve arterial spasm.

Priscol, which relaxes small vessels, was also found to relax large arteries, as Fig. 10 shows, but the artery contracted again after the drug was removed. Similar results were obtained in other animals. Intravenous injections were without effect.

Another drug which was tried was benzodioxane. This is known for its so-called sympatholytic effects and its use in the diagnosis of phaeochromocytoma. It produced only partial relaxation, which could be completed by replacing the benzodioxane with papaverine. Inhalations of amyl nitrite were also tried. They produced falls in systemic blood pressure, but did not affect the spastic arteries.

Papaverine was the only drug of all those tried which consistently produced relaxation which did not retrogress if the drug was removed. It was used altogether on 31 spastic arteries, all of which it effectively dilated. Procaine and caffeine were the next most successful drugs.

Effect of Papaverine on Wound-healing

The effects of papaverine on living tissues were studied in rabbits before using it in human wounds. The femoral vessels and nerve were exposed, the artery was put in spasm by rough dissection, and the wound was filled with 2.5% papaverine solution. After fifteen minutes the wound was closed, leaving some of the solution inside. A similar operation was done on the opposite side, using saline. The two wounds healed equally, and histological examination, when the animals were killed at intervals of one to eight weeks, showed no difference between the tissues on the two sides. The papaverine solution sometimes turned blood clot in the wound to a brown colour, but this does not appear to have been harmful.

Clinical Application

The results of the many different forms of treatment which have been tried for arterial spasm are reviewed in Table II. The results of conservative operations, such as simple exploration and perhaps bathing the vessel with warm saline or serum, are compared with those of operations in which periarterial stripping or arteriectomy was performed. The cases in which gangrene or muscle contracture followed are classed as failures. These are the results of 59 cases published by various authors in which the diagnosis of traumatic arterial spasm was definite, and in which full details of the end-results were given.

The brachial and femoral were the arteries most often affected. There were most failures in the group in which stripping or arterial excision was done. This difference was particularly marked in the case of the brachial artery. The popliteal artery maintained its sinister reputation, with gangrene in three cases out of seven, even though treated by conservative operation.

Clinical and laboratory experience suggests the following scheme of management:

1. Early exploration of the injured vessel must be performed. It will then

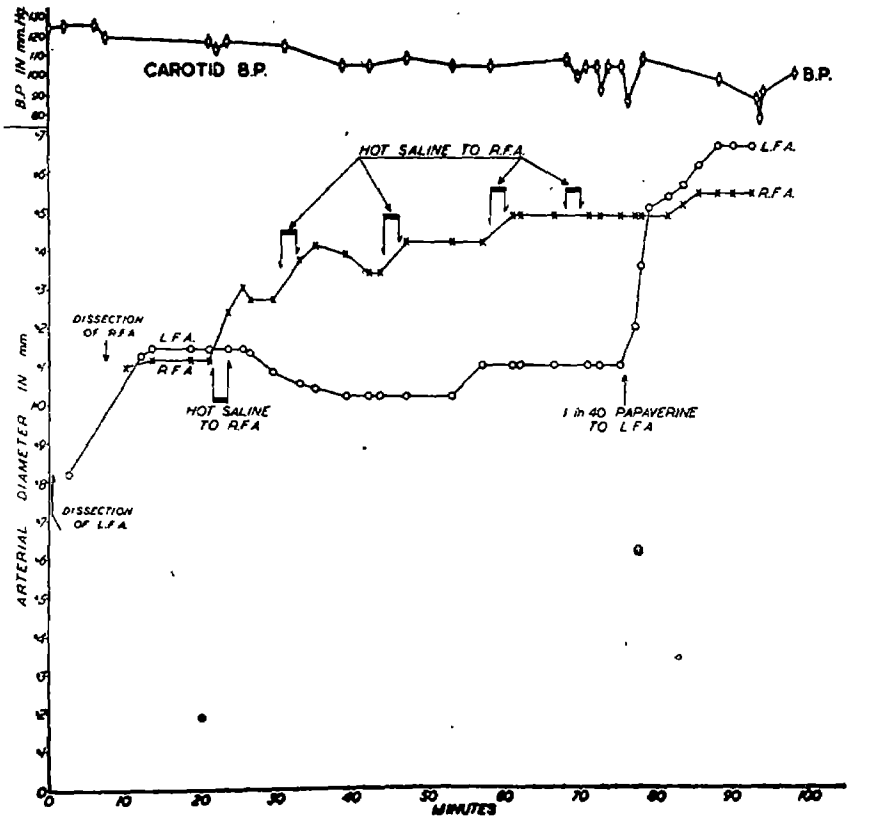

FIG. 8.—Rabbit anaesthetized with urethane. Gradual relaxation of spastic artery by repeated irrigation with hot saline (50° C.), compared with rapid and greater relaxation produced by 1 in 40 papaverine solution. Diameters measured in proximal third of femoral arteries.

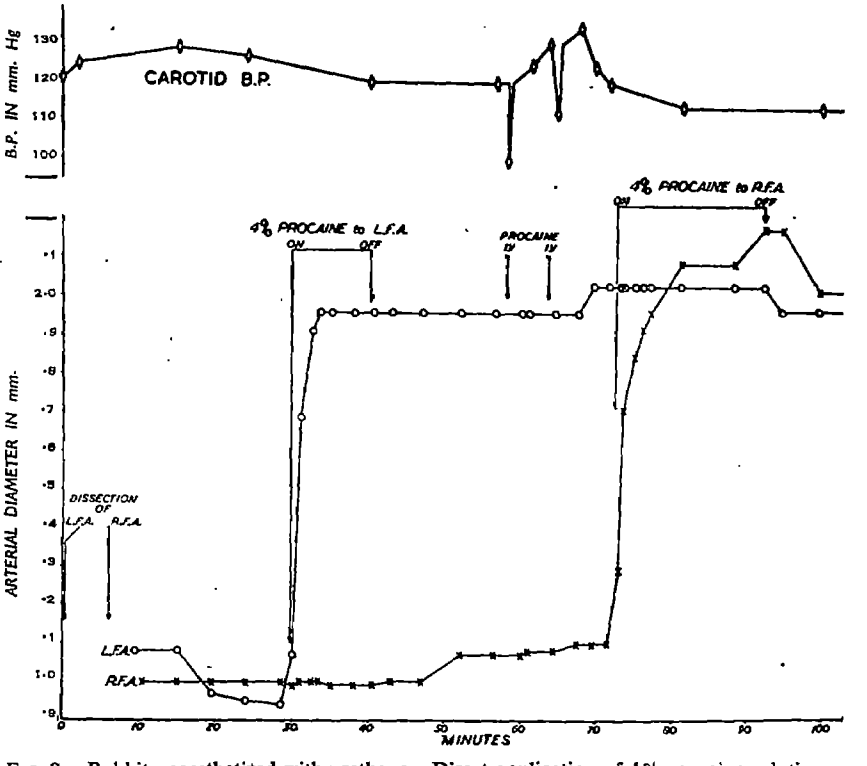

FIG. 9.—Rabbit anaesthetized with urethane. Direct application of 4% procaine solution dilates the left femoral artery, which does not constrict when the drug is washed off with saline. Intravenous procaine, 3 mg. per kg. and 6 mg. per kg., does not affect the right femoral artery, which is subsequently dilated by direct application of the drug. Diameters measured 1 mm. below inguinal ligaments.

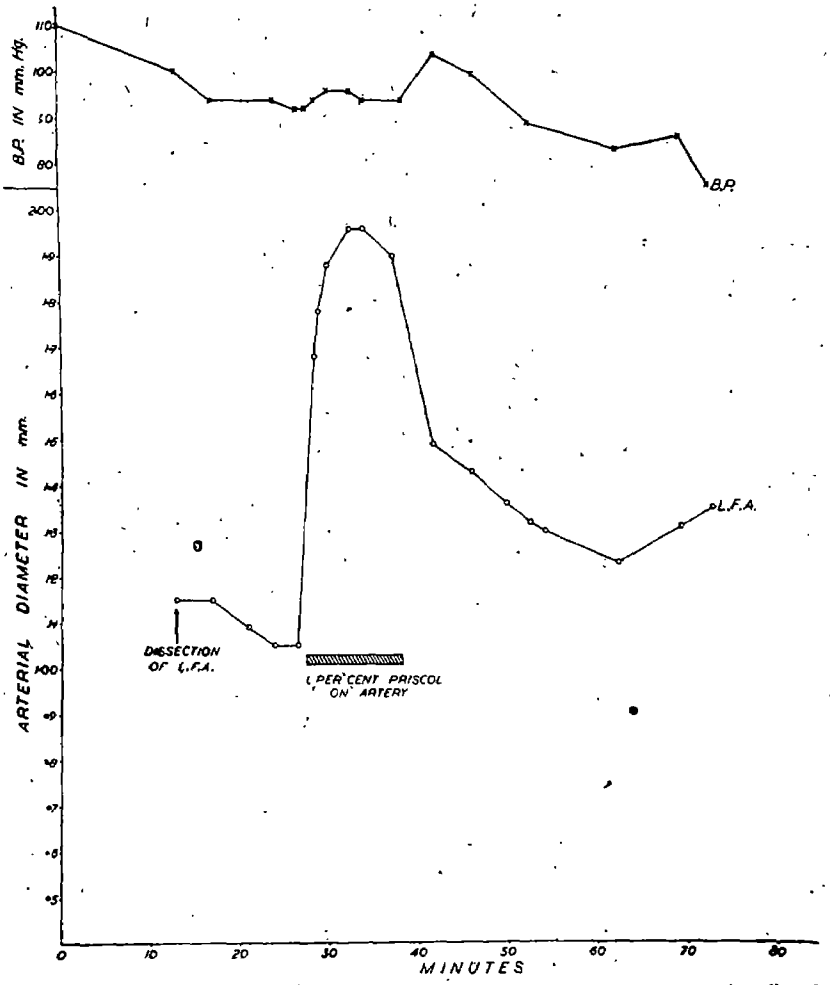

FIG. 10.—Rabbit anaesthetized with urethane. Spasm in left femoral artery is relieved by direct application of priscol, but recurs after the drug is removed. Point of measurement 7 mm. below inguinal ligament.

TABLE II.—*Results in Published Cases of Traumatic Spasm*

	Conservative Operation		Active Intervention (Stripping or Resection)	
	Success	Failure	Success	Failure
Carotid	1	—	—	—
Axillary	2	—	2	—
Brachial	12	—	6	8
Radial	4	—	1	—
Ext. iliac	2	—	—	—
Femoral	7	1	2	1
Popliteal	4	3	—	1
Post. tibial	—	—	2	—
	32	4	13	10

be possible to distinguish between true spasm and compression of the artery by bleeding and swelling under skin and fascia. They require different treatment. Neither will respond to systemic injections of drugs which will never reach the vessel wall.

2. If arterial compression is found it is dealt with in the usual way; blood clot is removed and skin and fascia are incised longitudinally until all constriction is removed and the artery is seen to expand and pulsate satisfactorily.

3. If the artery is in spasm it must be exposed in the same way. It is important to see a normal pulsating length of vessel above the spastic segment. If this is not done quite a short length of spasm remaining at the proximal end may prevent relaxed vessel below from filling with blood or dilating.

4. The artery is covered by a warm 2.5% solution of papaverine sulphate and left for a few minutes.

5. Should relaxation not occur within 10 to 15 minutes the wound is loosely closed, leaving a fine polythene tube down to the vessel for instillation of 1% papaverine at intervals until the circulation is restored.

6. It is important to treat shock and to restore a normal blood pressure on general grounds, and because spastic vessels will not dilate if the blood pressure is low.

This regime has been tried in two patients with arterial spasm occurring during operation. In both cases papaverine caused prompt relaxation.

Summary

Arterial contraction due to a supposed nervous reflex arc was explained by shrinkage due to falling systemic blood pressure. The diameter of large arteries changed with alterations in blood pressure produced by different means. Attempts to produce contraction of large arteries by electric stimulation of the efferent components of possible reflex arcs were unsuccessful.

Direct mechanical trauma applied to the vessel wall in various ways produced lasting spasm which could not be relieved by sympathectomy.

Attempts to relieve established traumatic spasm were therefore directed at paralysing smooth muscle itself rather than sympathetic nerves.

Smooth-muscle-relaxing drugs were successful in relaxing spasm when applied direct to the vessel. Intravenous injections were ineffective.

Papaverine was the most consistently successful in producing permanent relaxation. It was not injurious to living tissues.

I gladly acknowledge my debt to many people who have helped with this work: Dr. F. A. Simeone, with whom much of the fundamental part of the work was done at Harvard; Professor G. Perkins, at St. Thomas's, and Professor Sir James Paterson Ross, at St. Bartholomew's, in whose departments it was continued; Dr. G. Cunningham for his help with the microscopical histology; Mr. G. J. Hadfield, who helped with many of the operations; and Mr. F. Scholefield and Miss D. Gay for technical assistance.

REFERENCES

Barnes, J. M., and Trueta, J. (1942). *Brit. J. Surg.*, **30**, 74.
Cohen, S. M. (1940). *Guy's Hosp. Rep.*, **90**, 201.
Grant, R. T. (1930). *Heart*, **15**, 257.
Griffiths, D. Ll. (1940). *Brit. J. Surg.*, **28**, 239.
Hunter, J. (1835). *Works of John Hunter*, edited by J. F. Palmer, **1**, 538; **3**, 157, 158. London.
Kinmonth, J. B., and Simeone, F. A. (1952). *Brit. J. Surg.* In press.
—— —— and Perlow, V. (1949). *Surgery*, **26**, 452.
Trueta, J., Barclay, A. E., Daniel, P. M., Franklin, K. J., and Prichard, M. M. L. (1947). *Studies of the Renal Circulation*. Blackwell Scientific Publications, Oxford.

The Society for the Study of Fertility was founded three years ago with the intention of having a yearly congress for the reading of papers and free discussion of problems of fertility and infertility, not only in the human subject but in livestock and laboratory animals. The secretary is Dr. G. I. M. Swyer, University College Hospital, W.C.1.

A SIMPLE STANDARD EXERCISE TEST AND ITS USE FOR MEASURING EXERTION DYSPNOEA

BY

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With the assistance of A. V. LAMBERT

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In the management and study of patients who have their exercise capacity reduced by heart or lung disease some way of estimating the degree of breathlessness on exertion is often required. Only a rough estimate can be got from the patients' descriptions of their symptoms, which, although helpful in diagnosis, are inadequate for many purposes. An objective and more precise estimate is needed for a reliable judgment of the effects of treatment or for comparing one method of treatment with another, for assessing the patient's capacity for physical work during rehabilitation, for awarding compensation in industrial pulmonary disease, and for many types of survey investigation.

For these purposes various exercise-tolerance tests have been devised. A type of test which is simple, and commonly used, is to get the patient to step up and down from a stool or chair and, at the end of a period of exercise, to assess his response subjectively in terms of "breathlessness," or objectively by counting the respiratory and pulse rates. This sort of test has been criticized by a number of workers (Brittingham and White, 1922; Wahlund, 1948; Renner, 1951). There are two main objections to it as it is usually done:

1. The amount of exercise is not measured. It depends on the rate and time of stepping and on the height of the stool or chair, and also varies individually with the weight of the patient.

2. The ventilatory cost of the exercise is not measured. This cannot be measured by counting the respiratory rate, because the depth of breathing may not remain constant, while the recovery pulse is variable even in normal subjects and is not well related to ventilation (Cotton *et al.*, 1916; Mann, 1918; Reisinger, 1938; Belayew, 1948; N. P. V. Lundgren, 1951, personal communication); although some observers contend that the pulse rate gives useful information concerning the state of the circulation (Meakins and Gunson, 1916; Master and Oppenheimer, 1929).

A known amount of exercise can be given by a bicycle ergometer or a treadmill, but these machines are usually impracticable for clinical use owing to their complexity and immobility. Thus various modifications of the simple step-test have been suggested in attempts to make it objective and precise. Some of these, in which the subject's maximum effort is sought (Lundgren, 1949; Behnke, 1942) may be useful as efficiency tests in fit subjects but are too distressing for ill patients, while others (Nylin, 1933, 1936; Master, 1935), although they are submaximal tests and are designed to give quantitative results, have other drawbacks. Nylin's test requires a special stairway, and, although Master's test is simple, the results merely show whether a patient's exercise tolerance is "within average figures," the exact response being obtainable only by trial and error in repeat testing. Neither of these tests measures breathlessness.

In this paper, modifications to the step-test are described which allow it to be used for giving a standardized and known amount of exercise without appreciably impairing its simplicity. The response to it is measured in terms appropriate for the quantitative expression of breathlessness.

Principles of the Test

The exercise is standardized by arranging that every patient does the same amount of mechanical work with approximately the same efficiency. The ventilatory cost of the work is found by measuring the volume of air exhaled per minute for an appropriate time before, during, and after the exercise.

In arranging that each subject does a standard amount of exercise regardless of his weight the test resembles that of exercise with a bicycle ergometer. It differs from a step-test used by Baldwin, Cournand, and Richards (1948) in which the exercise is standard only "in that each subject performs a standard number of steps within one minute of time." It may be asked: Why use standard exercise for all patients when they vary in weight and have to carry that weight about? The answer depends upon what is required of an exercise test. If only a specific function such as a subject's ability to go up steps or to walk at a given rate is to be assessed, then clearly a direct test of this function is to be preferred to a standard test. Standard exercise is useful as a general test in that it is not specific to any particular task. Further, standard exercise is preferable for the assessment of change in ventilatory efficiency over a period of time—for example, in assessing the effects of treating heart failure, or when reassessing a patient for compensation, etc.—otherwise any change observed may merely be a reflection of a difference in the patient's weight. Lastly, if in a group of subjects one wants to know whether variations in their ventilation may be due to disturbed cardiopulmonary function a standardized test must be used; or, again, the variations may simply reflect differences in their weights.

Apparatus and Method

Standardizing the Exercise.—Since the external mechanical work performed in a step-test is a product of the patient's weight and the height and rate of stepping, it is evident that altering either the height or the rate of stepping can compensate for differences in weight between one patient and another and so keep the amount of work constant. However, the range of variation in weight that is commonly encountered is such that if stepping rate only were altered the lightest of subjects would have to step so quickly and the heaviest so slowly that the comparison between them would not be fair, since their physiological efficiency would not be comparable. Similarly, unfair comparisons might be made if only the height of step were changed. But if both height and rate

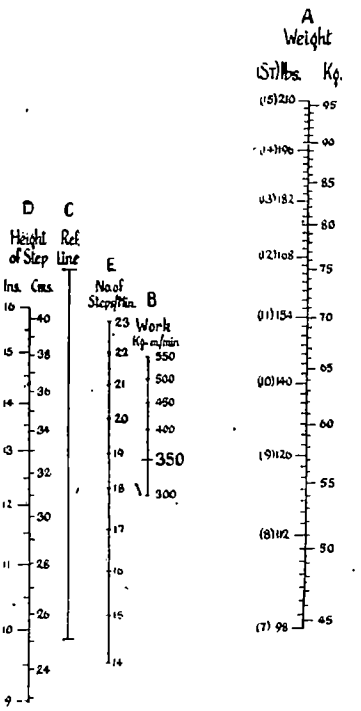

FIG. 1.—Nomogram for determining appropriate combinations of height and rate of stepping so that all subjects do the same amount of work in the step-test independent of their weight.

are altered to compensate for weight variations, large adjustments of either can be avoided. The appropriate height and rate of stepping are quickly found without calculation by using the nomogram reproduced in Fig. 1.*

The nomogram is used by placing a ruler on scale A at a point corresponding to the weight of the subject, and the ruler is then adjusted so that it passes through the amount of work chosen on scale B. The place where it intersects the reference line C is marked. The ruler is then laid across the scales D and E in any position, provided that its edge passes through the point marked on line C. The readings thus obtained from D and E will give a combination of height and rate of stepping which will ensure that the subject performs the chosen amount of work.

In preparing the nomogram scale E was limited so that its extremes were within the flat-topped part of the well-known curves relating rate of muscular contraction and physiological efficiency (Lupton, 1923; Garry and Wishart, 1931). Scale D was limited so as to avoid large changes in knee-angle and hence in available leg-thrust (Hugh-Jones, 1947). If the ruler is kept reasonably horizontal through the point found on scale C, any changes in physiological efficiency between one subject and another due to change in height and rate of stepping will be minimized. It has been found experimentally that, even when the extremes of the height and rate lines are used, efficiency is not appreciably affected (see the results of the appraisal of the test below).

FIG. 2.—The apparatus. b=½-in. (1.25 cm.) boards for altering height of step. g=Gas-meter. m=Metronome. s=Stand. (Note: It is convenient to fit a sloping bar of wood (w) to the stand, as shown, and to slot the boards (b) in the appropriate place to fit against this bar. The boards can then only be placed on the step in a definite order so that each can be marked with the height of step formed when it is at the top of the pile.)

*Full-size photographic copies of the nomogram (10 by 8 in.—25 by 20 cm.) are available on application to the Director, M.R.C. Pneumoconiosis Research Unit, Llandough Hospital, near Cardiff. Price 2s.

Equipment.—Three simple pieces of equipment are used for the test (Fig. 2): (1) a metronome for controlling the rate of stepping; (2) a low rigid stand or platform, about 15 by 12 by 9 in. (38 by 30 by 22.8 cm.) high, whose height can be altered in ½-in. (1.25-cm.) increments by placing the appropriate number of ½-in. (1.25-cm.) boards on it; and (3) a low-resistance domestic type of gas-meter fixed to the platform at about elbow-height standing. This meter faces away from the patient using the step. It is modified by replacing its multiple small dials by a single large dial and pointer which is so geared that one revolution corresponds to 50 litres of gas passing through the meter, the dial being calibrated so that it can be read to the nearest half-litre. The pointer can be reset to zero manually. A mouthpiece and two-way valve are connected to the gas-meter by corrugated tubing from the valve outlet; the patient holds the valve in the hand while using the mouthpiece.

Procedure.—The patient is weighed and the step and metronome are each adjusted to the values selected from the nomogram. It is convenient to set the metronome at four times the stepping rate so that when exercise starts the left foot is raised on to the step in time with one click of the metronome, the right foot is then brought to it on the second click, the left foot returned to the ground on the third, and the right foot returned on the fourth, and so on. Using the metronome in this way makes it easier for the patient to keep time. While the test is being explained and demonstrated to him the patient rests in a chair. He puts on a nose-clip and gets used to breathing through the mouthpiece. The observer then records the cumulative readings of the gas-meter every half-minute for at least three minutes of rest. The metronome is started and the patient completes five minutes of exercise-stepping followed by about five minutes of recovery, during which he again sits at rest. During both the exercise and the recovery period the observer continues to record the half-minute meter readings until constancy in consecutive readings shows that recovery is complete.

Work-level Used.—For general purposes 350 kg.m./min. has been used for the five minutes of exercise. This level means that the exercise is not limited by muscle fatigue. It was chosen to provide enough exercise in fit subjects to provoke an accurately measurable ventilatory response, yet allowing the test to be completed by all but the most seriously disabled patients. Since the results can be expressed so that retesting at a lower level of work is unnecessary even if patients fail to complete the full five minutes of exercise (see below), this one work-level has been satisfactory. However, if only very seriously disabled patients were to be tested a lower level of work might be preferable.

Expression of the Results

In Fig. 3 the results of a typical exercise test in a normal subject are shown graphically in order to simplify description of the terms to be used. Differences between the successive cumulative readings of the gas-meter, which are the volumes of air exhaled in successive half-minute periods, have been plotted against time. The ventilation, which is constant at rest, increases during the first two or three minutes of exercise until a "steady state" is reached. When the exercise ceases the ventilation returns to the resting level. In patients who complete the exercise (the majority), with the venti-

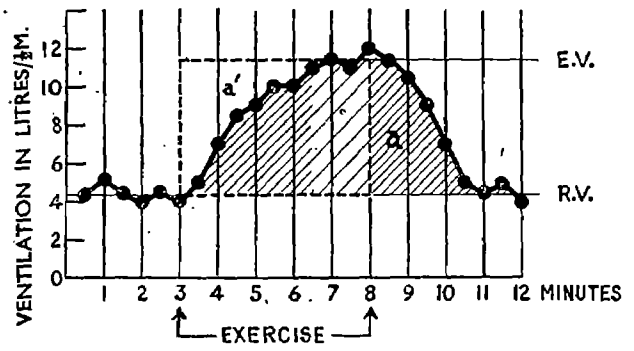

FIG. 3.—A typical result of the exercise test in a normal subject shown graphically to facilitate description of the terms used (see text). R.V.=Resting ventilation (ordinate × 2, litres/minute). E.V.=Exercise ventilation at a steady state (ordinate × 2, litres/minute). a=Area of replacement of ventilatory debt. (a′ is an equivalent area.) Shaded area=Excess volume of air used as a result of the exercise (E.E.V.). Standardized excess ventilation (S.E.V.)= $\frac{\text{(E.E.V.)}}{\text{Time of Ex.}}$ i.e., average ventilatory cost (litres/min.) for each 350 kg.-m. of work done. Standardized ventilation (S.V.)=S.E.V.+R.V.

lation at a steady state, the "exercise ventilation" (E.V.) can be simply taken as a measure of the ventilation resulting from the exercise.

A few patients cannot, or will not, complete the full five minutes of exercise, and in these cases the E.V. is not an appropriate measure. However, in all patients the ventilatory cost of whatever work is done is the total increment of ventilatory volume during exercise and recovery above the initial resting level. This value, the "exercise excess volume" (E.E.V.), is represented by the area shaded in Fig. 3. Divided by the time of exercise it represents the average ventilatory cost of each 350 kilogram-metres (kg.-m.) of work which is completed. This average value is called the "standardized excess ventilation" (S.E.V.). The sum of the S.E.V. and the resting ventilation (which is comparable with the E.V.) is called the "standardized ventilation" (S.V.); it is an appropriate measure of ventilatory cost in all cases (see paragraph on the relation between the S.V. and E.V. below).

In practice the test results need not be graphed. The successive meter readings are recorded, together with their differences. The E.V. is then taken as the average difference in meter readings during the last three or four half-minutes of exercise over which the differences are approximately constant. This value is doubled, and so expressed in litres/minute. The S.V. is calculated as follows: the excess ventilatory volume of air used on account of the exercise (E.E.V.) is found by subtracting from the final meter reading the volume of air which would have been exhaled at rest during a corresponding period of time (the latter being got from the meter-reading at the end of the initial period of three minutes' rest by proportion); this volume is standardized by dividing by the time of exercise, and so expressed in litres/minute, and then added to the resting ventilation (R.V.). All gas volumes are expressed as saturated with water vapour at body temperature by multiplying by the appropriate factor given in Table I.*

Thus, in summary, the results obtained from the cumulative readings of the gas-meter as measures of the ventilatory cost of the work are: (1) the S.V., which is the sum of the S.E.V. and R.V. and is appropriate in all cases; and (2) E.V., which is simpler but appropriate only when the patient completes the full five minutes of exercise.

*It is assumed that the gas in the meter is at room temperature. This assumption is not quite true, but correcting for variations in room temperature in this way leads to negligible error.

TABLE I.—*Factors by Which Gas Measurements Recorded at Varying Room Temperatures are Multiplied for Correction to Body Temperature*

Temp. °C.	Factor	Temp. °C.	Factor	Temp. °C.	Factor
16	1·119	21	1·090	25	1·069
17	1·111	22	1·085	26	1·063
18	1·107	23	1·080	27	1·057
19	1·101	24	1·074	28	1·051
20	1·097				

Relation Between the Standardized and Exercise Ventilation

The relation between the S.V. and the E.V. can be deduced from Fig. 3. Since the ventilatory debt, which accumulates at the beginning of exercise before a steady state is reached, is repaid quantitatively after the exercise ceases (Hill and Lupton, 1923), the area (a) can be represented by an equivalent area (a′), so that the excess volume of air used on account of the exercise (E.E.V.) is represented by the area outlined in dots. Hence in subjects who achieve a "steady state" the S.V. (which is represented by any one of the five rectangles between the minute abscissae during the exercise period and the upper dotted line of the E.E.V. rectangle) should be identical with the E.V. The agreement between the two is found to be very close in practice (see Fig. 5 and discussion of results).

But if a subject stops the exercise before a steady state is reached the S.V. will then be greater than any level of ventilation actually achieved. Thus, if the patient in Fig. 3 had elected to stop the exercise after only two minutes, when his ventilation was 9 litres in the half-minute, the

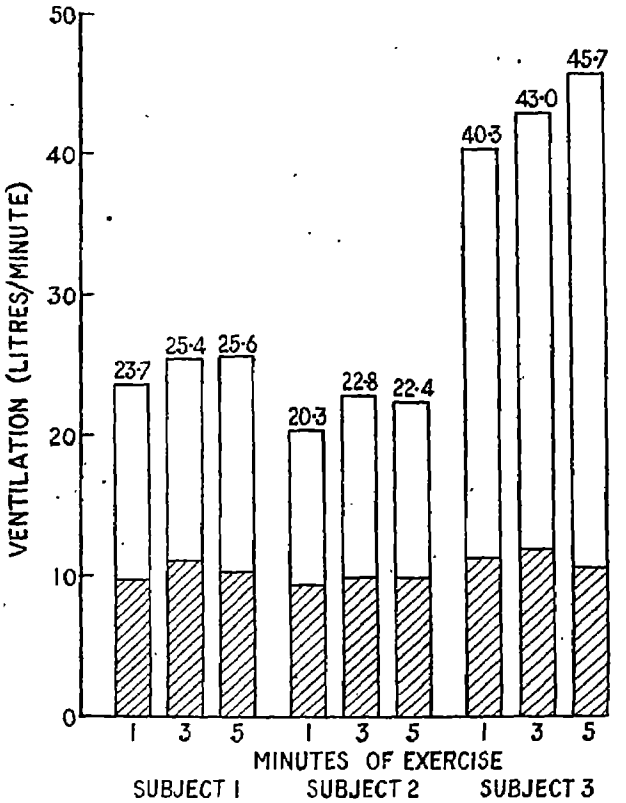

FIG. 4.—Results of standard exercise tests on each of two normal subjects and one with advanced emphysema (subject 3). All subjects did three tests with respectively one, three, and five minutes of exercise. Shaded rectangle=Resting ventilation (R.V.). Clear rectangle=Standardized excess ventilation (S.E.V.). Standardized ventilation (S.V.)—that is, S.E.V.+R.V.—is given in figures above each rectangle.

total ventilation in excess of the resting level would still represent the ventilation due to the exercise (though in this case only a total of 700 kg.-m. instead of the full 1,750 kg.-m.—350 kg.-m.×5 minutes), so that, when standardized, the ventilatory rate (or S.V.) would be the same as before.

When the level of exercise is an "overload," in a seriously disabled patient, the same argument applies: the ventilatory debt continues to increase the longer the exercise goes on; the patient is forced to stop, and pays back the debt by spreading an increase of ventilation over a number of minutes during recovery. The S.V. then represents a ventilatory rate greater than that which could be maintained or even achieved by the patient, for if this were not so a "steady state" rather than further debt could have been reached by continuance of the exercise.

Since the S.V. is theoretically independent of the time of exercise, why should we not be satisfied with less than five minutes of exercise? The reason is that small increments of ventilation over the resting level are difficult to detect. This point is demonstrated, and the above theoretical discussion justified, by an experiment in which two normal subjects and one subject with advanced emphysema, who could only just manage five minutes of exercise, performed three tests at the standard rate of 350 kg.-m./minute, but for one, three, and five minutes of exercise respectively. The results are shown in Fig. 4. It will be seen that the S.V. is reasonably independent of the time of exercise, though it tends to be smaller the shorter the exercise, so that when only one minute of exercise is performed it is an underestimate by about 10% of the value for five minutes' exercise. At three minutes there is an underestimate (5%) only in subject 3. Thus the standardized ventilation of subjects so disabled as to be unable to do more than three minutes of exercise at the low rate used in the test (a small minority in practice) is likely to be an underestimate of their ventilatory cost, which in these cases may be very large.

The underestimate in very short periods of exercise probably arises because the shorter the exercise the greater the relative contribution of the recovery ventilation to the total ventilatory cost, and recovery ventilation cannot be assessed very precisely because small elevations of ventilation over the resting level will be missed and the recovery period will then not be fully recorded.

There is no purpose is prolonging the exercise beyond five minutes, because any patient who is capable of achieving a steady state at the level of exercise used will have done so, and once this steady state has been achieved no greater precision will be obtained for the standardized excess ventilation.

Validity of the Test

The nomogram enables all subjects to be given a constant amount of external mechanical work, but is it true that subjects do a constant amount of physiological work? In other words, is the physiological efficiency the same over different portions of the nomogram? In order to determine this and to find the repeatability of the test, an experiment was designed as shown in Table II.

Three subjects, who were chosen to cover a fairly wide range in weights, performed the test daily during two periods of three days each. On each day the test was done three times (at 10 a.m., 2 p.m., and 4 p.m.) with different step-heights representing high, medium, and low values on the height scale of the nomogram, each height being used with the appropriate stepping rate to give the standard amount of work. The experiment was randomized as shown in Table II. The results of the experiment are given only in terms of the exercise ventilation, as all subjects completed the full five minutes of exercise and reached a steady state.

An analysis of these results is shown in Table III, in which the average values of the E.V. for comparable groups of results are given.

It will be seen from Table III that the method of standardizing the work is fully justified experimentally, since high, medium, and low heights of step, combined from the nomogram with appropriate slow, medium, and fast stepping rates respectively, lead to almost identical exercise ventilation rates. This experimental demonstration of the physiological validity of the nomogram confirms the conclusions of Passmore and Thomson (1950) that "stepping is a muscular movement with a very broad optimum of efficiency both as regards rate of stepping and height of step." They found a wide maximum of efficiency at rates between 14 and 18 steps a minute on a 10-in. (25-cm.) step.

TABLE II.—*The Design and Results of a Randomized Experiment Used to Determine the Validity and Repeatability of the Method of Giving a Constant and Known Amount of Exercise to Subjects of Different Weights When Performing the Step-test*

	Weight	Step Height		
		Low	Med.	High
	st. (kg.)	in. (cm.)	in. (cm.)	in (cm.)
Subject 1 ..	14·04 (88·9)	9 (22·9)	10 (25·4)	11 (27·9)
,, 2 ..	10·04 (63·5)	10½ (26·7)	11½ (29·2)	12½ (31·7)
,, 3 ..	9·00 (57·15)	12 (30·4)	13 (32·9)	14 (35·4)

Date		Subject 1			Subject 2			Subject 3		
		High	Med.	Low	High	Med.	Low	High	Med.	Low
8/2/50	Time ..	2 p.m.	10 a.m.	4 p.m.	4 p.m.	2 p.m.	10 a.m.	10 a.m.	4 p.m.	2 p.m.
	E.V. ..	29·2	26·3	25·0	23·0	25·0	25·3	25·2	23·0	24·0
9/2/50	Time ..	10 a.m.	4 p.m.	2 p.m.	2 p.m.	10 a.m.	4 p.m.	4 p.m.	2 p.m.	10 a.m.
	E.V. ..	27·8	26·2	27·3	24·8	24·0	22·2	18·6	20·8	21·8
10/2/50	Time ..	4 p.m.	2 p.m.	10 a.m.	10 a.m.	4 p.m.	2 p.m.	2 p.m.	10 a.m.	4 p.m.
	E.V. ..	27·0	25·3	26·6	22·8	21·4	23·1	19·8	19·2	22·2
13/2/50	Time ..	4 p.m.	2 p.m.	10 a.m.	2 p.m.	10 a.m.	4 p.m.	10 a.m.	4 p.m.	2 p.m.
	E.V. ..	29·6	28·3	28·3	24·0	24·0	25·0	20·1	24·0	23·6
14/2/50	Time ..	2 p.m.	10 a.m.	4 p.m.	10 a.m.	4 p.m.	2 p.m.	4 p.m.	2 p.m.	10 a.m.
	E.V. ..	29·4	27·4	27·3	24·1	26·2	25·1	20·3	21·2	21·9
15/2/50	Time ..	10 a.m.	4 p.m.	2 p.m.	4 p.m.	2 p.m.	10 a.m.	2 p.m.	10 a.m.	4 p.m.
	E.V. ..	28·4	28·4	29·4	24·0	25·1	25·1	20·7	21·8	21·8

It is also seen from Table III that the test provides an objective measure of ventilatory cost which is highly repeatable, not being materially affected by the time of day or by variation between one day and another, though a full analysis of variance on the data showed the variance between days to be statistically significant.

TABLE III.—*An Analysis of the Results in Table II*

Step Height	High	Medium	Low	
Av. E.V.	24·4	24·3	24·7	S.E. = 0·29
Time of day	10 a.m.	2 p.m.	4 p.m.	
Av. E.V.	24·5	24·8	24·2	S.E. = 0·29
Day of test	8/2/50	9/2/50	10/2/50	S.E. = 0·41
Av. E.V.	25.1	23·7	23·0	
Day of test	13/2/50	14/2/50	15/2/50	
Av. E.V.	25·2	24·8	25·0	

Measurement of Breathlessness

We still have to relate the ventilatory cost of the standard exercise to the symptom of exertion dyspnoea. It is generally agreed that "breathlessness" is noticed with increasing severity the more nearly a subject's ventilation approaches the maximum of which he is capable. Thus to assess breathlessness on exertion the results of the exercise test must be related to the subject's maximum ventilation. The latter can be most conveniently measured on voluntary hyperventilation (Gray *et al.*, 1950, review the evidence for this), and it is then called the maximum breathing capacity (M.B.C.) or maximum voluntary ventilation (M.V.V.). Thus the relation between a patient's ventilation at a given state of exertion to the M.V.V. has been called a "dyspnoeic index": for if a patient's ventilation is only, say, 20% of his maximum, he is not very breathless, while if it is, say, 80%, then he is severely dyspnoeic. This, or a similar index, has been widely used by previous workers —for example, Kaltreider and McCann, 1937; Hannon, 1945; Warring, 1949; Baldwin *et al.*, 1949a, 1949b; Matheson and Gray, 1950; Pachner, 1950).

The Two Indices of Dyspnoea

By relating the results of the standard exercise test to the patient's M.V.V., two indices of dyspnoea are obtained:

The first dyspnoeic index ($D.I._1$) is that used by previous workers:

$$\frac{E.V. \times 100}{M.V.V.}$$

The second index ($D.I._2$) is the relation not of the exercise but of the standardized ventilation to the maximum:

$$\frac{S.V. \times 100}{M.V.V.}$$

The relation between these two indices is shown in Fig. 5, which is a scatter diagram of the results obtained from 228 subjects ranging from young normal men to men with severe pneumoconiosis, emphysema, and heart failure, so that all degrees of breathlessness on exertion are covered.

The value used for the patient's M.V.V. was the same in each index and was measured independently of the exercise test, all measurements being corrected to body temperature. The apparatus used has already been described (Gilson and Hugh-Jones, 1948–9).

It will be seen from Fig. 5 that in all patients who completed the full five minutes of exercise (185 out of the 228, shown as dots) the two indices agree very closely, the continuous line in the figure representing perfect agreement. This means, since the denominator

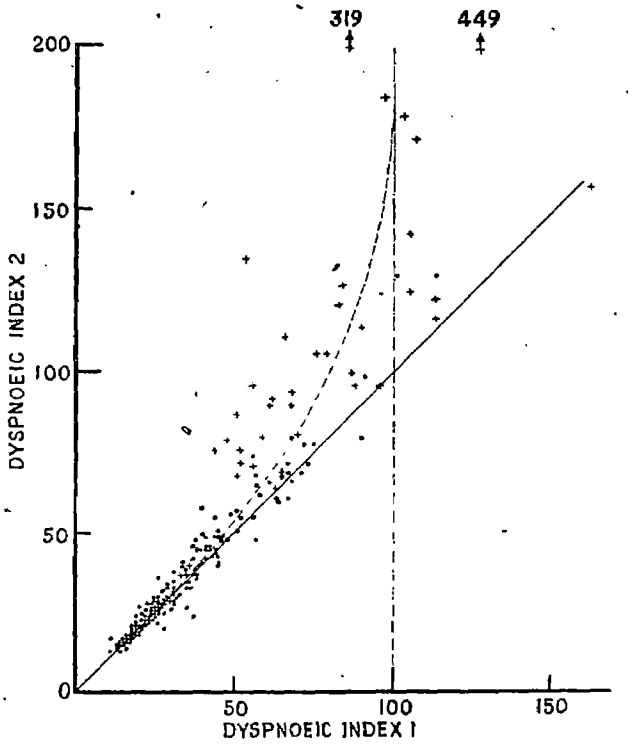

FIG. 5.—Scatter diagram showing the relation of the two alternative indices of dyspnoea obtained from the exercise test and measurements of the maximum voluntary ventilation (M.V.V.) on 228 subjects who covered a wide range of dyspnoea on exertion ($D.I._1 = \frac{E.V.}{M.V.V.} \times 100$. $D.I._2 = \frac{S.V.}{M.V.V.} \times 100$).
(Note: only 193 points are shown on this diagram, since the points would be superimposed in 35 out of the 228 subjects.)

of both indices is the same in any one patient, that the E.V. and S.V. are the same provided a steady state is reached; we have seen that this should be so theoretically.

Consider now the first dyspnoeic index (abscissae) First of all, by definition, this should not exceed 100%, since the M.V.V. is taken to represent the patient's maximum possible ventilation (Gray *et al.*, 1950). In fact, 10 of the 219 cases show an index greater than this. In these cases either full co-operation was not obtained in recording the M.V.V. or in a few very disabled men an exercise overload may create greater hyperventilation than the patient can bring himself to achieve voluntarily: these 10 patients were all very disabled and only two completed the exercise. Secondly, in subjects who do not reach a steady state an index obtained by using the maximum level of ventilation as a substitute for the true E.V. at a steady rate is false, for this ventilation results from less exercise than that of other subjects.

Now, if we consider the alternative $D.I._2$ (ordinates) it is evident that it may, and should, exceed 100% in a few cases. We have seen that very disabled subjects may spread a debt of ventilatory cost over a number of minutes which, when standardized by relating the total excess ventilation in exercise and recovery to the exercise time, gives a ventilatory *rate* (S.V.) greater than that of which they are capable.

It is probable that the subjects who failed to complete the five minutes of exercise and had a $D.I._2$ of below about 80% in Fig. 5 could have completed it and reached a steady state had they been prepared to tolerate

the feeling of dyspnoea, since an approximately equal number of such subjects did so. They would have increased their exercise ventilation, and their "$D.I._1$" would have been increased to the correct figure. In those who failed and in whom the S.V. was greater than that which could have possibly been replaced at a steady state because of their maximum ventilatory limit, the index exceeds 100%.

The broken line in Fig. 5, about which all the points scatter, has been inserted, since it may aid the concept of the ventilation on exercise being unable to exceed a limit set by the maximum ventilatory capacity (100% $D.I._1$). The continuous straight line of agreement between the indices means a steady state or "pay as you go"; the broken line represents a departure from this by stopping exercise as the limit of ventilation is approached and breathlessness becomes intolerable. A greater proportion of the ventilatory debt is then spread into the recovery period by those who fail, giving an S.V. increasingly large compared with the E.V. and hence an increasingly large $D.I._2$.

In summary: by comparing the S.V., instead of the E.V., with a subject's M.V.V. we obtain an index of dyspnoea ($D.I._2$) which is practically identical in all subjects who complete the 5 minutes' exercise with the index commonly used ($D.I._1$). The new index of dyspnoea has the advantage of being applicable even if the subject fails to complete the exercise, provided two or three minutes are done to give a reasonably reliable estimate of the S.V.; thus the necessity for repeat testing at different exercise levels is avoided. When the subject cannot achieve a steady state, at the exercise level used, the $D.I._2$ may exceed 100%.

Is the dyspnoeic index in practice related to the symptom of breathlessness? Kaltreider *et al.* (1937) found the usual index ($D.I._1$) to be well related to subjective dyspnoea. Baldwin *et al.* (1949a) found "a clear-cut correlation between the severity of dyspnoea as recorded in each patient's history" and their "breathing reserve" (which is the complement of the $D.I._1$—that is, $\frac{M.V.V. - E.V.}{M.V.V.} \times 100$) though subsequently Baldwin *et al.* (1949b) found the threshold of breathlessness on this index to be lower in cases of emphysema than in other patients. However, in their index the ventilation during the first minute of recovery after only one minute of exercise is used as an expression of exercise ventilation.

In our 228 subjects the indices showed a general relation to symptomatic "breathlessness." Fig. 6 is a scatter diagram relating the $D.I._2$ to the clinical grading of the patients into four approximate grades of breathlessness by Dr. C. M. Fletcher on the basis of the following standard questions:

Grade 1: Is patient's breath as good as that of other men of his own age and build at work, on walking, and on climbing hills or stairs?

Grade 2: Is patient able to walk with normal men of own age and build on the level but unable to keep up on hills or stairs?

Grade 3: Is patient unable to keep up with normal men on the level, but able to walk about a mile or more at his own speed?

Grade 4: Is patient unable to walk more than about 50 yards on the level without a rest?

Grade 5: Is patient breathless on talking or undressing, or unable to leave his house because of breathlessness? (Not used for test.)

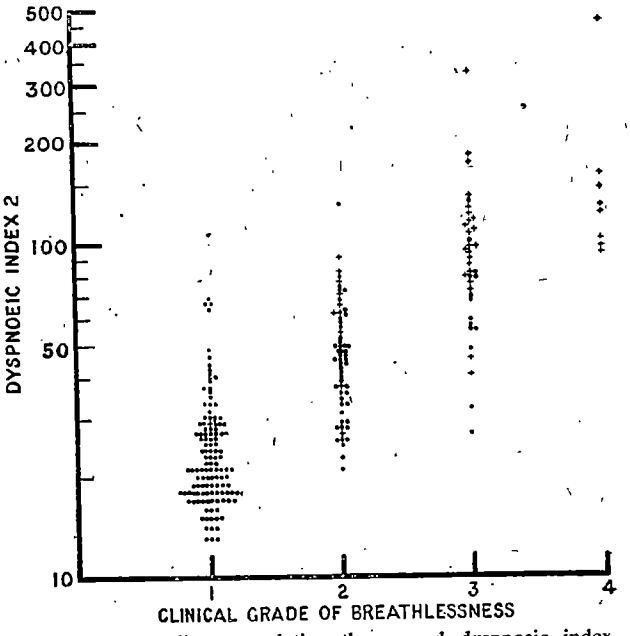

FIG. 6.—Scatter diagram relating the second dyspnoeic index ($D.I._2$) of 228 subjects to a grade of "breathlessness" as determined independently from clinical history.

There is a general agreement between the measured dyspnoeic index and patient's reply to the questions about his breathlessness.

The dyspnoeic index is plotted on a logarithmic scale for convenience. On a "straight" plot the relation between index and grade is non-linear, patients in the lowest clinical grades often having particularly large indices of dyspnoea. This effect may be due to the scale of grading, since scales of judgment are frequently non-linear. Moreover, on a straight plot there is a skewed distribution within each grade, especially in the first, which may have resulted from the dyspnoeic index having a limiting value of about 12% at the lower end, which represents the minimum ventilation at this level of exercise.

Normal Values.—Since the exercise results (the E.V. and the S.V.) are compared with the subject's M.V.V. to give an objective measure of breathlessness their "normality" *per se* does not arise. However, since one may wish to know whether a patient's exercise ventilation itself is excessive or not—for example, in the assessment or treatment of heart failure as is discussed below

TABLE IV.—*Average Value of the E.V. and S.V. Resulting from the Exercise Test, Together with the Corresponding Indices of Dyspnoea, in Four Different Age Groups of Normal Subjects and a Group of Athletes (Numbers in Parentheses Represent the Range of Values Found)*

Age	No. of Subjects	M.V.V.* (l./min.)	E.V. (l/m.)	$D.I._1$ $\left(\frac{E.V.}{M.V.V.} \times 100\right)$	S.V. (l./m.)	$D.I._2$ $\left(\frac{S.V.}{M.V.V.} \times 100\right)$
Athletes (O.U.A.C.) 23 years ..	17	187 (156–228)	30 (24–35)	16 (12–20)	27 (19–34)	15 (11–18)
Normal subjects 25 years ..	10	151 (125–178)	25 (19–33)	17 (11–26)	27 (22–33)	18 (13–27)
35 years ..	10	145 (75–176)	25 (19–36)	18 (13–25)	26 (20–37)	19 (14–29)
45 years ..	10	131 (102–149)	24 (20–30)	18 (13–27)	25 (22–30)	20 (14–23)
55 years ..	10	118 (83–157)	26 (22–31)	22 (16–28)	28 (21–38)	24 (18–30)

* Subsequent re-calibration of the M.U.V. apparatus shows these results may be slightly high. The error does not affect the conclusions.

—the values in 40 "normal" subjects, 10 in each of four age groups, is given as Table IV. The normal subjects were men most of whom were temporarily attending the Ministry of Labour's Employment Exchange in changing from one job to another. Only men with abnormal chest radiographs, hypertension, or clinical evidence of heart or renal disease were excluded. The results of testing 17 medium-distance runners of the Oxford University Athletic Team, whom we examined through the kindness of Dr. R. W. Parnell when he was investigating their physique (Parnell, 1951), are also included as the upper limit of "normality." It will be seen that the E.V. and S.V. are a very stable value not related to age, and decline in the dyspnoeic index, associated with the increasing breathlessness of ageing, is due to decrease in the ventilatory reserve as measured by the M.V.V.

Discussion and Conclusions

When this standard exercise test is to be used for measuring breathlessness it should ideally always be combined with some independent measurement of the patient's maximum ventilation such as the M.V.V., because breathlessness may arise either from a reduction in the maximum or from an increase in the exercise requirements, and only the latter can be measured by the test. In coal-workers' pneumoconiosis, for example, abnormal breathlessness on exertion, the cardinal symptom of the disease, is almost entirely due to reduction in the ventilatory capacity; excessive exercise ventilation does occur, however, mostly in men who have some evidence of right-sided heart failure (Gilson and Hugh-Jones, 1952), so that in this disease the exercise test is necessary to avoid error which would arise if the maximum voluntary ventilation alone were used for the objective assessment of breathlessness. In general cases of heart failure, on the other hand, abnormal E.V. is an important cause of breathlessness, and may be one of the earliest signs even when oxygen consumption is still normal (Harrison and Pilcher, 1930). In this case the measurement of the S.V. by the exercise test may itself provide a convenient objective method of assessment, though it should be supported by tests of maximum ventilatory capacity if occasional error is to be avoided.

One obvious effect, which might be thought to lead to error in the test, is hyperventilation through nervousness, mouthpiece resistance, etc. It certainly may cause an increased resting ventilation (R.V.) and then an apparently small exercise excess volume of air (E.E.V.). This means that the latter, which might otherwise be used as a measure of the test efficiency of the subject, may be erroneous. However, this reciprocal relation between the increased resting ventilation and the diminished volume of air caused by the exercise is such that their sum, the S.V., remains correct. Many cases of "nervous" hyperventilation occurred in the normal subjects among the 228 men examined and reported here, yet it was seen from Fig. 4 that their S.V. and E.V. agreed very closely.

In conclusion, the exercise test described in this paper has advantages in providing a known amount of work for the subject, comparable with a bicycle ergometer, but using only simple apparatus; a "submaximal" test which is not distressing for the patient or as time-consuming for the observer as testing maximal response; a valid quantitative result in the S.V., whether the patient completes the test or not provided two or three minutes of exercise is done. The S.V. is little disturbed by subjective influences, and its use means that repeated exercise tests are not required, as they are when the amount of work is varied to give a constant response.

Summary

A simple step-test is described which enables a patient to be given a known and standard amount of exercise, comparable to exercise on a bicycle ergometer, without the use of complex apparatus. The standard exercise is achieved by adjusting both the height and the rate of stepping to compensate for variations in weight between one patient and another, the appropriate values being got from a nomogram without calculation.

The exercise period is five minutes. A suitable work load is usually 350 kg.-m./minute.

The patient's ventilatory response is recorded with a domestic gas-meter. This is expressed as a "standardized ventilation" (S.V.), which is got from the ventilation in excess of the resting level during both exercise and recovery and gives a valid measure even if the patient cannot or will not complete the five minutes' exercise. In all subjects who complete the test the S.V. is numerically equal to the exercise ventilation (E.V.) at a steady state.

For measuring the symptom of breathlessness the ventilation caused by the exercise should be related to the patient's maximum voluntary ventilation (M.V.V.) measured independently. A dyspnoeic index $\left(\frac{S.V. \times 100}{M.V.V.}\right)$ is suggested as an alternative to the index previously used by other workers—namely, $\frac{E.V. \times 100}{M.V.V.}$. The former index avoids the necessity for repeat testing at a lower exercise level in those who fail to complete the exercise, when the usual index becomes invalid.

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REFERENCES

Baldwin, E. de F., Cournand, A., and Richards, D. W. (1948). *Medicine*, **27**, 243.
—— —— —— (1949a). Ibid., **28**, 1.
—— —— —— (1949b). Ibid., **28**, 201.
Behnke, A. R. (1942). *Milit. Surg.*, **90**, 9.
Belayew, D. (1948). *Arch. belges Méd. soc.*, **6**, 447.
Brittingham, H. H., and White, P. D. (1922). *J. Amer. med. Ass.*, **79**, 1901.
Comroe, J. H. (1950). In *Methods of Medical Research*, **2**, 95. Chicago.
Cotton, T. F., Rapport, D. L., and Lewis, T. (1916). *Heart*, **6**, 269.
Garry, R. C., and Wishart, G. M. (1931). *J. Physiol.*, **72**, 425.
Gilson, J. C., and Hugh-Jones, P. (1948-9). *Clin. Sci.*, **7**, 185.
—— —— (1952). To be published.
Gray, J. S., Barnum, D. R., Matheson, H. W., and Spies, S. N. (1950). *J. clin. Invest.*, **29**, 677.
Hannon, J. W. G. (1945). *J. Indiana med. Ass.*, **38**, 391.
Harrison, T. R., and Pilcher, C. (1930). *J. clin. Invest.*, **8**, 291.
Hill, A. V., and Lupton, H. (1923). *Quart. J. Med.*, **16**, 135.
Hugh-Jones, P. (1947). *J. Physiol.*, **105**, 332.
Kaltreider, N. L., and McCann, W. S. (1937). *J. clin. Invest.*, **16**, 23.
Lundgren, N. P. V. (1949). *Proc. 9th int. Congr. on Indust. Med. London, 1948*, p. 274. Bristol.
Lupton, H (1923). *J. Physiol.*, **57**, 337.
Mann, H. (1918). *Arch. intern. Med.*, **21**, 682.
Master, A. M. (1935). *Amer. Heart J.*, **10**, 495.
—— and Oppenheimer, E. T. (1929). *Amer. J. med. Sci.*, **177**, 223.
Matheson, H. W., and Gray, J. S. (1950). *J. clin. Invest.*, **29**, 688.
Meakins, J., and Gunson, E. B. (1916). *Heart*, **6**, 285.
Nylin, G. (1933). *Acta med. scand.*, Suppl. 52.
—— (1936). Ibid., Suppl. 78.
Pachner, P. (1950). *Pracovni Lékarstvi*, **11**, 357.
Parnell, R. W. (1951). *British Medical Journal*, **1**, 1292.
Passmore, R., and Thomson, J. G. (1950). *Brit. J. soc. Med.*, **4**, 234.
Reisinger, J. A. (1938). *Amer. Heart J.*, **15**, 341.
Renner, W. F. (1951). *Arch. industr. Hyg. occup. Med.*, **3**, 129.
Wahlund, H. (1948). *Acta med. scand.*, Suppl. 215.
Warring, F. C. (1949). *Amer. Rev. Tuberc.*, **60**, 149.

LATE RESULTS OF PERURETHRAL PROSTATIC RESECTION

BY

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Advances in the open surgery of prostatic obstruction have distracted attention from the merits of the perurethral approach. Harris (1929) and Wilson Hey (1946) have shown the advantages of closing the bladder, and Millin (1945) has demonstrated the advantages of not opening the bladder at all. Surely it is better still to leave the abdominal wall intact.

The immediate results of perurethral prostatic resection are recognized to be good. This operation has a very low mortality, and its value in this respect is greater than can be shown by figures, for many general surgeons enucleate the straightforward case themselves but refer the "bad risk" to the urologist for perurethral treatment. The use of thrombin has eliminated the frequent wash-outs of the bladder which were considered necessary and has reduced enormously the incidence of clot retention. Suction evacuation has shortened the duration of the operation and facilitated the treatment of larger glands. Isotonic irrigating fluids have eliminated post-operative anuria—never a common complication, but a grave one. Many patients experience merely the minimal discomfort associated with a modern anaesthetic and a few days of catheter drainage. The present investigation is an attempt to assess the late results, on which the reputation of this operation clearly depends.

Indications

The patients were treated by the "punch" type of operation, using the Gershom Thompson resectoscope. This is the operation which has achieved superlative results at the Mayo Clinic. The indications varied a little at different times, but a high proportion of the patients were treated perurethrally throughout. In the last 400 cases referred to the urological units at the Victoria Infirmary and Hairmyres Hospital the mortality was 3.25% (13 cases). Table I shows all cases of prostatic enlargement referred to these units during the same period and gives an impression of our present practice. "Expectant treatment" includes those cases referred on account of prostatic enlargement without signs of obstruction and with only mild symptoms. This group has been discussed more fully elsewhere (Chapman, 1949). "Endocrine treatment only" includes cases of carcinoma of the prostate in which obstructive symptoms were not marked. "Catheter drainage only" includes cases in which bladder function was resumed after a short period of catheter drainage, and in which the patient refused operation or was advised against it. Several of these were cases of acute retention in the post-operative phase of some other condition.

TABLE I.—*Treatment of All Cases of Prostatic Enlargement*

Expectant treatment	138 cases
Endocrine treatment only	27 ,,
Catheter drainage only	9 ,,
Perurethral resection	400 ,,
One-stage suprapubic prostatectomy	18 ,,
Two-stage ,, ,,	11 ,,
Retropubic prostatectomy	5 ,,
Permanent suprapubic cystostomy	26 ,,
Catheter drainage (admitted in extremis)	23 ,,

Suprapubic prostatectomy was performed when the gland was exceptionally large, or when complicated by large diverticula, or when the urethra would not accommodate the instrument with ease. When stones accompanied prostatic obstruction, litholapaxy and prostatic resection were performed if both the stone and the prostate were of moderate size. Four of the five retropubic prostatectomies were performed by a deputy doing holiday duty. Permanent suprapubic cystostomy was advised for the "very bad risk" patient. The final item of the Table includes patients whose prostatic obstruction proved to be only an incident in the final stage of some other disease. Of all patients whose prostatic disease was severe enough to require operation and whose general condition justified the removal of the obstruction, 92% were treated by perurethral prostatic resection.

Description of Present Investigation

In this investigation we are concerned with late results, and patients treated since 1949 are not included. Efforts have been made to maintain contact with all patients. Postal questionaries were sent out on five occasions—December, 1941, April, 1945, June, 1946, August, 1948, and August, 1950. Patients who had changed their address or who failed to respond were usually traced by the almoner's department of the Victoria Infirmary. If the reply to a questionary suggested unsatisfactory progress the patient was asked to attend for examination. In 1948 an attempt was made to see all surviving patients. Of the 497 patients traced, 28 died within a year of operation and are not considered except in the discussion of cause of death. In six cases in which the operation was performed in the hope of removing a suprapubic tube an unsatisfactory result was obtained and the tube was retained. In two cases frequent micturition persisted after the operation, and the patient sought advice elsewhere. In both cases an enucleation operation was performed and the frequency persisted. The convenient explanation was given that damage had been caused by the perurethral resection. Both were cases in which frequent micturition was the chief symptom and the evidence of obstruction was not great. It is sometimes justifiable to operate for frequent micturition alone, but it is common experience that disappointing results occur in this group.

The remaining 461 cases are tabulated in Table II. In the cases of nodular hyperplasia an attempt was made to remove all glandular tissue. No doubt this has been

TABLE II.—*Duration of Follow-up*

Duration in Years	Cases of Nodular Hyperplasia	Cases of Median Bar	Cases of Carcinoma	Total No. of Cases
13+	1	—	—	1
12–13	9	—	—	9
11–12	10	—	—	10
10–11	13	—	—	13
9–10	12	5	—	17
8–9	22	2	2	26
7–8	22	2	—	24
6–7	26	2	—	28
5–6	34	3	3	40
4–5	39	3	4	46
3–4	39	3	2	44
2–3	68	5	13	86
1–2	100	6	11	117

more successful in the later than in the earlier cases. In the median bar cases only a small quantity of tissue was removed. In the carcinoma cases variable quantities were removed, sufficient to produce a wide channel. Since 1942 these patients have also received stilboestrol treatment. Table II shows the duration of follow-up—that is, the period between operation and the time of writing in the case of survivors, or the period between operation and the date of the patient's death.

Deaths During Follow-up

Table III shows the cause of death in those patients who died within a year of operation and who have not been considered in the general discussion. It is probable

TABLE III.—*Cause of Death Within One Year of Operation*

	Nodular Hyperplasia	Carcinoma
Urinary infection	2	—
Uraemia	2	—
Secondary prostatic carcinoma	1	2
Cardiovascular disease	9	—
Carcinoma (extraurinary)	3	1
Cerebral thrombosis or haemorrhage	3	—
Pneumonia	1	—
Obstructive jaundice	1	—
Infective hepatitis	1	—
Unknown	2	—

that the original condition or the operation for its treatment was responsible for death in the four cases in which death was due to urinary infection and to uraemia. In one case in which the prostate was apparently benign at the time of operation and in two cases in which malignancy was known to be present the patient died of secondary malignant disease. In the remaining cases there appeared to be no association with prostatic obstruction or its treatment.

Table IV shows the cause of death in those patients who have survived more than a year. In nine cases death was due to urinary infection or to uraemia, and these again must be associated with prostatic disease. One patient who had an apparently benign prostate and five who had definitely malignant prostates died of secondary carcinoma. In the remaining cases there was no obvious connexion.

TABLE IV.—*Cause of Death in Those Surviving More Than a Year*

	Nodular Hyperplasia	Carcinoma	Median Bar
Urinary infection	7	1	—
Uraemia	1	—	—
Secondary prostatic carcinoma	1	5	—
Cardiovascular disease	33	3	2
Carcinoma (extraurinary)	13	—	—
Cerebral thrombosis or haemorrhage	11	—	—
Pneumonia	3	—	—
Nephritis	2	—	1
Anaemia	2	—	—
Carcinoma of bladder	1	—	—
Ascites	1	—	—
Diabetes	—	—	1
Disseminated sclerosis	—	—	1
Septicaemia	—	—	1
Duodenal ulcer (haematemesis)	1	—	1
Accident at work	1	—	—
Strangulated femoral hernia	1	—	—
Ulcer of back	1	—	—
Unknown	8	2	3

Results in General

In most cases the patient was very well pleased with the function of the bladder. The results as judged by day and night frequency, force of the flow, control of the flow, and the effect on general health were excellent throughout the period of observation. If doubt arose bacteriological examination of the urine, intravenous pyelography, and endoscopic examinations were performed. Complications have occurred, and these are considered individually.

Recurrent Prostatic Obstruction

Many believe that the effects of perurethral prostatic resection are temporary or even brief. For example, Grant and Lich (1948) write about the "enormous percentage" of recurrent cases, and we have been asked quite seriously how many times it is necessary to repeat this operation in the course of a year in order to keep a patient free from obstruction. This impression is often due to confusion between benign prostatic enlargement and an active malignant process where a few cells left behind will grow in an uncontrolled manner. It has been shown by Moore (1936, 1943) that the process of involution in the prostate goes on with the greatest rapidity before the age of 60, and that the aetiological agent which produces benign hyperplasia is most active before that age. One of us has demonstrated this fact in a follow-up, extending over ten years, of patients who had received no treatment at all (Chapman, 1949).

In the group of patients discussed here 18 have had a second operation for recurrent prostatic obstruction, and to these must be added five patients who had been operated on elsewhere, probably for obstruction, and two patients treated in other units in whom obstruction is known to have occurred, although no operation was advised. Two patients who had previously had resection for median bar returned after intervals of seven and ten years, showing signs of obstruction which proved to be due to lateral lobe enlargement; there was no evidence of recurrence of the bar formation, and the lateral lobes had enlarged during the interval. These two cases need not be considered in a discussion of recurrence of benign prostatic enlargement.

The incidence of recurrence was much higher in patients followed up for more than ten years. This is not due merely to the longer follow-up. In the earlier stages of his experience an operator removes less tissue. In the units discussed here 14 g. was an average resection in 1938; 50 g. resections are now fairly common. Of 116 cases of benign hyperplasia followed up for a period of five to ten years, seven have recurred, a rate of 6%. This is much lower than is usually suggested by the detractors of this operation. Of 246 cases of benign hyperplasia followed up for one to five years, five (2%) recurred. This is a clear demonstration of the great value of the operation in patients whose expectation of life is short. Local recurrence of obstruction in malignant cases has not been common. Possibly stilboestrol treatment is responsible to some extent for this. It must be noted, however, that only two malignant cases survived for more than six years.

Most urological surgeons treat many of their papilloma cases by multiple perurethral diathermy treatments, yet suprapubic, perineal, and retropubic prostatectomists join in their cries of horror at the thought of a second resection of prostatic tissue, however small. This would be less surprising if the open operations were free from the risk of recurrence themselves. Millin (1942) found in his records 53 cases of post-prostatectomy obstruction after suprapubic operations by various surgeons. Emmett (1944) found records of 102 patients who had suffered from recurrent obstruction after suprapubic and perineal operations. The retropubic operation, so recently devised, has already had recurrences.

By far the most important point about recurrence after perurethral prostatic resection has yet to be mentioned. In most cases the correction of the recurrence is a trivial matter both for the surgeon and for the patient. The amount of tissue to be removed is quite small and the operation quite short. With one exception these operations for recurrent obstruction have been free from trouble, and most of the patients have not regarded the experience as a surgical operation.

Second Operation for Symptoms other than Obstruction.—Six patients have had a second operation for reasons other than obstruction. One patient had attacks of haematuria at intervals, and it was thought that the removal of a few remnants of prostate might reduce this tendency. He continues to have occasional haematuria, though his general health is good. Four had persistent frequent micturition, and a second resection was performed in the hope of relieving this. Some benefit resulted in these cases, though there was no evidence of recurrent obstruction. One patient who had heavily infected urine before his operation did not improve much after his resection, so a second small resection was tried, also without much effect.

Post-operative Stricture

Millin (1947) comments on the "high incidence" of post-operative stricture after perurethral prostatic resection, and Grant and Lich (1948) describe it as a "frequent sequela." In the present series of 461 cases nine post-operative strictures have occurred. Two of these required to have the stricture excised and one had an external urethrotomy. All attend at intervals for bougie dilatation; in three cases the interval has been extended to one year. The most recent answers to questionaries in these nine cases show that six have no difficulty in micturition, one has some difficulty in the morning, and two notice a weakening of the flow before they attend for bougie treatment. One of them passes urine at intervals of two hours; the others have intervals of three or more hours. This complication is not a major catastrophe, but it is a very unpleasant experience, and all steps should be taken to avoid it.

Urethral bougies passed without force do not influence the calibre of the normal urethra, but they seem to facilitate the passage of the resectoscope. This may be the result of thorough spreading of the lubricant. They also show when the instrument ought not to be passed. For many years American surgeons have used resectoscopes through a perineal stab when the lumen of the urethra was not adequate. An unfounded fear of fistula formation deterred us from the use of this method for many years. Recently, on the strong recommendation of T. J. D. Lane, we have used it with success.

Incontinence of Urine

Urinary incontinence has occurred after all types of prostatic operation and is said to be commoner after perurethral procedures. The present investigation appears, at first glance, to support this view, as seven patients require to wear incontinence bags. This impression is modified by further consideration. Three of these patients had carcinoma of the prostate and were incontinent before their operation. The disease rather than the operation appears to be responsible in these cases. The same may be said of another patient who had an infected prostate and was referred by a general surgeon who would have enucleated an uninfected gland. In another there was gross fibrosis of the prostate and of the region around the bladder neck as a result of old infection. A minute resection from a prostatic bar increased the incontinence of another patient: the cause is probably neurogenic, though no definite evidence has been found. The remaining patient, a case of simple nodular hyperplasia, is probably the only one in the series in whom an enucleation was a reasonable alternative.

One patient who had persistent incontinence after resection was treated with complete success by the operation described by Millin (1939). Two other patients have had this treatment without success.

In addition to these patients a few have a slight dribbling after the act and find it convenient to wear a pad. One man gives the unusual story that his control is excellent except when he goes to sleep in a chair—a practice which could be avoided without serious results.

It is true, however, that many patients are incontinent for a few hours or days after the removal of the catheter, and in some cases this symptom has persisted for a few weeks. The detrusor has hypertrophied to overcome the obstruction, and the sudden removal of the obstruction has left the sphincter at a disadvantage. The movements of the instrument produce some stretching of the sphincter, which is sufficient in some cases to retard the recovery of its tone.

Conclusions

The complications of perurethral prostatic resection have been exaggerated, and this operation is worthy of a greater place in the treatment of prostatic obstruction in this country. Many British surgeons use perurethral resection only in fibrous prostates, malignant prostates, and "bad risk" cases, and believe that the functional result after perurethral resection is, in general, inferior to that of an enucleation operation. Perurethral resection is selected for these groups only because enucleation is impossible. The best results by the perurethral methods are obtained in the small or moderate glandular types. The distinction between gland, bladder neck, and capsule is clear, and removal of the glandular tissue is an exact procedure. It is true that the removal of the very large gland is an extremely difficult operation, but a gland of 20–40 g. can be removed in a reasonable time, with negligible upset to the patient, by a surgeon who has been trained in this operation. We believe that the indications should include such cases, and that these constitute the majority of patients suffering from prostatic obstruction.

The open operations for prostatic obstruction have become much safer in recent years. This is one reason for the decrease in interest in perurethral operations. It is not, however, an adequate reason. It is instructive to compare the treatment of vesical calculus. The crushing of a bladder stone is a very old operation, and when it became reasonably safe to open the abdomen interest in litholapaxy decreased. The urological specialist continued to practise it, however, and there is no doubt that it is still the operation of choice for the usual bladder stone of moderate size. The only reason for another course is the absence of any surgeon experienced in the operation.

In prostatic surgery in this country it is usual to reserve perurethral resection for the case in which enucleation would be difficult or impossible. We believe that the opposite policy might be employed with

advantage—that is, to use enucleation operations only when there is a serious contraindication to the perurethral route.

Summary

Perurethral prostatic resection has been used in the treatment of over 90% of patients fit for the removal of prostatic obstruction.

We followed up 461 cases for periods of one to thirteen years, and in the great majority an excellent functional result has been maintained throughout.

Recurrent prostatic obstruction occurred in 6% of cases of benign hypertrophy followed for five to ten years and in 2% followed for one to five years.

Post-operative stricture occurred in 2% of cases and was not difficult to treat.

The operation failed to relieve incontinence in five cases and produced incontinence in two—one a nodular hyperplasia and the other a fibrosis of the prostate and periprostatic tissues of inflammatory origin.

The results suggest that the complications of perurethral prostatic resection have been exaggerated, and that this operation is worthy of a much larger place in British surgery.

Our debt to the surgeons of the Mayo Clinic is obvious. In addition we wish to thank Dr. A. B. M. Currie, Dr. W. Kraszewski, and the staff at the Victoria Infirmary, Glasgow, and Hairmyres Hospital, Lanarkshire.

REFERENCES

Chapman, T. L. (1949). *Lancet*, **2**, 684.
Emmett, John L. (1944). *Surg. Gynec. Obstet.*, **79**, 449.
Grant, O., and Lich, R. (1948). *Ann. Surg.*, **127**, 1010.
Harris, S. H. (1929). *Brit. J. Urol.*, **1**, 285.
Hey, Wilson H. (1946). *Brit. J. Surg.*, **33**, 41.
Millin, T. (1939). *Proc. roy Soc. Med.*, **32**, 777.
—— (1942). *Brit. J. Urol.*, **14**, 113.
—— (1945). *Lancet*, **2**, 693.
—— (1947). *Retropubic Urinary Surgery*. Livingstone, Edinburgh.
Moore, R. A. (1936). *Amer. J. Path.*, **12**, 599.
—— (1943). *J. Urol.*, **50**, 680.

INCONTINENTIA PIGMENTI

REPORT OF CASE, WITH SUMMARY OF 29 CASES FROM THE LITERATURE

BY

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Twenty-six years ago Bloch (1926) demonstrated to the Swiss Dermatological Society at Basle an 18-months-old girl with irregularly distributed bizarre-shaped pigmentation of slate colour involving the trunk and lower extremities. After histological study of the skin he gave the condition the name of incontinentia pigmenti. In 1925 Bardach had reported "systematized naevus-formation" in a pair of 17-months-old twins, undoubtedly with the same condition. Since 1926 at least 29 other cases have been reported, the details of which are summarized below. Although reports have come from Germany, Sweden, the United States (both white and black subjects), Canada, Holland, Denmark, and Japan, no case has yet been recorded in England. It is true that Kalz and Mackenzie (1947) published a case in the *British Journal of Dermatology and Syphilis*, but the child was Polish and in Montreal.

The case reported here is that of a baby who was born and lives in Hertfordshire.

Case Report

A female infant, born on February 24, 1950, was the survivor of first-born twins, eight weeks premature, the other twin being stillborn. The mother and father are unrelated, are both healthy, and there is no family history of skin disorder. The mother's father and her younger brother were each blind in one eye from babyhood. Neither survives, and the nature of the blindness is unknown.

The patient weighed 3 lb. (1.4 kg.) at birth, but was rather feeble. I saw her in her first week for this reason, and she remained in hospital for five weeks. During this time her skin was normal. Except for the skin condition described below she has been a normal girl and free from symptoms. When aged 2 months the left lower limb became swollen and red, and when two or three days later the swelling subsided a "scorch-mark" was seen by the mother. At 7 months there was another attack, the child becoming ill-at-ease and feverish, and seeming to be in pain. The left lower limb became swollen, red, and shiny; after three hours blisters appeared in the pigmented areas and a measles-like rash on the clear skin. A few days later the swelling subsided and further pigmented areas were found. When I saw her at 13 months (March 28, 1951) there had been three attacks and the lower limbs only were affected. Three

FIG. 1.—Showing the pigmentation on the chest and the narrow stripes round the trunk.

FIG. 2.—Section of skin showing a large number of melanophores containing closely packed melanin granules. (×240.)

months later, after further attacks, there was reticulated dark-brown pigmentation on the chest and abdomen.

Being quite unfamiliar with the appearance, I referred her to my dermatological colleague at St. Bartholomew's Hospital, and Dr. Brian Russell suggested the correct diagnosis.

The child is making normal progress, though her weight is only 18 lb. (8.2 kg.) at 20 months. There are no abnormal pigments in the urine. Hair, teeth, nails, and eyes are normal. There is as yet no sign of fading.

Fig. 1 shows the curious pigmentation, with the particular concentration on the chest, characteristic of the condition. There are many parallel transverse narrow stripes round the trunk. Dr. Cureton has reported as follows on a biopsy specimen of skin taken from the left chest wall by Mr. R. S. Murley: "Sections of the skin show no gross structural changes. The amount of melanin pigment in the basal layer of the epithelium is variable—one section shows a moderate amount, another shows virtually none. All sections show a large number of melanophores containing closely packed melanin granules and situated almost entirely in the superficial corium. The appearances are those described in incontinentia pigmenti" (Fig. 2).

Summary of Cases

Twenty-nine case reports in the literature have been studied and are summarized, together with the thirtieth case, described above.

Sex.—Twenty-six are females, three are males, and the sex in one is not stated.

Condition of the Skin.—At birth:—18 were normal, 5 had erythema with or without blisters, 2 had actual pigmentation, and 2 others had a pigmented naevus. The condition in 3 is not stated. *In the neonatal period:*—Skin lesions were reported in 11 cases (erythema in 8, skin sepsis in 3). *Pigmentation* was present at birth in 2 cases, and developed from a skin lesion or *de novo* within the first month in 9 cases, before the age of 6 months in 6 more cases, and by the age of 3 years in a further 11. The 2 remaining cases were the father of two other cases and a girl first seen at 6¾ years. *Colour* is variously described as steely grey or blue, slate-grey, dark brown, light brown, or café-au-lait. Several colours may be seen in one case. *Distribution:*—The upper part of the lower limbs and the trunk, particularly in the breast region, are most often and most heavily affected, and the lower part of the lower limbs and the upper limbs less often. Lesions of the scalp have twice been recorded. In two cases (Bardach, 1925; Siemens, 1929) a yellowish band of pigment was found on the face; and in one (Fleck, 1950) there were pigment patches on the soft palate. Sometimes the distribution is symmetrical; sometimes one side of the body is more marked than the other. *Fading* is reported in 12 cases, all but one being over the age of 3 years. No comment is made in 2. In 16 there was no fading, but 9 of these were under the age of 3 years at the date of the report.

Family History.—A family history of pigmentation occurs in Bardach's (1925) twins, who were both affected, and in Nägeli's (1927a, 1927b) father and two daughters. The present case is one of twins, the other being stillborn.

Associated Congenital Defects.—Nineteen cases have no other abnormality. Six have some congenital eye defect, such as pseudo-glioma or opacity of the lens. Other defects noted are brittle or spoon-shaped nails, patchy alopecia, dental hypoplasia, congenital heart disease, microcephaly, and spastic paraplegia. The record of congenital defects in other members of the family is certainly incomplete. Sulzberger *et al.* (1938) give a family tree showing congenital blindness in many females. In my case two males in the family had some form of congenital blindness.

Histology.—The most striking feature of the histological picture of the established condition is the collection of melanin pigment in the chromatophores of the corium, often arranged round the blood vessels. There is also a disarray of the basal cells of the epidermis. In scattered areas the regular line of these cells is broken, and individual cells are seen to be small or distended and vacuolated, with deficiency or absence of the normal pigment granules. The nuclei may be pyknotic. In the earlier stage of the disease there is some oedema of the skin, with vesiculation and perivascular cell infiltration (Haxthausen, 1944). In one post-mortem report (Seidlmayer, 1942) the adrenal medulla was aplastic.

Discussion

The explanation given by Bloch (1926) is that the melanin pigment in the skin, instead of leaving the basal layer and passing out into the stratum corneum to be flaked off in wear and tear, behaves "incontinently" and descends into the corium, where it is gathered up by the chromatophores and produces "autochthonous tattooing." There is no excess of melanin production. Bardach (1925), whose cases are the earliest known at present, regarded the condition as a form of systematized naevus. Nägeli (1927a, 1927b) used the name "familial chromatophore-naevus." Siemens (1929), who gives a very clear and careful account of the histology, regarded the basal layer lesion as the primary defect and suggested the title "melanosis corii degenerativa" as a description of what was seen in the skin section in preference to Bloch's name, which described a theory of production that might prove mistaken. He believed that this is an idiopathic example of degenerative melanosis which can occur under other circumstances, such as in parapsoriasis and poikiloderma.

Incontinentia pigmenti is a disorder of the skin arising at or soon after birth or in the early months of life, and usually in girls. It would be interesting to know how many of these subjects have been small or premature. Heilesen (1948) has stressed that there are three stages of the disorder, but that in some cases only the second stage may be present. First there is erythema with some papule or vesicle formation. Then when this subsides the affected area is noticed to be pigmented. Periodic attacks leave pigmentation more and more widely spread. In some cases the pigmentation appears in skin previously normal. The third stage—fading—may be incomplete or absent. At its height the pigmentation is found on the trunk and lower limbs in all cases. Upper limbs and scalp may be affected, as may the oral mucosa. Two cases had curious yellowish bands of pigment on the face. The colour is sometimes grey or steely blue or some shade of brown, several colours occurring in one case. The pattern is symmetrical, but often one side is more heavily involved than the other. All writers describe bizarre shapes, tree-like branching, and, round the subject's trunk, parallel lines giving a superficial and erroneous suggestion that nerves are followed.

A congenital defect of the eye or an ectodermal defect may be present in the case or in some member or members of the family. Other members of the family may have incontinentia pigmenti.

The familial character and the association with other recognized congenital ectodermal defects supports the view that this is a congenital abnormality of the skin.

BIBLIOGRAPHY

Almquist. Quoted by Sulzberger (1928).
Bardach, M. (1925). *Z. Kinderheilk.*, **39**, 542.
Beintema, K. (1934). *Ned. Tijdschr. Geneesk.*, **78**, 4910.
Bloch, B. (1926). *Schweiz. med. Wschr.*, **56**, 404
Doornink, F. J. (1951). *Dermatologica, Basel*, **102**, 63.
Fleck, F. (1950). *Derm. Wschr.*, **122**, 1191.
Haxthausen, H. (1944). *Nord. Med.*, **21**, 269.
Heilesen, B. (1948). *Acta derm.-venereol.*, **28**, 544.
Ito, M. (1951) *Tokohu J. exp. Med.*, **54**, 67.
Kalz, F., and Mackenzie, E. (1947). *Brit. J. Derm. Syph.*, **59**, 375.
Kitamura, K. (1940). *Zbl. Haut- u. GeschlKr.*, **65**, 633.
Künzer, W., and Zeisel, H. (1949). *Z Kinderheilk.*, **66**, 411.
Levin, O. (1933). *Arch. Derm. Syph., Wien*, **27**, 141.
Moncorps, C. (1936). *Zbl Haut-u. GeschlKr.*, **54**, 291.
Nägeli, O. (1927a) *Schweiz. med. Wschr.*, **57**, 48.
—— (1927b). *Zbl. Haut- u. GeschlKr.*, **23**, 638.
Nexmand, P.-H. (1945). *Nord. Med.*, **28**, 2298.
Scheuermann, H. (1939). *Zbl. Haut- u. GeschlKr.*, **62**, 615.
Seidlmayer, H. (1942). *Z. Kinderheilk.*, **63**, 451.
—— (1949). Ibid., **67**, 177.
Siemens, H. W. (1929). *Arch. Derm. Syph., Wien.*, **157**, 382.
Sulzberger, M. B. (1928). Ibid., **154**, 19.
—— (1933). Ibid., **27**, 141.
—— Fraser, J. F., and Hutner, L. (1938). *Arch. Derm. Syph., Chicago*, **38**, 57.

CONGENITAL DUODENAL OBSTRUCTION AND MONGOLISM

BY

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We have recently been impressed by the frequency with which intrinsic obstruction of the duodenum in the newborn has been associated with mongolism. During the past 25 years 32 infants with congenital atresia or severe stenosis of the duodenum have been admitted to Great Ormond Street, and of this number no fewer than 10 were recognized as mongols.

Case Reports

Case 1.—A first-born male child, three weeks premature. Mother aged 25. Admitted aged 6 weeks because of vomiting and constipation from birth. *Clinical diagnosis:* Mongolism and pyloric stenosis. *Operation:* Gastroenterostomy for apparent "duodenal ileus." Death occurred a few hours after operation. *Necropsy:* Mongolism; stenosis of third part of duodenum, peritonitis, and organized pleurisy.

Case 2.—A male child, tenth in family, born at seven months' gestation. Admitted aged 2½ days with imperforate anus, severe vomiting, and deep jaundice with purpura. *Clinical diagnosis:* Mongolism with anal atresia. *X*-ray film suggested possible duodenal atresia. *Operation:* Relief of anal atresia. Death occurred the following day. *Necropsy:* Mongolism; atresia at junction of second and third parts of duodenum; large subarachnoid haemorrhage.

Case 3.—A full-term male child, second in family. Admitted aged 1 week with vomiting. *Clinical diagnosis:* Mongolism with duodenal atresia. Died on tenth day. *Necropsy:* Mongolism; duodenal atresia just below ampulla; partial patency of foramen ovale.

Case 4.—A male child born six weeks before term after surgical induction for hydramnios. Eighth child; mother aged 36. Admitted aged 4 days with vomiting from birth. *Clinical diagnosis:* Mongolism; prematurity and duodenal atresia. Death occurred on the sixth day. *Necropsy:* Mongolism; duodenal atresia immediately above ampulla; interventricular septal defect; cerebellum disproportionately small; undescended left testicle.

Case 5.—A male child, third in family. Admitted on day of birth with progressive jaundice. Rh incompatibility; direct Coombs's test positive. Typical mongol. *Clinical diagnosis:* Haemolytic disease of the newborn with mongolism. Death took place on second day. *Necropsy:* Mongolism; severe duodenal stenosis 1 cm. above the papilla; cerebral kernicterus; erythroblastosis foetalis; Meckel's diverticulum.

Case 6.—A first-born female child, two weeks premature; white asphyxia at birth following difficult forceps delivery. Mother aged 35. Admitted aged 3 days with vomiting from birth and passage of only mucus per rectum. *Clinical diagnosis:* Intestinal obstruction. *Operation:* Duodeno-jejunostomy for atresia at duodeno-jejunal flexure; lack of mesenteric attachment of ascending colon noted. Discharged home at 1 month of age after a stormy convalescence. Recognized as a typical mongol when seen in an out-patient clinic at 5 months of age.

Case 7.—A male child, third in family. Mother aged 36; suffered from hydramnios during pregnancy. Admitted aged 7 days because of persistent vomiting. *Clinical diagnosis:* Intestinal obstruction. *Operation:* Gastro-jejunostomy for duodenal atresia. Died shortly after operation. *Necropsy:* Mongolism; complete membranous occlusion of duodenum immediately distal to ampulla; extensive peritoneal haemorrhage; small cerebellum; undescended left testicle.

Case 8.—A female child five weeks premature, fifth of family. Mother aged 40; hydramnios during pregnancy. Admitted on third day with vomiting from birth. *Clinical diagnosis:* Atresia of duodenum. *Operation:* Duodeno-jejunostomy for atresia of proximal 4 in. (10 cm.) of jejunum. Died shortly afterwards. *Necropsy:* Mongolism; duodenal atresia immediately distal to papilla; multiple atresias of proximal jejunum; small intestine much shorter than normal; universal mesentery; cerebellum disproportionately small; partial patency of foramen ovale; failure of lobation of left lung.

Case 9.—A first-born full-term female child. Mother aged 25; hydramnios during pregnancy. Infant suffered asphyxia at birth. Admitted aged 5 days with vomiting, cyanotic attacks, and purpura. *Clinical diagnosis:* Duodenal atresia and possible mongolism. *Operation:* Peritoneal bands divided. Death on eighth day with oedema and cardiac failure. *Necropsy:* Extensive peritoneal haemorrhage; duodenal atresia immediately above the papilla; mongolism, small cerebellum; large auricular septal defect (septum secundum); pulmonary oedema.

Case 10.—A male child, eighth in family. Maternal age 39; hydramnios during pregnancy. Following severe birth asphyxia the infant began to regurgitate brown fluid. Admitted aged 5 days. *Clinical diagnosis:* Mongolism and duodenal atresia. *Operation:* Gastro-jejunostomy. Deterioration after tenth day with diarrhoea; death at 3 weeks of age. *Necropsy:* Mongolism; severe duodenal stenosis immediately proximal to the ampulla; universal mesentery; small brain; aberrant right subclavian artery; umbilical sepsis; oral thrush.

Discussion

Textbooks of surgery and paediatrics do not in general refer to this association, which in our experience has occurred with remarkable frequency, nor is it mentioned in the monographs of Benda (1947) and Engler (1949) on mongolism. In a survey of published cases of duodenal obstruction in the newborn Forshall (1947) found only five instances in which associated mongolism had been observed. More recently, however, Lanman (1949), in Boston, reported that, of 17 children with duodenal

atresia successfully treated by operation, 4 were subsequently found to be mongols, while Grove and Rasmussen (1950) found 3 mongols among 11 cases of duodenal atresia or stenosis.

One of us (L.L.R.W.) recently observed mongolism in three successive infants with duodenal atresia at necropsy, in Cardiff, and from personal communications we have learned that Miss I. Forshall, in Liverpool, has seen four cases, and Miss V. Smallpeice, at Oxford, two cases.

From our observations there would appear to be a high incidence of mongolism in infants suffering from intrinsic malformations of the duodenum, the overall frequency in 25 years being approximately one in three. It is remarkable, however, that during 1951, after our interest had been drawn to the association, all five cases of duodenal atresia or stenosis admitted to Great Ormond Street have been found to be mongols; in two of these the latter condition was not recognized until post-mortem examination. Our recent experience suggests that the frequency of associated mongolism may be even higher than one in three.

A possible explanation of the paucity of recorded instances is that most uncomplicated cases of mongolism do not come under medical observation until there is obvious retardation of mental progress, at the end of infancy or later. On the other hand, most cases of duodenal atresia or stenosis die in the neonatal period at a time when the classical appearances of mongolism, though present, are not conspicuous.

The features of mongolism in newborn infants are perhaps not as widely appreciated as they might be (Carter and MacCarthy, 1951). On clinical inspection the immediate general impression is that the baby has an odd appearance. Only a careful systematic examination will elicit the presence of some of the signs of mongolism.

The head is usually rounded, and on palpation of the sagittal suture a third fontanelle may be found. The facial contour is square; the oblique palpebral fissures are small and measure less than the interocular distance; medial epicanthic folds are usually present; the nasal bridge is depressed; the ears are poorly formed and have a crumpled appearance; the tongue tends to protrude. Fingers are somewhat short and the little finger may be incurved owing to a short middle phalanx; a single transverse palmar crease is often present; the axial triradius is in an abnormal position (Penrose, 1949). A high maternal age affords further circumstantial evidence.

At post-mortem examination the most characteristic internal finding is a disproportionately small cerebellum and brain stem; associated malformations, notably cardiac septal defects, may be encountered.

It must be emphasized that no one feature is peculiar to mongolism, nor is any sign of invariable occurrence; it is the presence of a majority of these signs, however, which enables one to make the diagnosis with reasonable certainty, even in the newborn.

In view of our observations it seems important to seek evidence of mongolism in all infants with suspected duodenal obstruction, since such finding may influence the decision to operate.

Summary

In a consecutive series of 32 infants with congenital atresia or stenosis of the duodenum a high incidence of mongolism was observed.

The frequency of this association has not been generally appreciated, presumably because most children with duodenal atresia or stenosis die during the neonatal period, when mongolism is apt to be overlooked. The features of the newborn mongol are therefore reiterated. It is felt that the early recognition of mongolism in a newborn child with suspected duodenal obstruction may be of practical importance in the management of the case.

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REFERENCES

Benda, C. E. (1947). *Mongolism and Cretinism*. Heinemann, London.
Carter, C. O., and MacCarthy, D. (1951). *Brit. J. soc. Med.*, **5**, 83.
Engler, M. (1949). *Mongolism (Peristatic Amentia)*. Wright, Bristol.
Forshall, I. (1947). *Brit. J. Surg.*, **35**, 58.
Grove, L., and Rasmussen, E. (1950). *Ann. Surg.*, **131**, 869.
Lanman, T. H. (1949). Ibid., **130**, 509.
Penrose, L. S. (1949). *The Biology of Mental Defect*, p. 182. Sidgwick and Jackson, London.

ACUTE INFECTIOUS LYMPHOCYTOSIS

REPORT ON A GROUP OF CASES IN A DAY NURSERY

BY

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Acute infectious lymphocytosis was first described as a specific disease by Carl H. Smith, of New York, in 1941. It chiefly affects children below the age of 10 years, and is known to occur sporadically and also in small epidemics, particularly in institutions and among members of the same family. The literature and features of the condition were fully reviewed by Smith himself in 1947. Most of the case reports have come from North America, and the largest recorded outbreak there involved 86 persons in an institution for mentally defective and epileptic patients (Barnes *et al.*, 1949). During the last few years instances of the disease have also been reported increasingly in Europe. Thus the condition has been encountered in Finland (Klemola and Hamarinen, 1947), in Switzerland (Gsell, 1947; Landolt, 1947; Martens, 1948), in France (Debré *et al.*, 1948; Lamy, 1948; Bernard *et al.*, 1948), and in Germany (Recknagel, 1948; Koch, 1949; Heni and Zeh, 1949), as well as in Austria, Czechoslovakia, Greece, the Netherlands, Sweden, and Spain.

In this country, Kilham and Steigman (1942) first pointed out certain similarities to infectious lymphocytosis in three children whose blood showed an increase in the number of small lymphocytes and gave a negative Paul–Bunnell reaction. Later, Steigman (1946) briefly described a small outbreak affecting six children in a village in Southern England in 1942. Isolated instances of the condition in the East End of London have been reported from this hospital (Sita-Lumsden, 1947) and from Mile End Hospital (Dolphin and Popham, 1950). An account of three cases was also published in Northern Ireland (McCollum, 1949).

Six cases which appeared to originate in a day nursery in East London are described below. The first three were encountered in hospital practice.

Case 1

A female infant aged 1 year and 4 months was first sent to the out-patient department of the London Hospital from a local day nursery on August 4, 1950. She had always had a tendency to pass offensive loose stools with mucus, but for the previous fortnight this had been worse and she had had about seven motions daily. She was, however, still eating well and had not vomited. Her development and previous health had been normal apart from a severe attack of whooping-cough and intermittent right otorrhoea. She was the youngest of four children, and the mother reported that the others, who were all boys, were also liable to pass loose stools. The eldest had had diarrhoea for three weeks about three months previously, and the second had had it for one week a fortnight previously.

On examination the child looked healthy, and her temperature was normal. The right eardrum was hyperaemic and dull; otherwise there were no abnormal signs. The lymph nodes and spleen were not enlarged. A rectal swab revealed nothing abnormal in a film or on culture.

On treatment with dietary restriction and a kaolin mixture the stools diminished in number but remained loose and offensive. A week after her first attendance she had lost 2½ oz. (71 g.) in weight and appeared paler. The blood then showed a haemoglobin concentration of 74%* and a white-cell count of 79,400 per c.mm., with 95% lymphocytes, which were normal in appearance.

On the following day, August 12, she was admitted to hospital. She was now fretful and had a temperature of 102° F. (38.9° C.). The tonsillar lymph nodes were palpable. The fauces were slightly congested and showed some post-nasal mucous discharge. Both eardrums were hyperaemic. Otherwise she was normal.

The stools were found to contain many flagellates and cysts of *Giardia lamblia*. No pathogenic organisms were grown on repeated culture of stools and rectal swabs. Throat swabs and urine tests showed nothing abnormal, the erythrocyte sedimentation rate (Wintrobe) was 12 mm. in one hour, and a tuberculin jelly test proved negative.

Treatment consisted of intramuscular penicillin (100,000 units twice daily) and 0.5% ephedrine nose drops. The temperature declined for the first two days, then rose to 103.4° F. (39.7° C.), while a severe aphthous stomatitis developed. This appeared clinically characteristic of a herpetic infection; numerous small ulcers developed on the tip of the tongue and on the buccal mucous membrane, and vesicles spread on to the lips and skin outside the mouth.

The blood count on August 14 showed: haemoglobin, 65%; white cells, 80,000 per c.mm., with 91% lymphocytes. On August 19 blood was taken for Paul–Bunnell and herpes complement-fixation tests; both were negative in all dilutions. The fever appeared unaffected by penicillin, but the temperature, though swinging, declined gradually and reached normal after 12 days.

On August 22 the white-cell count had fallen to 24,500, with 72% lymphocytes. A course of mepacrine (0.05 g. twice daily for four days) was then given for the giardiasis, as well as a ferrous sulphate mixture for the anaemia. Further progress was uneventful, and the child's condition was fairly satisfactory. Three further stool tests demonstrated disappearance of the *G. lamblia* parasites.

On August 31 the blood count showed: haemoglobin, 65%; red cells, 4,060,000 per c.mm.; white cells, 11,400, with 62% lymphocytes. By September 11 the haemoglobin concentration had risen to 76%, while the white-cell count had fallen to 7,900 per c.mm., with 52% lymphocytes and 10% eosinophils. On September 27 the leucocyte count was normal (see Table I).

The complement-fixation test for herpes was repeated on August 31 and again on November 1, but remained negative. The Paul–Bunnell test was also negative again on the latter date.

Case 2

A boy aged 2 years and 5 months, the youngest brother of Case 1, also attended the nursery. He first came to the out-patient department on August 23, 1950. Like his sister, he had passed loose stools intermittently before. He had also been treated for enteritis in a fever hospital in April, 1949. He now had a cough of one week's duration, and during this time had had up to five watery motions daily.

On examination he looked healthy, and his temperature was normal. Except for the presence of post-nasal mucopus in the pharynx and slight prominence of the abdomen there were no abnormal signs. A blood count showed 79,400 white cells per c.mm., of which 97% were lymphocytes; these were normal in appearance. A stool specimen contained *G. lamblia* cysts and flagellates. A course of mepacrine, 0.05 g. three times daily for five days, was prescribed, and the boy was removed from the nursery.

A week later, on August 30, the mother reported that he still passed four or five loose motions without mucus every

*The alkaline haematin method of estimation with photoelectric colorimetry was used throughout; 100% = 14.8 g. of haemoglobin per 100 ml.

TABLE I.—*White Blood Cell and Differential Counts of Affected Children*

Case No.	Date (1950)	Total Count per c.mm.	Lymphocytes % (total per c.mm.)	Eosinophils % (total per c.mm.)	Neutrophils %	Monocytes %	Basophils %
1	Aug. 11	79,400	95 (75,430)	1 (794)	4	—	—
	,, 14	80,000	91 (72,800)	—	9	—	—
	,, 22	24,500	72 (17,640)	—	24	4	—
	,, 31	11,400	62 (7,068)	—	35	3	—
	Sept. 11	7,900	52 (4,108)	10 (790)	33	5	—
	,, 27	5,200	58 (3,016)	1 (52)	36	5	—
2	Aug. 23	79,400	97 (77,018)	—	3	—	—
	,, 30	61,000	91 (55,510)	2 (1,220)	7	—	—
	Sept. 6	19,600	69 (13,524)	8 (1,568)	21	2	—
	,, 13	10,200	49 (4,998)	2 (204)	47	2	—
3	Aug. 30	40,000	88 (35,200)	—	11	1	—
	Oct. 20	10,400	74 (7,696)	4 (416)	22	—	—
4	Sept. 22	42,700	91 (38,857)	3 (1,281)	6	—	—
	,, 28	31,800	85 (27,030)	4 (1,272)	9	2	—
	Oct. 19	10,100	42 (4,242)	5 (505)	47	6	—
	Dec. 11	10,000	20 (2,000)	3 (300)	75	2	—
5	Sept. 19	14,800	79 (11,692)	—	21	—	—
	Oct. 5	15,300	78 (11,934)	2 (306)	18	2	—
	,, 19	23,800	78 (18,564)	4 (952)	18	—	—
	,, 26	11,000	66 (7,260)	5 (550)	26	2	1
6	Oct. 12	50,400	84 (42,336)	5 (2,520)	11	—	—
	,, 20	40,800	70 (28,560)	4 (1,632)	23	3	—
	Nov. 7	5,700	28 (1,596)	10 (570)	58	4	—

day. He had also developed a cold, but was eating well. There were no new signs except those of coryza. The blood count showed: haemoglobin, 86%; leucocytes, 61,000 per c.mm., with 91% lymphocytes and 2% eosinophils. A specimen of stool and a rectal swab revealed no abnormality on film or culture.

During the following week the motions became normal again and the boy began to gain weight. On September 6 the haemoglobin concentration had fallen to 74% and the white-cell count to 19,600 per c.mm., of which 69% were lymphocytes and 8% eosinophils. The stool was again normal on film and culture. A week later the white cells had diminished further to 10,200, and the differential count was normal (see Table I). A Paul–Bunnell test on October 11 showed heterophil antibodies within normal limits (up to a titre of 1:10).

The two elder brothers were also examined. The first was a schoolboy 5½ years old. He also had occasional diarrhoea, but repeated stool examination showed nothing pathological, and his blood count was normal on two occasions. The second brother, aged 3½ years, attended the same day nursery as the two younger children. He was seen on August 23, when he had diarrhoea and signs of bronchiolitis; he was found to pass *G. lamblia* flagellates and cysts in his stool, and his white blood count was 14,300 per c.mm., of which 55% were polymorphonuclear neutrophils and only 42% lymphocytes. He was given a course of mepacrine, 0.05 g. three times daily for five days, and the diarrhoea subsided after a week. Three further stool tests were then negative for *G. lamblia*. On September 16 he was quite well; the blood count showed a haemoglobin content of 74% and 19,800 leucocytes per c.mm., with 53% lymphocytes and 10% eosinophils. Subsequently the white-cell count fell to normal levels. In October he had some loose stools again, and a specimen once more revealed a few *G. lamblia* flagellates.

The mother of these children had no diarrhoea. Her blood count and stool examination were normal.

Case 3

A baby girl attended the same day nursery as the children described previously. In June, 1949, she had had bacillary dysentery of the Flexner type and had been treated with sulphaguanidine. After that she continued to pass five or six relaxed stools daily, and because of this she had been seen at the out-patient department in November, 1949, when she was 17 months old. Stool examination then revealed the presence of many cysts of *G. lamblia*. She was given mepacrine, 0.05 g. twice daily for 10 days. Subsequently her motions were normal until February, 1950, when she started having intermittent diarrhoea again. Stool and rectal swab examinations were normal in February and March, but on May 5 many *G. lamblia* cysts were again present in the stool. After another course of mepacrine, 0.05 g. twice daily for five days, the stools became normal. In August she was brought up again because of mild diarrhoea. Two rectal swabs and two stool tests showed nothing abnormal, but a blood count on August 30 demonstrated a haemoglobin concentration of 79% and a leucocytosis of 40,000 cells per c.mm. with 88% lymphocytes. At that time she had coryza and a cough, but the fauces appeared normal, and lymph nodes and spleen were not enlarged. Unfortunately, she then ceased to attend the hospital and was not brought to the nursery again until mid-October. On October 20 she was examined there and appeared healthy. The jugular lymph nodes were palpable, the fauces were slightly injected, and the abdomen was rather prominent. The white-cell count was now 10,400 per c.mm., with 74% lymphocytes.

Investigations at the Nursery

Thus *G. lamblia* infestation was known to be present in four, and lymphocytosis, presumably of the acute infectious type, in at least three children attending this particular nursery. It was decided to make further investigations there in order to determine the incidence of the two conditions.

The nursery is a fairly spacious and modern building in one of the back streets of Whitechapel. At the time of the inquiry there were 53 children in daily attendance from Monday to Friday.

It would have been most interesting to carry out weekly clinical examinations, blood counts, and stool tests on all the children and their adult attendants in the nursery. But, as time and laboratory facilities were limited, it was decided to deal with not more than six persons on any one day and to go through the whole nursery population in that manner. Blood counts and stool tests were only repeated in those in whom clinical or laboratory findings suggested some abnormality.

Between September 11 and October 26 all the children at the nursery were examined personally, and at least one blood count and stool test were performed on each of them. Blood samples were also taken from the 22 adults who were working there; only eight stools were obtained from these. It may be stated at once that nothing abnormal was found in the individual tests on the adults.

Nine children were shown to pass *G. lamblia* cysts in their stools. With the members of the family of Cases 1 and 2 this adds up to 12 infested children out of 53. The real incidence may be assumed to have been considerably higher, as it is well known that *G. lamblia* may be found only after repeated testing of stools and that one examination per case will discover only from one-third to one-half of the actual number of infections (see Boeck, 1927). Moreover, the faeces were examined by inspection of wet films in saline and not by concentration methods.

The blood counts revealed only one further definite and one probable case of lymphocytosis. Adding the previous patients, this gives a total of 5 out of 53 children in the nursery.

Case 4

A boy aged 3 years had been perfectly well without complaints of any kind. On examination on September 22 he appeared healthy, and his rectal temperature was normal. There were no abnormal signs; his lymph nodes and spleen were not enlarged. Surprisingly, his white-cell count was 42,700 per c.mm., of which 91% were normal lymphocytes and 3% eosinophils. His stool on that day contained many cysts of *G. lamblia*.

On September 28 the leucocytosis was reduced to 31,800 per c.mm., with 85% lymphocytes and 4% eosinophils. After another three weeks the count had returned to normal levels at 10,100 per c.mm., of which only 42% were lymphocytes, but still 5% eosinophils. A Paul–Bunnell test was negative. Like the other children with giardiasis he was given a course of mepacrine, and three subsequent stools were free of parasites. In December he was admitted to hospital suffering from concussion and fracture of the left tibia after an accident. His blood count then showed a haemoglobin concentration of 70%, white cells 10,000, with only 20% lymphocytes and 3% eosinophils (see Table I).

Case 5

A girl aged 3 years and 4 months, who had been free of symptoms, was first examined on September 19, and appeared healthy. Her rectal temperature was normal. The only abnormal signs were the presence of post-nasal muco-

pus and of palpable jugular and right posterior cervical lymph nodes. Her blood count showed 14,800 white cells with 79% lymphocytes. Her stool specimen on October 2 contained many cysts of *G. lamblia*.

She remained well and was given a course of mepacrine. As the initial lymphocyte count was high, further samples of blood were examined at intervals. On October 5 this showed 15,300 leucocytes per c.mm., of which 78% were lymphocytes. By October 19 the total count had risen to 23,800, still with 78% lymphocytes. A week later it had fallen to 11,000, with 66% lymphocytes. The stool was free of parasites on October 24.

This girl thus had an absolute lymphocytosis reaching three times the maximal normal value, which according to Smith (1941) should be about 6,000 lymphocytes per c.mm. at this age. It may be argued that she had a non-specific lymphocytosis due to upper respiratory tract infection, but against this it should be pointed out that the increase in the number of lymphocytes was more marked than in that condition (see Smith, 1941) and ceased fairly suddenly.

The other 47 children showed no gross clinical abnormality, but some evidence of upper respiratory tract infection was found in no fewer than 17. The leucocyte counts varied from 5,200 to 21,100 per c.mm. with an average of 11,200, and are arranged according to age groups in Table II, together with those of the adults. Whenever a child had more than one count, only the first has here been used for calculation, in order to avoid weighting the averages in favour of high values.

TABLE II.—*Other White-cell and Lymphocyte Counts in the Nursery*

Age	No. of Persons	Average Total White-cell Count per c.mm.	Average Total Lymphocyte Count per c.mm.	Corresponding Lymphocyte Percentage
3 months–1 year	4	12,875	8,686	67·5
1–2 years ..	12	12,008	7,297	60·8
2–3 ,, ..	15	10,513	6,253	59·5
3–4 ,, ..	9	10,700	5,757	53·8
4–5 ,, ..	7	10,971	5,377	49·0
All children ..	47	11,200	6,523	58·2
Adults	22	9,014	3,402	37·7

Kato (1935) found in a large series of normal American children that the average white-cell count gradually fell from 11,000 per c.mm. at the age of 3 months to about 7,500 at 9 years, and that the average absolute lymphocyte count declined from over 6,000 in the second month of life to the adult level of 2,500 at 15 years, being equalled by the granulocyte count at 4,000 per c.mm. at the age of 4 years. Again, Smith (1941) states that the *maximal* normal absolute number of lymphocytes drops from approximately 7,000 per c.mm. at 1 or 2 years of age to 6,000 at 3 or 4 years, and finally to 5,000 at puberty, while the *maximal* normal lymphocyte percentage is about 60 between 6 months and 2 years of age and 50 by the end of the sixth year.

A variety of normal values are given in textbooks, but at least in comparison with these American data the average total white-cell and absolute and relative lymphocyte counts will be seen to have been high in the nursery. Therefore it would seem quite likely that there were some more cases of infectious lymphocytosis with only slight blood changes. However, many mild infections will cause a slight absolute lymphocytosis in children, and thus I have thought it best not to label any case as acute infectious lymphocytosis unless the absolute lymphocyte count exceeded twice Smith's maximal normal value for the age concerned. Only the patients described so far satisfied this criterion.

I thought it would be interesting to investigate the family of Case 4 in order to see whether any other members had lymphocytosis or giardiasis. This boy had an elder sister and a 6-year-old brother who were school-children. The mother was asked to bring them to the nursery to be examined. She herself had a normal white cell and differential count; the brother's counts were also normal on three occasions and his stool was free of parasites; but the sister (Case 6) had lymphocytosis.

Case 6

A girl aged 7 years was first seen on October 6. She had had intermittent frontal headaches for a few months, and her appetite had been only moderately good. She had also complained of toothache and right earache for one week, and had had several carious teeth extracted on the morning of the day when I first saw her.

On examination she was pallid but well nourished. Her tonsils and jugular lymph nodes were slightly enlarged. Otherwise, apart from the tooth sockets containing fresh blood clots, there were no abnormal findings. The first blood count was performed on October 12. It showed 50,400 white cells per c.mm., with 84% lymphocytes, which were normal in appearance. On October 20 the white-cell count had fallen to 40,800, of which 70% were lymphocytes and 4% eosinophils. On the same day the Paul–Bunnell test was negative. The girl was not seen again until November 7, when the white-cell count had returned to normal; her stool then contained no parasites. She was well during the whole of this period. One further stool test proved normal.

Discussion

These six cases satisfy all the criteria of acute infectious lymphocytosis (Smith, 1941)—namely, marked leucocytosis with absolute lymphocytosis; benign clinical course; absence of splenomegaly and of significant lymphadenopathy; negative Paul-Bunnell test; and no manifestations of infectious mononucleosis or of leukaemia—lymphocytes of small normal mature type.

Epidemiology.—As regards the epidemiology of the disease, the present experience confirms that its infectivity generally tends to be low. Reyersbach and Lenert (1941) encountered only 16 cases during six months in an institution housing 108 children; I found only five on mostly single blood estimations in the course of about two and a half months in a day nursery with 53 children. However, in some reports the condition has affected a higher proportion of children in more epidemic form (Finucane and Philips, 1944; Barnes *et al.*, 1949). It is also possible that some of the contacts may be infected without developing fully characteristic blood changes; this may have happened, for instance, in the second brother of Case 1. The incidence among members of the same family has been observed before (Smith, 1944; Moyer and Fisher, 1950) and is well illustrated by the present cases.

Incubation Period.—This has been estimated as being between 12 and 21 days (Smith, 1944); in one of the cases of Barnes *et al.* (1949) it appeared to be 16 days. It may be assumed that my Case 6 acquired the infection from her brother (Case 4), who attended the nursery, and it is interesting that their lymphocyte counts, while falling, reached roughly similar levels at an interval of just over three weeks. It is less safe to assume that Case

2 was infected by his sister (Case 1), as both attended the nursery; in these, the corresponding interval was just below two weeks. If these intervals are any guide to the incubation period, it would agree fairly well with the suggestions made by the observers quoted above.

Symptomatology.—The symptomatology in these patients was similar to that of previously recorded cases. In a considerable proportion there may be no symptoms at all, and the condition may be discovered only on blood examination; this occurred in two of my six cases. Of the possible clinical features, fever is said to be present in some cases at the onset. It was found in only the first of these patients, but here it was severe, as in Duncan's (1943) case. Abdominal symptoms are not infrequent and may even simulate an acute surgical condition; the commonest complaint is diarrhoea, which may occur in mildly epidemic form (Peterman *et al.*, 1949), and this was present in three out of the six cases described here. Perhaps it is more likely to occur in those with previously abnormal bowel function, for in all three patients with this symptom there was a past history of loose stools, and *G. lamblia* infestation may have played a part. Mild upper respiratory infection is common in this disease: some evidence of it was found in five of these six patients. Symptoms or signs of meningeal irritation have been reported in occasional cases, but were not evident in the present ones. As regards skin manifestations, it is of interest that Smith (1944) observed a herpetic eruption on the face of a child at the onset of the disease. In my first case the aphthous stomatitis and vesicles on the lips strongly resembled herpetic lesions; yet the complement-fixation test for herpes was repeatedly negative. One wonders whether acute infectious lymphocytosis should be remembered as a possible cause of apparent herpetic eruptions and also whether a virus might be cultured from these vesicles in lymphocytosis.

Haematological Findings.—These correspond to those observed elsewhere. In five of my six cases the maximal total white-cell counts exceeded 40,000 per c.mm. The highest proportion of lymphocytes varied between 79 and 97%. The lymphocytes were normal in size and structure, and thus differed from those usually found in glandular fever. The total duration of the abnormal lymphocyte levels could not be estimated, as no observations were made while these were rising from normal. The periods of fall lasted two to four weeks, and this agrees approximately with Finucane and Philips's (1944) observation that the leucocytosis lasted from two and a half to seven weeks, with an average probable duration of about five weeks.

An absolute eosinophilia has been observed by several previous authors (Finucane and Philips, 1944; Landolt, 1947; Barnes *et al.*, 1949). The figure of 400 per c.mm., which is often given as the upper limit of normal (Whitby and Britton, 1950), was exceeded in all my six cases, and at least five of them had more than 790. In two of them the maximum eosinophilia occurred after the peak of the lymphocytosis. Monocytes were often absent at the height of the disease and reappeared towards the end as they do in other acute infections. The platelets were always plentiful in the films.

Differential Diagnosis.—In arriving at a diagnosis several diseases had to be considered. Glandular fever first came to mind, but there was no splenomegaly and little lymph-node enlargement, which was confined to the neck; also, the leucocyte count showed a greater increase, the lymphocytes were normal in type, and the Paul–Bunnell test was negative in four cases. Leukaemia was ruled out by the benign course, and by the absence of lymphadenopathy, of abnormal blood cells, and of thrombocytopenia. There was no clinical evidence to support the possibility of whooping-cough. Chronic non-specific lymphocytosis of the type which may accompany and follow upper respiratory or other infections was unlikely to be the cause as the leucocyte response was too marked and short in duration.

Possible Relationship to G. lamblia Infestation.—Finally, this question has to be discussed. The total incidence of giardiasis in 12 out of the 53 children at the nursery, as determined by mostly single stool tests, is probably within the usual limits, for Boeck (1927) found that the incidence in children reported in the literature varied from 14 to 40%, and it is known to be even higher in residential institutions (Brown, 1948). There is still no agreement concerning the pathogenicity of these parasites, but they can probably be responsible for malabsorption (Véghelyi, 1940) and may sometimes cause enteritis (Miller, 1926; Ormiston *et al.*, 1942). Among my 12 cases of known *G. lamblia* infestation it was noteworthy that 7 had a history of diarrhoea within the last month, whereas only 5 out of 40 children without parasites in their stools had had this experience. However, it must also be remembered that diarrhoea by itself may wash *G. lamblia* flagellates down from the duodenum and jejunum, which are their habitat. It is interesting that the 12 children in this series who are known to have harboured the parasites included five out of the six cases with lymphocytosis, and that at least four of these six were passing *G. lamblia* at the time of the disease; but there is no proof of any definite association, and this will have to be a matter for future investigation.

Summary

Six cases of acute infectious lymphocytosis are recorded. The patients were children whose ages ranged from 16 months to 7 years. Five of these attended a day nursery in the East End of London, and the sixth was the elder sister of one of the others.

The constitutional symptoms were fairly severe in the youngest child, who had marked fever and aphthous stomatitis; the latter resembled a herpetic infection clinically, but was not associated with a positive complement-fixation reaction to herpes simplex. The other cases were mild, and at least two patients had no symptoms attributable to the condition.

Four of the six children were found to pass *G. lamblia* flagellates or cysts in their stools, and a fifth had received two courses of treatment for this infestation during the previous year.

Three of the patients attended the out-patient department of a hospital because of diarrhoea. The others were found on the basis of mostly single blood counts performed on the remaining 50 children attending the nursery and on 23 adult and two child contacts in the course of about six weeks. Single stool tests, performed simultaneously, showed that a total of 12 out of the 53 nursery children harboured *G. lamblia* parasites.

The epidemiology, clinical features, blood changes, and differential diagnosis of acute infectious lymphocytosis are briefly discussed in relation to the cases described.

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REFERENCES

Barnes, G. R., jun., Yannet, H., and Lieberman, R. (1949). *Amer. J. med. Sci.*, **218**, 646.
Bernard, J., Nouffiard, H., and Lapresle, J. (1948). *Bull. Soc. méd. Hôp. Paris*, **64**, 587.
Boeck, W. C. (1927). *Arch. intern. Med.*, **39**, 134.
Brown, E. H. (1948). *Arch. Dis. Childh.*, **23**, 119.
Debré, R., Mande, R., Levy, F. M., and Boissière, H. (1948). *Arch. franç. Pédiat.*, **5**, 155.
Dolphin, A., and Popham, R. D. (1950). *Post-Grad. med. J.*, **26**, 537.
Duncan, P. A. (1943). *Amer. J. Dis. Child.*, **66**, 267.
Finucane, D. L., and Philips, R. S. (1944). Ibid., **68**, 301.
Gsell, O. (1947). *Schweiz. med. Wschr.*, **77**, 682.
Heni, F., and Zeh, E. (1949). *Med. Klinik.*, **44**, 75.
Kato, K. (1935). *J. Pediat.*, **7**, 7.
Kilham, L., and Steigman, A. J. (1942). *Lancet*, **2**, 452.
Klemola, E., and Hamarinen, R. (1947). *Ann. Med. intern. fenn.*, **36**, 285.
Koch, F. (1949). *Mschr. Kinderheilk.*, **96**, 403.
Lamy, M. (1948). *Arch. franç. pédiat.*, **5**, 212.
Landolt, R. F. (1947). *Helv. paediat. Acta*, **2**, 377.
McCollum, J. Kinloch (1949). *Ulster med. J.*, **18**, 46.
Martens, E. (1948) *Helv. paediat. Acta*, **3**, 220.
Miller, R. (1926). *Arch. Dis. Childh.*, **1**, 93.
Moyer, J. B., and Fisher, G. S. (1950). *Blood*, **5**, 668.
Ormiston, G., Taylor, J., and Wilson, G. S. (1942). *British Medical Journal*, **2**, 151.
Peterman, M. G., Kaster, J. D., Gecht, E. A., and Lembert, G. L. (1949). *Pediatrics*, **3**, 214.
Recknagel, K. (1948). *Med. Klinik*, **43**, 576.
Reyersbach, G., and Lenert, T. F. (1941). *Amer. J. Dis. Child.*, **61**, 237.
Sita-Lumsden, E. G. (1947). *British Medical Journal*, **1**, 849.
Smith, C. H. (1941). *Amer. J. Dis. Child.*, **62**, 231.
—— (1944). *J. Amer. med. Ass.*, **125**, 342.
—— (1947). In *Advances in Pediatrics*, **2**, 64. Interscience Publishers, New York and London.
Steigman, A. J. (1946). *Lancet*, **2**, 944.
Véghelyi, P. V. (1940). *Amer. J. Dis. Child.*, **59**, 793.
Whitby, L. E. H., and Britton, C. J. C. (1950). *Disorders of the Blood*, 6th ed., p. 96. Churchill, London.

TUBERCULOUS MENINGITIS

TREATMENT WITH STREPTOMYCIN AND PARA-AMINOSALICYLIC ACID

BY

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An apparent cure, without sequelae, can be expected in 50% of cases of tuberculous meningitis treated by streptomycin, and, provided skilful treatment is given early in the disease, a higher percentage can make a complete recovery. In an attempt to increase the recovery rate by using *para*-aminosalicylic acid (P.A.S.) in combination with streptomycin 35 cases of tuberculous meningitis were treated and reviewed at Castle Hill Hospital.

On admission all cases were classified as: (1) Early case (E)—fully conscious patient, with no focal signs, slight nuchal rigidity but with abnormal cerebrospinal fluid. (2) Middle case (M)—fully conscious, but sometimes drowsy and lethargic, with nuchal rigidity and focal signs. (3) Advanced case (A)—unconscious or deeply stuporous patients.

The diagnosis was confirmed by isolation of the tubercle bacillus from the cerebrospinal fluid in 30 cases. The five in which tubercle bacilli were absent showed other specific signs and symptoms of the disease.

The results of treatment were assessed after a minimum survival period of one year from the date of admission, and cases were observed for up to 30 months.

Treatment

All cases were given a six-months' course of intramuscular and intrathecal streptomycin combined with oral P.A.S. The daily dose of intramuscular streptomycin was 1 g. and was given to all patients in two twelve-hourly doses of 0.5 g. The daily dose of intrathecal streptomycin was 100 mg. for patients of 5 years and over, and 50 mg. for those under 5 years. Oral P.A.S. was given in gradually increasing dosage as follows: 3 g. for patients 12 years or over, 1.5 g. for those 5–11 years, and 0.75 g. for those 1–4 years—1 dose daily for three days, then 2, 3, 4, 5, and 6 doses each for three days, so that at the end of 18 days each patient was receiving six doses a day at intervals of two-and-a-half hours, from 9 a.m. to 9.30 p.m. The tendency to nausea and vomiting was much reduced if the patient ate something before a dose—for example, a few biscuits and milk. An alkaline mixture given before a dose may help in preventing nausea, and a chalk-and-opium mixture may be given for the treatment of diarrhoea. However, with the above dosage these symptoms were rarely met with. P.A.S. was given continuously throughout the patients' stay in hospital in the recommended dosage. On discharge it was continued as a bacteriostatic agent at a reduced dosage throughout the period of observation.

Treatment was given for six days a week, Sunday being a complete rest period. All patients were kept in bed for the six-months course of streptomycin treatment. A radiograph of the lungs was taken and full chemical and bacteriological examinations of the cerebrospinal fluid (C.S.F.) were made monthly. Patients were not allowed up until the C.S.F. was normal, and they were kept in hospital for at least one year.

Diagnosis

In the known tuberculous child with obscure symptoms, spread to the meninges must always be considered; the incidence of meningitis is highest in the first three months after the development of the primary lung lesion. Children exposed to tuberculosis at home must be kept under observation for the beginning of a primary lung lesion and for subsequent spread to the nervous system. The signs and symptoms of tuberculous meningitis are varied, but most cases conform to a general pattern. Rarely the onset is sudden, with focal signs in the nervous system such as convulsions, cranial nerve paralysis, and limb paralyses. More often the meningitis begins insidiously, with symptoms which may at first mimic minor ailments.

The disease tends to be most treacherous in infancy and early childhood, with a more vague onset and more rapid progress than is usual in the older patient. In older children listlessness and irritability may be the first symptoms: an otherwise good-natured and happy child loses interest in his toys and quarrels with his playmates. The parent may remark that he is easily tired and that he falls asleep in a chair or at mealtimes. Headache is a common complaint of older children in the early stage, and vomiting may occur.

History of Contact.—A definite history of contact with diagnosed tuberculosis in the home was found in 14 of the 35 cases.

Mantoux Test.—This test is a highly significant aid to diagnosis, particularly in young children. Reliance should not be placed on the tuberculin patch or jelly test performed during the course of meningitis, because the allergic response to tuberculin is commonly reduced in these cases, so that a negative result is obtained. A properly performed Mantoux test, using fresh material and a 1 in 100 solution if the 1 in 1,000 is negative, is positive in over 90% of cases. The Mantoux test was performed in all cases. The reactions are shown in Table I.

TABLE I

	E Cases	M Cases	A Cases	Total
Positive at 1 in 10,000 ..	2	5	2	9
" " 1 in 1,000 ..	0	8	17	25
" " 1 in 100 ..	0	0	1	1
Negative in all three dilutions	0	0	0	0

Radiography.—Routine chest radiography proved another valuable aid. Definite abnormalities in the chest *x*-ray film were seen in 23 of the 35 cases. (Two patients died before radiographs could be taken.) They comprised (*a*) a primary complex (usually hilar adenitis with a pulmonary focus) in 14 cases; (*b*) miliary disease of the lungs in seven cases; and (*c*) phthisis present in two adults. In the remaining 10 cases no abnormality was seen.

C.S.F. Examination.—The general appearance of the C.S.F., cell count, protein content, chlorides, and sugar were estimated monthly along with direct examination for tubercle bacilli and culture on Lowenstein's medium. For the initial diagnosis as many as 12 daily C.S.F. examinations were done. If a Mantoux-positive case with no tubercle bacilli on direct examination showed a lymphocytosis with increased protein and lowered sugar and chloride content on two occasions, treatment was begun without further delay. These cases were nursed in isolation until their C.S.F. cultures showed tubercle bacilli; they were then transferred to the tuberculous meningitis ward. Cases of tuberculous meningitis with positive sputum were nursed in isolation during their 12 months' stay in hospital. Thirty cases showed tubercle bacilli in the C.S.F. Of the five remaining cases, one was proved post mortem to have tuberculous meningitis and four were Mantoux-positive, and their C.S.F. showed a lymphocytosis with increased protein and lowered sugar and chlorides on more than two occasions. Other causes of a lymphocytosis in the C.S.F. which require to be considered in the differential diagnosis are: polio-encephalitis and poliomyelitis; benign lymphocytic choriomeningitis; glandular fever; mumps encephalitis; spirochaetal infections (syphilis, leptospiral diseases, relapsing fever); infective hepatitis; atypical pneumonia; herpes zoster; psittacosis; trypanosomiasis; and yeast meningitis.

Results

Of the 35 patients treated, 28 survived and 7 died. Of the 28 survivors 26 have normal C.S.F.; 19 are clinically fit and well, and of the remaining nine three are fit and well except for partial deafness, audiograms showing loss of hearing of 10–40 decibels. These cases are being fitted with hearing-aids and their progress is under observation. The six remaining cases showed the following features.

Case 10.—A woman, aged 20, on admission was six months pregnant, was comatose, and had right hemiplegia. She was given combined treatment, and caesarean section was done at the 38th week of pregnancy. The baby was born alive, but died after 48 hours. At the end of 581 days the patient was fit and well and showed only slight paresis of the right leg; she could walk and do her ordinary housework with the aid of a calliper splint on that leg. The C.S.F. on the 581st day was normal.

Case 13.—A boy, aged 3, on admission had tuberculous meningitis, miliary tuberculosis of lungs, and tuberculosis of the right ankle, which broke down and discharged freely. On the 850th day he was fit and well, but the C.S.F. showed a lowered sugar content. He wears a calliper splint for the right ankle condition, which has healed.

Case 15.—A boy aged 1 year. On the 584th day of observation he was well nourished and the C.S.F. was normal, but he was mentally retarded. Since discharge from hospital his guardian states that he has greatly improved and is now able to walk, but he will require psychometric assessment at a later date.

Case 25.—A boy, aged 23 months, was comatose and blind on admission. On the 639th day of observation he could see, walk, and run, and was attempting to talk. He was also partially deaf and mentally retarded, and will require psychometric assessment at a later date.

Case 28.—A girl aged 14 completed a full course of treatment and was discharged home after one year in hospital. Six months later she was readmitted with miliary tuberculosis of the lungs and given a three-months course of 1 g. daily of dihydrostreptomycin and P.A.S. At the end of six months she was much improved: monthly examinations showed the C.S.F. to be normal.

Case 29.—A female infant aged 9 months. In the second week of treatment she had a convulsion with a residual spastic paresis of the left arm and leg. On the 644th day of observation she was much improved and could walk and run; only slight spasticity of the left arm remained. She was partially deaf and slightly retarded mentally, and was given one "cytacon" tablet daily (10 mg. of vitamin B_{12}), with beneficial effect: she is now much more active and alert, and is attempting to talk.

Table II shows the details of the 35 cases.

Discussion

During streptomycin–P.A.S. treatment rashes, fever, loss of weight, anorexia, vomiting, vertigo, deafness, and albuminuria occur in varying degrees. With the exception of deafness most of these symptoms subside when the streptomycin is stopped. The rashes usually respond to antihistamine drugs; these substances have also been used by various authorities for the treatment of vertigo and deafness, but definite conclusions have not yet been reached.

Marked degrees of hearing loss and partial deafness form the one serious complication which occurs in cases otherwise fit and well. Although the evidence is at present conflicting, it would certainly seem that the auditory nerve as well as the vestibular nerve is affected in some cases, and the general consensus is that the neurotoxic streptomycin may be responsible. Whilst it is impossible to say that the severe degree of deafness will be permanent, the rate of recovery is extremely slow and the education of the affected children would certainly suffer without special educational treatment. This is particularly so with very young

TABLE II.—*Details of the 35 Cases*

Case No.	Age (Years)	Sex	History (Days)	Condition on Admission	Mantoux Test	Chest X-ray	History of Contact	Direct Exam. of C.S.F. for T.B.	Culture of C.S.F. for T.B.	Streptomycin Treatment (Days)	Days of Observation	Result
1	2	M	14	A	1/10,000+	Miliary	0	0	+	166	756	Full recovery
2	28	M	14	A	1/1,000+	Phthisis	0	+	+	141	300	Full recovery. C.S.F. normal. Sputum negative
3	11	M	21	A	1/1,000+	P.C.	0	+	+	120	121	Died
4	14	M	28	A	1/1,000+	Too ill	+	+	+	17	17	,,
5	2	M	28	A	1/1,000+	,, ,,	+	+	+	19	19	,,
6	1 10/12	F	24	M	1/1,000+	Miliary	0	0	0	23	23	Died. P.M. showed tuberculous meningitis
7	2	F	12	A	1/1,000+	,,	+	+	+	18	21	Died
8	6	M	12	M	1/1,000+	P.C.	+	+	+	160	420	Relapsed and died 9 months after completion of treatment P.M. showed tuberculoma of brain
9	48	M	14	A	1/1,000+	Phthisis	0	+	+	6	6	Died
10	20	F	5	A	1/1,000+	0	0	+	+	179	581	Recovery. Right hemiplegia, much improved on 580th day. C.S.F. normal
11	2 4/12	F	11	A	1/1,000+	P.C.	0	0	+	168	910	C.S.F. normal. Full recovery
12	16	M	20	M	1/1,000+	0	0	+	+	162	626	,, ,, ,,
13	3	M	21	A	1/1,000+	Miliary	0	0	+	161	850	Recovery. Tuberculous ankle healed
14	11 9/12	F	13	A	1/100+	,,	0	+	+	126	667	C.S.F. normal. Full recovery
15	1	M	10	M	1/1,000+	P.C.	+	0	+	167	584	Recovery Mentally retarded. Difficulty in walking. Improving. C.S.F normal
16	15 6/12	M	6	A	1/1,000+	,,	0	+	+	155	517	Recovery. Partial deafness but improving C.S.F. normal
17	13	F	7	M	1/1,000+	0	0	+	+	160	437	C.S.F. normal. Full recovery
18	2	M	10	A	1/1,000+	P.C.	0	0	+	160	812	,, ,, ,, ,,
19	19 6/12	F	10	M	1/1,000+	0	0	0	+	160	599	,, ,, ,, ,,
20	7	M	7	M	1/10,000+	0	+	0	+	157	868	,, ,, ,, ,,
21	22	M	14	M	1/10,000+	P.C.	+	0	+	162	370	,, ,, ,, ,,
22	17	F	14	A	1/1,000+	0	0	+	+	168	370	,, ,, ,, ,,
23	5 11/12	F	11	A	1/1,000+	0	+	+	+	168	390	,, ,, ,, ,,
24	23	F	7	A	1/10,000+	0	+	+	+	168	370	,, ,, ,, ,,
25	1 11/12	M	14	A	1/1,000+	P.C.	0	+	+	168	639	Recovery; mentally retarded. C.S.F. normal
26	6	F	5	E	1/10,000+	,,	+	0	0	170	370	Full recovery. C.S.F normal
27	18	F	14	A	1/1,000+	,,	+	+	+	170	370	Recovery; partial deafness. C.S.F. normal
28	14	F	14	M	1/1,000+	Miliary	0	0	0	160	740	Readmitted 6 months after discharge with miliary tuberculosis of lungs Much improved with 2nd course dihydrostreptomycin. C.S.F normal
29	9/12	F	7	M	1/10,000+	P.C.	+	0	+	160	644	Recovery Left hemiplegia Much improved C.S.F normal
30	2 6/12	M	14	M	1/10,000+	,,	0	0	+	160	370	C.S.F. normal. Full recovery
31	2 6/12	M	6	A	1/1,000+	0	0	0	0	168	370	,, ,, ,, ,,
32	3	M	8	E	1/10,000+	P.C.	+	+	+	164	370	,, ,, ,, ,,
33	14	M	12	M	1/10,000+	0	0	0	0	164	370	,, ,, ,, ,,
34	8	M	7	M	1/1,000+	P.C.	+	0	+	168	387	,, ,, ,, ,,
35	10	M	14	A	1/1,000+	Miliary	0	+	+	168	370	Recovery. Partial deafness. C.S.F. normal

E=Early case. M=Middle case. A=Advanced case. P.C.=Primary complex. Miliary=Miliary disease of lungs.

children whose early appreciation of speech has been insufficient to give them any permanent memory of sound.

Some authorities believe that the deafness is due to the tuberculous process and support this by the fact that streptomycin has been extensively used for other forms of tuberculous disease and, whilst admitting damage to the balancing mechanism in the inner ear, affirm that it is not a cause of deafness when used in the normal dosage.

The occurrence of deafness in cases of tuberculous meningitis treated with streptomycin shows considerable variation in incidence from place to place, and in order to obtain reliable statistics it would be necessary to do objective tests of hearing in all cases, otherwise cases of high-frequency deafness might easily be missed.

As regards the mental impairment following tuberculous meningitis, it is difficult to assess in some cases owing to motor disability and poor hand–eye co-ordination. Objective assessment as compared with pre-illness history would indicate some impairment of intellectual functioning in certain cases, but repeated follow-up examinations are necessary to ascertain whether this is likely to be permanent.

The marked increase in weight in marasmic babies after intramuscular injections of vitamin B_{12} was noted and it was decided to give all cases of tuberculous meningitis showing muscular wasting one tablet of cytacon daily. In addition to increased weight gain (Table III) patients also showed increased activity and alertness and definite increase in appetite.

TABLE III.—*Weight Record Following Oral Vitamin B_{12}*

Case No.	Before Treatment	1st Week	2nd Week	3rd Week	4th Week	5th Week	6th Week	7th Week	8th Week
	st. lb.	st. lb.	st lb	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.	st. lb.
26	3 7	3 8	3 7	3 8	3 8	3 9	3 9	3 9	3 9
27	7 5½	7 7	7 7	7 8	7 9	7 11	7 11	7 11	7 12
29	2 0	2 1½	2 2	2 2	2 1	2 2	2 2	2 1	2 2
30	2 5	2 5	2 6	2 7	2 6	2 6	2 7	2 7	2 7
31	1 12	1 12½	1 13	1 12	1 12	2 1	2 1	2 2	2 3
32	2 8	2 8½	2 8	2 8	2 8	2 8	2 8	2 8	2 8
33	7 9	7 10½	7 10	7 11	8 1	8 5	8 6	8 6	8 9
35	5 6½	5 6½	5 7	5 7	5 7	5 8	5 10	5 10	5 10

Various writers on the treatment of tuberculous meningitis have stressed the disturbing and severe strain on the nursing staff attending these cases, but in this hospital the daily lumbar puncture for six months is accepted by patients and staff as a normal routine procedure. Apart from the actual lumbar puncture session, the tuberculous meningitis ward is one of the most cheerful wards in the hospital. This is all due to the extremely kind and efficient methods of the matron, Miss D. H. Dronfield, and her nursing staff, and their own inward satisfaction at seeing results impressive for a disease which until the last few years was usually fatal.

CHLORAMPHENICOL IN TREATMENT OF CUTANEOUS ANTHRAX

BY

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Chloramphenicol in concentrations of 5 μg./ml. has been shown to inhibit *in vitro* several strains of *Bacillus anthracis,* one strain being rather more susceptible (McLean, Schwab, Hillegas, Schlingman, 1949). Its clinical effect was therefore tried on four cases of cutaneous anthrax in Indian labourers.

Case 1

An Indian labourer was admitted to hospital on June 7, 1950, in a restless comatose condition. His temperature was 96° F. (35.6° C.), pulse 74, and respirations 30. The spleen was palpable. On examination the pulmonary condition was normal. A blood slide showed the presence of malaria parasites. Kernig's sign was positive and neck rigidity was present. There was a vesicular pustular eruption with an oedematous base over the proximal end of the left fibula. A smear from this sore showed *B. anthracis* ++. He was treated with "acetylarsan," 3 ml. intramuscularly, and procaine penicillin in oil, 300,000 units. Sustaining measures and lumbar punctures were impossible owing to his restlessness, and he died seven hours after admission. Post-mortem examination was refused. A provisional diagnosis of anthrax meningitis, with possibly intestinal anthrax, was made.

Immediate inquiries elicited that a cow had died under suspicious circumstances seven days previously, and that he, with about 50 others, had cut it up and eaten it. All these contacts were immediately examined, and four further cases of anthrax were discovered. All belonged to the scavenger class.

Case 2

A man aged 35 was admitted at 7 p.m. on June 7. There was a history of carving and eating the same cow. His temperature was 100° F. (37.8° C.), pulse 100, and respirations 28. He was anaemic, and his heart was slightly enlarged (a usual condition in these people). There was a sore on the left thumb ½ in. (1.25 cm.) in diameter which had been present for a week. It had started, after some itching, as a circular red papule; it had then become vesiculated and a dark scab had formed in the centre. By this time the base was very oedematous and the whole sore steadily grew bigger, the scab softening and becoming a dirty colour rather than black; a number of surrounding vesicles became confluent and exuded serum. The regional lymph nodes were not enlarged or tender. There was a second oval sore 2½ in. (6.3 cm.) long on his back, and a third on the lateral aspect of the left knee. Slides from all three sores showed a heavy infection of anthrax.

He was treated on traditional lines with procaine penicillin in oil, 300,000 units daily for seven days. Sulphadiazine was given as follows: 3 g. immediately, 1 g. four-hourly for three days, and 1 g. thrice daily on the fourth day. Acetylarsan, 3 ml., was given on the first day and neoarsphenamine, 0.3 g., on the second day. Neoarsphenamine, 0.15 g., was given on the fourth and eighth days. The temperature and pulse settled to normal by the fourth day, and all sores had diminished in size; oedema was much less. The cultures remained positive until the ninth day and were thereafter negative. All sores were healed on the twenty-fifth day.

Case 3

A girl aged 12 was admitted on June 7 with a sore over the insertion of the left deltoid. She had eaten some of the same cow, and her brother (Case 4) was also affected. The sore had started with an itching place, and a circular red papule soon appeared. On June 4 this had grown and become vesicular. On her admission there was a depressed black scab at the centre surrounded by a confluent unbroken vesicle ½ in. (1.25 cm.) in diameter, the whole lying on an oedematous base. One secondary papule was present immediately outside the ring of vesicles. Her temperature was 100° F. (37.8° C.), pulse 104, and respirations 39. The regional lymph nodes were enlarged and tender. A slide showed *B. anthracis* +.

Chloramphenicol, 1.75 g. (60 mg. per kg. of body weight) orally, divided into four doses given every hour, was administered that night, and 750 mg. (26 mg./kg.) thrice daily was started next day and continued for three days. The doses were then reduced to half this amount for a further three days. Pulse and temperature were normal by the fourth day, and the sore had dried up; oedema had disappeared and the slide was negative for anthrax. On the thirteenth day the lymph nodes had entirely subsided and the scab separated, and slide and culture were negative for *B. anthracis.* All sores were completely healed on the twenty-third day.

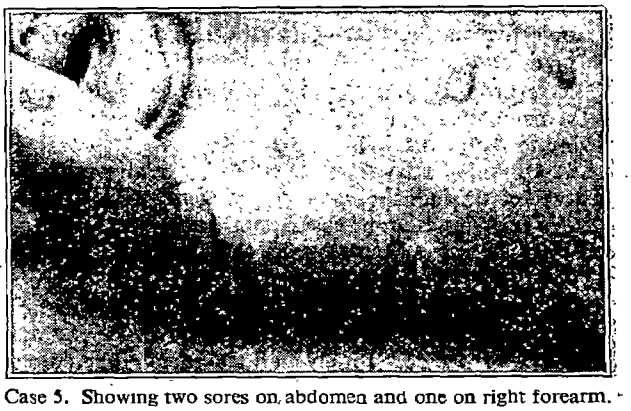
Case 4

A boy aged 10 was admitted on June 7 with a history identical to that of his sister (Case 3). On admission he had a sore measuring 1¼ by 1¾ in. (3.2 by 4.4 cm.) on the back of his knee. In the centre there was a dark tough scab which was surrounded by a vesicle that had burst. The base was grossly oedematous. The regional glands were enlarged and tender. His temperature was 100° F. (37.8° C.), pulse 108, and respirations 32. A slide showed *B. anthracis* +.

Chloramphenicol, 1.25 g. (52 mg./kg.) divided into four doses, was given at hourly intervals, and from next morning 620 mg. (26 mg./kg.) thrice daily was given for three days, and then the dose was halved for two days and finally reduced to 60 mg. thrice daily for three days. The temperature had settled by the second day, and on the third day the slide was negative. By the fourth day there was much less oedema, and the sore was cleaner. On the eighth day a culture gave a positive result, but thereafter eight daily cultures were negative. He made an uneventful recovery, and all sores were completely healed on the twenty-ninth day.

Case 5

An infant aged 10 months was admitted on June 7. There was no history of eating or handling affected meat. Case 2 stated that after he had cut off his portion from the cow and taken it home he had taken the infant on his knee and played with it. The mother, who had cooked and eaten the meat and had nursed the child at the breast throughout the whole illness, was not affected. Four sores were present—two on the abdomen each 1 in. (2.5 cm.) in diameter, one on the right forearm ½ in. (1.25 cm.) in diameter (see illustration), and a small sore starting on the



Case 5. Showing two sores on abdomen and one on right forearm.

leg. The temperature was 100° F. (37.8° C.), pulse 150, and respirations 50. A slide showed *B. anthracis* +.

Chloramphenicol, 0.375 g. (64 mg./kg.), was given in powder form followed immediately by breast-feeding. No further dose was given that night. From next morning 188 mg. (32 mg./kg.) thrice daily was given for 60 hours; then the dose was reduced by half for a further 60 hours and again halved for a further 48 hours. On the second day the temperature was 102° F. (38.9° C.), pulse 160, and respirations 50. The sores and the general condition were the same. A slide showed *B. anthracis* ++. Next day the general condition was the same except for mild diarrhoea. The sore on the leg had not increased in size, but a vesicle had formed and burst. A slide showed *B. anthracis* +. On the fourth day the general condition was good, the diarrhoea less, all sores were slightly smaller, and the leg sore was drier. The dark scabs were more pronounced. On the fifth day the general condition was good, stools were normal, and the sores dry. A negative slide but positive culture were found on the eighth day by lifting the scab and culturing the underlying pus. Thereafter the sores gradually healed. All further slides were negative, but a further positive culture was obtained on the thirteenth day. Cultures on the ninth, tenth, fourteenth, and fifteenth days were negative. A peculiarity of this case was the persistently oedematous base, which only gradually subsided, whereas in the other cases oedema disappeared rapidly. After some secondary infection the sores were completely healed on the thirty-ninth day.

Case 6

A man aged 55 was admitted to hospital on July 8 with a sore on his back and with fever. This was an isolated case occurring in a different district in a member of a different caste. On July 3 he had felt an itching on his back and rubbed it. He then noticed a lump and a vesicular sore on his back. This gradually enlarged, and on July 5 he felt feverish. There was no history of how the infection could have occurred. On admission a malignant pustule was seen on his back about 3 in. (7.5 cm.) above the right iliac crest, in the same position as one of the sores in Case 2, and presumably caused by carrying infected meat on the back. The sore measured 1¾ by 1½ in. (4.4 by 3.8 cm.) and had a black centre surrounded by ruptured vesicles exuding serum. The skin surrounding the sore was oedematous for about 12 in. (30 cm.) and for a rather greater distance downwards and over the abdominal wall. The right axillary glands were enlarged and tender. The spleen was not palpable. His temperature was 101.4° F. (38.6° C.), pulse 90, and respirations 28. His weight was 112 lb. (50.9 kg.). A slide was negative for *B. anthracis*, but culture was positive.

Treatment was not given on July 9 owing to administrative difficulties. On July 10 chloramphenicol, 3.25 g. (64 mg./kg.) divided into four doses was given every hour. Nothing further was given that night. On July 11, 12, and 13, 1.5 g. (29.6 mg./kg.) was given thrice daily. The dose was halved on July 14 and 15. On July 10 his temperature was 101.4° F. (38.6° C.), pulse 80, and respirations 20. The sore looked slightly bigger and had an angry-looking edge with increased serous discharge. The pain and irritation were more marked. The oedema had spread round to the nipple and was more pronounced. Regional lymphadenitis was increased. A slide was negative for *B. anthracis*, but culture was positive. Next day, 12 hours after starting treatment, there was a dramatic improvement: the sore was the same size, but there was no pain or itching, the serous discharge was less, the central slough rather bigger, and oedema had definitely diminished in area and severity. Regional lymph nodes were smaller and not tender. On July 12 further rapid improvement occurred. A slide and culture were negative. All further slides and cultures were negative. On July 13 there was no oedema. The whole sore was dry and covered by a black scab.

The patient was discharged on July 19 to the out-patient department. On discharge he still had a slightly enlarged axillary gland and the sore was covered with a firmly adherent tough black scab measuring 1½ by 1 in. (3.8 by 2.5 cm.). The wound healed in the usual fashion.

Discussion

The opportunity given by a small outbreak of anthrax was used to test the clinical efficiency of chloramphenicol in cutaneous anthrax. Except for Case 1, in which the patient was *in extremis* on admission and died, all cases recovered. Only Case 1 had an enlarged spleen, and the disease appeared to be limited to the skin; but, owing to a lack of blood culture facilities, septicaemia cannot be entirely excluded. The small proportion of those affected compared with those at risk and the continued exposure of the mother of Case 4 raise a suspicion that these Indian labourers have a certain amount of resistance against acquiring this infection. Experience at other times has shown that the untreated disease is uniformly fatal. Case 1 shows that the strain was a virulent one.

Clinical appearances were typical of anthrax. All smears showed the typical morphological characters, and cultures on nutrient gelatin gave the typical spore-forming organism. Capsules were demonstrated by polychrome staining, and the suspensions of the cultures were positive to the malachite green test.

Summary

Cutaneous anthrax in four patients aged from 10 months to 55 years was treated with chloramphenicol with an initial dose of 60 mg. per kg. of body weight and a maintenance dose of 30 mg./kg. eight-hourly for 60 hours, then 15 mg./kg. eight-hourly for 48 hours, and finally 7.5 mg./kg. eight-hourly for a further 48 hours. All four cases showed rapid improvement leading to cure.

One case was treated on the usual lines with penicillin, sulphadiazine, and arsenic as a control. The series is too small to demonstrate the superiority of either method, each appearing equally effective.

It is a pleasure to acknowledge the help given by Messrs. Parke, Davis and Co., who supplied the chloramphenicol ("chloromycetin") and obtained permission from the Government of India to use it in these cases.

REFERENCE

McLean, I. W., jun., Schwab, J. L., Hillegas, A. B., Schlingman, A. S. (1949). *J. clin. Invest.*, **28**, 953.

The medical section of the Library Association will hold its first week-end conference at University Hall, Liverpool, from Friday evening, March 28, to Monday midday, March 31. The programme will include an address by Sir Henry Cohen on the romance of words; a symposium on three types of medical libraries by Miss I. B. Jones, Mr. W. A. Lee, and Mr. G. Wilson; visits to the libraries of the Liverpool Medical Institution, Liverpool University, and the School of Tropical Medicine, and to the Speke Works of Evans' Medical Supplies. There will be a reception at the Liverpool Medical Institution, a visit to Speke Hall, and a coach excursion to Llangollen. Attendance at the conference is open to medical men as well as to librarians, and those who are interested are invited to write to the hon. secretary of the Medical Section of the Library Association, c/o the British Dental Association Library, 13, Hill Street, London, W.1.

BLEEDING MECKEL'S DIVERTICULUM

A REPORT OF TWO CASES

BY

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A Meckel's diverticulum remains as a vestigial remnant of the vitelline duct in between 1 and 2% of individuals; Harkins (1933) found the anomaly in some form in 1.3% of over 25,000 necropsies.

Intestinal obstruction is said to be the most common complication (Taylor, 1947; Haber, 1947), but out of 1,605 cases from the literature Moses (1947) found that the presenting disorder was haemorrhage in 496 (30.9%), intestinal obstruction in 383 (23.8%), perforation in 222 (13.8%), a Littré's hernia in 188 (11.7%), and diverticulitis in 165 (10.3%). The incidence of the whole group of disorders is more than twice as great in males as in females.

In the cases here reported the bleeding was intractable and required urgent surgical intervention.

Case 1

A salesman aged 27 was admitted to the Royal Victoria Infirmary under Dr. A. G. Ogilvie on the morning of August 23, 1950. He had woken feeling nauseated, weak, and faint, and perspiring profusely. On going to the w.c. he passed a large amount of dark semi-fluid material per rectum.

Five years previously, while in the Army in India, he had had a similar experience and had received a blood transfusion. Investigation revealed no gastro-intestinal abnormality. For the past two years he had had vague lower abdominal discomfort after meals.

On examination he looked healthy, not evidently in pain. The pulse rate was 64 a minute, blood pressure 120/70. Abdominal palpation revealed nothing significant, but on rectal examination the examining finger was stained with dark-red blood. No other physical abnormality was noted.

The haemoglobin on admission was 75% (11.25 g./100 ml.), Hess's capillary fragility test was negative, and the bleeding and clotting times were normal.

Some four hours after admission the patient suddenly became pale, anxious, and sweating; the pulse rate rose to 96, and the blood pressure fell to 100/50. Ten minutes later he passed much dark-red blood per rectum. After a transfusion of 2 pints (1.14 litres) of compatible whole blood he improved. It was thought that the bleeding was from a duodenal ulcer, an intestinal polyp, or a Meckel's diverticulum.

The following day he again had a severe haemorrhage, necessitating further transfusion. Professor F. H. Bentley was consulted, and agreed that if there was evidence of further bleeding an emergency laparotomy should be performed. Radiographic examination, gastroscopy, and sigmoidoscopy were, for obvious reasons, not carried out.

On the morning of August 27 the patient again had a severe haemorrhage; his haemoglobin fell to 56% (8.4 g./100 ml.), and another continuous drip transfusion was begun.

Operation.—At 3 p.m. Professor Bentley opened the abdomen through a right para-umbilical paramedian incision; the posterior wall of the duodenum was felt to be a little thickened, but no ulcer appeared to be present. The caecum and lower ileum were filled with blood. Some 2 ft. (61 cm.) above the ileo-caecal valve a Meckel's diverticulum, about 4 in. (10 cm.) in length, was found protruding from the antimesenteric border of the gut. Blood filled the diverticulum and the ileum for some 12 in. (30.5 cm.) proximal to it; above this point the bowel was collapsed. Since it was evident that the diverticulum was the site of the haemorrhage it was excised.

The mucosa of the last inch (2.5 cm.) of the diverticulum showed multiple petechial haemorrhages and two superficial ulcers each about 3 mm. in diameter; in the base of one of these could be seen the mouth of a small vessel. The proximal portion was macroscopically normal. Dr. A. H. Cameron reported that histological examination showed acute ulceration, with no evidence of gastric heterotopia.

The patient made a good recovery, although gastric aspiration and intravenous therapy were necessary for 36 hours owing to moderate abdominal distension. The stools were free from occult blood within five days. On discharge on September 11 he felt well and his haemoglobin was 96% (14.4 g./100 ml.).

Case 2

A male telephonist aged 17 was admitted to the Royal Victoria Infirmary at 2.30 a.m. on July 15, 1951, under the care of Mr. John Brumwell. He had been perfectly well until two days before admission, when he began to pass small quantities of dark-red blood per rectum. This was unaccompanied by other symptoms until 24 hours later, when he began to feel weak and faint and to sweat profusely. At 1.45 o'clock on the morning of admission he woke with an urgent desire to move his bowels, fainted on getting out of bed, and passed a further large quantity of dark-red blood.

On admission he was anxious, sighing, and restless but not in pain. His conjunctivae and mucous membranes were blanched, pulse rate 120, and blood pressure 100/60. There was no tenderness or mass on abdominal palpation, but on rectal examination the examining finger was stained with dark-red blood.

A blood transfusion was begun immediately, and over the next 24 hours he received 9 pints (5.1 litres) of whole blood, with considerable improvement. At one stage his haemoglobin had fallen to 45% (6.5 g./100 ml.).

On July 20 he was transferred to a medical ward for investigation under the care of Dr. A. G. Ogilvie. His general condition was then good; pulse 85, blood pressure 130/70, and haemoglobin 66% (9.5 g./100 ml.).

Two days later he suddenly became weak and faint, vomited clear watery material, and passed a large dark-red fluid stool; despite continuous transfusion the bleeding continued. The clinical picture was so reminiscent of Case 1 that a firm clinical diagnosis of bleeding from a Meckel's diverticulum was made. Mr. Denis Hindmarsh was consulted, and agreed to carry out laparotomy.

Operation.—The abdomen was opened through a right paramedian incision. The large intestine and lower ileum were found to be filled with blood. A Meckel's diverticulum was identified, about 2 in. (5 cm.) in length, and the distal end was clearly thickened; it was removed together with a "wedge" of intestinal wall.

Dr. J. Hart Mercer reported on the specimen as follows: "The diverticulum shows a fairly deep oval ulcer in the floor of which no obvious vessel is visible to the naked eye. The mucosa macroscopically is mostly of the small intestinal type, but at the edge of the specimen some distance from the ulcer a thicker mucosa of more luxuriant appearance is seen. Histological examination reveals an active chronic peptic ulcer: the mucosa immediately surrounding it is of intestinal type, but further away gastric mucosa is seen."

The patient made a good and uneventful recovery from the operation, and on discharge on August 3 his haemoglobin was 89% (12.9 g./100 ml.).

Discussion

In the reported cases of haemorrhage from a Meckel's diverticulum a correct pre-operative diagnosis has rarely been made, except in children. In Case 1, although ulceration in a diverticulum was considered as a possibility, no firm diagnosis was reached before operation; in the second case, however, the similarity of the clinical picture to that in the first patient was striking and enabled the diagnosis to be made confidently. The character of the blood passed per rectum weighed heavily in pointing out the offending organ; it was dark red in colour, intermediate between the characteristic tarry stool of melaena from a duodenal ulcer and the bright-red blood of haemorrhage from a lesion of the colon. This point has been stressed by Murray (1947). A second feature of value in the differential diagnosis was that both patients vomited clear watery fluid containing no blood.

Schaetz (1925) described the presence of areas of heterotopic gastric mucosa in 5 out of 30 diverticula examined, and it has been assumed that, as occurred in our Case 2, haemorrhage is invariably the result of ulceration in or around such islands (Haber, 1947; Taylor, 1947). However, Chesterman (1935) pointed out that ulceration can occur in the absence of gastric mucosa, explained by Winkelbauer (1929) as being due to irregular peristalsis producing invagination of the apex of the diverticulum; this is possibly the explanation in Case 1, as the lesions were confined to the tip.

Haemorrhage from a Meckel's diverticulum may produce a serious threat to life. It should be suspected in patients suffering from melaena of the type described; if haemorrhage is recurrent laparotomy is indicated, since the risks of an adequately performed operation are slight. If surgical treatment is not required in the acute stage a Meckel's diverticulum may occasionally be demonstrated radiologically (Rousseau and Martin, 1943).

Summary

Two cases of bleeding due to ulceration in a Meckel's diverticulum are reported. Cure followed excision of the diverticulum in each case.

One specimen showed acute ulceration and no gastric heterotopia; the other contained gastric mucosa, and a chronic peptic ulcer was present.

It is suggested that the character and colour of the blood passed per rectum—that is, dark red, as distinct from the tarry stool of a duodenal ulcer and the bright-red blood of a colonic lesion—may enable this syndrome to be diagnosed pre-operatively.

We are indebted to Dr. A. G. Ogilvie for permission to publish these cases, to Professor F. H. Bentley and Mr. Denis Hindmarsh for details of the surgical treatment, and to Dr. A. H. Cameron and Dr. J. Hart Mercer for the pathological reports.

REFERENCES

Chesterman, J. T. (1935). *Brit. J. Surg.*, **23**, 267.
Haber, J. J. (1947). *Amer. J. Surg.*, **73**, 468.
Harkins, H. N. (1933). *Ann. Surg.*, **98**, 1070.
Moses, W. R. (1947). *New Engl. J. Med.*, **237**, 118.
Murray, A. G. (1947). *Med. J. Aust.*, **1**, 145.
Rousseau, J. P., and Martin, A. G. M. (1943). *Radiology*, **40**, 605.
Schaetz, G. (1925). Quoted by Chesterman (1935).
Taylor, S. (1947). *Lancet*, **2**, 786.
Winkelbauer (1929). Quoted by Chesterman (1935).

Medical Memoranda

Accelerated Ossification in a Cretin caused by High Thyroid Dosage

The following case is reported because it is not generally known, and is not cited in paediatric textbooks, that high thyroid dosage in cretinism may cause advanced ossification, and because it demonstrates the advisability, during treatment, of taking serial radiographs of the ossific centres if maximal dosage within the limits of clinical tolerance is to be given.

Case Report

The patient was a full-term female infant with a birth weight of 6 lb. 13 oz. (3.1 kg.). She came under observation at 14 weeks of age, when the mother reported that the baby had seemed normal until 10 to 12 weeks, when she became drowsy, stopped smiling, lost interest, developed a feeble hoarse cry, and altered in facial appearance. These symptoms had since progressed, and on examination the baby, which then weighed 8 lb. 7 oz. (3.8 kg.), was seen to be a typical cretin (Figs. 1 and 2), with lethargy, coarse expressionless features, thick protruding tongue, dry yellow skin, puffy hands, large abdomen, and umbilical hernia. She did not watch other persons, the eyes did not follow a moving object, and there was no smile. In the prone position the head slumped down, and in no position of the body was it held steady. Radiographs showed gross delay in ossification in that no centres were visible for the cuboids, the heads of the tibiae, or the wrists.

FIG. 1.—Face of the child at 14 weeks.

It was decided to increase thyroid dosage as quickly as practicable to the limits of clinical tolerance on the grounds (*a*) that often the mental development of cretins does not progress favourably on the customary schedules even when treatment begins early (Warkany, 1950); (*b*) that some poor results may be due to underdosage attributable to faulty assay, deterioration, or impaired absorption; and (*c*) that other poor results may be due to initial slowness in building the dose to a maintenance level.

The initial treatment took place in hospital, dry thyroid (*B.P.*) being given in doses of 1/10, ⅛, ¼, and ½ gr.

FIG. 2.—The child at 14 weeks.

(6.5, 8, 16, and 32 mg.) on the first, second, third, and fourth days, respectively, and then ½ gr. (32 mg.) on each of the remaining 14 days of the in-patient period: the subsequent increments (see Table) were prescribed from the out-patient clinic. Within 19 days of the beginning of

Dosage of Dry Thyroid and Weight of Infant

Age in Months	Average Daily Dose of Dry Thyroid (*B.P.*)	Weight
5–6	1·2 gr. (78 mg.)	At 6 months 12·1 lb. (5·49 kg.)
7–8	1·7 „ (110·5 mg.)	„ 8 „ 14·6 „ (6.62 kg.)
9–10	2·2 „ (143 mg.)	„ 10 „ 18·8 „ (8.53 kg.)
11–12	2·8 „ (182 mg.)	„ 12 „ 22·2 „ (10·07 kg.)

treatment the typical therapeutic response was obvious and the baby improved dramatically in appearance and general symptoms. She continued under close observation, being examined and weighed at weekly intervals, and the parents, who were regarded as reliable observers, were informed of the issues and asked to report any looseness of the motions, undue sweating, restlessness, or other untoward symptom which could be regarded as evidence of intolerance to the increasing thyroid dosage. They also recorded the sleeping pulse rate.

No clinical evidence of intolerance did, however, occur, even though an average daily dose of 2.8 gr. (182 mg.) was reached during the eleventh and twelfth months; it was at this stage decided to make no further increase. At 15 months radiographs of the wrist (Fig. 3) showed that ossification, which had initially been retarded, was now very advanced. Six carpal centres were present as well as those for the lower end of the radius and the head of the fifth metacarpal. According to the standards described by Todd (1937), ossification had therefore advanced to a degree expected in a female child of 4 years 3 months. The patient's length, which was 22½ in. (57.2 cm.) at 18 weeks of age, was now 31 in. (78.7 cm.) and her weight was 23½ lb. (10.7 kg.).

FIG. 3.—Radiograph of wrist at 15 months.

From 15 months of age the thyroid dose was substantially reduced, but her bone age at 3 years was still advanced, being equivalent to that of a child of 5 years 9 months (Todd, 1937). Her height was 39¼ in. (99 cm.). A satisfactory aspect of the case was that the child's mental development seemed to be within normal limits and she was also tall, but a future possibility which must be considered is that of premature union of the epiphyses with the diaphyses of the growing bones.

ADDENDUM.—Since the submission of this report for publication attention has also been drawn by Drs. B. Schlesinger and O. D. Fisher (*Lancet*, 1951, 2, 289) to the acceleration of ossification that may follow high thyroid dosage in cretinism.

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REFERENCES

Todd, T. W. (1937). *Atlas of Skeletal Maturation*. Mosby Company, St. Louis.

Warkany, J. (1950). "Congenital Hypothyroidism." In Mitchell-Nelson's *Textbook of Paediatrics*, p. 1383. Philadelphia.

Bacterial Endocarditis Caused by Coagulase-Negative Staph. Albus

Matthew (1951) reports two fatal cases of bacterial endocarditis in which the infecting organism was a coagulase-negative *Staphylococcus albus* and comments on the rarity of this organism as a cause. A similar case is here presented with brief clinical details; recovery took place after treatment with penicillin and streptomycin.

Case Report

A man aged 72 was admitted to hospital on August 18, 1950. He gave no past history of acute rheumatism, but had had an attack of mild congestive failure after unwonted exertion two years before; at this time an apical systolic murmur was heard and an *x*-ray film showed cardiac enlargement; recovery was rapid and no further symptoms occurred.

The present illness started four weeks before admission, with fever up to 101° F. (38.3° C.), general malaise, headache, night sweats, and shooting pains in the hands and legs; the serum twice showed no agglutination with enteric, salmonella, or brucella organisms. The patient gave no history of furunculosis, but his wife had a whitlow during the month preceding his illness.

On examination general appearances were normal except for some pallor of mucous membranes. His temperature was 99.4° F. (37.4° C.), pulse rate 100, and respirations 22. Clinical enlargement of the heart was noted, a systolic murmur was heard over most of the praecordium, and a soft diastolic murmur, which became much louder in the course of a week, down the left side of the sternum. The spleen was just palpable. No finger-clubbing or peripheral embolic phenomena were found, though a week after admission a small subconjunctival petechial haemorrhage was noted. His blood pressure was 150/80; E.S.R. (corrected), 18 mm. in one hour; R.B.C., 4,400,000; Hb, 74%; W.B.C., 9,400 (neutrophils 85%); and urine deposit showed occasional red cells. Blood culture gave a haemolytic coagulase-negative *Staph. albus*; this was repeated with a similar result. The organism was insensitive to "sulphatriad," moderately sensitive to "aureomycin," chloramphenicol, and streptomycin, and sensitive to 6 units of penicillin in 1 ml. but insensitive to 3 units in 1 ml.

On August 23 penicillin, 1,000,000 units, soon increased to 2,000,000 and then to 4,000,000 units daily, was started. Three days later the patient complained of pain of indefinite type in his chest, but this quickly subsided and no evidence of pericarditis was found at any time. On September 3, as the temperature was still rising on most evenings to 100° F. (37.8° C.) or higher, streptomycin, 2 g. daily, was given in addition. Blood culture a week later was sterile, the spleen was no longer palpable, and the temperature gradually became and remained normal. A further blood culture was sterile, no R.B.C. were found in the urine, and Hb was 90%. Penicillin was discontinued on September 22 and streptomycin on October 13, and the patient returned home for further rest and convalescence.

It was soon necessary to readmit him for 14 days on account of acute dermatitis, which was thought to be possibly due to streptomycin and which responded to antihistamine drugs and local treatment. On returning home a second time he unluckily developed a small pulmonary embolus, but soon recovered. At the time of writing he is free of symptoms and leading a relatively active life.

I wish to thank Dr. Goodman Platts and Dr. Olive Cameron for pathological work and Dr. E. S. Vergette for clinical notes.

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REFERENCE

Matthew, H. (1951). *Lancet*, 1, 146.

Reviews

TO LOVE AND TO CHERISH

Patterns of Marriage. A Study of Marriage Relationships in the Urban Working Classes. By Eliot Slater, M.A., M.D., F.R.C.P., and Moya Woodside. (Pp. 311. 17s. 6d.) London: Cassell and Co. 1951.

This book tells how in 1943 Dr. Slater and Mrs. Woodside began collecting information about marriage. They took a sample of 100 neurotic soldiers and 100 physically ill soldiers (whether because of infection or injury at the front or from quiet areas) and interviewed them and their wives, seeking a full history and inquiring particularly into their marriage relationships. No unwilling informants were included. Most of the persons were from the manual-worker class, only 12 had matriculated, and fewer than 50 had been educated after the age of 14.

This must be one of the first works about marriage in this level of society. Its revelation of the drabness of pre-war working-class life and monotony at home, or toleration of disorder and despair, makes it a social document of importance. Astonishing numbers of people drift into acquaintanceship and after two years marry. But they seem to get married *for* something—a home—rather than *to* someone—their partner. One-fifth had married before the age of 21, three-quarters before 26. But, with marriage, culture ceased; women became tied to their homes in a way many are likely to refuse in future; religion interested few; politics reflected more often an emotional attitude to life than a considered outlook.

It is impossible to summarize the mass of statistically verified information we are given. For psychiatrists the book must be a tonic. Many opinions gained in the out-patient department or consulting-room are exploded. In theory, extramarital attachments were condemned by the subjects; practice proved somewhat different though not as different as might have been guessed. Less than 1 in 10 of the women had contracted forced marriages, a view suggesting some difference from that of the Registrar-General's report for 1937–8. Not 1 out of 100 neurotic men admitted impotence, but 1 out of 200 husbands admitted being henpecked. Past operations, especially gynaecological ones, impair orgasm in women. Mrs. Grundy is still rampant. Neither family doctors, health visitors, nor gynaecologists take adequate initiative to explain contraceptive techniques. Some of the happiest marriages were childless; no correlation was found between happiness and fertility. The authors are not pessimistic about the future. Despite overcrowding, conditions are improving, and higher standards of teaching may be expected to alter matters gradually. Further, despite tragic marriages, there are many surprising cases showing how difficulties have been surmounted or the expected separation did not occur.

It would be well to remember that the authors do not claim that their sampling was perfect. Factors such as prolonged absence from home, wartime work for women, and the roseate hues in which the dreary past were recalled make some of the information less reliable than the authors, or we, should like. But all social agencies will be grateful for this stimulating information, which we suspect Dr. Slater and Mrs. Woodside themselves hope will be questioned, criticized, and reflected upon to the encouragement of progressive social planning.

HENRY WILSON.

ARTIFICIAL IMMUNIZATION

Bacterial and Virus Diseases. Antisera, Toxoids, Vaccines, and Tuberculins in Prophylaxis and Treatment. By H. J. Parish, M.D., F.R.C.P.Ed., D.P.H. 2nd ed. (Pp. 204; illustrated. 10s. 6d.) Edinburgh: E. and S. Livingstone. 1951.

It is a mistake to suppose that chemotherapy has materially affected the usefulness of artificial immunization. The sulphonamides and antibiotics are mercifully most effective in just those conditions—pyogenic coccal infections, cerebrospinal fever, gonorrhoea, and anthrax—in which for one reason or another serum or other such treatment was least certain in its effects. The pre-eminence of immunization, both active and passive, in the treatment of diphtheria and tetanus remains unimpaired. The prophylactic value of vaccines is not diminished: indeed, the past few years have seen considerable advances in their application to whooping-cough, tuberculosis, and virus diseases. For those intending to make the best possible use of all such procedures in prevention and treatment and in the diagnosis of the immune state of the individual this book is an admirable guide. Although presenting theory adequately and clearly, it is essentially practical, since the author gives full instructions for carrying out every kind of injection or inoculation, defines the indications for them, and discusses such risks as may be involved and the precautions to be taken against them. He shows a nice discrimination in ignoring certain vaccines for whose use there is no favourable evidence, and in crediting to chemotherapy the major share in treating some of the infections for which antibacterial sera are also available.

L. P. GARROD.

THE CHORDATES

The Chordates. By Herbert W. Rand, Ph.D. (Pp. 862; 609 illustrations. £2 5s.) London: H. K. Lewis. 1950.

Not least of the features which raise Professor Rand's work above the general run of textbooks of vertebrate comparative anatomy is the fact that he can write really well. He recalls in his preface the days when students were few and had ample time to read, and, less nostalgically, the later expansion of university biology in America. "An earlier sense of freedom and leisure to work thoughtfully was insidiously superseded by a sense of crowding, pressure, and haste. . . . It was evident that the student of the later years was not reading much and could not be expected to." So he wrote the present book, to combine with an adequate factual content some discussion of the wider human significance of the subject.

In the first part he discusses the basic structure of vertebrates, in the second part the history and principles of comparative anatomy, and in the third the chordates, group by group. All of his well-chosen material is concisely, lucidly, and interestingly presented, and the text is accompanied by a wealth of good illustrations, including a photograph, which his students will treasure, of the author embroiled with a couple of chimpanzees.

Finally, in an epilogue entitled "What Comes of Studying Vertebrates," Professor Rand lets himself go. "The present classification of man as a primate mammalian chordate is based entirely on his bodily structure.

The ideal of modern classification is that it should express genetic relationship and that it should be so devised as to indicate the points where major and crucial evolutionary steps have been taken—i.e., the initiation of important new lines of specialization. The primates took such a step. Their shaping of the environment to their own uses is perhaps the most radical step in the whole course of evolution. . . . The time will come, and perhaps now is, when men should be assigned to an additional Class of vertebrates." And so he anticipates the erection of a new Class VII, Anthropoidea. The lemurs and tarsiers would remain among the mammals as an Order closely allied to the insectivores. The remaining primates would constitute the new Class, which would necessarily be subdivided into two subclasses. The first, including the monkeys and great apes, "could be called PROTOANTHROPOIDEA—a group analogous to SUBCLASS PROTOTHERIA of Mammalia." The second is to contain the present family Hominidae. "In some far-distant future, when man's social wisdom shall have so far caught up with his inventive intelligence as to justify the name for him, this SUBCLASS might be designated as SAPIENTIA."

G. P. WELLS.

BLOOD COAGULATION

Die Blutgerinnung in Theorie und Praxis. By Dr. Josef Schmid. Wiener Beiträge zur Inneren Medizin, Volume 4. (Pp. 444; 135 figures. M. 50.) Vienna: Verlag Wilhelm Maudrich. 1951.

The coagulation of the blood has become a matter of bewildering complexity. The simple equations formerly held to explain the process are now outmoded and new factors are constantly being discovered or, more precisely, their existence is constantly being inferred. If further evidence of this state of affairs were needed, it can be found in this book, in which the situation as it stood at the close of 1950 is adequately reviewed.

The author has forsaken the conventional arrangement of similar monographs, in which the physiology and biochemistry of the clotting process is first reviewed and is followed by a description of the clinical states which arise from its disturbance. After a brief historical review he devotes sections to the thrombokinases, prothrombokinase, and antithrombokinase, turning aside then to consider haemophilia, haemorrhagic states due to circulating anticoagulants, and thrombocytopenia. Then follow chapters on prothrombin, antiprothrombin, and vitamin K, succeeded by sections on hypothrombinaemia and the thromboses. He concludes with discussions of the prothrombin activators, fibrinogen, thrombin, thrombin inhibitor, clot retraction, and fibrinolysis.

The individual sections are full and up-to-date, but the arrangement is not entirely logical and robs the book of cohesion. There are detailed descriptions of technical methods which will be useful to the laboratory worker, but the clinician will need to seek enlightenment elsewhere. The book has the hallmarks of a painstaking compilation of other workers' observations and opinions, unleavened by critical selection. The reader who is not a professional "coagulationist" will regret the author's omission of a chapter in which the actual mechanism of clotting is described and the interrelationship of the many factors set out. His presentation conceals the unity of the process and tends to perpetuate the view that it consists of a number of asynchronous and almost unconnected reactions.

R. BODLEY SCOTT.

BOOKS RECEIVED

Review is not precluded by notice here of books recently received

Diabetes Mellitus. By G. G. Duncan, M.D. (Pp. 289. 29s.) London: W. B. Saunders. 1951.

Transactions of the American Ophthalmological Society. 86th Annual Meeting, 1950. (Pp. 702. 97s. 6d.) London: Geoffrey Cumberlege. 1951.

Ocular Toxoplasmosis. By M. J. Hogan. (Pp. 86. 18s.) London: Geoffrey Cumberlege. 1951. (Available free of charge with the *Transactions of the American Ophthalmological Society* as above.)

Clinical Heart Disease. By S. A. Levine, M.D., F.A.C.P. 4th ed. (Pp. 556. 40s.) London: W. B. Saunders. 1951.

Principles and Practice of Obstetrics. By J. P. Greenhill, M.D. 10th ed. (Pp. 1,020. 60s.) London: W. B. Saunders. 1951.

The Glands Inside Us. By J. Ebling. (Pp. 94. 1s.) Thrift Books, No. 10. London: C. A. Watts. 1951.

Browsing Among Words of Science. By T. H. Savory, M.A., F.Z.S. (Pp. 94. 1s.) Thrift Books, No. 12. London: C. A. Watts. 1951.

The Juvenile Court, Today and Tomorrow. By J. Watson. (Pp. 40. 1s. 6d.) London: Clarke Hall Fellowship. 1951.

Directory and Handbook of the Scientific Instrument Manufacturers Association. (Pp. 251. Gratis.) London: Scientific Instrument Manufacturers Association. 1951.

New Biology. Edited by M. L. Johnson and M. Abercrombie. (Pp. 123. 2s.) Harmondsworth: Penguin Books. 1951.

Human Fertility: The Modern Dilemma. By R. C. Cook. (Pp. 351. 21s.) London: Victor Gollancz. 1951.

Low-Sodium Diet. By T. B. Rice, A.M., M.D. (Pp. 103. 19s. 6d.) London: Henry Kimpton. 1951.

The Medical Clinics of North America. Boston Number: Symposium on Specific Methods of Treatment. Edited by C. S. Keefer, M.D. (Pp. 347. No price.) London: W. B. Saunders. 1951.

Embryology of the Pig. By B. M. Patten. 3rd ed. (Pp. 352. 35s.) London: George Allen and Unwin. 1951.

Relief of Pain in Childbirth. By W. C. W. Nixon, M.D., F.R.C.S., F.R.C.O.G., and S. G. Ransom, M.R.C.S., L.R.C.P., D.A. (Pp. 109. 7s. 6d.) London: Cassell. 1951.

Ethylene and Propylene Glycols. By J. Rae, M.P.S. (Pp. 30. 2s. 6d.) London: The Pharmaceutical Press. 1951.

The Psychology of C. G. Jung. By Dr. J. Jacobi. (Pp. 204. 12s. 6d.) London: Routledge and Kegan Paul. 1951.

Genetic Neurology. Edited by P. Weiss. (Pp. 239. 37s. 6d.) London: Cambridge University Press. 1950.

Clinical Practice in Infectious Diseases. By E. H. R. Harries, M.D., F.R.C.P., and M. Mitman, M.D., F.R.C.P. 4th ed. (Pp. 717. 30s.) Edinburgh: E. and S. Livingstone. 1951.

Muir's Text-Book of Pathology. Revised by D. F. Cappell, M.D., F.R.F.P.S.G. 6th ed. (Pp. 1,090. 50s.) London: Edward Arnold. 1951.

Chest X-Ray Diagnosis. By M. Ritvo, M.D. (Pp. 558. 105s.) London: Henry Kimpton. 1951.

Proceedings of the First Conference on Electrokymography. Edited by B. R. Boone, M.D., and others. (Pp. 215. 75 cents.) Washington: U.S. Government Printing Office. 1951.

Technical Methods for the Technician. By A. L. Brown, B.A., M.D. 4th ed. (Pp. 784. $10.) Columbus, Ohio: A. L. Brown, Inc., 41, S. Grant Avenue. 1951.

Los Problemas Médicos en accidentes del Trabajo. By Dr. A. M. Barbero. (Pp. 236. No price.) Barcelona: Byp. 1951.

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VASCULAR SPASM

Knowledge of the peripheral circulation has been acquired slowly, and, despite a great volume of original work, facts of fundamental importance still elude discovery. From the time of William Harvey up to roughly the end of the nineteenth century the main interest of the circulatory physiologist was in the heart and great vessels. Only in the last thirty years or so has the work of Ebbecke, Krogh, Lewis, Gollwitzer-Meier, and a host of others directed attention to the more minute vessels. A variety of techniques have been used in the investigation of the circulation, and some of the more recently developed methods—notably the use of radiography of the larger vessels by Trueta and his associates[1] and, in the case of the minute vessels, the delicate micromanipulative techniques of Zweifach[2]—have given us a much more dynamic and detailed picture of the peripheral vascular tree. At the same time work with the radioactive isotopes has greatly expanded the scope of research, so that the complicated and continuously changing pattern of the circulation is now better understood.

At the risk of being dogmatic it may be said that, from the functional point of view, the peripheral circulation can be considered in three parts : first, the proximal vessels, changes in the calibre of which are chiefly passive in nature; secondly, the smaller arteries, veins, arterioles, and venules, which respond to both nervous and chemical stimuli; and, thirdly, the more minute vessels (capillaries, pre-capillaries, and metarterioles), which are subject to periodic changes in calibre, a phasic activity which has been termed "vasomotion." These last vessels, besides responding to the better-known nervous and chemical stimuli, are also influenced by enzymes such as renin, and the more recently described vasotropic factors V.E.M. (vaso-excitor material) and V.D.M. (vaso-depressor material). The clinician may find himself in danger of being overwhelmed by the many and varied additions to knowledge and sometimes be tempted to give too glib an explanation of certain manifestations of organic vascular disease. How often, for example, does he invoke "spasm" as an explanation of the otherwise inexplicable? Spasm has, in fact, become a medical *cliché*. Pickering[3] has recently referred to some common misconceptions about spasm in arterial disease and has emphasized how closely organic arterial occlusion can mimic vascular spasm. Similar misconceptions probably exist about the venous circulation, for Ochsner and de Bakey[4] have referred to the importance of spasm in venous thrombosis; yet it is very doubtful whether spasm plays any part in the majority of cases.

With so much interest in the minutiae of the circulation it is easy to assume that knowledge of the large vessels is fairly complete. That this is not so is shown in the opening pages of this issue by Mr. J. B. Kinmonth, who reports the results of some fundamental research into the behaviour of large arteries. It will be recalled that Trueta and his co-workers,[1] when investigating the crush syndrome, applied a tourniquet to the thighs of rabbits and observed, by a radiographic technique, contraction of the arteries in the contralateral limb—a finding which they attributed to reflex arterial spasm. The object of Mr. Kinmonth's investigation was to determine the cause and cure of spasm in the large arteries. By directly observing the femoral arteries in experimental animals whose blood pressure was recorded continuously, he has shown that the large arteries behave in a much more passive fashion than is commonly supposed. The changes in arterial calibre seen in Trueta's experiments are now known to be directly related to falling systemic blood pressure and not to reflex arterial spasm. It has further been demonstrated that neither faradic stimulation of the large arteries and lumbar sympathetic chain nor the intravenous injection of adrenaline has any direct effect on the diameter of the large arteries, although these stimuli can cause profound changes in the more peripheral vessels.

Many of these experimental findings in the rabbit have been confirmed in man, and Kinmonth has found that spasm of the proximal arteries can be induced only by direct trauma, the irritability of the vessels varying at different times and in different subjects. The upper part of the femoral artery has no vasoconstrictor nerves, and the exact level at which this nerve supply begins has not been determined. Wilde,[5] however, has shown by microdissection that the nerves to the upper femoral artery are purely sensory in character, and that vasoconstrictor fibres are distributed only to the more distal vessels and muscular tributaries. From the practical point of

1 *Studies of the Renal Circulation*, 1947, Oxford.
2 *Circulation*, 1950, 1, 433.
3 *Lancet*, 1951, 2, 845.
4 *J. Amer. med. Ass.*, 1940, 114, 117.
5 *Brit. J. Surg.*, 1951, 39, 97.

view this means that sympathetic nerve fibres are responsible for neither the initiation nor the maintenance of spasm in large arteries. This must necessarily influence treatment of the spasm which is sometimes seen in association with supracondylar fracture of the humerus and other types of direct arterial injury. Paravertebral block, peri-arterial stripping, and arteriectomy clearly have no place in treatment and are absolutely contraindicated. Early exploration and decompression of the affected artery is imperative, and Kinmonth has found that the local application of 2.5% papaverine sulphate solution is most effective in relaxing spasm. Locally applied procaine, caffeine, and warm saline packs are much less effective and less reliable, while the intravenous injection of papaverine sulphate is as ineffective in the human being as it is in the rabbit.

SHORTAGE OF X-RAY FILMS

The Ministry of Health stated recently: "There is a serious world shortage of *x*-ray films due to increasing usage in all countries. In this country usage during the first six months of 1951 was 16% greater than in the corresponding period of 1950 and was at a rate about 60% greater than in 1947."[1] Since the spring of 1951 this shortage of films, and the position of all those who use them, has been deplorable. An agreement between the manufacturers has just been reached by which an allocation is to be made to hospitals according to previous consumption. A radiologist in private practice will receive a percentage of his "usage" which will leave him with time to devote to his hobbies. Clearly an *x*-ray department would have difficulty in maintaining an efficient service on approximately 40% of its film supply, and the cuts at some hospitals may approach this.

The manufacturers say that the various theories which have been advanced to account for the failure to supply films are untrue. It is denied that there has been any faulty distribution, shortage of raw materials, or stock piling, and that closing the factories for a fortnight in the summer or an increased export accounts for the position. The official figures for exported film which has passed through the customs during the eleven months January–November in each year are 7,591,000 sq. ft. (1949); 8,632,000 sq. ft. (1950), and 13,997,000 sq. ft. (1951). An average large teaching hospital uses about 130,000 sq. ft. of film in a year. The film exported in June, 1951, alone was 3,746,000 sq. ft. and would have met the needs of 28 teaching hospitals for a year. The manufacturers and the Ministry imply that the root cause is "increasing usage," and the ministerial letter continues with advice on economy. This advice strikes a nice balance between needs and risks.

A praiseworthy act of the Ministry in the early days of the National Health Service was to develop the *x*-ray services and to install much new plant. In the last two years there have been established or added 560 major units in various clinics. These centres do not work with mass miniature apparatus but use the standard large film.

The committee of every hospital in the country has probably discussed the expense of its *x*-ray department and methods of reducing it. In the summer of 1951 an earnest attempt was made by most hospitals to economize. The long examinations for the kidney, gall-bladder, and intestinal tract were curtailed, with a decrease in efficiency and with little saving in annual expenditure because the number of patients was rising. Within recent years many radiographic techniques have changed and new methods have been evolved, particularly for the skull, chest, and vascular system. None saves films, except mass miniature radiography. Tomography is a most expensive addition. In the absence of expert supervision a physician may be presented with six or more large tomograms which may fail to delineate the lesion either because the "cut" is at the wrong level or the radiographer has made an error in exposure. In addition the usefulness of the tomogram is not understood by many clinicians, and the examination is often requested for lesions which an experienced radiologist would know to be unsuitable.

The consumption of *x*-ray films in hospitals and clinics is difficult to limit, particularly in large departments which strive for a high standard. Wastage occurs each winter by a variation in power at peak hours which disorganizes the exposure charts of every radiographer. Films are wasted by the duplication of examinations in out-patients and wards, by requesting films of both knees when one is affected, by ordering postero-anterior and lateral films of the chest before the former film has been inspected. These are obvious but common mistakes. Equally appreciated is the zealous houseman who tries to anticipate every wish of his consultant. The arrival of a new batch of medical officers is reflected in an increase in the work of auxiliary departments, but this increase is temporary.

The staggering demand made on manufacturers of film has increased progressively in the last few years in spite of instructions to the junior medical staff and restrictions on their privilege. Fortunately the graph of consumption shows some sign of check in its rapid ascent. It is safe to say that further economy in *x*-ray departments will be very difficult to obtain,

1 *British Medical Journal Supplement*, 1951, 2, 255.

because so much effort has already been made and because demands on these departments will not be less. A great saving in film, measured by the thousand square feet, could be made by wider use of miniature film, particularly in chest clinics. The experts at the Ministry are aware of this fact and have been engaged during the last six months testing various types of apparatus and films.

Apart from radiology, photographic film serves many functions—in industry, entertainment, and pleasant recreation. It would not be difficult in a welfare state to place these items in an order of importance and priority. This has not been done. Hope for the future rests on an increased production, which is promised in the summer, but this expectation is denied by a shortage of silver, which is also promised.

The components of *x*-ray film are imported from hard currency countries, and one explanation for the position is that it is necessary to maintain and even increase the export of films as part of the general effort to survive beyond the present period of financial difficulty. If this is the position a statement of the facts as they refer to *x*-ray films would be timely and well received. It would procure greater and more enduring economy in hospitals than any other method. As one radiologist has said, "Should we have food for the fit or films for the failing?" It is a difficult question to answer.

TESTS OF RESPIRATORY FUNCTION

Those who study the more chronic diseases of the lungs have for long felt the need for a measure of respiratory function. Skiagrams give little indication of the degrees of disability. Thus in welder's siderosis the radiological changes are gross and the disability is slight, while the reverse holds for asbestosis. Similarly byssinosis causes extreme shortness of breath and early death without giving rise to any shadows on the *x*-ray film which could be regarded as specific. If some satisfactory method of studying the efficiency of respiration could be devised it might prove useful in indicating that damage was being done to the lungs of workers exposed to dangerous dusts before radiological evidence was forthcoming. Unfortunately, no test has so far proved ideal, partly because they are nearly all under voluntary control and thus dependent on the co-operation of the patient. The degree of this co-operation can never be estimated accurately, as has been shown by D'Silva and Mendel,[1] who compared results obtained in a student group giving full co-operation with those obtained in a similar control group of hospital patients not suffering from lung diseases. The difficulty applies particularly to the simple tests, such as chest measurement, exercise tolerance, and vital capacity, which up to the present have been most used. As a result many new methods have been developed. The maximum breathing capacity, a test introduced by Hermannsen[2] in 1933 and developed in recent years by Couma,[3] Wright,[4] and Gilson and Hugh-Jones,[5] is estimated by getting the patient to breathe as deeply and fast as he can while the volume of air moved per minute is measured. This test has not proved very satisfactory, since it is still under voluntary control, and D'Silva and Mendel have shown that an apparatus error, inherent in all spirometers, and which cannot easily be allowed for, becomes important at high respiratory rates. Donald[6] found that patients with emphysema showed an impaired reaction to the inhalation of 4% carbon dioxide, and he therefore investigated the effect of this on 56 coal-miners with pneumoconiosis, in the hope that this test would throw some light on their disability. The results, however, were disappointing, for five subjects who had severe dyspnoea on the slightest exertion, as well as massive shadows on their *x*-ray films, reacted normally to carbon dioxide. In fact impaired reactions were found only in those who had considerable emphysema.

Motley, Lang, and Gordon[7] carried out measurements on 100 miners with pulmonary symptoms and a long history of exposure to coal dust. They found that the residual air expressed as a percentage of the total lung volume was not significantly increased in a third of the cases. They suggest that the disability arises from fibrosis and the unequal alveolar aeration and perfusion, with consequent decrease in the amount of oxygen in the arterial blood. It is of course evident that the function of the lung is to oxygenate the blood, and that the amount of oxygen in the arterial blood can be a valuable guide to the efficiency of lung function. The range of reading between saturation and unsaturation is, however, very narrow, but this can be widened if the oxygen tension is altered. Motley and his colleagues found that a decrease in the saturation of oxygen in arterial blood after exercise was a significant finding in the assessment of disability. The resting arterial oxygen saturation alone was poorly correlated with impairment of pulmonary function, since the measurements of the exchange of respiratory gases might be normal at rest although grossly abnormal during exercise. In another review of the subject Motley[8] suggested that the physiological tests of pulmonary function might be divided into five groups: those that measure lung and ventilation volume, such as vital capacity, maximum breathing capacity, and minute ventilation rate, at rest and during exercise; the residual air expressed quantitatively as a percentage of total lung volume; arterial blood oxygen saturation, at rest and during exercise; the oxygen uptake from inspired air; and increased pulmonary arterial pressure and pulmonary vascular resistance during exercise.

Elsewhere in this issue (p. 65) Dr. P. Hugh-Jones reports a further attempt to devise a simple scientific measure

1 *Thorax*, 1950, 5, 325.
2 *Z. ges. exp. Med.*, 1933, 90, 130.
3 *Medicine, Baltimore*, 1948, 27, 243.
4 *J. thorac. Surg.*, 1949, 18, 372.
5 *Clin. Sci.*, 1949, 7, 364.
6 Ibid., 1949, 8, 45.
7 *Amer. Rev. Tuberc.*, 1950, 61, 201.
8 *Penn. med. J.*, 1950, 53, 119.

of exercise tolerance. He has taken the commonly used stepping test, but instead of bothering with pulse rates and respiratory rates or subjective estimates of breathlessness he measures with the aid of an old gas-meter the air volume breathed per minute by the patient during exercise. The exercise is standardized so that it is the same for each patient regardless of his weight, and this is achieved by adjusting the height of the step and the rate of stepping, while the amount of work done in the five-minute test period is not enough to prove distressing.

This test is simple to carry out, requires only such apparatus as an ordinary consulting-room might have, and bears some relation to the activity of daily life. Hyperventilation through nervousness does not produce error owing to the way in which resting ventilation and exercise ventilation are combined in the final results. While the test may be used by itself in following, for instance, the treatment of heart failure, it still has to be combined with other investigations in studying industrial lung disease to separate out the fraction of exertion dyspnoea which is purely pulmonary in origin.

ACUTE INFECTIOUS LYMPHOCYTOSIS

An infectious disease in which recognizable illness is slight or absent and in which almost the only sign may be an excess of lymphocytes in the peripheral blood is not easily diagnosed. It is not surprising, therefore, that since Smith[1] first drew attention to acute infectious lymphocytosis as a clinical entity in 1941 little new knowledge has been added to the subject. Many of the reports have described small institutional outbreaks, and it has been the almost accidental finding of a high lymphocytosis on routine blood examination that has unmasked the "epidemic." The group of six cases reported in this week's issue by Dr. H. G. Dunn belongs to such a category, for all were associated with a nursery in the East End of London, and in four of them there was little reason to suspect a systemic illness. The contrast between infectious lymphocytosis and classical infectious mononucleosis is thus fairly clear-cut. In the latter condition some form of clinical illness is usual —although the signs may be diverse—the lymphocytes are atypical and immature, and heterophile antibody can be found in the blood serum. In acute infectious lymphocytosis, on the other hand, there may be few clinical signs or symptoms, although some cases have been described with gastro-intestinal upset or, as in Smith's early cases, with a mild infection of the upper respiratory tract. The leucocytosis, however, may be out of all proportion to the illness, and, as can be seen in two of Dunn's cases, counts of 70,000 or 80,000 are quite common. Further, unlike infectious mononucleosis, the cells are normal small mature lymphocytes. On these grounds, therefore, the two conditions can be distinguished with reasonable certainty, despite the undoubted fact that all cases of infectious mononucleosis do not strictly conform to the canonical description.

Having said this, however, one must equally firmly assert that the presence of a lymphocytosis should not be regarded as necessarily implying the diagnosis of acute infectious lymphocytosis. Similar cell counts are seen in many other conditions. Pertussis is the most common, and it would be interesting to know whether the usual lymphocytic response is associated with the mild infection caused by *H. parapertussis* or, in the vaccinated child, by *H. pertussis*—illnesses which do not necessarily declare themselves with the characteristic whoop. Mumps, infectious hepatitis, certain stages in the recovery from acute infections, and sensitization itself—all these may induce a lymphocytosis, though, it is true, not usually of the magnitude seen in the infectious variety. It is worth pointing out that, although this condition was first seen only in young children, isolated examples in adults have now been recorded.[2 3] A feature of the adult cases has been that the total white-cell counts have been much lower than those seen in children. The type of cell thus becomes of some importance in distinguishing the condition from infectious mononucleosis.

Five of Dunn's group of cases were associated with *Giardia lamblia* infestation, but it seems unlikely that this could explain such a high lymphocytosis. While Ormiston and his colleagues[4] drew attention to a mild eosinophilia in some of their cases of giardiasis, they made no comment upon lymphocytosis, which could hardly have escaped notice if it had been present. Even so, the observation may be of importance in view of the complete uncertainty about the cause of the condition.

There is always the danger that ignorance may be masked by attaching a convenient diagnostic label to a condition about which there is much uncertainty. It is quite conceivable that acute infectious lymphocytosis should be regarded more as the reaction of the host to a variety of agents than as a specific entity: such a view takes into account the need to consider other manifestations of infection in any epidemiological study. Dunn's investigation raises the possibility that a closer observation of minor bowel upsets in children in institutions and day nurseries might be rewarding.

1 *Amer. J. Dis. Child.*, 1941, **62**, 231.
2 Duncan, P. A., *New Engl. J. Med.*, 1945, **233**, 177.
3 Malamos, B., and Stamatelakis, A., *Lancet*, 1951, **1**, 148.
4 Ormiston, G., Taylor, J., and Wilson, G. S., *British Medical Journal*, 1942, **2**, 151.

EXPERIMENT IN HAITI

Haiti, in the West Indies, the earliest state to be governed constitutionally by negroes, has been the field of a pilot project for reducing illiteracy and encouraging hygiene and social welfare.[1] The project, sponsored by Unesco and the Haitian Government, with the co-operation of the World Health Organization, was started two years ago in the rural area of Marbial, with a population of about 28,000. In this valley all the problems of overpopulation, land hunger, soil erosion, poverty, and declining agriculture were encountered. An anthropo-

1 *The Haiti Pilot Project. Phase One, 1947–49.* Unesco Monographs on Fundamental Education, 1951, Paris. Obtainable from H.M.S.O., London. Price, 2s.

logical survey was first undertaken, and a start was made with an educational programme to bring to the people elementary knowledge and simple skills. During the period of survey famine conditions followed an 11-months' drought, and some adults and children died of starvation; but even in normal years it is said that few of the peasants grow enough to feed their families from one harvest to the next, and they never have enough money to purchase adequate food in the interval. Except in relatively well-to-do families, meat is eaten perhaps only once a month, and fats of any sort are scarce. One of the tasks of the campaign was to teach the peasants to vary their diet, and not to despise such useful foods as grapefruit.

Illness in such a community is, of course, a catastrophe, and there is almost no medical assistance. A private doctor has gone twice a week to Marbial from the near-by town of Jacmel, but few could afford to pay his nominal fee or buy the medicines he prescribed. Malaria is endemic; many of the people suffer from yaws, and hookworm and tropical ulcers are common. There are herb doctors whose treatments are a mixture of common sense and magic and who are fairly skilful in childbirth, massage, and the setting of broken bones; their fees are modest and their intentions at least are good. Those undertaking the survey found a certain open-mindedness on health education. While the peasants often assign supernatural causes to illness and may resort to magic and charms in their search for cures, they do not hesitate to go to a qualified doctor when they can. They accept instruction on bodily and household cleanliness, perhaps out of a concern for prestige rather than for hygiene, but prestige may be a useful motive to play upon.

The early activities of the project have been in the fields of education, agriculture, and development of crafts and rural industries. The plan also provides for the setting up of a clinic and maternity centre, not only to meet the needs of the community for medical services, but to train teachers and workers in health education. The clinic is to be closely associated with the hospital at Jacmel. When a small clinic was opened in September, 1948, it proved almost too successful, for the doctor who came from Jacmel was quite unable to treat all the patients who flocked to him. In virgin areas such as this the approach to preventive medicine must be through curative medicine, which has much more appeal. No large-scale campaign of preventive medicine or sanitary engineering has been started, but energies so far have been directed towards obtaining the active co-operation of the people, so that they themselves can be enlisted in the effort to raise the social level of their community.

BEGINNING TO BREATHE

Recent correspondence in the *Journal*[1 2] has raised once more the question of the limits to our knowledge of the physiology of the newborn infant. From time to time we are all guilty of extrapolating back into neonatal life from the established physiological facts of adult life. We continue to do this in spite of a growing and impressive body of knowledge which shows the infant to have marked functional differences from the adult. We should no more argue from the adult to the baby than we should from the cat to the whale; particular physiological reactions must be tested in the baby itself. Knowledge of the respiration of the newborn infant is a case in point. In spite of many observations and experiments, it is still true to say that the beginning of extrauterine respiration is not fully understood. Huggett[3] in 1927 introduced to this country the technique of caesarean delivery of the foetus into a saline bath with the placental circulation intact. This gives an excellent experimental preparation, and he himself made observations of the foetal respiratory reflexes[4] and was most impressed with the part which joint movements played in stimulating respiratory activity. This work was continued by Sir Joseph Barcroft,[5] and he has left a widely quoted summary of his findings. Nevertheless, it is generally felt by obstetricians and physiologists that the last word has not been said on the subject.

Turning now to the newborn child, we are faced with respiratory behaviour that differs greatly from that of the adult. Gibberd[6] has stressed the part played by extraneous nervous stimuli play in regulating the minute volume of the newborn. However, when the infant sleeps quietly it must surely be dependent for respiratory control upon its visceral reflexes and gaseous equilibrium. Direct observation shows that periodic breathing is common in the healthy full-term infant, and almost universal in the otherwise normal premature infant. In adult life this type of breathing has a serious prognostic significance, or else may be associated with induced hypoxia, as has been so beautifully demonstrated by Haldane.[7] It is no longer thought that the normal infant breathing air is suffering from hypoxia,[8] so that the mechanisms which have been analysed by Haldane are not directly applicable to the baby.

It is only since the introduction of the body plethysmograph[9] that the response of the infant to artificial gas mixtures has begun to be studied in a quantitative manner. Since its introduction the instrument has been modified[10] and it is now possible to have infants sleeping normally in it for long periods. A recent accurate assessment by Cross and Warner[11] of infantile responses to high and low oxygen mixtures suggested the probability that the carotid-body reflex was more active in the newborn infant, and a later incomplete report[12] seems to show even greater activity of the peripheral chemoreceptors in the premature infant. In spite of this active reflex, it appears that no newborn baby has a good defence against prolonged hypoxia, as the medulla seems to become depressed in these circum-

1 Watson, G. I., *British Medical Journal*, 1951, 2, 417.
2 Bowes, K., ibid., 1951, 2, 546.
3 *J. Physiol., Lond.*, 1927, 62, 373.
4 Ibid., 1930, 69, 144.
5 *Researches on Prenatal Life*, 1946, ch. 22. Blackwell: Oxford.
6 *A Short Textbook of Midwifery*, 1951, 5th ed., ch. 29. J. Churchill: London.
7 *Respiration*, 1935, 2nd ed., p. 68. Clarendon Press: Oxford.
8 Graham, B. D., Reardon, H. S., Wilson, J. L., Isao, M. U., and Baumann, M. L., *Pediatrics*, 1950, 6, 55.
9 Deming, J., and Washburn, A. H., *Amer. J. Dis. Child.*, 1935, 49, 108.
10 Cross, K. W., *J. Physiol., Lond.*, 1949, 109, 459.
11 Ibid., 1951, 114, 283.
12 Ibid., 1951, 115, 17P.
13 *Leçons sur la Physiologie comparée de la Respiration*, 1870. Baillière: Paris.
14 *Pediatrics*, 1948, 1, 581.

stances. It should be stressed that this work is not yet confirmed. However, it underlines the importance of the baby as an object of separate physiological study.

One factor in the ability of the very young animal to withstand anoxia which deserves mention is its power of anaerobic metabolism. This was shown as long ago as 1870 by Paul Bert,[13] and has been confirmed recently by Wilson and his colleagues.[14] In spite of this the clinician should never rely upon it, and all efforts should be made to obtain normal oxygenation as soon as possible after delivery.

"PRISCOL" IN CEREBRAL ARTERIOSCLEROSIS

The symptoms of cerebral arteriosclerosis which, in the absence of acute episodes such as a cerebral thrombosis or haemorrhage, are probably due to chronic cerebral ischaemia are very resistant to any form of treatment. Vasodilators such as oral nicotinic acid have been used with only occasional success. In a recent issue of this *Journal* (October 13, 1951) Smith and Turton described the use of "priscol" in an arteriosclerotic patient who had severe executive dysphasia and difficulty in writing, together with emotional changes. Although the authors state that there was no evidence of a focal lesion the presence of executive dysphasia and dysgraphia with apparently normal comprehension of spoken speech and of writing suggests strongly that there was in fact focal damage in the left fronto-temporal region, but whether this resulted from a cerebral thrombosis or not is uncertain. The effect of an intravenous injection of 40 mg. priscol was dramatic: within a few minutes there was evidence of vasodilatation in the skin and retinal vessels and remarkable improvement in speech and writing ability. The improvement lasted about three hours, and the patient then relapsed into his original condition. The same effects followed a second injection, while there were no changes after intravenous injections of sterile water or of vitamin B_1. Oral administration of priscol was then tried in a dose of 25 mg. six times a day, and after 48 hours there was again remarkable improvement. Unfortunately the patient's condition gradually returned to its original state in spite of increasing doses.

Priscol (2-benzyl-4,5 imidazoline hydrochloride) has a complicated pharmacological action, but among other effects it has been shown experimentally to cause vasodilatation of the peripheral and coronary vessels,[1] and its effect on the cerebral vessels of the cat is illustrated in a letter on p. 106. In man a similar peripheral vasodilatation has been demonstrated after intravenous injection and to a lesser extent after oral administration.[2] The drug has been used with successful relief of symptoms in peripheral arterial disease, the best results being obtained when there is a large element of spasm as in Raynaud's disease, but improvement in intermittent claudication and in the rest pains of occlusive arterial disease occurs in some patients.[3 4] The question of spasm of cerebral vessels in association with cerebral arteriosclerosis is a debatable one, but in some patients the symptoms suggest that there may be episodes of arterial spasm. Although the action of priscol on the cerebral blood vessels is not known for certain the results in Smith and Turton's patient suggest that vasodilatation occurs, and an extended trial of the drug in suitable patients with cerebral arteriosclerosis would seem to be worth while.

1 Ahlquist, R. P., Huggins, R. A., and Wordbury, R. A., *J. Pharmacol.*, 1947, 89, 271.
2 Grimson, K. S., Reardon, M. J., Marzoni, F. A., and Hendrix, J. P., *Ann. Surg.*, 1948, 127, 968.
3 Douthwaite, A. H., and Finnegan, T. R. W., *British Medical Journal*, 1950, 1, 869.
4 Goodwin, J. F., and Kaplan, S., ibid., 1951, 1, 1102.

"M. & B.I."

Medical and Biological Illustration enters its second year with the next number. In spite of the somewhat trying conditions prevailing in 1951, which made it an inauspicious year in which to launch a new publication, and in which cost of paper has risen steeply, the journal seems to have met a definite need, and already it has gained an encouraging readership abroad—principally in the United States.

Casual conversation, however, shows that there are still many working in the fields which the journal covers who have never heard of it. News spreads slowly, and there are so many journals on the library table that to overlook a new one may be forgiven. Seeing the cover only, some may decide that the journal is of a technical nature and therefore of no interest to them. It is true that there are technical articles, but many are general in scope, and are aimed at the user of illustration rather than the producer. The teacher is well served, and a new series covering all aspects of the preparation and publication of a medical book should have a wide appeal. Liberal illustrations make even the technical articles less indigestible for the non-technical user, and simple curiosity may make him aware of new developments without the need to assimilate the actual methods of production: he will often find these applicable to his work, whether clinical, research, or teaching. There are historical papers, too, which have no worrying technicalities. That the subject is growing is shown by the enlargement of the valuable abstract section, and the Association's foresight in sponsoring *Medical and Biological Illustration* is borne out by the news of a new journal, *Via Optica*, which is to appear in the United States. The *Journal of the Biological Photographic Association* is another American publication, but this affords little recognition to the medical artist, while our own journal caters for all branches.

This catholicity of interest is of especial importance in connexion with another event which is to take place at B.M.A. House in June, 1952, when the Medical Group of the Royal Photographic Society and the Medical Artists' Association are presenting a joint exhibition of illustration. This is the first time that the work of the two main branches of medical illustration will be seen together, and it augurs well for the future. Together with *M. & B.I.*, it implies the disappearance of the suspicion with which the painters and the photographers have been prone to regard each other—a suspicion which can only do harm to the wider aims of medical illustration.

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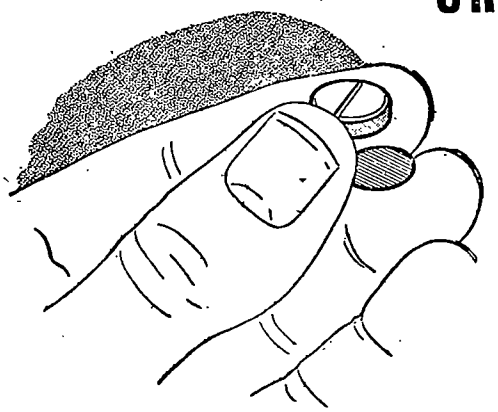

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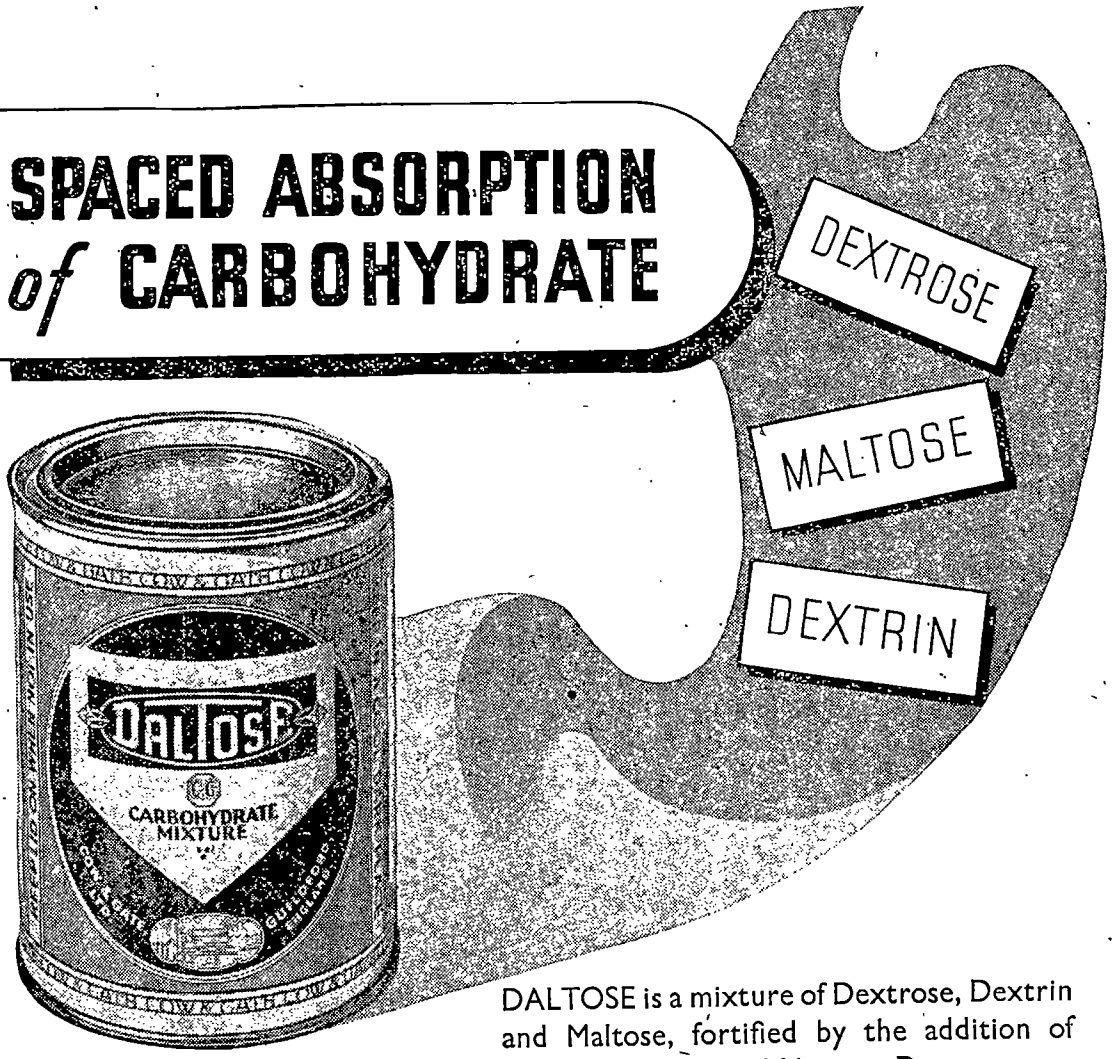

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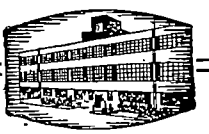

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REFRESHER COURSE FOR GENERAL PRACTITIONERS

THE BASIC PRINCIPLES OF ATOMIC STRUCTURE

BY

Sir JAMES WALTON, K.C.V.O., M.S., B.Sc., F.G.A.

Correspondence in the *British Medical Journal* and remarks made to me personally following the two papers on isotopes in medicine published in the *Journal* of September 29 have made it evident that many members of the medical profession have difficulty in understanding modern atomic physics. This is very understandable when it is realized how recent is the growth of this subject, so that there must be many general practitioners and specialists who learnt their physics in the days when an atom was only an atom. Now it is becoming essential that, with the progress of medical treatment, they should have an elementary knowledge of the underlying principles of atomic structure. The literature is, however, so immense and the many textbooks are often so large and highly technical that general practitioners have neither the time nor the opportunity to study them. It is my belief, nevertheless, that by omitting all mathematical considerations and the lines of reasoning that have led to the conclusions, and by concentrating upon the actual experimental findings and the accepted results, an elementary knowledge of the facts can be given very simply and briefly. It is true that such a method tends to be too dogmatic, in that certain conclusions which are still under discussion, or even not accepted by many, have to be stated as facts, but this is a privilege which is granted to all elementary teachers and may not be unduly harmful.

The Atomic Theory

About 500 years B.C. the Greek philosopher Leucippus taught that the ultimate constituents of all things were empty space and atoms, which were infinite in number, indivisible, and always in motion. About 100 years later Democritus, who is usually credited with the atomic theory, developed this view and taught that atoms were the ultimate material of all things and, although not visible, were heavy and impenetrable. These views, which were purely theoretical, were forgotten for some 2,200 years, when in 1804 Dalton announced his famous atomic theory, in which he showed that atoms could be defined as the smallest particles in which an element can exist, that they could not be broken up by chemical means, and that they possessed definite weights which could be expressed by numbers relative to the atomic weight of hydrogen, which is the lightest known element. Alternatively, they could be defined as the smallest part of an element which could enter into chemical combination with another element.

In 1864 John Newlands showed that if the elements were arranged in the order of their atomic weights there was a recurrence of similar chemical and physical characters at every eighth element. This he described as the "law of octaves." In 1869 Mendeléeff developed this idea more fully and published a table with the elements arranged according to his periodic law. Since then many new elements have been discovered, and their insertion in the position of the table indicated by their atomic weights has confirmed his views and fulfilled his predictions.

Structure of Atoms

In 1897 Sir J. J. Thomson found that by passing an electric current through a glass tube filled with an attenuated gas of any variety (Fig. 1) a luminous ray was given off in a straight line from the cathode. This cathode

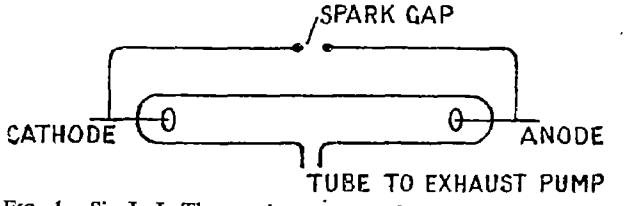


FIG. 1.—Sir J. J. Thomson's apparatus for generating cathode rays.

ray could be deflected by electric and magnetic fields in a direction showing that it was made up of negatively charged particles which are known as *electrons*. They have a speed of approximately 1/10 that of light, produce luminescence when they impinge on certain substances, cause the leaves of an electroscope to diverge, and have considerable penetrating powers. Since they come from any gas, they must be a constituent of all atoms. The electrical charge which each electron carries is taken as the unit charge. They have been estimated to have a diameter of only 10^{-5} of a hydrogen atom and to weigh only 1/1,840 of its nucleus.

The fact that negative particles are obtainable from atoms suggested that similar positive particles must be present, as atoms are electrically neutral. Goldstein was able to demonstrate their presence, and in 1898 Wren proved that they were positively charged. Mosely was able to show, by *x*-ray spectroscopy, the actual number of these particles, which are known as *protons* and are grouped together to form a *nucleus*. Since each contains a unit positive charge and the total atom is neutral, they must equal the number of electrons. Their number in each atom is known as the *atomic number* of that atom. They weigh approximately 1,840 times the weight of an electron. It is the number of the protons which determines the nature of the element. In hydrogen there is only one, in helium two, and so up the scale to uranium with 92. If the number of protons is altered, as occurs naturally in radioactive substances or can be brought about artificially, the element is changed to another.

The fact that the atomic number is less than the atomic weight, except in the case of hydrogen, made it evident that other heavy particles must be present, and in 1931 Sir James Chadwick discovered the presence of *neutrons*, which are in the nucleus and have a like weight to the protons, they and the protons forming nearly the whole of the weight of the atom. Neutrons have,

however, no electric charge, and their presence therefore does not affect the number of electrons and the chemical properties. They steadily increase in number with the atomic number but not in the same ratio; deuterium, or "heavy hydrogen," contains one, helium two, bromine 45, and uranium 146. Together with the protons they give the atomic weight of the element.

In 1885 a Swiss schoolmaster named Balmer discovered that there was a definite mathematical relationship between the positions of the lines seen in the spectrum of the light from glowing hydrogen. Based largely upon this knowledge and upon the later brilliant work of the late H. G. J. Mosely on the wavelengths of the x-ray spectra of the elements, the Danish physicist Niels Bohr was able in 1913 to evolve his famous model of the atom. He showed that it consisted of a heavy central nucleus around which the electrons moved in ellipses in any plane; the ellipses formed shells placed at distances corresponding to the square numbers 4, 9, 16, 25, 36, etc., from the nucleus, the numbers of electrons in each shell being fixed for each atom. Hence by far the greater part of an atom consists of empty space. In hydrogen there is only one shell containing one electron, but on passing down the periodic table the numbers gradually increase (Fig. 2), the number in the individual shells being 2, 8, 18, 32, 18, 12, 2, this being the arrangement of electrons found in uranium, the heaviest known element. Generally speaking the electrons are more loosely attached in the outer shells, so that the inner shells are filled first. The total number of electrons corresponds to the atomic number. The outer electrons are those which are concerned in chemical reactions, and it is found that those elements which have similar chemical characters—that is, which are in the same columns of the periodic table—have a similar number of electrons in their outer shells, thus confirming Mendeléeff's views in a remarkable manner.

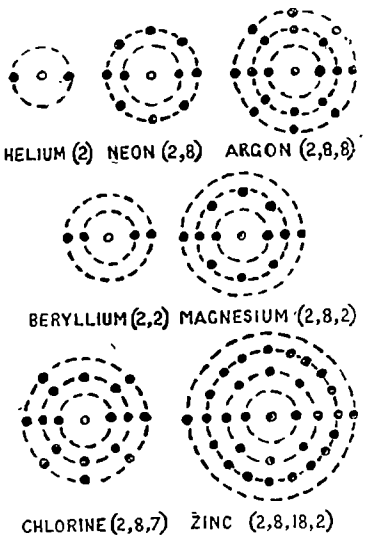


FIG. 2.—Diagrams showing the arrangement of the electrons in atoms of helium, neon, argon, beryllium, magnesium, chlorine, and zinc. The diagrams are purely schematic: the orbits or shells are much further apart, and they are in the form of ellipses, not circles; also they may lie in any plane.

Ionization and Electrolytes

Electrons may be displaced from the outer shell of an atom, and, being free, will soon become attached to other atoms of a similar or different nature. The atom from which an electron has been displaced will have lost one unit negative charge and hence will be positively charged. It is known as a *positive ion*, or, since it is attracted to the cathode, as a *cation*. In the same way the atom which has gained an electron is negatively charged and is known as a *negative ion*, or, since it is attracted to the anode, as an *anion*. Certain simple salts when dissolved in water separate into ions, when they are known as *electrolytes*, and, as Faraday showed early in the nineteenth century, can be separated by the passage of an electric current, a process known as *electrolysis*. The passage of a high potential electric charge or of rapidly moving atomic particles through a gas will knock off electrons, causing the gas to become ionized and to become an electrical conductor. Certain resins have the power of attracting different ions and thus bringing about their separation. This process is to-day largely used commercially, but it has also its medical application (ion-exchange resins).

Isotopes

It had long been known that certain elements showed varieties which, although identical in every chemical and in most physical characters, had different atomic weights: for example, when uranium breaks down completely it is converted into lead of atomic weight 206. The actinium series in breaking down ends as lead with the atomic weight 207, and that derived from thorium has an atomic weight of 208, but all three are lead in every sense of the word. To these elements Soddy in 1913 gave the name *isotopes*. The differences in the atomic weights are due to the number of neutrons, and, since they have no charge, the number of electrons and hence the chemical characters are unchanged. Mass spectrography has shown that the majority of elements have isotopes (Fig. 3), and the fact that many atomic weights are not whole numbers—for example, magnesium 24.32, chlorine 35.457, tin 118.70—is known to be because they are mixtures of isotopes with different atomic weights. The nature of the isotope is usually shown by an index number giving its atomic weight—for example, C^{11}, C^{12}, C^{13} of carbon, or P^{31}, P^{32} of phosphorus. Sometimes the atomic number is also indicated—for example, ${}^{11}_{6}C$, ${}^{13}_{6}C$, or ${}^{31}_{15}P$, ${}^{32}_{15}P$. One isotope of hydrogen is of double the atomic weight owing to the presence of a neutron in the nucleus: it is known as deuterium, and its nucleus as a *deuteron*; a still heavier isotope is tritium, with two neutrons and an atomic weight of three.

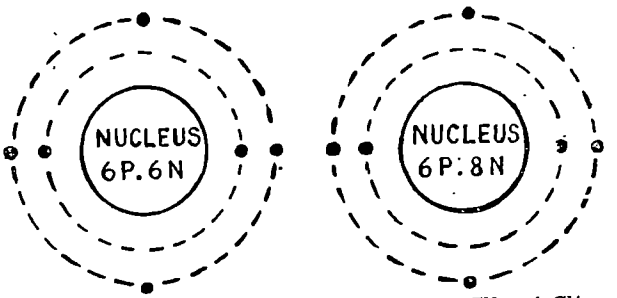


FIG. 3.—Diagrams of two isotopes of carbon, C^{12} and C^{14}.

What Prevents Spontaneous Atomic Explosion?

Physicists had long been puzzled over why the protons in the nucleus did not repel one another and the atom spontaneously explode. In 1934 Yukawa suggested that negatively charged particles would be found within the nucleus. They have since been discovered and are known as μ *mesons*. They have a unit negative charge like an electron and a mass between that of an electron and a proton. There are probably at least four varieties having from 200 to 1,000 times the weight of an electron. They are produced naturally by cosmic rays in the upper air,

are capable of penetrating 20 ft. (6 m.) of lead, and have only a short existence. They were believed to bind together the protons by a reaction known as exchange attraction, which occurs only in minute structures of atomic dimensions, so that if once the protons are separated by a short distance they repel one another with great force and the atom is disrupted. Later work (*vide* Sir John Cockcroft, *Nature*, 1951, **168**, 1060) has shown that the Yukawa hypothesis is no longer tenable, as the μ mesons discovered by Anderson and Neddermeyer scarcely interact with nuclei, and in 1947 Powell discovered the π meson or pion, which may be positively charged, negatively charged, or neutral, the positively charged meson $\pi+$ having a very short life (10^{-8} of a second) and changing into a μ meson. They have a mass about 275 times that of an electron. There is also evidence that there are even other and heavier mesons.

In 1932 Anderson and Blackett discovered yet another particle which is produced when cosmic rays are stopped by collision with a metal plate. These particles were found to be positively charged and were called *positrons*. They have since been obtained by bombarding aluminium with α rays, or lead with γ rays (see definitions below). They have a mass approximately that of an electron. They are probably formed by the nucleus absorbing the energy of a γ ray and converting it into a positron and an electron. The life of a positron is very short—about 10^{-9} seconds in the air. It then disappears completely, probably by combining with another electron and being entirely converted into energy as a γ ray, thus supporting Einstein's contention that energy and matter are interchangeable.

An atom therefore consists of a compact nucleus in which is centred by far the greater weight and which contains positively charged protons and positrons, negatively charged mesons, and neutrons with no charge. The number of protons determines the nature of the element, and the combined weight of the protons and neutrons gives the atomic weight. Surrounding the nucleus at relatively great distances are a number of electrons, corresponding to the number of protons, moving in various planes in definitely placed elliptical shells around the nucleus. They are concerned with chemical changes only. The smaller atoms are estimated to be about 2×10^{-8} to 6×10^{-8} of a centimetre in diameter and the electron to be only 10^{-5} of the diameter of the atom of hydrogen in its normal state.

Radioactivity

In 1896, a year after Roentgen discovered x rays, Becquerel showed that a uranium salt gave off rays capable of affecting photographic plates. Further investigation has shown that these rays are of three sorts.

α Rays.—These are composed of the nuclei of helium—that is, of packets of two protons and two neutrons moving at great speed (2×10^9 cm. a second). They therefore contain two unit-positive charges but are deflected with difficulty. Because of their small mass they have but little penetrating power, but because of their high speed they tend to break up atoms in their path, leaving free ions and so ionizing the air.

β Rays.—These are electrons moving at prodigious speeds. They are easily deflected and are 100 times more penetrating than α rays.

γ Rays.—These are identical with x rays, and consist of electromagnetic waves with no mass. They have very short wavelengths, about 0.005 A, are extremely penetrating, and cause slight ionization, photographic, and fluorescent effects.

In searching for the source of these rays, the two Curies in 1898 extracted from pitchblende a number of radioactive substances, including radium, the most active of all. In 1902 Lord Rutherford showed that the emission of the rays was due to atomic disintegration, and that the seat of instability was the nucleus. It is the heavier atoms which show radioactivity, and it is present in all atoms with a higher atomic weight than bismuth. It would seem that nuclei containing large numbers of protons and neutrons are unstable. It is possible, therefore, that in the past there were elements of a higher atomic weight than those now known, but that they have completely degenerated.

Transmutation of Elements

In 1919 Rutherford exposed nitrogen to radium so that it was bombarded with α rays, and was able to convert some of the nitrogen into O^{17}, an isotope of oxygen, thus:

$$N^{14} + He^4 = O^{17} + H^1$$

In 1932 Cockcroft and Walton were able to accelerate protons by very high voltages, and by their use were able to convert an isotope of lithium, Li^7, into two α particles, thus:

$$Li^7 + H^{1.0078} = H^4 + H^4 + \text{energy}.$$

By bombarding the isotope Li^6 with deuterons, a similar result was obtained:

$$Li^6 + H^{2.0156} = H^4 + H^4 + \text{energy},$$

but if Li^7 was bombarded with deuterons a neutron was also produced. It is reactions of this sort which are the basis of the hydrogen bomb. To-day large numbers of rapidly moving charged particles may be directed upon elements by the use of the cyclotron. This is a large and powerful machine consisting essentially of two electrodes for producing ions, and a high-frequency oscillating electromagnetic field for repeatedly accelerating the ions as they travel in an ever-widening flat spiral. After about a hundred revolutions the ions are drawn off their spiral track into a bombardment chamber, where they may be used to produce neutrons or electrically charged particles such as protons, mesons, and, to a lesser degree, electrons The neutrons can be used to make radioactive isotopes artificially, but this is usually now done in an atomic pile (see below).

By these means, elements may be bombarded with protons, α particles, deuterons, or neutrons. When protons meet other nuclei the result will depend upon their energy resonance. If less than that of the nucleus they will bound off. If of similar resonance they will enter it and form a new element of greater atomic weight In this way two new elements—neptunium and plutonium, both of atomic weight 239 but with atomic numbers of 93 and 94—have been formed. If of a higher resonance they will split up the nucleus, often with explosive force. Neutrons have similar effects, but if they enter the nucleus they form not new elements but isotopes, many of which are unstable and radioactive.

The Chain Reaction

The explosive effect of these bombardments may occur naturally, as in U^{235}. Here protons and neutrons driven off from one atom will explode the next atom, the so-called chain reaction. If the mass is sufficiently large (critical mass) to prevent the escape of the protons and neutrons the whole mass will explode with enormous violence and heat, as in the atomic bomb. The chain

reaction may be controlled, and the enormous energy utilized, by slowing down the protons and neutrons by passing them through material of low atomic weight, such as deuterium or graphite. This is the basis of the *atomic pile.*

Isotopes in Medicine

The isotopes prepared by these methods now number over 700, and, since many are radioactive, they are being used to an increasing degree in medicine. They are used either for treatment, by giving a radioactive element which may have a therapeutic effect, as upon a cancer with an affinity for the element—for example, the isotopes of iodine, I^{128} or I^{131}, for the treatment of some varieties of carcinoma of the thyroid—or to trace the metabolism of an element (or a compound containing it) in the body—for example, phosphorus by its isotope P^{32}. Their use may, however, be associated with danger, for, if their breaking-down period is long, the radioactivity may be carcinogenic rather than curative. Fortunately in the artificial isotopes the period to half-way disintegration (half-life) is usually short; according

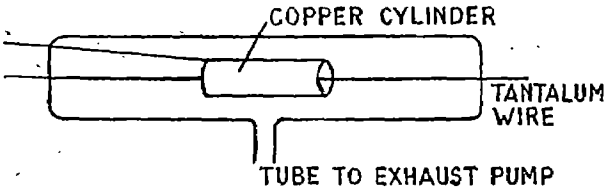


FIG. 4.—Diagram of a Geiger counter.

to Wormall, for the isotopes of iodine and phosphorus it is 8 and 13 days and 14.3 days respectively. This is in marked contrast with uranium, for which it is about 500 million years.

The position in which the isotope is concentrated can be readily determined, if it is radioactive, by the use of the *Geiger counter* (Fig. 4). This consists essentially of a glass tube down the centre of which passes a fine tantalum wire. The centre of the wire is surrounded by a cylinder of thin copper, and the tube contains gas under a reduced pressure, usually argon and ethyl alcohol. The wire is positively charged and the cylinder negatively charged, with a maintained difference of potential such that a discharge will just not pass between them. If a fast-moving electron, proton, α particle, or even a photon of light passes between them, the gas is ionized and a momentary current will pass between the tantalum and copper. This minute rush of current is amplified by radio methods and emitted by a loudspeaker so that it is audible to a number of people standing around. The number of cracks or thumps may be counted or automatically recorded so that the radioactivity can be estimated. Saunders states that the instrument is so delicate that a match lit on the other side of the room gives a rush of such cracks.

"Music while you work" was one of the successful British ideas of wartime which was exported across the Atlantic. In one New York insurance company, employing thousands of clerks and machine operators, efficiency has been raised 19% since the provision of music over the hum of routine work. In department stores suitable music will make the customer linger at the cosmetic or hosiery counter and make a further purchase. And now dentists are offering patients music by headphone to distract them from the noise and vibration of the drill, while those undergoing plastic surgery under local analgesia are also thus diverted.

Reports of Societies

CORTISONE AND A.C.T.H. IN GENERAL PRACTICE

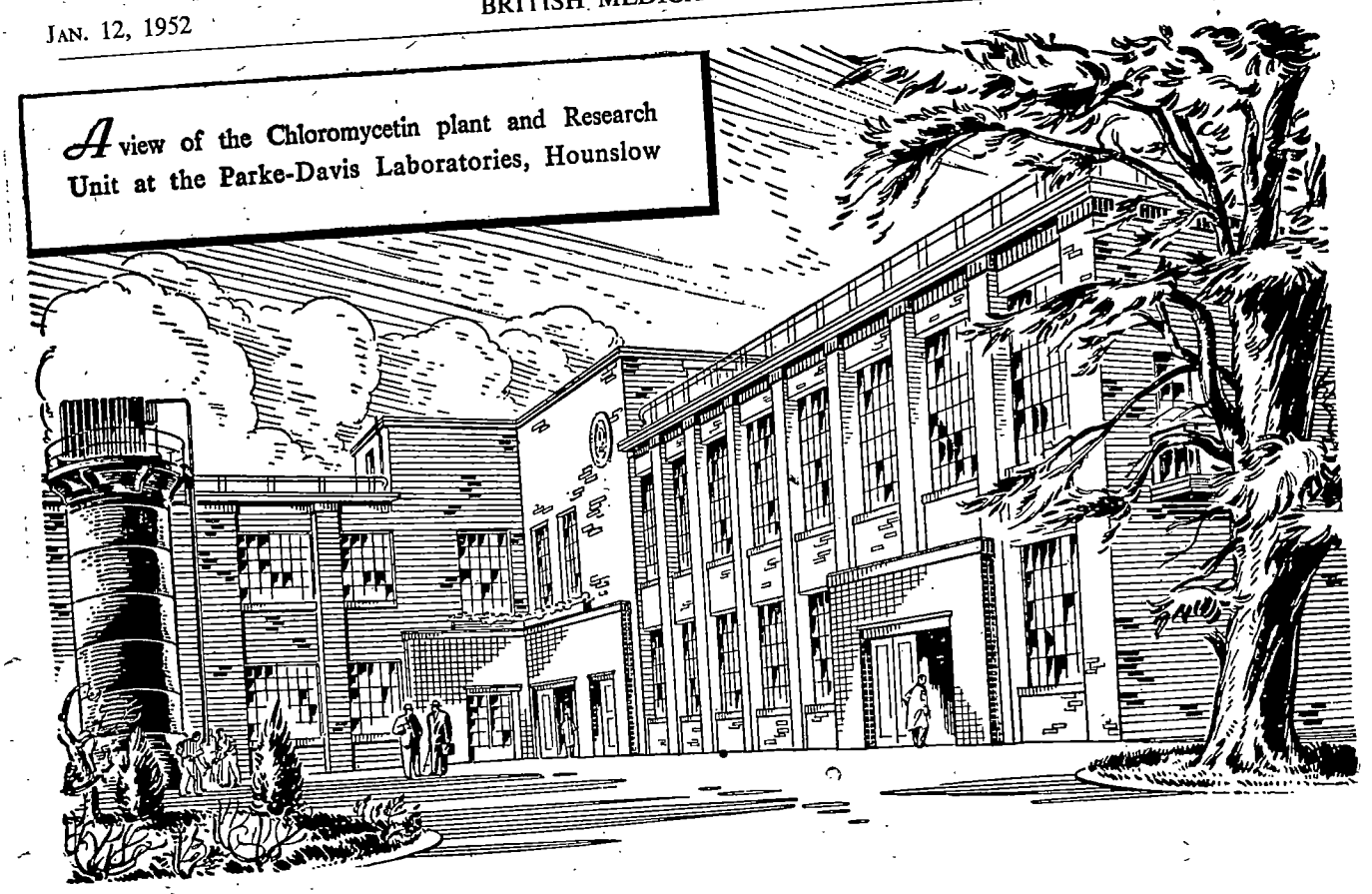
A meeting of the General Practice Section of the Royal Society of Medicine was held at No. 1, Wimpole Street, on December 19, 1951.

Dr. A. TALBOT ROGERS, who opened the discussion on "The Possible Future Use of Cortisone and A.C.T.H. in General Practice," described himself as a general practitioner with a special interest in rheumatic diseases. Being in charge of the physical medicine department of his local hospital, he had had the advantage of co-operating with Dr. E. N. Allott in his work on cortisone and A.C.T.H. (adrenocorticotrophic hormone) at Lewisham. He wanted to emphasize the words *possible* and *future* in the title of the discussion because he felt that there was not much hope that these substances would become widely available in the near future or that the cost of maintaining a rheumatic patient on either of them would soon be diminished from the present level of £10 to £20 a month. Because of this it was right that the supply of cortisone and A.C.T.H. should be limited to research centres; yet general practitioners should know about this type of treatment, as they would be responsible for sending the right type of patient for treatment and for helping to maintain treatment after discharge.

In a brief review of the scientific background of the subject Dr. Talbot Rogers recalled that the pituitary gland was under nervous control and when stimulated by bodily stress released varying amounts of A.C.T.H.; this in turn stimulated the adrenal cortex to produce its many hormones affecting salt and water metabolism, sugar and glycogen, protein metabolism and androgenic activity, in addition to cortisone. The diseases in which A.C.T.H. and cortisone could be used included rheumatoid arthritis and Still's disease: in these two diseases they offered the first really spectacular advance in therapy. In spondylitis deformans he had not experienced such a well-marked response, and, although this had been claimed by some American workers, he felt that this discrepancy was due to disagreement on what constituted spondylitis deformans. Of their activity in rheumatic fever he gave a guarded account, saying that, although they abolished symptoms and seemed to protect the heart, their effect was not yet certain. However, this was an excellent short-term use for cortisone, because the disease process eventually died out and indefinite maintenance doses were not necessary. Other diseases that benefited were acute lupus erythematosus, status asthmaticus, some cases of haemolytic anaemia, periarteritis nodosa, many eye conditions, exfoliative dermatitis, pemphigus, severe burns, and ulcerative colitis.

The Dangers

It was important that the general practitioner should know the complications that might arise from treatment with cortisone or A.C.T.H. The greatest danger with both was that they delayed healing, a serious matter with peptic ulcer or with active or recent pulmonary tuberculosis; septic conditions were masked and tended to spread silently without the usual pain and reddening—they could be detected only by increased swelling and a general rise of temperature. Because A.C.T.H. produced a general secretion of cortical hormones it was liable to produce disturbances in salt and water metabolism, with rise of blood pressure which was particularly dangerous in patients with heart disease. Diabetes could be precipitated and diverse psychotic changes could result—euphoria proceeding to mania or depression and insomnia. Cushing's syndrome was also liable to appear, with the characteristic "moon-face," hirsutism, amenorrhoea, acne, ecchymoses, flattening of the neck, and humping of the back and abdomen with deposits of fat.



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In this country both drugs were usually given by injection; this, he felt, was a good thing, because one could seldom trust the patient to take the drug by mouth as regularly as seemed necessary for maintenance. Withdrawal symptoms were serious, and slight changes in the regularity of dosage, especially with A.C.T.H., might well produce serious symptoms. The supplies were so low to-day that the criterion by which the patient should be treated should be his ability to move and work and not be a burden on his family rather than the state of his joints, which, at a dosage graded to keep him at work and avoid complications, might still give pain.

Dr. W. S. C. COPEMAN said that Kendall had isolated 26 different steroid substances from the adrenal cortex, one of which was cortisone. The administration of A.C.T.H. to a patient stimulated the production of all 26, and more side-effects might therefore be expected than after cortisone alone. Although the disease process of rheumatoid arthritis and Still's disease could temporarily be completely reversed, these drugs did not produce a cure, and the patient generally relapsed to his previous condition when treatment was discontinued. In diseases of the eye there was scope for short-term therapy, and in status asthmaticus a single treatment could be life-saving.

Selection of Cases for Treatment

The supply of cortisone might well increase in the near future; at the moment the drug was partially synthesized from ox-bile as a starting product. Another starting product derived from vegetable sources was being investigated, but, although if successful the new process would make cortisone more plentiful, it was unlikely to become appreciably cheaper owing to the complexity of the process involved. Although some patients were able to get a limited supply for themselves from abroad, he was never prepared to treat any that had less than a six months' supply: the mental effect of reverting to their original condition after a short space of freedom was so grave as not to justify a short period of treatment without there being some special reason for this.

Patients suitable for treatment should be selected carefully. The unstable personality was liable to develop a psychosis, and the patient with permanently damaged or ankylosed joints could not expect relief. It did not seem to be necessarily the early case that yielded the best result, since such cases might be at their most active stage and require heavy and prolonged dosage; an old-established case without excessive joint damage often responded better, and might go into remission. The cardiac and the hypertensive patient were unsuitable and renal disease was a contraindication. He had seen one case of insulin-resistant diabetes develop. Gastric ulcers could perforate and herniae strangulate silently without marked symptoms or signs.

Treatment should always be started in hospital, where the patient's characteristics of weight, blood pressure, and water balance should be established and the blood count (especially the eosinophils) and sedimentation rate recorded. The electrocardiograph was useful as a guide to potassium loss, since the blood level was sometimes fallacious. When the patient then returned to the care of the general practitioner the complications that Dr. Talbot Rogers had outlined should be looked for, and also undue fatigue, alkalosis, and osteoporosis, which might be the cause of spontaneous fractures. In patients under treatment pains in bones and joints were probably more often caused by their unaccustomed use than by insufficient control of the disease, and seldom called for increased dosage. To avoid withdrawal symptoms the dose should always be decreased very slowly indeed.

Clinical Results

Of the series of 20 patients with rheumatoid arthritis that Dr. Copeman and his group had selected, in conjunction with the Medical Research Council, for testing the long-term activity of cortisone, after nine months 17 were comfortable and all the men were at work and most of the women doing part-time housework. Only one case had gone into remission; one had developed symptoms of toxicity, and his treatment had been discontinued but later resumed without further ill effects. Dr. Copeman said that cortisone and A.C.T.H. were not a cure for rheumatoid arthritis and had in no way superseded the older methods of treating the disease. They were, however, an important adjunct to treatment in certain cases; above all they were potent "research tools."

Dr. E. N. ALLOTT said that the group of workers at Lewisham was trying to find the minimum doses necessary for treating and maintaining patients. Such was the expense of cortisone that, although an expenditure of £75 to £100 a year might be sufficient in some cases to keep a patient at work, £150 to £200 would often be needed to keep him free of pain and discomfort. Half their supplies had to be set aside for maintaining old patients, and that greatly limited the number of new cases they could take on. Besides the rheumatic diseases, disseminated lupus erythematosus and discoid lupus of the skin had shown great improvement, but both had required maintenance treatment. Polyarteritis nodosa had not responded well; that might be due to insufficiently early diagnosis. One case of scleroderma had made a slight improvement. Two cases of asthma and four of burns had responded well. Cases of leukaemia, agranulocytosis, aplastic anaemia, and nephrosis had not been affected. The results in haemolytic anaemias were hard to assess, but one case of refractory macrocytic anaemia had been improved and had not required maintenance treatment. A case of exfoliative dermatitis had responded well at first, but the disease had become resistant although a gross Cushing's syndrome had been produced by the treatment.

Laboratory Control of Treatment

Cortisone could be given by mouth or by injection every other day or every three days. A.C.T.H. had usually to be given four times a day; the effect of the same amount of material was increased if given more frequently. Of the laboratory tests for controlling treatment, the eosinophil test was unreliable. The blood sedimentation rate was of little value, because only when full doses were given was it decreased; with maintenance doses of the usual size it generally remained as high as in the active disease. 17-ketosteroid excretion was of little use, and blood electrolyte determinations were of limited value. The best control was general clinical observation; electrocardiography was useful for detecting potassium deficiency.

More Clinical Results

Dr. D. BRIGGS (American Hospital of Paris, Neuilly-sur-Seine, France) gave his experience of patients whose treatment was determined by their ability to pay for the drugs rather than by whether they were suitable for treatment; these included nine cases of rheumatoid arthritis. All had responded to cortisone, but one deteriorated with A.C.T.H. One case of Reiter's syndrome had been treated for two months when remission occurred. Cases of status asthmaticus had been cured, but when pulmonary fibrosis formed the basis of the asthmatic condition there had been no response. Various other cases were described. As side-effects he had observed the formation of abscesses in two patients; one of these patients had become drowsy on withdrawal of the drug, and this had been ascribed to sodium loss.

Status Asthmaticus

Dr. K. ROBERTSON (Southampton) confirmed the experience of other speakers about the usefulness of cortisone in status asthmaticus, considerable remissions following one or two doses given during the acute emergency. He hoped that cortisone would be made available for the use of general practitioners faced by that most troublesome and alarming syndrome. He referred too to a dramatic response to cortisone in a colleague with a very severe allergic reaction to

the experimental injection of a staphylococcal antigen, and reported immediate resolution of severe stomal ulceration when A.C.T.H. was given by the slow intravenous drip method. In a case of chronic lymphatic leukaemia, cortisone by mouth had on two occasions produced a striking reduction in size of the enlarged lymph nodes and spleen, though the blood picture had not been influenced. In two cases of what appeared to be irreversible peripheral failure in diabetic acidosis, following the control of hyperglycaemia and biochemical correction of electrolyte disturbance, cortisone had appeared to be life-saving.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Malaria

SIR,—I was much interested in the letters of Colonel L. W. Harrison and Sir Philip Manson-Bahr (December 8, 1951, pp. 1402–3). For anyone to apply to the former the epithet "has been," which he fancied he invited, is merely to emphasize the ignorance of the applier; while the authority of the latter on all questions of tropical and sub-tropical diseases is unchallenged. It is therefore with no little reluctance that I venture to differ from each of them.

In the first place I do not think that the life-saving properties of quinine by injection can seriously be doubted: it is the method of injection which is open to challenge. A long time has passed since the unfortunate "tetanus episode" reported by Semple as a sequel to the intramuscular injection of quinine; and in modern conditions, in the Indian subcontinent at any rate, this sequela should no longer be a bogy. Injectable quinine solutions have long been marketed by many reputable pharmaceutical firms in ampoule form, and these form part of the stock of the great majority even of outlying dispensaries in India, while hospitals of any size are equipped with autoclaves, which should effectively deal with any tetanus spores if it were found necessary to prepare a home-made solution.

The objection—and I venture to think a very valid one—to the intramuscular injection of quinine rests nowadays not on the fear of tetanus but on the confirmed observations of Acton and Chopra (*Indian J. Med. Res.*, 1924, **12**, 251), Karamchandani (*Rec. Mal. Surv. Ind.*, 1933, **3**, 445) and others, that necrosis of the tissues invariably accompanies this procedure. This objection, however, is not applicable to the intravenous injection of the drug; and, this being the case, there would appear to be little or no justification for the selection of the intramuscular route in cases—and they form the great majority—in which the vein is accessible and in which parenteral administration is called for as a life-saving measure. There are, of course, exceptions such as stout women with small veins, and infants and young children, but even in these cases diligent search will often reveal an accessible vein. Accordingly, it was my personal practice in any hospital of which I was in charge to prohibit the intramuscular injection of quinine except in those cases which I or, in my absence, my locumtenent personally sanctioned; and I venture to think that such a course has much to be said for it.

It is to be remembered that the vast majority of cases of malaria are treated not by eminent specialists but by medical subordinates who cannot be expected to have the experience, judgment, or responsibility of the pundits. The effect of the authoritative blessing of the intramuscular route has, to my knowledge, been to encourage the lazy practitioner who is averse from taking the trouble to ensure the proper administration and retention of quinine by the mouth and indulges instead in pincushion therapeutics. Anyone who has seen for himself the crop of painful nodules persisting for months and years resulting from this lazy and pernicious practice cannot fail to have strong views. In one case which I have been able to follow nodules and pain have now persisted for over 10 years. For this reason alone the supersession of quinine by the synthetic antimalarials for oral administration is devoutly to be welcomed.—I am, etc.,

Commonwealth Relations Office, S.W.1. J. B. HANCE.

Humid Climate and Respiratory Diseases

SIR,—I shall be grateful if you will grant me space in your columns to remark on the view, which appears to be held by many doctors, that a warm, humid climate is beneficial to those suffering from respiratory diseases.

For the last five years I have experienced the pleasures and frustrations of practising medicine in Nassau, in the Bahamas. During my first winter here the incidence of respiratory affections, notably asthma, struck me as being excessive. In the following spring and summer I made the same observation concerning hay fever. Later experience here has confirmed both observations. The increased incidence of these affections appears to be directly related to the excessive humidity of the climate, which averages between 70–80% in the winter months and between 80–90% in the summer months. Occasionally during winter a relatively cold north-westerly wind blows for a short period—often less than 24 hours. One of these winds is always followed by a crop of asthmatic attacks. During the summer there is a long period of relative drought, but the humidity remains very high. The dust and pollens from the bush which abounds everywhere undoubtedly play a part in the high incidence of hay fever during the dry period.

Comment on these factors and respiratory diseases has already been made by Dr. W. Santon Gilmour, in his able survey of tuberculosis in the Bahamas. Unfortunately this publication is probably not available to the general medical public. From time to time I have met professionally and in a private capacity individuals who have been sent here to a warm climate for the benefit of a respiratory condition such as asthma, chronic bronchitis, and bronchiectasis. Almost invariably these unfortunate persons have suffered a relapse, sometimes of extreme severity. Bermuda, Jamaica, and other islands in this area appear to have as high an incidence of respiratory affections as we have here. It appears to me, therefore, that the attention of practitioners should be drawn to the fact that a warm, *humid* climate will probably do their patients more harm than good, no matter how beneficial a warm *dry* climate may be.—I am, etc.,

Nassau, Bahamas. W. H. P. POAD.

Sexual Disorders in Women

SIR,—Dr. Joan Malleson's article (December 22, 1951, p. 1480) would be timely even if only a fraction of her figures for frigidity and partial frigidity were true; though I think to some extent we are dealing with a cultural phenomenon, as well as individual maladjustment.

In psychiatric out-patient clinics I can only say that without special psychological presuppositions one comes across sexual difficulties so frequently that on the whole one only attempts to pursue those where their emergence is comparatively recent, the distress marked, and the patient of reasonable intelligence. This frequency is more understandable if one gives a large place in the total personality to the sexual drives; but in any case the adequate expression of them in the face of our culture remains more difficult for a woman than a man. There are, of course, also cases, such as depressions, where the lack of sexual feeling is only part of a general emotional disturbance. Those cases who have the insight and determination to complain frankly of their difficulties are more accessible, but not necessarily in less trouble, than those who complain of anything but their sexual difficulties. I have not always found that the hysterical anaesthesias are comparatively harmless, except perhaps on a short-term basis. In my cases, though, a picture of pure hysteria without some leakage of anxiety is not very common.

I think Dr. Malleson merits the fullest support in her attitude to clitoral orgasm. I have not found, though, that prudery is always the difficulty. The woman may feel, perhaps unnecessarily, that it all becomes a very planned affair, and as such underlines her inadequacy: she fears either losing sensation further, or reaching a high state of stimulation and then being unable to achieve orgasm. Much complicated emotional reaction may be implied in such an acceptance, and much here depends on the wife's feelings, not necessarily bad ones, to her husband, and his to her.

There is no doubt room for the various approaches of the gynaecologist, physician, surgeon, and psychotherapist, inspired, I hope, with humanity. These problems rarely stay individual for long, even if they were ever so in their general significance. Almost invariably a vicious circle of tension arises between wife and husband. Frequently one sexually maladjusted partner picks another, and what might be a minor difficulty becomes magnified out of all proportion. I feel, therefore, that an attitude of joint responsibility on the problem needs encouraging, and it is not only wise but accurate to avoid laying too much of the responsibility on one side.

The psychotherapy to be used needs definition. Some cases which are the result of deep maladaptation of personality are really only approachable by long-term analysis, and this is a very large undertaking. Others, especially the more superficial type, are treatable by the therapy of discussion, explanation, and support, admittedly often implying analytic interpretation, with or without physical and pharmaceutical aids—largely, I find, sedatives. In my experience the apparently most discouraging case does not always turn out to be so. In the shorter methods the patient cannot gain insight in the same way as by analysis, but in sexual matters the lack of voluntary control puts morale at a premium, and success with support may allow a patient to achieve more mature attitudes, which are also the long-term object of deep analysis. By this I do not imply any devaluation of analysis as a weapon of exploration, but only that for many patients a saving of money, but especially of time at such a crisis, may be crucial.—I am, etc.,

London, W.1. H. A. C. MASON.

SIR,—I think that Dr. Joan Malleson's article on this subject (December 22, 1951, p. 1480) is of considerable service, because this matter is not only imperfectly understood but very largely unrecognized, even in the profession of medicine, and there must be many practitioners who are not even aware of the separate existence of the clitoral and vaginal orgasm in woman. It is most certainly true to say that a large number of women never experience a vaginal orgasm at all, and if they are unaware—as many are—of its existence there is no worry attached to this fact; the worry comes from the absence of *any* kind of orgasm during intercourse, particularly if it can be brought about at other times by the process of masturbation.

I agree with Dr. Malleson that where there is a failure of orgasm in the presence of a repeatedly high-pitched erotic tension nervous symptoms will ensue, but in my experience these symptoms point to disturbances which cannot be explained without real knowledge of the woman, her life, and her personality. Anaesthesia is a satisfactory surface explanation, but it does not get us anywhere; its possible hysterical origin is a much more fruitful field, and is, in my experience, the root difficulty and supplies the reason why this anaesthesia is less amenable to therapy than are the other dysfunctions; it also provides the reason why those functional sexual disorders which are secondary to adult events are much more likely—indeed almost certain if handled rightly—to resolve.

If we assume that this anaesthesia is a hysterical conversion symptom and accept that its origin lies invariably in the repression of early infant sensations we are going to find it very difficult to deal with; if, on the other hand, we regard the conversion symptom as protective against an existing difficulty—that is, flight-reaction or negative response towards it—we shall succeed, provided that we can remove the circumstance or difficulty which has aroused the need for protection. But there is another factor which, in my experience, is of the utmost importance: it has been said—and I myself have no doubt of the truth of this—that in the true entity of hysteria there is an alteration in the ratio of the sex in the psyche. This would mean that the hysterical woman would possess a higher ratio of male to female in her personality, a state of things somewhat hostile to satisfactory sex relationship in so much as she will find it difficult to assume the passive role, *not* in the physical but in the emotional sphere. The markedly hysterical woman is, as I see her, utterly feminine to look upon but the very opposite as we search deeply into her. She can, and she often will, obtain a vaginal orgasm in sleep. She will wake with this to find the process continuing until it has exhausted itself in the usual way. If this should happen she will be disturbed, and she will search for the reason; she may even set out to test a new-found theory by an excursion into extra-marital relationship which, if it should succeed in producing this same orgasm, would be a disaster greater than the first, though for the time being she will have found a most satisfying "cure."

It is, of course, essential that a high pitch of erotic tension together with its accompanying tumescence should be relieved and especially so if it is often repeated, and I note Dr. Malleson's reference to the woman who, unable to obtain a vaginal orgasm, deprives herself of the relief of a clitoral one. She draws attention to possible thoughts of propriety and to the feeling that this is "all wrong," or "not natural," a view which I would say is as often, if not more often, shared by the husband. Dr. Malleson says that "a little sensible information on the matter can make a tremendous difference to some women." I would emphasize the word "some," for things do not always work out that way. A decongestion may well be brought about by the husband, but there are numerous cases in which only the woman can do this for herself; and these are the difficult cases, because it may well be that the husband is not the partner, as it were, in the emotional side of the union. Equally difficult, though in a different way, are those cases in which neither the husband nor the wife is able, by any means known to them, to bring about the much needed relief to congested pelvic organs.—I am, etc.,

Westham, Pevensey. MAURICE L. YOUNG.

SIR,—Dr. Joan Malleson's paper (December 22, 1951, p. 1480) must have been read with much interest and relief by practitioners whose medical education dates from pre-Freudian days. But even those who have accepted his teachings may not always derive from them the enlightenment and inspiration needed when dealing with those vexed cases of female orgasm inability. This is due to the fact that in these matters we are not without prejudice and that our conception of what constitutes a normal woman is still far too much influenced by memories of the times when, in matters of sex, woman was regarded as a kind of man in disguise. Very slowly only does the knowledge spread that a woman's sexual life history coincides nowhere with that of a man, that sexual reactions and manifestations normal to him may by no means be normal to her, and that we must investigate and judge her normality by purely female and not by male standards.

We might have wasted much less of our time and we might have avoided giving much misguided advice to our patients if, while investigating the orgasm riddle, we had not so deplorably lost sight of the biological aspect of the matter. A survey of the animal kingdom shows that in the majority of species, where the males are endowed with very efficient genital and extragenital organs of copulatory fixation, the active participation of the female is, teleologically speaking, unnecessary and in fact absent. In those

few species where neither genital nor extragenital organs of fixation have developed, the females do in fact participate, thereby facilitating fertilization. The present-day human race presumably finds itself midway between the anthropoid ape stage, where the female is solely an object of the male's sexual desire, and the human stage, where coitus takes place by mutual consent only. Always assuming that the object of sexual relations is fertilization and the survival of the race, neither the conditions prevailing on the sub-human nor those on the human plane seem to necessitate the development of female orgasmic ability, and it is not so surprising therefore that this trait presents itself as something that might be as well on its way in as on its way out (Terman).

For practical purposes meanwhile we must remember that in all women orgasmic ability is not, as in the male, a necessary, well-established sensation but a *noli me tangere*, capable of manifesting itself fully in ideal circumstances, partially on less auspicious occasions, and of remaining totally in abeyance if inhibited by one of the thousand causes so well known to psychologists. Only where we can remove all of them—and wherever we can we do that—may we expect a woman to display her full capacity. For the rest we must continue to remind her that the acme of her sex life and the source of the most intense and lasting pleasure are not to be looked for in coital activity but in the birth of her baby.—I am, etc.,

Pinner, Middlesex. EDWARD ELKAN.

Male Infertility

SIR,—I wish to draw attention to your leading article on this subject (December 22, 1951, p. 1507) and especially to the passage, "Some clinics find it difficult to persuade the husband to attend for interview or even to provide a seminal specimen."

I would remind you that the question of providing a seminal specimen is one of grave difficulty for Roman Catholics. The usual method of providing a seminal specimen is either by the use of a condom during sexual intercourse or by ejaculation into a condom or other vessel during masturbation or coitus interruptus. These methods are regarded by all Roman Catholics as perversions of nature and hence as intrinsically evil, and their use would be a grave sin. Since the question of sterility is a serious problem to many Catholic couples, I would urge that greater use be made of such methods of estimating male fertility as testicular biopsy and the excretion of gonadotrophins and androgens in the urine, which do not involve the committing of offences against the natural law.—I am, etc.,

Manchester, 12. F. N. VALDEZ.

Cerebral Blood Vessels and "Priscol"

SIR,—Recently (October 13, p. 891) Drs. S. Smith and E. C. Turton reported a case in which motor aphasia and agraphia were temporarily relieved by intravenous and oral "priscol." The authors attributed the therapeutic effects of the drug to its vasodilatory action in the affected area of the brain. In view of their statement that, "although many papers have emphasized the value of priscol in peripheral vascular states, none has been concerned with the effect of the drug on the cerebrovascular system," I wish to draw attention to some experiments of mine which confirm their clinical observation and their explanatory comment.

A window was made into the skull of adult cats under "nembutal" anaesthesia and pictures were taken through a capillary microscope before and after intravenous injection of 5 mg. priscol (technique to be described in detail elsewhere). In all ten experiments a prompt dilatation of the pial arteries and arterioles was observed, lasting up to seven minutes. The duration of the vasodilatation was not followed longer, the animals being used for another experiment. The veins were not noticeably dilated. Priscol had a vasodilatory effect also in cases in which vasospasm was produced by concussion. The effect is shown in the Figures. Fig. 1 was taken before, and Fig. 2 seven minutes

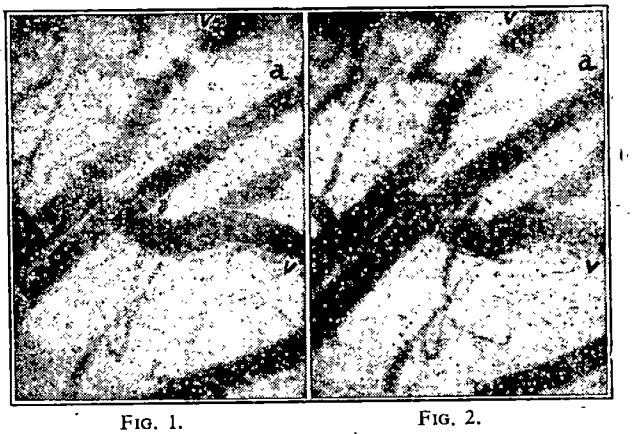

FIG. 1. FIG. 2.
"a" represents an artery, "v" a vein.

after, intravenous injection of 5 mg. priscol. The results of these experiments, performed in 1941, were mentioned in a recent article (Engel, *Acta psychiat., Kbh.*, 1950, 25, 153): "A drug which, as far as I know, has not been tried out in cerebral vascular affections of spastic nature is priscol. . . . I tested its effect on cerebral blood vessels by capillary microscopy through a window in the skull of cats, and found it to be a powerful vasodilator. . . ."

I am convinced, judging from Smith and Turton's report and my experiments, that in suitable cases priscol may have a salutary effect on the cerebral blood circulation. A trial should be given to it in cases of post-concussional syndrome, 5–6 weeks after trauma, in migraine, and in any vasospastic conditions in which no danger of cerebral haemorrhage exists. It may also be indicated in primary shock. The reduced blood pressure following injection might be an advantage.—I am, etc.,

Hong Kong. D. ENGEL.

L-*Nor*adrenaline as a Vasoconstrictor

SIR,—Some remarks on the blood pressure effects of D-methyl amphetamine ("methedrine") in Dr. H. C. Churchill-Davidson's most interesting paper (December 29, 1951, p. 1551) must be called in question. He states that L-*nor*adrenaline produces an almost similar rise of systolic and diastolic pressures, while methedrine produces only a slight rise of diastolic pressure in comparison with the systolic elevation. My experience with methedrine for correcting the hypotension accompanying high spinal blockade is not in accordance with this assertion.

In 300 cases under controlled hypotension intravenous methedrine has produced a diastolic rise of the order of slightly more than half the systolic rise. This is comparable with the systolic/diastolic pressor ratio obtained with *nor*adrenaline in Dr. Churchill-Davidson's data. I have measured the pressure rises shown in his charts in response to ten separate administrations of *nor*adrenaline, and compared them with the responses obtained from methedrine in a random sample of ten cases rendered hypotensive by high epidural block. The results are shown in mm. Hg:

Response to Noradrenaline. (Dr. H. C. Churchill-Davidson)

Data	Fig. 2	Fig. 3	Fig. 4					
Systolic rise	25 53	68 300	74	65	65	71	90	38
Diastolic "	18 30	30 155	75	30	40	20	58	35
State	Haemorrhagic hypotension		Ganglion-blockade hypotension					

Response to L-Methyl Amphetamine (Methedrine)

Dose of methedrine in mg.	5	5	6	6	5	6	6	7	4	6
Systolic rise	40	50	35	45	55	35	35	65	35	35
Diastolic "	35	35	20	25	45	30	20	30	25	20
State	Spinal block vascular hypotension									

It can be seen that in the figures from Dr. Churchill-Davidson's charts the diastolic rise averages 55.7% of the systolic rise in

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response to *nor*adrenaline, while my figures for methedrine show an even greater diastolic response, averaging 61.1% of the systolic rise. Assuming that both our samples are fair ones, it must be concluded that under the clinical conditions obtaining methedrine produces a greater, and not a smaller, diastolic response than *nor*adrenaline.

This may seem to labour a comparatively trivial point, but there is much that we do not know about the response of the body to pressor amines under normal and abnormal conditions, and it is therefore all the more important to keep clear what data we have, as a sound foundation for our theory and practice.—I am, etc.,

Emsworth. P. R. BROMAGE.

Migraine

SIR,—The investigation conducted by Drs. D. A. Campbell, K. M. Hay, and E. M. Tonks (December 15, p. 1424) is of singular interest to all who have any interest in the aetiology of migraine.

The facts which have been elicited would, however, have been even more useful had the type of migraine from which each patient was suffering been made known. It is obvious to all who have any real experience of these periodic headaches, be it from an aetiological or a therapeutic standpoint, that there are various types of the disease. Some migrainous patients undoubtedly have a basic endocrine abnormality; others appear to suffer from only a form of allergic disturbance. For instance, it is difficult to imagine any glandular dysfunction which, of itself, would produce an attack of migraine twice a week; while it is equally true that a generalized desensitization with either prostigmine or, better still, histamine will, in a significant number of cases, bring about alleviation, if not cure. This occurs even though the attacks are not of the typical histamine headache type.

My own interest in migraine started when an attack was induced with an injection of oestradiol (*Lancet*, 1942, **1**, 488). A similar result has been noted, though not considered worth reporting, on several occasions since. A better means of permanently relieving such type of migraine is by means of anterior pituitary lobe hormone rather than progesterone.

Yet, though water retention is perhaps the cause of headache in a number of cases, there is equally no doubt that at least 50% of patients do not note any diuresis either before, during, or after an attack. This is a question invariably put by me to all individuals examined for migraine, whose number now totals almost 800.

While migraine is a disease about which we know relatively little, there is no doubt that proper treatment will bring about great alleviation if not complete relief in about 80% of patients, whose number increases daily. There is equally no doubt that the disease must be looked upon from a broad standpoint and no one single therapy is ever likely to be the answer to the relief of so complicated a syndrome. —I am, etc.,

Putney. NEVIL LEYTON.

Shortage of X-ray Films

SIR,—It has been common knowledge for some time that there is a serious shortage of *x*-ray films in this country, owing to two facts—40% export of British-manufactured *x*-ray films and an increased use of *x*-ray examinations as the result of the National Health Service.

In a recent circular letter headed "Economy in the Use of *X*-ray Film" (*British Medical Journal, Supplement*, December 8, p. 255), signed by the chief medical officer of the Ministry of Health, he states the increased use of *x*-ray films as 76% greater than in 1947 and advocates further reduction in the use of *x*-ray examinations. This of course is most unlikely, and instead of reduction there is likely to be a further increase.

Surely the real answer is for a long-term policy to step up production of films by increasing the factories producing these articles but as a short-term policy to reduce or entirely abolish the 40% quota of British-produced films being sent abroad to countries such as Egypt, etc., and so permit the British public to get the maximum benefit from their Health Service.

On the Continent there appears to be no shortage of films, and recently I brought back from France a small supply. I was charged 24% duty by the Customs, and they suggested a fine of 10s. because B.E.A. officials had loaded the films in the wrong end of the aeroplane, making them arrive as luggage instead of cargo. The fine was not paid, but surely if we are to be deprived of films let us bring them back to this country without this extortionate duty and ridiculous suggestion of a fine.—I am, etc.,

London, W.1. NORMAN P. HENDERSON.

Educating the Public About Cancer

SIR,—Dr. J. F. Brailsford's letter (November 10, 1951, p. 1154) should not be allowed to pass without comment, as it represents an attitude of defeatism towards cancer which is all too prevalent in the British Isles. It would be very difficult for Dr. Brailsford or anyone else to show that early diagnosis and treatment do not greatly improve the chances of five-year survival in a vast majority of cancers. With our present methods of treatment no one can deny that sometimes even the earliest apparent case is sometimes uncontrolled, but the chances of "cure" in the early case are very much higher than in the late case.

For the past 15 years or so there has been, in the United States and Canada, an intensive publicity campaign which has been carried out by voluntary organizations—the American Cancer Society and the Canadian Cancer Society. The result has been a very much more intelligent public appreciation of the early signs of cancer, and consequently a very much earlier diagnosis of the disease than obtains at the present time in Britain. In Saskatchewan, for instance, there has been an active Government-sponsored cancer control programme in effect since 1932 and the population has been exposed to intensive propaganda from the Canadian Cancer Society for more than 10 years. These two factors have resulted in a marked increase in the percentage of early cases of cancer seen in the Government cancer clinics in Saskatchewan (*Canad. J. publ. Hlth*, 1951, **42**, 427, and *Lancet*, 1951, **2**, 496).

From the years 1932 to 1944 (inclusive), 6,816 new unselected cases of cancer were admitted to the cancer clinics in this province. The crude five-year survival rate was 43% and the corrected five-year survival rate was 49%. Dr. Brailsford states he has known patients with untreated cancer live more than five years. It is undoubtedly true that occasional patients suffering from cancer do survive without treatment for this length of time. Has Dr. Brailsford, however, any statistical evidence to show that 43% of untreated cases of cancer live five years? He states that women have a nerve supply even in the breast, and cancer manifests itself to their notice before the doctor can feel it. A monograph on this very important new sign of his would be instructive to those of us who are daily confronted with women who have undiagnosed breast tumours.

Public propaganda on cancer to-day is aimed at the prevention of fear of the disease, and the incidence of so-called cancer phobia is very much lower than Dr. Brailsford seems to think. In any case, cancer phobia in itself has never proved a fatal disease. Having had some experience in cancer work, both in England and Canada, we can definitely state that there is far more fear of the disease and ignorance of its nature in England than in Canada. Man fears the unknown. What knowledge we have at present of the disease should be shared with the public, and the inevitable result will be a great increase in the number of early cases seen in tumour clinics. Dr. Brailsford's theoretical objections to public education in cancer just do not exist in practice.—We are, etc.,

Cancer Clinic, Saskatoon, Canada. T. A. WATSON. O. D. BERESFORD.

Death on the Roads

SIR,—May I endorse Dr. C. W. A. Searle's remarks (December 29, 1951, p. 1583) on the laxity of both the law and the public in their attention to the necessity for good vision in driving? I frequently see myopes who either have no glasses or, if they have, do not wear them for driving. After dark, these people are particularly dangerous. I was told once by one of the latter that as he could see a number plate at 25 yards with his glasses on he felt no difficulty about signing the licence declaration though he never wore his glasses. I was once travelling in a Service vehicle which overturned because the driver's eyesight was only 6/60 when I tested her eyes a day or two later. I have also seen a patient with diplopia who was still driving.

Very often when one is driving one can tell by the attitude of a pedestrian or by his gestures that he is probably going to do something foolish. To observe these hints demands a good standard of visual acuity and saves accidents. Many pedestrians are infirm and suffer from bad eyesight themselves. If one of these unfortunates coincides in his travels with a careless myope the danger is apparent. One can hardly prohibit pedestrians with poor eyesight from crossing the roads.

It might even be advisable to treat culprits as those suspected of being drunk, so that an eyesight test is included in the routine investigation of a motorist who has been involved in a serious accident; particularly the question whether he was wearing his glasses at the time should be raised. I feel sure that a more stringent application of the law would save lives.—I am, etc.,

Greenwich, S.E.10. P. A. GARDINER.

Trichlorethylene Analgesia in Labour

SIR,—In the article by Mr. O'Donel Browne and others (December 29, 1951, p. 1556) it is stated that it was difficult to provide analgesia for the normal delivery at home because Minnitt's apparatus was too heavy if there was poor transport; and that the use of narcotics required greater skill, experience, and supervision than they could supply.

Surely proper transport is essential for this work to be done well; and should not the skill, experience, and supervision necessary for the administration of the drugs also be considered the right of patients in their own homes? Perhaps the co-operation of general practitioners, who are accustomed to coping with the difficulties mentioned, could be enlisted. It is rather distressing to think that students and pupil midwives may be led to imagine that proper analgesia and any necessary drugs cannot be easily obtained in domiciliary practice.—I am, etc.,

Plymouth. O. LL. LANDER.

Haemolytic Disease of the Newborn

SIR,—I read with much interest Dr. W. Walker's fine review article on haemolytic disease of the newborn (November 10, 1951, p. 1142) in the *British Medical Journal*, and would like to make the following comments.

1. The statement, "Tests for the strength of antibodies are not of much value in predicting the form or severity of the disease in the baby, and are not required," is not correct. In our own experience with tests on about 600 Rh-negative women there was a definite correlation between the maternal antibody titre and the severity of the baby's illness. In 338 Rh-negative mothers who were not sensitized the total mortality rate (stillbirths and neonatal deaths) among the babies was only 1.5%, so that non-sensitized Rh-negative mothers have as good a chance of having normal babies as Rh-positive mothers. On the other hand, among Rh-positive babies from sensitized Rh-negative women the total mortality rate was considerably higher, and was correlated with the maternal antibody titre. Thus, when the antibody titre was four units or less by the albumin-plasma conglutination method the total mortality rate was 12.2%, while with titres ranging from 65 to 256 units the total mortality rate was as high as 72.2%. With Rh-negative babies the height of the maternal Rh antibody titre was inconsequential, because none of those babies were erythroblastotic.

2. The assertion that one can predict the Rh type of the unborn baby from the Rh types of the parents requires some qualification. For example, if the husband belongs to type Rh_1Rh_1 his genotype could be either R^1R^1 or R^1r', of which the former is by far the more common and therefore the more likely. In general, therefore, one may assert with reasonable certainty that such a husband is homozygous for the Rh_0 factor, and that every child will be Rh_0 positive, and if the mother is sensitized that the expected baby will therefore be erythroblastotic. One must bear in mind, however, the possibility of rare instances where the husband is actually of genotype R^1r', in which case there is a 50% chance that the baby will belong to type rh' and therefore will not be harmed by the maternal Rh_0 antibodies. A similar qualification must be made when the husband belongs to type Rh_2Rh_2, in which case his genotype could be R^2r'' as well as R^2R^2. Finally, individuals of type Rh_1Rh_2 are not always homozygous for the Rh_0 factor, because they could belong to genotype R^1r'' or $r'R^2$ as well as R^1R^2, to say nothing of the rarer genotypes involving genes R^z and r^y.

On the other hand, individuals of phenotypes Rh_1rh and Rh_2rh are not necessarily heterozygous. For example, a person of type Rh_1rh might belong to any of the three genotypes R^1r, R^1R^0, or R^0r', of which the first is the most common and therefore the most likely. While most individuals of phenotype Rh_1rh are heterozygous, if a type Rh_1rh husband of a type rh woman has had two children, one type Rh_1 and the other type Rh_0, his genotype would have to be R^1R^0, so that such a man would be homozygous for the Rh_0 factor.

Where the husband is definitely heterozygous, as proved by the previous birth of an Rh-negative baby, there is a 50-50 chance that any future baby will be either Rh positive or Rh negative. By watching the course of the antibody titre during pregnancies one may be able to predict the Rh type of such a baby. If there is a significant rise in antibody titre at any time during the pregnancy, the foetus must be Rh positive. In not one of 16 cases studied by us in which the foetus was Rh negative was there a rise in antibody titre at any time during the pregnancy or after delivery, so that reports of so-called non-specific anamnestic reactions are based on faulty technique of titration. Failure of the antibody titre to rise leaves open the question whether the baby is Rh positive or Rh negative. However, in such cases where the antibody titre had been at a high level (250 units or more) throughout the pregnancy, we have predicted correctly shortly before the birth of the baby that it would prove to be Rh negative, reasoning that were it Rh positive it should have died *in utero* by the seventh or eighth month.—I am, etc.,

Brooklyn 25, N.Y. A. S. WIENER.

SIR,—I appreciate Dr. A. S. Wiener's interest in my article on haemolytic disease of the newborn and feel that his remarks require comment. I would remind him that the article was written for the guidance of the family doctor. Detailed consideration of the more controversial issues was therefore outside its scope. I will consider his two points in turn:

1. Throughout the past 10 years many attempts have been made to relate the antenatal maternal antibody titre to the subsequent form and severity of the disease in the infant. The results have been equivocal. In my hands, tests for the strength of maternal antibody using titrations in saline, albumin, and by the indirect Coombs test have been of little value in the individual case. I have found only a vague correlation between antibody strength and prognosis, though it may have some value in the prediction of still-

birth. This is not sufficient to influence one's conduct of the individual case, especially when one considers the multiplicity of tests required.

2. Dr. Wiener would, I think, agree that the knowledge of the father's genotype is of value (due consideration being given to the specificity of the antibody concerned). In his letter he is apparently solely concerned with the difficulty of determining this by serological tests on the father's blood. When preparing my article I decided that a discussion of these points was inappropriate. Dr. Wiener's letter leaves me unrepentant.—I am, etc.,

Newcastle-upon-Tyne. W. WALKER.

Childhood Factors in Duodenal Ulcer

SIR,—Dr. A. Balfour Sclare's letter (December 8, p. 1405) discloses one of the fallacious premises in Dr. Kellock's study (November 10, p. 1117). The other is that Dr. Kellock used as a control group people who were ill enough to be under the care of a hospital. The assumption is that none of them were suffering from diseases caused by emotional difficulties. Why should this assumption be made? Until a comparison has been made between people ill in hospital and people of similar age, occupation, etc., who have never been seriously ill, it is not proved that emotional conflict is not the prime cause of *all* disease. In such a comparison the factors influencing personality should, as Dr. Sclare points out, include those currently regarded by psychological authorities as being most important in producing emotional conflict in some individuals. Clearly such a piece of work would entail the spending of much time and patience, but the results might give the protagonists of "psychosomatic" medicine some very sure ground to stand on.—I am, etc.,

London, E.1. ALAN WATSON.

Gastric Carcinoma and Acute Perforation

SIR,—The risk of malignancy in perforated gastric ulcer has, of course, been known for some time. Of a personal series of 44 perforations six were gastric in type. In view of the known risk, once again stressed by Mr. Terence L. Kennedy (December 22, 1951, p. 1489), wherever possible excision of the ulcer was carried out and repair of the stomach performed. This had two advantages: the induration and oedema sometimes found may make suturing difficult and closure uncertain—the clean-cut edges of the operation excision can be sewn together with ease, making repair simple. Complications such as fistula formation, which occasionally occur, are thus avoided. The second advantage is that the whole ulcer area can be sent for section and the diagnosis of malignancy made with certainty and speed. There has been no difficulty when this procedure has been carried out. In Mr. Kennedy's series this manœuvre was not possible in all cases, since a number of these had obvious tumours, but it should be kept in mind and employed more often.

Finally, gastric carcinoma may occur with an independent gastric ulcer and a case of simultaneous perforation must be unusual. Without going into clinical details, which were not exceptional and presented a typical picture—a carcinoma of the pylorus was found to be perforated, and on the body of the stomach, quite separate, was a clear-cut independent ulcer which had also perforated.—I am, etc.,

Stourbridge. MAURICE HERSHMAN.

"Robaden" and Enterogastrone

SIR,—The note on "New Treatments of Peptic Ulcer" contained in "Any Questions?" (October 6, 1951, p. 862) has come to my attention. The attitude of caution taken by the commentator is most commendable, but certain misstatements require correction. The Swiss preparation "robaden" is compared with the enterogastrone preparations of the American workers as though both were only different brand names of a common preparation. Actually what has come to be known as "enterogastrone" is an extract of the mucosa of the upper small intestine: it would appear to be of a protein nature: its chief pharmacological action is inhibition of gastric secretion. Robaden, on the other hand, is a protein-free extract of the total stomach and small intestine and does not have the pharmacological action of enterogastrone in depressing gastric secretion. Without exception the papers published in America have dealt with enterogastrone only, and it is therefore obvious that conclusions drawn from the American studies cannot be applied to robaden.

Among the European papers you cite you have stressed one which gives attention to the importance of psychological influence of the doctor on the ulcer patient. Although psychological factors in the therapy of ulcer disease play an important part—as they do also in other chronic diseases such as arterial hypertension, rheumatic processes, etc.—sustained success in therapy cannot be achieved by the administration of placebo preparations.

May I draw your attention to the fact that in 1944 I was the first to report on good results with robaden in ulcer therapy? In 1951 I published a second paper on our findings since 1944, and could report confirmation of the earlier good results obtained by me and my colleagues.—I am, etc.,

Solothurn, Switzerland. H. SCHMASSMANN.

Technique of Shock Therapy

SIR,—It is my experience that both "tubarine" and "flaxedil" can produce a sense of suffocation in the conscious patient even when administered in smaller doses than those mentioned by Dr. D. T. Maclay (December 15, 1951, p. 1464) and that it is the apprehensive or uncooperative patient who is most likely to show distress. Dr. Maclay finds his technique to be satisfactory for a special type of case, but in principle it seems undesirable to allow these drugs to develop their effects without the cover of some form of narcosis. I believe that there are very few patients to whom a sleep dose of thiopentone may not be administered with safety, provided that they are given oxygen to breathe—preferably beforehand—and are kept well oxygenated up to a moment of stress.—I am, etc.,

Huyton, near Liverpool. J. R. ESPLEN.

Antihistaminics in Rheumatoid Arthritis

SIR,—I was interested to read in Professor Edward C. Kendall's Heberden Oration (December 1, 1951, p. 1295) that he seems to favour the view that rheumatoid arthritis may be due to a hypersensitivity state. If the disease were the result of the combination of an antigen (i.e., a foreign protein) and an antibody, cortisone could act either by modifying the rate of production of the antigen or by protecting the tissue from the effects of the products of such a combination. Presumably histamine, or a histamine-like substance, is likely to be involved.

So far as I know antihistamine drugs have no effect on cases of established rheumatoid arthritis, but the following case may be of interest in this connexion.

A middle-aged woman had been subject to fleeting attacks of pain and swelling in various joints for just over a year. The attacks came on suddenly and affected chiefly wrists, elbows, knees, and ankles. The pain and swelling generally subsided in a day or two, and there was no residual disability.

The attacks had been becoming more frequent and severe in the two months prior to her attendance at the clinic, and she was developing minimal swelling with stiffness of the proximal interphalangeal joints of the fingers. I diagnosed "palindromic rheumatism," which, in my experience, is generally an unusually prolonged period of prodromal symptoms heralding the onset of true rheumatoid arthritis.

However, in view of the fact that some authorities regard palindromic rheumatism as a separate entity due to an allergic state, I suggested to the patient's doctor that it might be worth while trying the effect of "anthisan" (one tablet thrice daily). This drug produced a dramatic relief of symptoms. The patient has not had any pain or swelling in any joints for over three months, and the swelling in the interphalangeal joints has subsided.

I have tried the effect of this drug on several similar cases in the past and it produced some symptomatic relief in all. I am aware that these observations are not in any way conclusive, but it would be of great interest to learn what success other practitioners have had in treating rheumatic diseases with antihistamine drugs.

In view of the absence of any direct proof that rheumatoid arthritis can be attributed to a hypersensitivity state any indirect evidence to support such a theory is of special importance.—I am, etc.,

RICHARD W. BARTER.

Watford.

POINTS FROM LETTERS

"Primary Atypical Pneumonia"

Major D. HAMILTON (B.A.O.R. 16) writes: A lot of "atypical pneumonia" I have seen bore little resemblance to the disease described by Dr. D. M. Baker (November 24, p. 1277). It was very easily diagnosed. It must be remembered that Coxsackie viruses, *Rickettsia burneti*, and the influenza viruses are all occasionally indisputable causes of the typical pneumonitis. The most promising approach to the subject is through the laboratory. The picture of benign pneumonitis varies greatly with place and time both in course and cause. As I saw it in Cyrenaica it was probably aspiration pneumonia, for it strongly favoured the dependent segments and subsegments, especially the axillary subsegments and the apical segment of the lower lobe. As originally described by a U.S.A.M.C. major it was thought to be influenzal. . . . We are shaking the mantle of the Oslerian tradition off. Just as well. The reconciliation of the divorced parties of diagnosis and treatment under the one approach of management of the case, and the recall of treatment from the wilderness, was essential. The Oslerian tradition, with its overemphasis on passive observation rather than management, did not even result in a complete catalogue of the common diseases. This is not to criticize the efforts of these physicians. Their approach was necessary. It has served its purpose.

Registered Drug Samples

MENLEY & JAMES write: We have received reports of annoyance caused to doctors by the early delivery of registered packets containing samples (see *Journal*, November 24, 1951, p. 1285). A number of drugs and preparations which are controlled by the Poisons legislation may only be supplied against the *signed* order of a registered medical practitioner, and when supplied through the post they must be sent by registered post. We have followed this procedure for a number of years, but it seems that, paradoxically, because of improvement in the postal delivery services it is now giving rise to annoyance. We have taken up the matter of delivery with the Post Office, and in consultation with them we are arranging to incorporate on registered packages sent in response to requests for samples the following wording: "Postmaster—not first delivery, please." We can only make this request, but we understand that if a doctor complains to his local post office that he is being disturbed at an early hour by the arrival of packages the local office would arrange for packages to arrive during a later delivery.

Incontinence in a Woman

Dr. S. BRENNAN (Nottingham) writes: It is easy enough to enumerate the causes of incontinence in a man, but what of incontinence in a woman? Recently I received a 'phone message from a woman who appeared by her tone to be in great anxiety. When I arrived she told me that her urine was constantly dribbling. She gave me a history of this going on for a few weeks; but only after micturition, and she had paid little attention to it; but one day it became continuous—and thus her urgent 'phone call. I visualized a fibroid or a growth or some displacement. Abdominal examination revealed nothing. When I proceeded to do a P.V. I found complete atresia of the vulva, which was completely shut off by a thin membranous tissue. There was just a pin-point opening, surrounded by a red areola. Next day I examined her under an anaesthetic and broke down and stretched the membrane. She has been perfectly well ever since. She is a woman of 62 years, strong, healthy, and not of the neurotic or hysterical type. At the age of 31 she gave birth to a 9¼ lb. (4.1 kg.) baby, this being the only child. It was a normal delivery, but she was badly torn and required several stitches. Here was the extraordinary case of a woman urinating into the vagina and thence through this tiny opening, giving rise to the incontinence. I should like to know if this is an unprecedented case. I have never seen anything like it in my 30 years of practice.

Obituary

Dr. G. L. THORNTON, who died on December 4, 1951, at the age of 79, will be remembered with affection by a wide circle of ex-Service men and women, members of the Regular Armed Forces and the Territorial Army whose services extend over the two world wars. George Lestock Thornton was educated at Rossall School, Trinity College, Cambridge, and St. George's Hospital. He qualified in 1897, and after a period of general practice at Holt, Norfolk, and Ilfracombe, North Devon, he returned to St. George's Hospital as casualty officer and medical registrar before setting up again in general practice in Exmouth, South Devon, in 1903, in which year he obtained the M.R.C.P. He was a keen and shrewd clinician who strove always to keep abreast of expanding medical knowledge, and at the same time never losing the human and kindly touch of the family doctor. For many years he was secretary of the Devon and Exeter Medico-Chirurgical Society and medical officer to the Exmouth Cottage Hospital. In addition to the duties of a busy professional life he did not shirk civic responsibility and served on his local district council (whose chairman he was at the outbreak of the first world war, and again in 1919) and later on the Devon County Council. In 1915 he volunteered for service with the Royal Army Medical Corps and served first in Malta and later in France, Salonika, and Palestine with the 2/6 London Field Ambulance. He was awarded the M.C. and bar while acting as regimental medical officer to the 303 Brigade, R.F.A. After returning to general practice in 1919 for a short period he accepted full-time employment with the Ministry of Pensions Medical Services, becoming Deputy Commissioner of Medical Services, Exeter, which post he held until his retirement under the age limit in 1937. In recognition of his service he was appointed C.B.E. At the outbreak of the second world war he was recalled to temporary duty and served as Commissioner of Medical Services, South-west Region, until the conclusion of hostilities. Between the two wars he devoted much time to the Territorial Army, commanding the 128 Wessex Field Ambulance and later becoming A.D.M.S. of 43 (Wessex) Division and honorary colonel, 43 Division Medical Services. He held the post of Honorary Physician to King George V from 1930 to 1934. Always keenly interested in the welfare of ex-Service men and women, he was a member of the British Legion and took office as president of his local branch on his final retirement from the Ministry of Pensions. He married Letitia Anna Cordner in 1898. During the second world war he suffered the tragic loss of his wife, who was killed in a daylight air-raid on Exmouth in 1943, when his house was totally destroyed. He is survived by his three sons, two of whom are members of the medical profession, and one daughter.

Dr. NESTOR JOHN STANLEY NATHAN died on December 13 after a short illness at the early age of 41. He was a student at Charing Cross Hospital and qualified in 1932. After appointments as house-physician and house-surgeon at his own hospital, and as house-physician at the London Chest Hospital, he began his career in public health as an assistant medical officer at the Surrey County Council's Sanatorium at Milford. He then moved to the West Riding of Yorkshire, where he remained 13 years, first as assistant county medical officer of health and subsequently as medical superintendent first of the General Hospital at Wakefield and then of the Staincliffe Hospital, Dewsbury. It is particularly as holder of these two last appointments that he will be remembered in the West Riding with gratitude and affection, since it was due in no small measure to his enthusiasm and inspiration that these two hospitals were entirely transformed from backward institutions into the modern and fully equipped general hospitals they are to-day. In 1943 Dr. Nathan took the D.P.H. and in 1946 the D.R.C.O.G. In 1950 he returned

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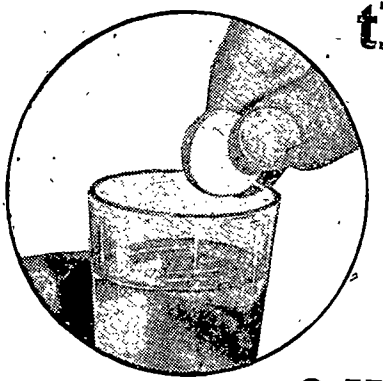

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to public health as area medical officer for the Staffordshire County Council, but unfortunately his untimely death has cut short the excellent work he was doing in that sphere. He leaves a widow and two young sons, to whom the sympathy of his friends and colleagues will be extended.

Dr. ANDREW BROWNLIE died on December 13, 1951, at his home in Hamilton at the age of 75. He graduated M.B., Ch.B. at Glasgow University in 1899, and after two years' service as an assistant medical officer in Brislington Hospital, near Bristol, he became assistant in 1902, and partner in 1904, of the late Dr. James Adam, of Hamilton. When Dr. Adam gave up general practice to specialize in throat and nose work, Dr. Brownlie carried on the practice on his own until January, 1951, when ill-health caused his retirement. He had celebrated his jubilee in medicine 18 months before. During the first world war he served for two years in the R.A.M.C., mainly in Egypt and Malta. A regular churchgoer, he was an elder for many years. Though of quiet and reserved disposition, he was popular with his colleagues and patients. In 1932 he served for a year as chairman of the Lanarkshire Division of the B.M.A. He was a keen bowls player, and won prizes over many years. His wife predeceased him in 1942.

Dr. WILLIAM HOLBERTON SQUARE died at his home in Leighton Buzzard on December 18 at the age of 91. He had been in practice in the town since 1898. A member of a well-known Devon family, he was born at Kingsbridge, South Devon, and educated at Sherborne School and St. Bartholomew's Hospital. When he was a student he dissected with D'Arcy Power, and he delighted to tell stories of Matthews Duncan and Tom Smith. After qualification in 1884 he went into practice at Newton-le-Willows, in Suffolk, and from there he went to Sunderland, where his busy general practice included over 150 "midder" cases a year. Anxiety about his wife's health caused a move south, and he came with three young children to Leighton Buzzard just before the end of the century. Life was leisurely. There were no regular surgeries, and hunting with the staghounds in winter provided relaxation. Visiting in those days was done on horseback by day and a bicycle at night. Then a smart American "buggy" provided more comfortable transport, and in 1907 a baby Peugeot was obtained, succeeded from time to time by more roomy and reliable cars. Hunting continued to be his favourite relaxation until at 73 he had a fall and injured his shoulder. Even after that a horse was favoured for a few afternoon visits after the bulk of the work had been done by car in the morning. He was medical officer of health to the Eaton Bray Rural District Council until it merged into Luton Rural District Council, and to the Wing Rural District Council for 27 years, until after his 90th birthday. He was an active Freemason and was made a Grand Deacon of England in 1937. To successive generations in his practice he became an institution. He had never been ill—three days at the outside with mild influenza was all he could remember—and to many of his patients it seemed impossible that a time would come when he could no longer pay his usual visits. But 10 days before his death he felt too tired to carry on, and the end came just three weeks after his 91st birthday.—A. O. B.

Dr. WILLIAM ALFRED CARDEN died suddenly on December 27, 1951, in Johannesburg at the age of 79 years. He studied medicine at Guy's Hospital, qualifying in 1895. Four years later he went to Korea, where he worked as a medical missionary with the English Church Mission. In 1903 he settled in South Africa and began to practise at Fraserburg. Some years later he moved to Bothaville, in the Orange Free State, where he was in practice for 22 years: for a time he was district surgeon there. In 1930 he moved again, this time to Worcester, in Cape Province, and he continued in practice there until his retirement in 1942. He then settled at Deneysville, where he lived until the time of his death. His passing will be mourned by many of his colleagues in South Africa.

Medico-Legal

RESTRICTIVE COVENANT APPEAL DISMISSED

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

On December 13, 1951,[1] the Court of Appeal dismissed the appeal of a doctor against the decision of Mr. Justice Danckwerts, previously reported in these columns,[2] upholding a restrictive covenant in the partnership deed of the partnership from which the doctor had recently retired and granting an injunction forbidding him to practise as a general medical practitioner within a radius of 10 miles from Atherstone Parish Church.

In his judgment the Master of the Rolls said that, although the evidence showed that only 1% of the patients of the practice lived outside a radius of five miles, that 1% included the more affluent private patients who had cars to take them to the principal surgery, and accounted for more than a third of the total income. He found nothing vicious in the 21-year time restriction in the covenant, because, although this might amount to life banishment from the area, a doctor was a relatively mobile person and the whole of the United Kingdom was open to him. Nor did he find anything unreasonably wide in the covenant's formula "directly or indirectly carrying on or being interested or concerned in carrying on the business or profession . . ." Such a formula used in connexion with professional men did not carry the covenant beyond what was reasonably required to protect the continuing and remaining partners against competition. Accordingly, if radius, length of time, and the width of language used were taken, the total result of the covenant did not produce anything unreasonably wide.

His Lordship then went on to consider the effect on the matter of the National Health Service Act, 1946, and the Amending Act of 1949. While the plain intention and effect of Section 35 of the 1946 Act was to prevent doctors who practised, as these doctors did, in the Service from selling the goodwill of their practices, the section did not have the effect either of destroying the goodwill or of vesting it in the State or any emanation of the State. Goodwill remained one of the assets of the firm, on the creation and preservation of which the livelihood of the partners continued substantially to depend. This view of the matter was implicit in Section 1 (5) and (12) of the Amending Act of 1949, which showed that the element of goodwill was not so taken away that the ordinary principles otherwise applying to this restrictive covenant no longer did so. Nothing in the new legislation therefore invalidated this covenant, which was a valid covenant when made in 1945.

Lord Justice Birkett and Mr. Justice Upjohn concurred in dismissing the appeal and affirming the order of Mr. Justice Danckwerts, and the enforcement of the injunction was suspended until December 31, 1951.

[1] *The Times*, December 14, 1951.
[2] *British Medical Journal*, November 17, 1951, p. 1225.

Universities and Colleges

UNIVERSITY OF OXFORD

G. W. Corner, Hon. D.Sc., Director of the Department of Embryology of the Carnegie Institution, Johns Hopkins Medical School, Baltimore, U.S.A., has been appointed George Eastman Visiting Professor for the academic year 1952–3.

UNIVERSITY OF CAMBRIDGE

The following candidates have been approved at the examinations indicated:

FINAL M.B. (Old Regulations).—*Part I: (Surgery, Midwifery, and Gynaecology):* D. M. E. Allan, R. E. C. Altounyan, J. D. C. Anderson, P. A. J. Ball, B. W Broadhurst, D. Bryant, H. M. Buckland, N. V. D. Bunker, A. R. Butterfield, H. Caplan, W. J. Colbeck, C. E. T. Cones, H. C. Cunningham, J. G. Davies,

J. I. W. Davies, R. J. L. Davis, R. H. Davison, P. J. Dawson, J. R. Edwards, J. N. T. Evans, J. R. Flury, J. M. A. Jepps, J. H. Jones, D. H. Kay, J. Liddell, A. B. Lowther, P. J. Lyne, P. J. McQuade, G. C. Metcalfe, H. Nichol, P. S. Reay-Young, W. A. G. Roper, T. L. Scully, M. P. Siddons, E. P. Simkin, J. D. H. Slater, D. M. Surrey Dane, M. L. Thomas, D. H. Trapnell, R. M. Turner, R. F. Warnock, O. H. Watkins, W. G. Williams, E. A. Wilson, D. Wise. New Regulations.—*Part II* [2]*Principles and Practice of Physic,* [3]*Surgery,* [4]*Midwifery and Gynaecology* (the figures indicate the section or sections passed): [4]J. F. Andrewes, [4]G. S. Banwell [2]A. J. F. Barratt, [3 4]A. W. Beard, [3]A. C. Beatty, [2]L. J. Bishop, [3]A. P. Blower, [4]C. J. Booth, [3 4]M. J. Boyle, [4]I. M. Brown, [2 3]G. M. B. Bulman, [2]D. M. J. Burns, [4]J. B. Chapman, [2]D Churchill-Davidson, [2]M. J. Clarke-Williams, [2 3]R. G. Covell, [2 3 4]W. Eade, [2 3 4]J. C. B. Fenton, [2]R. V. Fiddian, [2]R. D. France, [2]H. W. S. Francis, [4]R. T. Gaukroger, [2 4]N. Gee, [2]H. M. Gough, [3]H. Gough-Thomas, [4]H. Graham, [2 3 4]G. P. Greenhalgh, [2 3]E. Hainsworth, [4]A. M. Harington, [3]D. Harrett, [3 4]R. J. H. Harris, [2]D. L. Harrison, [2]L. B. P. Hartley, [2]R. D. Hernaman-Johnson, [2 4]A. H. R. Hewett Clarke, [2]J. D. M. Howat, [2]R. L. Huckstep, [4]R. F. Ingle, [4]R. Keeley, [2 3 4]I. H. Kerr, [2]I. Lenox-Smith, [3 4]N. R. Lewis, [2 4]J. A. McHardy, [3 4]R. E. Mackie, [2 3]C. R. Maddock, [2]J. W. E. Mark, [2 3 4]K. J. Martin, [3 4]Mrs. C. M. Maxwell, [2 3 4]A. A. E. Nakeeb, [4]J. H. Newton, [4]T. F. D. Oram, [2]K. C. Paterson, [3]G. W. Pearson, [3]R. F. Pearson, [2 3]A. O. Peters, [2 3]R. A. N. Petrie, [3]J. M. Phillips, [2]C. Rashbass, [2]T. L. Ringrose, [3]V. Sarma, [4]C. W. Savile, [4]G. E. Sharp, [2]G. M. Shaw, [4]L. P. Sheil, [2]G. W. Smallcombe, [2]J. A. J. Smith, [4]J. L. Somervell, [2]E. M. Sproston, [2]R. M. Standish-White, [4]N. A. Subedar, [2]P. H. Swinhoe, [4]B. V. Tyman, [2 3 4]B. G. S. F. Vergano, [2 3 4]G. T. Whitaker, [2]R E. Wolfendale. Old Regulations.—*Part II (Principles and Practice of Physic, Pathology, and Pharmacology):* G. B. Davison, D. A. Edington, P. S. Greaves, D. W. Hall, J. F. Higgins, A. Paneth, D. G. D. Vint. New Regulations.—*Part I (Pathology and Pharmacology):* C. W. M. Adams, P. G. Allen, M. A. Baddoo, A. W. Beard, D. W. K. Bird, L. J. Bishop, M. H. H. Bishop, Mrs. N. L. Blackwell, A. P. Blower, G. M. P. Boyes, J. E. Brett, H. G. Britton, D. M. J. Burns, D. A. P. Burton, T. F. Bushby, V. G. Caiger, C. McC. Campbell, D. Campbell, G. R. C. Campion, S. M. Cannicott, C. E. Channon, J. B. Chapman, W. H. Chapman, D. Churchill-Davidson, Mrs. G. Cole, R. R. A. Coles, A. S. Cooper, B. R. Corbin, M. J. F. Courtenay, R. G. Covell, S. H. Dallas, P. F. Dixon, A. B. Donnison, M. Dulake, J. H. Edwards, R. V. Fiddian, S. J. Fisher, Mrs. H. French, O. H. French, I. M. Glynn, R. Goldsmith, A. N. Griffith, H. F. Grundy, M. C. Guard, T. Hall, E. B. D. Hamilton, D. L. Harrison, R. Harrison, M. W. A. Haward, A. L. Hilton, J. A. Holland, B. L. Hoskyns, J. D. M. Howat, J. Innes, B. S. Jay, D. S. Jeffery, A. McL. Keil, I. H. Kerr, E. I. Kohorn, J. S. H. Lodge, R. Mangnall, K. J. Martin, R. J. Mather, G. G. Matthews, P. L. Maybury, N. A. Miles, K. F. Morrice, T. M. O. Morris, D. B. Murray, J. F. Newcombe, J. H. Newton, J. O. Ojukwu, D. N. H. Owen, W. N. B. Parker, K. C. Paterson, G. W. Pearson, A. O. Peters, J. M. Phillips, J. T. H Pick, P. F. Plumley, J. F. Preece, P. M. H. Rack, G. L. S. Rankin, C. Rashbass, J M. Rigg, T. L. Ringrose, R. W. Ross Russell, K. E. K. Rowson, J. H. Sewart, C. A. Sharples, H. J. Shimmin, J. M. Simister, F. V. Simpson, R. L. Smith, R. J. Spray, J. H. Swallow, K. A. Taylor, D. S. Trouton, J. A. M. Tudor-Hart, K. M. Underwood, G. I. Verney, M. F. R. Waters, J. Watson-Farrar, P. A. Watt, I. Weinbren, G. T. Whitaker, J. S. H. Whitehead.

UNIVERSITY OF ABERDEEN

At a Graduation Ceremony held on December 19, 1951, the following medical degrees were conferred:

M.D.—R E. Glennie, P. O. Leggat, A. W. B. MacDonald.

M.B., CH.B.—[1]Q. A. F. R. Grant, [1]S. G. B. Innes, [1]L. Symon, [2]S. R. McN. McCreadie, [2]N. MacLeod, [2]G. M. Mitchell, Catherine K. Adam, R. G. G. Allan, J. A. Anderson, Mary I. R. Auld, L. B. Bartlet, A. G. Beattie, Anne C. Biezanek (née Greene), Emma L. Birse, R. F. Blackburn, R. Brown, K. S. Cameron, J. D. Campbell, G. W. Cardno, R. A. Christie, A. G. Craig, Shiela W. Craig, J. H. F. Crawford, R. Davidson, Madeline Deans (née Ross), J. I. D. Diack, I. M. Dingwall, R. T. Donald, Caroline S. Duff, Janet C. Duncan, J. M. Farrell, J. A. Forbes, Enid Fullerton, E. R. Fyfe, A. Gage, R. Gardiner, A. Gatherer, G H. M. Gordon, A. J. Graham, Elizabeth D. Grassie, H. Gray, Elizabeth A. Green, Jean C. Hay, A. Herriot, R. D. Hill, H. M Horne, L. F. Howitt, C. G. Ingram, I. M. R. Laing, T. R. Lawrie, A. R. Lyall, A. Lyon, Betty McAllan, D. S. McDonald, M. E. McDonald, A. Macinnes, Mary MacIver, W. G McKay, Mairi MacKenzie, A. R. McNaughton, D. MacNeill, Joyce M. Millar, D. Milne, June I. Milne, K. G. S. Milne, A. Minto, H. Nicol, Margaret H. Norquay, H. E. Nutten, S. Peace, B. G. Pirie, Sheila M. Purchase (née Dawson), Norah P. Raitt, H. P. Robb, R. C. Roll, Lilian M. Scotcher, R. McD. Scott, P. O. Sharp, E. J. Sinton, R. Stalker, A. K. Stephen, Edith G. Stewart, W. J. S. Still, J. S. Taylor, E. R. H. Tennant, J. B. Troup, A. G. Turner, C. H. Walker, J. M. R. Wetherly, R. E. Wetherly, Agnes E. Whitter, A. F. Whitter, R. V. Williams, G. A. Wood.

[1]With honours. [2]With commendation.

UNIVERSITY OF DUBLIN

SCHOOL OF PHYSIC, TRINITY COLLEGE

The following medical degrees were conferred on December 6:

M.D.—T. T. Chapman, E. R. N. Cooke.

M.CH.—J. E. F. Coolican.

M.A.O.—A. D. H. Browne.

M.B., B.CH., B.A.O.—N. Boland, Norma E. Boyd, Iris E. Byers, E. D. Cooke, D. L. Cowan, Patricia G. Ellis, Phyllis E. Featherstone (formerly McCready), K. W. M. Harbord, W. Jackson, Ethel G. Jennings, T. D. Kimmet, R. King, G. J. Malseed, Edith P. Pringle, Aileen F. Smith, W. McC. Wilson, B. W. Withrington.

UNIVERSITY OF LONDON

The following candidates have been approved at the examinations indicated:

M.S.—*Branch I (Surgery):* A. G. Ellerker, B. W. Wells. *Branch IV (Otology, Rhinology, and Laryngology):* J. A. Harpman.

UNIVERSITY OF SHEFFIELD

At a Degree Congregation held on December 18, 1951, degrees in the Faculty of Medicine were conferred as follows:

M.D.—G. M. King.

M.B., CH.B.—A. H. Askew, Phyllis B. Banks, Hilda M. Brunt, D. A. Ewing, M. Falconer, G. Flowers, Phyllis B. Hobbs, J. K. Johnson, J. H. Nicholls, D. L. Price, Mrs. Zoe C. Randall, Olga R. Raphael, D. Waddington.

QUEEN'S UNIVERSITY, BELFAST

At a Graduation Ceremony held on December 19, 1951, the following medical degrees were conferred:

M.D.—[1]R. F. Whelan, [2]Wilmert F. I. Brown, [2]W. F. McAuley, W. Bingham, W. B. S. Crawford, J. K. A. Dorman, S. Kay, K. L. Stuart, A. P. Trimble, D. G. C. Whyte.

M.CH.—H. C. Dales.

M.B., B.CH., B.A.O.—Adela M. Blair, Sarah F. Charlton, D. McL. F. Drew, L. Fenton, J. L. Houston, T. J. McCabe, G. A. McCann, J. J. McCavana, I. A. McQuade, H. G. S. Murray.

[1]With high commendation. [2]With commendation.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

At a meeting of the Royal College of Surgeons of Edinburgh held on December 19, 1951, with Professor Walter Mercer, President, in the chair, the following candidates who had passed the requisite examinations were admitted Fellows: T. L. Barclay, F. Bauer, Lydia Colaco, J. K. Craig, H. A. F. Dudley, A. S. Lambert, D. G. Lane, F. D. Martinson, S. Mishra, A. H. McCallum, J. A. McCredie, I. G. Mackenzie, S. Nand, W. H. Rutherford, L. Stein, D. P. Viljoen, J. A. S. Wilson.

Professor Robert Humphrey McKeag, M.B., B.Ch., B.Dent.Sc., of the Department of Dental Surgery, University of Ceylon, was elected a Fellow in Dental Surgery without examination.

The Services

A *Supplement* to the *London Gazette* has announced the following awards:

First, Second, and Third Clasps to the Territorial Efficiency Decoration.—Major H. R. Paterson, T.D., R.A.M.C.

First Clasp to the Territorial Efficiency Decoration.—Lieutenant-Colonel D. W. E. Lloyd, M.C., T.D., and Major H. Dickie, T.D., R.A.M.C.

Territorial Efficiency Decoration and First Clasp.—Majors G. W. Monro and J. R. S. Third, Captain J. P. Collinson, R.A.M.C.

Territorial Efficiency Decoration.—Lieutenant-Colonel E. F. Hill, Captain (Honorary Major) G. G. Cochrane, and Captain J. L. Carmichael, R.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Prisoners of War.—Captains R. P. Hickey and D. R. Patchett, R.A.M.C., attached R.U.R.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **December 22** (No. 51) and corresponding week 1950.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 126 great towns in England and Wales (London included), London administrative county the 16 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 13 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1951					1950				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	54	5	11	1	1	46	2	13	1	5
Dysentery	422	29	148	3	1	1,024	60	148	4	
Encephalitis, acute	1	0	0	0		6	1	0	0	
Enteric fever:										
Typhoid	6	0	0	0	1	5	1	0	0	2
Paratyphoid	17	0	5(B)	5	1(B)	3	0	0	1	
Food-poisoning	182	10		1		169	15		1	
Infective enteritis or diarrhoea under 2 years				16	14				11	9
Measles*	2,321	28	134	159	85	14,328	1556	197	79	120
Meningococcal infection	30	2	12	1	4	31	3	18	0	1
Ophthalmia neonatorum	27	1	10	0		37	1	9	1	
Pneumonia†	681	57	238	3	1	647	42	313	2	
Poliomyelitis, acute:										
Paralytic	22	0	9	2	0	53	6	4	0	3
Non-paralytic	6	1								
Puerperal fever§	203	22	12	1	2	74	10	6	1	
Scarlet fever	1,552	112	292	21	44	1,106	87	176	42	57
Tuberculosis:										
Respiratory			126	27				135	12	
Non-respiratory			31	10				29	12	
Whooping-cough	1,819	63	262	74	86	3,735	360	604	30	77

DEATHS in Great Towns	1951					1950				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	0	0	0	0	0	0	0	0	0	0
Dysentery		0		0			0		0	
Encephalitis, acute		0			0		0			0
Enteric fever	0	0	0	0		0	0	0	0	
Infective enteritis or diarrhoea under 2 years	21		2	0	2	22		7	0	0
Influenza	13	3	0	1	0	54	4	5	1	0
Measles		0	1	0	1		1	0	0	2
Meningococcal infection		0	0				1	1		
Pneumonia	273	55		11	9	350	69		12	12
Poliomyelitis, acute	2	0			0	3	1			0
Scarlet fever		0	0	0	0		0	0	0	0
Tuberculosis:										
Respiratory	139	26	17	3	7	197	31	29	6	13
Non-respiratory		1	3	0	3		2	4	1	0
Whooping-cough	1	0	0	0	0	13	2	0	0	0
Deaths 0–1 year	257	29	31	15	22	299	39	42	10	7
Deaths (excluding stillbirths)	5 685	951	660	135	183	6 971	1085	791	154	188
LIVE BIRTHS	6,405	1050	787	267	320	6,411	995	809	266	347
STILLBIRTHS	192	37	17			164	28	21		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.

Vital Statistics

London's Health in 1951

According to a preliminary report issued by Sir Allen Daley, London County Medical Officer of Health, the provisional birth rate in London for 1951 was 15.8 per thousand population. It has declined progressively from the peak of 1947, when it was 20.9. The average for the decade 1931–40 was 13.8. The provisional death rate was 12.7 per thousand, which is slightly higher than the rate for any of the years 1946–50 but the same as the rate for the decade 1931–40. This slight rise in mortality may be partly attributed to the influenza epidemic earlier in the year.

The provisional infant mortality rate was 26 per thousand live births. This was the same as the rate in 1950 and lower than any previously recorded rate. For 1931–40 the rate was 60. The provisional neonatal mortality rate (i.e., of children under four weeks) was 17.4 per thousand live births, as compared with 24 for 1931–40.

The provisional death rate for tuberculosis was 0.38 per thousand—a new low record, and 0.02 below the rate for 1950. Notifications of new cases fell slightly from 5,718 in 1950 to 5,476. Fatal road accidents increased in number; there were 303 deaths (provisional figure) as compared with 245 in 1950. There were 44 deaths from infantile diarrhoea, which is a record low figure.

Week Ending December 29

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,095, whooping-cough 1,402, diphtheria 43, measles 2,331, acute pneumonia 678, acute poliomyelitis 20, dysentery 293, paratyphoid fever 7, and typhoid fever 3.

Infectious Diseases

In England and Wales during the week ending December 22, 1951, notifications of whooping-cough decreased by 110 and measles by 127, while notifications of acute pneumonia decreased by 98 and dysentery by 85.

The decline in the incidence of whooping-cough was mainly contributed by the midland counties. The largest fluctuation was a rise of 47 in Yorkshire West Riding. Small fluctuations occurred in the local trends of scarlet fever, and the total for the country was only 9 more than in the preceding week. For the second consecutive week a rise of 12 in the number of notifications of diphtheria was recorded, and the total was the largest for over a year. The largest variations in the local trends of diphtheria were a rise of 8 in Staffordshire and a fall of 4 in Cheshire. The largest increases in the incidence of measles were Cardiganshire 71 and Kent 44, and the largest decreases were Staffordshire 61 and Durham 49.

In Suffolk 14 further cases of paratyphoid fever were notified; 10 cases were reported in this county in the preceding week. The largest centres of infection during the week were Stowmarket U.D. 8 and Hartismere R.D. 5.

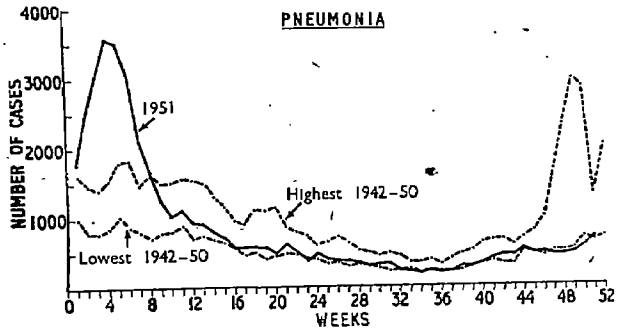
The notifications of acute poliomyelitis were 14 fewer for paralytic and 2 fewer for non-paralytic cases than in the preceding week. The largest returns during the week were those of Kent and Cambridge with 3 cases each.

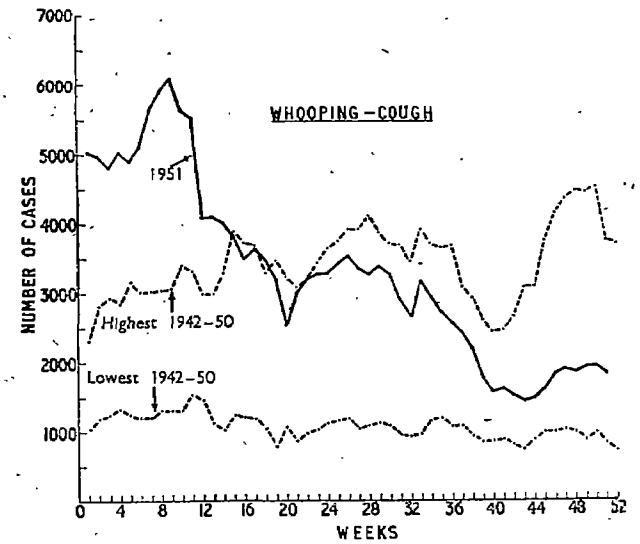
A further 93 cases of dysentery were notified during the week from the outbreak in Norwich C.B. The other large centres of infection were Middlesex 65 (Staines U.D. 13, Willesden M.B. 12); Northumberland 39 (Rothbury R.D. 37); Southampton county 31 (Portsmouth C.B. 15, Havant and Waterloo U.D. 10); London 29; Lancashire 29; Durham 17 (Jarrow M.B. 11); Essex 15; Leicestershire 12 (Leicester C.B. 12); and Yorkshire West Riding 12.

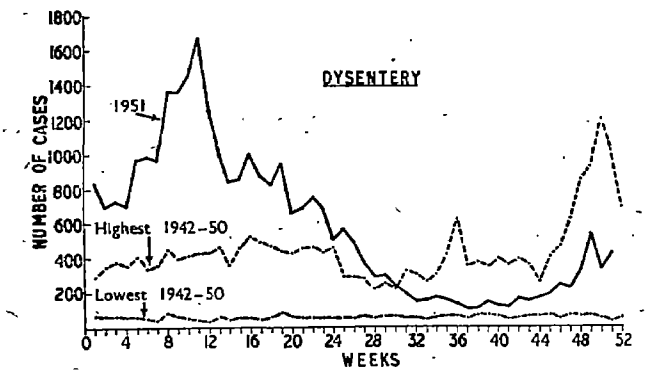
In Scotland the number of notifications of dysentery was 109 more than in the preceding week because of an outbreak in Lanark county with 101 notifications. The other large return from Scotland was 27 for Glasgow.

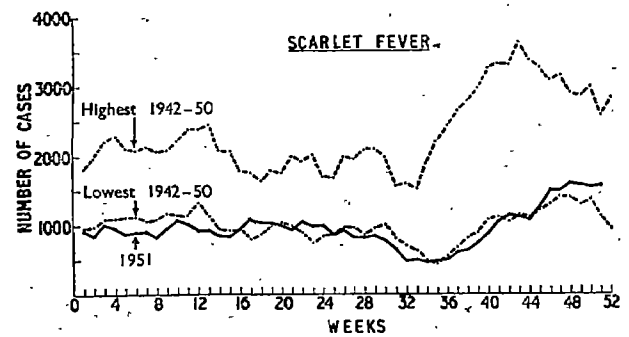
Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1942–50 are shown thus -------, the figures for 1951 thus ————. Except for the curves showing notifications in 1951, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.









Health in Singapore

A notable feature of the population on Singapore Island is its great increase in the last 30 years. From just over 400,000 in 1921 it has grown to just over a million in 1950 (*Annual Report* of the Medical Department of the Colony of Singapore, 1950). From 1911 to 1931 the increase was some 83%, and the cause was mainly immigration from India and China. Since 1931 the population has grown by about 82%, mainly because of the steady increase of births over deaths. While in 1931 there were 584 females to 1,000 males, there are now 855, a factor of much significance to the recent population increase.

The infant mortality rate in 1950 rose to 82 from the 1949 low record of 72. These figures may be compared with pre-war returns of 130 in 1939 and 191 in 1931; the rate in 1944 was 285. The present rate is similar to that for England and Wales in 1920. The maternal mortality rate continued to decline and was 1.85 per 1,000 total births as compared with 4.0 in 1939.

The following were the death rates per million in 1950 from certain causes (with the corresponding figures for 1939–41 in parentheses): pulmonary tuberculosis, 1,193 (2,288); malaria and unspecified fever, 806 (1,547); beriberi, 242 (873); violence, 486 (637); heart diseases, 558 (655).

Medical News

Lady Tata Memorial Trust

The Trustees of the Lady Tata Memorial Fund invite applications for grants, scholarships, or fellowships for research on diseases of the blood, with special reference to leukaemia, in the academic year beginning October 1, 1952. They are open to workers of any nationality, in any country in which payment is possible. Grants are made for research expenses or to provide scientific or technical assistants for senior workers. Scholarships are awarded for the personal support of those carrying out approved research under suitable direction; their normal value will be £600 for whole-time work, with a proportional adjustment for work on a part-time basis. In addition the Trustees may award one or more Lady Tata Memorial Research Fellowships to workers with considerable research experience; the stipend of these fellowships is £1,000 per annum. Further particulars and forms of application may be obtained by writing to the secretary of the Scientific Advisory Committee, c/o Medical Research Council, 38, Old Queen Street, Westminster, London, S.W.1. Applications must be submitted before March 31, and the awards will be announced by the Trustees in June.

Emergency Bed Service: Applications and Admissions

During the seven days ending January 7 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,294, of whom 85.23% were admitted.

Formation of a Persian Gulf Medical Society

A medical congress was held in Bahrain Island in the Persian Gulf on November 14 and 15 last. The meeting was arranged by the Bahrain Medical Society, which had invited medical organizations in the area to send representatives. Forty-five doctors attended, of whom 27 were visitors from other parts of the Persian Gulf area and beyond. Among those present were representatives of the medical departments of local governments, oil companies, and American missions, as well as medical officers from the Royal Navy and Royal Air Force. They included American, Arabian, British, Indian, Lebanese, Pakistan, and Palestinian nationalities. The congress was opened in person by the Ruler of Bahrain. The meeting was mainly clinical, and included

"Midwifery among the Arabs," by Dr. Isabel Doeg (Bahrain), "Intramedullary Nailing of Fractures," by Dr. Harold Lohnaas (Arabia), "Treatment of Juvenile Tuberculosis with Streptomycin," by Dr. Naif Hassan (Kuwait), and "National Health Service," by Dr. C. A. Bozman (Cairo). Films lent by the British Council were shown. A proposal to found a Persian Gulf Medical Society open to all bona-fide medical practitioners in the area was adopted with enthusiasm, and the second afternoon of the meeting was devoted to a discussion on its formation and constitution. In the absence of Dr. R. Biggar (Bahrain), from whom the proposal originated, Dr. W. J. Moody (Bahrain) outlined the proposed aims and scope of the society, which were (i) to bring into professional and social contact all recognized medical practitioners in the Persian Gulf area irrespective of creed or nationality, (ii) to hold an annual clinical meeting at which medical problems common to the area would be discussed, and (iii) to organize investigations in certain fields (e.g., tuberculosis, venereal disease, trachoma) of particular local interest or importance. Visitors, many of whom were accompanied by their wives, were given hospitality by the Bahrain Government, the Bahrain Petroleum Company, and various private individuals. Members of the congress and their ladies attended a dinner given by the Ruler, and were also entertained by the Political Resident and by the General Manager of the Bahrain Petroleum Company. It is hoped that the first of the annual meetings of the Persian Gulf Medical Society as such will be held in Kuwait towards the end of 1952.

Publications Received

South-east and the South-west Metropolitan Hospital Regions Maps.

North-east and the North-west Metropolitan Hospital Regions Maps; prepared by the King Edward's Hospital Fund for London, price 21s. post free.

British Journal of Psychiatric Social Work. No. 5: Association of Psychiatric Social Workers, price 5s.

M.B.E. Awarded to Laboratory Technician

Among the New Year Honours was an M.B.E. for Mr. L. W. Collison, technical officer at the National Institute for Medical Research, who is known and respected by physiologists and pharmacologists all over the world for his work as senior technical assistant in the physiological laboratories there. He started his career as a boy of 14 in the Burroughs Wellcome laboratory under Sir Henry Dale and accompanied him to the National Institute in 1920. He has designed and built apparatus for many distinguished scientists. His award is not only a recognition of his personal qualities but a sign of increasing awareness of the importance of the laboratory technician in medical research.

Australasian Annals of Medicine

The Royal Australasian College of Physicians is to publish a new journal, *Australasian Annals of Medicine.* This journal is intended for original observations and investigations. It will appear twice a year, commencing in May, 1952, and will replace the *Proceedings of the Royal Australasian College of Physicians.*

Dangerous Drugs Act, 1951

This new Act came into force on January 1, and consolidates all existing legislation in this field without introducing any novelties. It is therefore now the sole legal reference.

Wills

Mrs. Evelyn Imelda Chichester Tudor-Edwards, widow of Mr. A. Tudor-Edwards, left £92,014. She left £5,000 to the President and Council of the Royal College of Surgeons of England, to found a Fellowship for the advancement of and research into surgical science.

COMING EVENTS

Oxford Medical Club Dinner

The Oxford Graduates Medical Club dinner is to be held at the Royal College of Surgeons on February 8. Tickets (30s.) can be obtained from the honorary secretary, 73, Harley Street, London, W.1.

Religion and Evolution

A conference on religion and evolution will be held at University College, London, on March 7 and 8. Ample time will be allowed for discussion of the interrelations between religion and evolution, and particularly of the practical problems encountered by teachers in the classroom. The fee for the whole conference is 7s. 6d., and for single sessions 2s. 6d. Tickets may be obtained from the Secretary, British Social Biology Council, Tavistock House South, Tavistock Square, London, W.C.1.

First European Congress of Cardiology

A European congress of cardiology will be held in London in September, 1952, organized by the British Cardiac Society, which has appointed Sir John Parkinson to act as chairman of the congress, in collaboration with the presidents of the European Society of Cardiology. The congress will be open to all members of European national cardiac societies affiliated to the European Society of Cardiology, and will be limited to them. Non-members may attend the scientific sessions by invitation of the organizing committee. The congress will be held at the University of London, Bloomsbury, W.C. The Chancellor's Hall at the University will open at 10 a.m. on Tuesday, September 9, for registration and for distribution of papers, tickets, and information. The scientific sessions will be held on September 10, 11, and 12 in the Beveridge Hall and the Deller Hall in the University building. Forms of application for membership will be sent out soon and further details of the programme will be announced. All correspondence relating to the congress should be addressed to Dr. K. Shirley Smith, Organizing Secretary, the European Congress of Cardiology, the Institute of Cardiology, 35, Wimpole Street, London, W.1.

International Diabetes Federation Congress

A congress on diabetes mellitus will be held at Leyden, Netherlands, from July 7 to 12, 1952. Further details may be obtained from Dr. F. Gerritzen, 33, Prinsegracht, The Hague, Netherlands.

International Society of Haematology

The fourth international congress will be held in Mar del Plata, Argentina, September 21 to 26. Subjects to be discussed include the aetiology and treatment of leukaemias, polycythaemia of altitude, haemolytic disease in newborn infants, etc. The registration fee has been fixed at $100 (Argentine currency), and all information may be obtained from the secretaries-general, Dr. Marcel Bessis, 53, Boul. Diderot, Paris, 12e, and Dr. Sol Haberman, 3301, Junius Street, Dallas, Texas, U.S.A.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Friday

●INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., January 11, 5.30 p.m., "*Surgery of the Heart: General Survey,*" by Dr. Maurice Campbell.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—At the Miller Hospital, Greenwich High Road, London, S.E., January 11, 8.30 p.m., The Purvis Oration by Sir Heneage Ogilvie.

Monday

HUNTERIAN SOCIETY.—At Mansion House, London, E.C., January 14, 8.30 p.m., "*Endocarditis*," Hunterian Lecture by Professor W. Löffler (Zurich).

INSTITUTE OF PSYCHIATRY, Maudsley Hospital, Denmark Hill, London, S.E.—January 14, 5.30 p.m., lecture-demonstration for postgraduates by Dr. E. Stengel.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—January 14, 8.30 p.m., "*Radioactive Isotopes*," discussion to be introduced by Professor E. J. Wayne and Mr. H. Miller.

ROYAL EYE HOSPITAL, St. George's Circus, Southwark, London, S.E.—January 14, 5 p.m., "*Non-paralytic Strabismus. The Care and Treatment of the Squinting Child*," by Dr. T. H. Whittington.

Tuesday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., January 15, 5.30 p.m., "*The Philosophy of Science*," by Professor H. Dingle, D.Sc.

CHELSEA CLINICAL SOCIETY.—At South Kensington Hotel, 41, Queensgate Terrace, London, S.W., January 15, 8.30 p.m., fourth ordinary meeting of 55th session. "*Mount Everest*," discussion to be opened by Dr. Raymond Greene. Illustrated with lantern slides.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 15, 5.30 p.m., "*Skin Manifestations of Malignant Diseases*," by Dr. L. Forman.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W. —January 15, 5 p.m., "*Some Concepts of Rheumatic Disease*." Goulstonian Lecture by Dr. J. H. Kellgren. (See also January 17.)

Wednesday

BIRMINGHAM MEDICAL INSTITUTE, 154, Great Charles Street, Birmingham.—January 16, 8 p.m., inaugural meeting of new Section of Psychiatry of Birmingham Medical Institute.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 16, 5.30 p.m., "*Mycology—Actinomycosis and Nocardiosis*," by Dr. R. W. Riddell.

INSTITUTE OF UROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., January 16, 4.30 for 5 p.m., "*Retention of Urine in Childhood*," by Mr. D. I. Williams.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW, 242, St. Vincent Street, Glasgow.—January 16, 5 p.m., "*Misnomers in Tumour Nomenclature*," Finlayson Memorial Lecture by Professor R. A. Willis.

ROYAL MICROSCOPICAL SOCIETY, Tavistock House South, Tavistock Square, London, W.C.—January 16, 5.30 p.m., annual general meeting. Film demonstration: "*Motility and Flagella*," by Professor A. Pijper; "*Instrumental Insemination of Bees*," by Mr. C. P. Abbott, in collaboration with Rothamsted Experimental Station; "*Life Cycle of the Malaria Parasite*," by Research Laboratories, I.C.I., Ltd.

Thursday

BRITISH INSTITUTE OF RADIOLOGY, 32, Welbeck Street, London, W. —January 17, 8 p.m., "*The Radiological Diagnosis of Intracranial Tumours in Children*," by Dr. J. W. D. Bull.

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., January 17, 5.30 p.m., "*Fundamentals of Cortical Physiology*," by Sir Geoffrey Jefferson, F.R.S.

EDINBURGH CLINICAL CLUB.—At B.M.A. Rooms, 7, Drumsheugh Gardens, Edinburgh, January 17, 8 p.m., "*The Treatment of the Menopause*," by Dr. T. N. MacGregor.

LIVERPOOL MEDICAL INSTITUTION, 114, Mount Pleasant, Liverpool.—January 17, 8 p.m., ordinary meeting. "*Our Heritage —the Origin and Development of the Liverpool Medical Institution*," by Mr. W. A. Lee.

LONDON JEWISH HOSPITAL MEDICAL SOCIETY.—At Medical Society of London, 11, Chandos Street, W., January 17, 8.30 p.m., "*The Nutritional Assessment of the Individual*," address by Professor John Yudkin.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W. —January 17, 5 p.m., "*Some Concepts of Rheumatic Disease*," Goulstonian Lecture by Dr. J. H. Kellgren. (See also January 15.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—January 17, 5 p.m., "*Corneal Infections and their Specific Treatment*," ophthalmology lecture by Professor Arnold Sorsby.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At 26, Portland Place, London, W., January 17, 7.30 p.m., ordinary meeting. "*The Treatment of Leprosy with D.D.S.*," by Dr. Ernest Muir; "*The Action of Sulphones in Leprosy, with Particular Reference to Histopathology*," by Dr. R. G. Cochrane. A discussion will follow.

ST. ANDREWS UNIVERSITY.—At Lecture Theatre, Materia Medica Department, Medical School, Small's Wynd, Dundee, January 17, 5 p.m., "*The Application of the Electron Microscope to Bacteriology*," by Dr. J. E. McCartney, D.Sc.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—January 17, 4.30 p.m., lecture-demonstration in psychiatry by Sir Paul Mallinson.

UNIVERSITY COLLEGE, Anatomy Theatre, Gower Street, London, W.C.—January 17, 1.15 p.m., "*What is Pharmacology?*" by Dr. H. O. Schild.

Friday

BRITISH INSTITUTE OF RADIOLOGY, 32, Welbeck Street, London, W.—January 18, 5 p.m., meeting of medical members.

FACULTY OF RADIOLOGISTS.—January 18, (1) at Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C., 4 p.m., meeting of Radiotherapy Section. "*The Clinical Features and Types of Intracranial Tumours Found in Children*," by Professor Norman Dott; "*The Combined Roles of Surgery and Radiotherapy in the Treatment of Intracranial Tumours in Children*," by Mr. John Gillingham; "*The Pathology of Intracranial Tumours in Children*," by Dr. Martin Bodian. (2) At Royal Society of Medicine, 1, Wimpole Street, London, W., 8.15 p.m., "*The Diagnosis and Radiotherapy of Intracranial Tumours in Children*," by Mr. J. Jackson Richmond and Dr. Edith Paterson; "*The Treatment of Megaloblastoma*," film by Dr. Edith Paterson.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 18, 5.30 p.m., "*Medical Writing*," by Dr. W. R. Bett.

●INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., January 18, 5.30 p.m., "*Surgery of the Heart: Techniques of Investigation*," by Dr. Aubrey Leatham.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—January 18, 8 p.m., "*The Curious Effects of Carbon Monoxide Poisoning*," by Dr. James K. Slater.

Saturday

BIOCHEMICAL SOCIETY.—At Middlesex Hospital Medical School, London, W., January 19, 10.30 a.m., 304th meeting. Scientific papers will be read.

APPOINTMENTS

The King has appointed Dr. George Brewster to be Surgeon-Apothecary to the Household at Holyroodhouse Palace in succession to Dr. N. S. Carmichael, deceased.

Dr. Vernon Frederick Hall, Dean of King's College Hospital Medical School, London, S.E., has been appointed a member of the South-east Metropolitan Regional Hospital Board in succession to the late Mr. J. B. Hunter.

COUSINS, B. A., M.Sc., M.B., B.Ch., Medical Registrar, Norfolk and Norwich Hospital, East Anglian Regional Hospital Board

CRAIG, C. McK., junior, M.B., B.S., F.R.C.S., Consultant Surgeon to Lowestoft Hospital, Norfolk and Norwich Hospital Group, East Anglian Regional Hospital Board

DIVILLY, PATRICK JOSEPH, L.R.C.P.&S.I., L.M., Medical Officer, Feakle Dispensary District, Co. Clare, Eire.

INMAN, G. K. E., M.B., Ch.B., D.M.R.D., Senior Registrar in Radiology to Bristol Clinical Area, South-western Regional Hospital Board

LEWIS, T. L. T., M.B., B.Chir., F.R.C.S., M.R.C.O.G., Obstetric Surgeon, Queen Charlotte's Maternity Hospital, Goldhawk Road, Hammersmith, London, W.

LIVERPOOL REGIONAL HOSPITAL BOARD.—*Senior Resident Medical Officer at New Hall Hospital, Southport*, R. S. Cook, M.B., Ch.B. *Whole-time Assistant Radiologist to Hospitals in St. Helens and Warrington Areas*, A. Attwood, M.B., B.Ch., D.M.R.D. *Part-time Consultant Dermatologist to Clatterbridge General Hospital*, D. G. Freshwater, M.B., B.Chir., M.R.C.P. *Consultant Physician to Clatterbridge General Hospital*, M. W. W. Wood, M.D., M.R.C.P.

MACLACHLAN, JAMES, M.B., Ch.B., D.P.H., Medical Officer of Health and Port Medical Officer, County Borough of Barrow-in-Furness, and School Medical Officer.

MANCHESTER REGIONAL HOSPITAL BOARD.—*Consultant General Physicians, Crumpsall Hospital, Manchester*, M. D. Milne, M.D., M.R.C.P., R. V. Dent, M.B., B.Chir., M.R.C.P. *Consultant Obstetrician and Gynaecologist, Withington Hospital, Manchester*, R. W. Burslem, M.D., M.R.C.O.G.

MOORE, ROBERT, M.B., B.S., M.R.C.P., Senior Medical Registrar, St. Andrew's Hospital, Devons Road, London, E.

ROUTLEDGE, R. T., M.B., B.S., F.R.C.S., Senior Registrar in Plastic Surgery, Bristol Clinical Area, South-western Regional Hospital Board

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD.—*Consultant (Assistant) Obstetrician and Gynaecologist, Portsmouth Group of Hospitals*, J. J. Foley, M.B., B.Ch., M.R.C.O.G. *Whole-time Consultant Physician, Portsmouth Group of Hospitals*, E. H. Minors, M.B., Ch.B., M.R.C.P., D.C.H. *Part-time Consultant Physician, Chelsea Group of Hospitals*, R. Daley, M.D., M.R.C.P. *Part-time Consultant Physician for Chest Diseases, Chelsea Group of Hospitals*, L. J. Grant, M.B., B.S., M.R.C.P. *Whole-time Physician-Superintendent and Consultant Psychiatrist, Netherne Hospital*, R. K. Freudenburg, M.D., D.P.M. *Whole-time Consultant Child Psychiatrist, Hampshire Child Guidance Service*, Daisy G. Iliff, M.R.C.S., L.R.C.P., D.P.M. *Whole-time Consultant Anaesthetist, Woking and Chertsey Group of Hospitals*, Eileen McC. Gibson, M.B., B.Ch., D.A. *Part-time Consultant Anaesthetist, Isle of Wight Group of Hospitals*, R. T. V. Clarke, B.M., B.Ch., D.A. *Part-time Consultant Ophthalmologist, Fulham and Kensington Group of Hospitals*, P. Ll. Blaxter, M.B., B.Chir., F.R.C.S., D.O.M.S. *Part-time Assistant Thoracic Surgeon, Godalming, Milford, and Liphook Group of Sanatoria*, C. E. Drew, M.B., B.S., F.R.C.S. *Part-time Consultant Surgeon, Woking and Chertsey Group of Hospitals*, M. T. Pheils, M.B., B.Chir., F.R.C.S.

Part-time Consultant Radiologist, Woking and Chertsey Group of Hospitals, R. O. Murray, M B B.Chir , D.M.R. *Whole-time Assistant Chest Physician (S.H.M O Grade), Dorset and Poole Areas,* A E K. Salvi, M.R.C.S., L.R.C.P. *Whole-time Assistant Chest Physician (S.H M O. Grade), Southampton Area,* Mary F. Brownlie, M.B , Ch.B , D P H *Consultant Chest Physician, Southampton Area,* W M. MacLeod, M.B , B.S., M.R C.P. *Registrar (Orthopaedic Surgery), Croydon Group of Hospitals,* G M. Bedbrook, M B , B.S., F.R.C.S., F.R.A.C.S *Registrar (Anaesthetics), Salisbury General Hospital,* V. P. Wordsworth, M.R.C S., L.R.C.P *Registrar (Anaesthetics), St. Luke's Hospital, Guildford,* Kathleen J. Logan, M B , Ch B *Registrar (Obstetrics and Gynaecology), Nelson Hospital,* I. M. G Mackay, M.R.C.S., L.R.C.P., D.Obst R.C O G *Registrar (Infectious Diseases), Western Hospital,* S. Y. To, M.B , B.S., D.T M &H. *Registrar (Medical Department), Milford Chest Hospital,* Eudora M R. Davies, M B., Ch B *Senior Registrar (Psychiatrics), Brookwood Hospital,* E. R. F. Mellon, M B., B.Ch., D.P.M., D.P.H. *Registrar (Psychiatrics), West Park Hospital,* R D. Watson, M B., B.S. *Registrar (Psychiatrics), Cassel Hospital,* W. A. Saffery, M.B , B Ch

WILLIAMS, D. LLOYD, L.R.C.P.&S Ed., L.R.F.P.S (Glasg.), Assistant Medical Officer of Health and Assistant School Medical Officer for the County of Merioneth.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Harris-Jones.—On December 23, 1951, at Sheffield, to Carol (formerly Mackenzie), wife of J. N. Harris-Jones, M.D., M.R.C.P., a sister for Richard (George).

Marrian.—On December 31, 1951, at Cambridge, to Biddy Kingsley Pillers, M.B., B.Chir , wife of Denis H. Marrian, a son.

Mathers.—On December 22, 1951, at the Military Hospital, Malta, to Diana (formerly Mould), wife of Dr. George C. Mathers, a son.

Thomas.—On December 28, 1951, at the Maternity Hospital, Royal Infirmary, Preston to Morfudd (formerly Humphreys), M.B., Ch.B., wife of Dr. William M. Thomas, a second daughter.

Wilson.—On January 2, 1952, at the South London Hospital for Women, to Agnes Christian (formerly Gillan), O.B.E., M.B., Ch.B., wife of William Proctor Wilson, C.B.E., B.Sc., M.I.E.E., a son.

DEATHS

Adam.—On December 26, 1951, at 10, Russell Place, Edinburgh, James Robertson Adam, M.B., Ch.B., D.P.H.

Aldous.—On January 3, 1952, Herbert James Aldous, L.S.A., L.R.C.S.Ed., of Boundary Stone, Paulsgrove, Portsmouth, Hants, aged 76.

Anderson.—On December 26, 1951, at 70, Wadsley Lane, Sheffield, Alexander Anderson, M.B., C.M., D P.H., aged 84.

Benson.—On December 28, 1951, in Somerset, Wallace Benson, C.B.E., D.S.O., M.B., B Ch., Colonel, A.M.S., retired.

Bulleid.—On December 27, 1951, at his home, Dymboro, Midsomer Norton, Somerset, Arthur Bulleid, L.R.C.P.&S.Ed., L.R.F.P.S., aged 89.

Carr.—On December 30, 1951, at Woodhouse, Windsor Road, Gerrard's Cross, Bucks, Mona Carr (formerly Kirkhouse), M.D.

Cock.—On December 29, 1951, at his home, 7, Gipsy Hill, Upper Norwood, London, S.E., Gerald Cock, M.R.C.S., L.R.C.P.

Davies.—On December 28, 1951, at his home, 2, Morfa Lane, Carmarthen, Arthur Lewis Davies, M.R.C.S., L.R.C.P.

Dickenson.—On January 6, 1952, at Newshott, Haslemere, Surrey, George Oswald Morrell Dickenson, M.B , B S., Surgeon Captain, R.N., retired.

Ferguson.—On December 29, 1951, at St. Andrews, Joshua Ferguson, M.B., C.M., F.R.F.P.S., of 11, Windmill Road, St. Andrews, Fife, aged 80.

Geraghty.—On January 3, 1952, at the Manchester Royal Infirmary, William Geraghty, M.B., Ch.B., of "Glenesk," Ashton Lane, Sale, Cheshire, aged 54.

Jackson.—On December 28, 1951, at Plas Uchaf, Penmaenmawr, Caernarvonshire, Robert Jackson, T.D., M.B., C.M., Colonel, A.M.S., T.A., retired, aged 89

Jameson.—On December 26, 1951, at Queen Victoria Hospital, East Grinstead, Surrey, George Dearden Jameson, M.R.C.S., L.R.C.P., D.P.H., Lieutenant-Colonel, R.A.M.C., retired, of Chilling Street Cottage, Sharpthorne, Sussex.

Kohn.—On December 15, 1951, at 62, Alexandra Road, Wimbledon, London, S W , Elizabeth Kohn, M.B., B.S., M.R.C.P.Ed., late of Rangoon, Burma.

Lys.—On December 29, 1951, at Emo Lodge, Bournemouth, Henry Grabham Lys, M.D., M.R.C P., aged 87.

MacGibbon.—On January 3, 1952, at 30, New North Road, Huddersfield, Robert Robertson MacGibbon, L.R.C.P.&S.Ed., L.R.F.P.S., aged 52.

Mailer.—On January 2, 1952, at 5, South Close, Highgate, London, N., William Mailer, M B., C.M.

Malone-Barrett.—On December 26, 1951, at Aveland, East Dean, Eastbourne, Sussex, Francis Malone-Barrett, M.B., B.Ch.

Miller.—On January 1, 1952, at a nursing-home, Edinburgh, Ada Elizabeth Miller, M.D., D.P.H., of 6, Cobden Road, Edinburgh.

Miller.—On December 31, 1951, William Henry Miller, M.D., F.R.C.S., of 43, St. Peters Street, Bedford, aged 70.

Nix.—On December 31, 1951, at Chatteris, Cambs, Rupert Edward Nix, M.B., B.Ch. J.P., aged 84.

Peace.—On January 1, 1952, at Tellisford, Burry Port, Carmarthen, Percy Clift Peace, M R.C.S., L.R.C.P.

Peake.—On January 4, 1952, at his home, "Keeps," Hillside, Horsham, Sussex, William Pemberton Peake, T.D., M.R.C.S., L R.C.P.

Richmond.—On December 16, 1951, Henry Richmond, M.B., Ch.B., D.P.H., of 314, Wigan Road, Standish, Wigan, Lancs, aged 64.

Robbins.—On December 25, 1951, in London, Frank Hubert Robbins, M.C., M.B., F.R.C S.Ed., aged 64.

Skeels.—On January 5, 1952, in London, Percy Bernard Skeels, L.M.S.S.A.

Smith.—On December 26, 1951, at Stronsay, Whickham, Co. Durham, Edward Davison Smith, M.B., B.S., aged 67.

Smyth.—On December 26, 1951, at Buxton, Richard Smyth, M.D., M.Ch., formerly of Ningpo, China, aged 88.

Willson.—On January 4, 1952, Reginald John Willson, M.B., B.Ch., D.P.H., of Newlands, Carlton Road, Redhill, Surrey, aged 77.

Wilson.—On December 29, 1951, at Finchley, London, N., Helen Mary Wilson, M.D., J P., formerly of Sheffield, aged 87.

Wyllie.—On December 17, 1951, at 10, York Gate, London, N.W., Hugh Alexander Wyllie, M.B., B.S.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

How to Test Schoolchildren's Hearing

Q.—*What tests for hearing are recommended for the routine medical inspection of schoolchildren? What result with each would you consider an indication that the child required treatment for deafness?*

A.—An ideal test for this purpose involves the use of a gramophone audiometer which replays over headphones a randomized list of single digits or simple words at intensities decreasing in about 3-decibel steps. Up to 40 children may be tested simultaneously by this means. An average hearing loss of 10 decibels in one or both ears should be considered as an indication of requirement of further investigation. Another test, which is very satisfactory, is known as the "sweep frequency test." This consists in setting the output intensity of a pure-tone audiometer at a very quiet level—say that corresponding to a hearing loss of 10 decibels—and seeing if the child responds to the various tones at this level. Failure to respond to two or more tones can be considered as indicating further investigation.

A less efficient but, for reasons of economy, frequently chosen method is the measurement of the maximum distance at which each ear can hear forcibly whispered numbers or simple syllables, the untested ear being closed with a finger and turned away from the examiner. The child is asked to repeat the words heard, and if the maximum distance for 90% success is 20 ft. (6 metres) or more the ear under test may be regarded as normal. Particular attention should be given to the child's hearing for consonants. It must be remembered that the presence of background noise in the test-room will raise the threshold of hearing by an amount dependent on the level of the disturbance, and this should be borne in mind in interpreting results. The acoustic properties of the test-room also contribute to the unreliability of the test.

Should one of these tests indicate subnormal hearing, the child should be further examined by an otologist, who will, if the deafness is confirmed, advise upon the question of treatment.

Any information such as difficulty in hearing the teacher's voice in the classroom should be taken into consideration. Serious retardation of speech development may, though not always, be an indication of some degree of hearing loss, particularly to high frequencies.

Thumb-sucking

Q.—*Where can I find information on the management of a child who sucks his thumb?*

A.—On p. 194 of the book "*Any Questions?*" The book can be obtained for 7s. 6d. (postage 6d.) from the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1.

Discoid Lupus Erythematosus

Q.—*What is the best treatment for discoid lupus erythematosus of the scalp in an elderly woman? What is the prognosis?*

A.—The cause of discoid lupus erythematosus is unknown and there is no specific therapy. The condition may be influenced by any other organic or functional state which may be present, and this should receive attention. If there is no contraindication, gold therapy is valuable and may cure or arrest progress of the disease. Mepacrine in a dose

of 100 mg. twice a day was more effective than other measures in a series of cases recently reported.

The prognosis is bad in the sense that the condition destroys skin and hair and produces an irreversible, scarring alopecia. The disease does not affect the general health. If extensive, ulceration sometimes occurs, which generally responds to small doses of sulphonamide by mouth and locally, but this treatment must be used with care. Malignant changes are rarely seen.

Prognosis in Retinitis Pigmentosa

Q.—*What is the outlook for a boy of 10 who has retinitis pigmentosa (diagnosed by two eye specialists)? Difficulty of vision, only in the dark, was first noticed six years ago after an attack of kala azar treated by antimony. The parents have been told that the child will eventually become blind. How quickly will this happen?*

A.—The development of nightblindness in retinitis pigmentosa as early as the age of 4 is unusual; so also is a diagnostic fundus appearance at the age of 10. This in itself raises doubt whether one is dealing with the classical form of hereditary retinitis pigmentosa, though such early changes may occur in the severe, but rare, sex-linked type. A full family history is needed, and also information on whether the boy shows the characteristic field defects of retinitis pigmentosa. If the boy is actually suffering from genetically determined retinitis pigmentosa there is no treatment, and it is impossible to indicate how rapidly his vision will deteriorate. If his affection is of the sex-linked type, serious trouble is almost certain by the age of 25 years.

The history of kala azar treated by antimony may be significant. With the unusual findings in this case it is possible that the nightblindness and pigmentary changes were precipitated by either the infection or the treatment. The picture of retinitis pigmentosa has been observed in measles, after vaccination, and after quinine treatment of malaria. In these cases the tendency is for some improvement rather than deterioration.

Angina and Cold Weather

Q.—*A woman of 56, who has angina, has an opportunity to go to Ontario, where the winter climate is cold and dry. Will this be likely to precipitate her anginal attacks, which are often brought on here by cold nights?*

A.—Although Sir Thomas Lewis was unable to demonstrate that cold played any part in precipitating attacks of angina pectoris, general experience has shown that it does. There is no doubt that cold may raise the blood pressure in susceptible individuals, and this may help to provoke an attack by increasing the work of the heart. In the particular case in question it seems clear that cold is harmful, and the patient would surely be unwise to go to Ontario.

Cytochrome c and Carbon Monoxide Poisoning

Q.—*What are the functions of cytochrome c? It has been suggested that it might be a useful analeptic for cases of carbon monoxide poisoning after mining accidents. Is there a sound basis for this view?*

A.—Cytochrome *c* is a respiratory catalyst which is required for the utilization of the oxygen reaching the tissues from the blood. In carbon monoxide poisoning, less oxygen reaches the tissues because some of the haemoglobin, the respiratory carrier in the blood, is combined with carbon monoxide. The question is probably inspired by a report that cytochrome *c* is beneficial in conditions of anoxia. Exhaustive trials in many laboratories have failed to confirm this report. In any case, even if cytochrome *c* could increase the rate of utilization by the tissues of the limited amount of oxygen reaching them in carbon monoxide poisoning, this would probably be more harmful than useful, since the oxygen would be depleted more rapidly. Cytochrome *c* does not combine with carbon monoxide, so it is useless as a direct antidote.

Camphorated Oil

Q.—*Am I right in believing that rubbing the chest with olive oil or camphorated oil, or any other preparation, serves no useful purpose and may even be harmful in the treatment of an infant or child suffering from bronchitis?*

A.—Unless the rubbing is over-vigorous or prolonged or the preparation too strong, in which case dermatitis may follow, no harm is likely to result from the use of a medicated oil in cases of bronchitis. On the other hand, no great therapeutic response can be expected; the counter-irritation may be of some slight value, and in the case of an oil or ointment containing menthol or camphor some inhalation of vapour will follow, and this may be helpful in clearing the upper air-passages.

Pills for Bankrupt Smokers

Q.—*I have tried to purchase locally from many chemists some pills which are sold for the prevention of smoking, but I have been unable to buy them or find a formula for their preparation. The pills I have in mind are normally dissolved in the mouth, and, while being quite tasteless themselves, produce a very nasty taste if the subject tries to smoke a cigarette. I would be grateful if you could tell me their formula.*

A.—The formula of the pills is as follows: dried sulphate of iron, 67.85%; potash alum, 17.85%; lactose, 14.28%; acacia, 0.75%; green colouring matter and excipient, q.s. They should be kept out of the reach of children.

Speedy Hypnotic

Q.—*What sedative has the quickest and shortest action when taken orally?*

A.—The hypnotics with the quickest and most evanescent action are probably pentobarbitone sodium and sodium propylallylbarbiturate. There is not much to choose between them. The dose is from 1½ to 3 gr. (0.1 to 0.2 g.). They are effective within half an hour, and are certainly not active for longer than six hours.

Lymph Drainage of Nasal Sinuses

Q.—*What is the lymphatic drainage of the accessory air sinuses? I have been unable to find information about this in standard anatomical and surgical textbooks.*

A.—The best account may be found in *Histopathology of the Ear, Nose and Throat* by Eggston and Wolff (Williams and Wilkins, Baltimore, 1947). Quoting papers by J. M. Robison (*Tex. J. Med.*, 1944, **40**, 193; *Arch. Otolaryng., Chicago*, 1944, **40** 385), these authors state that drainage is probably to a pretubal lymph plexus, thence to lateral retropharyngeal lymph nodes, and partly to submaxillary nodes, and so to the deep cervical chain.

NOTES AND COMMENTS

Honours List: Correction.—Mr. CHARLES E. DREW, who became M.V.O. in the New Year Honours, is a member of the consultant staff of the Westminster Hospital, having been appointed as fourth assistant surgeon on April 9, 1951. We regret that this hospital appointment was incorrectly given in last week's *Journal* (January 5, p. 44).

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499. TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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CONTENTS

Executive Councils and the Profession. S. Wand, M.B., Ch.B. - - - - - - - - 9
General Medical Services Subcommittee (Scotland) - 11
Private Practice Committee - - - - - - 11
The Health Service in Inflation - - - - - - 12
Dental Haemorrhages - - - - - - - 13
Civil Service Doctors - - - - - - - 13
Meeting at Welsh House - - - - - - - 13
Correspondence - - - - - - - - 13
Association Notices - - - - - - - - 16

EXECUTIVE COUNCILS AND THE PROFESSION*

BY

S. WAND, M.B., Ch.B.

The Acts which inaugurated the National Health Service made provision for different administrative machines in the various sections of that Service. Much was new and founded on discussion and anticipation. But executive councils were new almost only in name. They were the successors of the insurance committees. These had developed by a process of evolution. Trial and error, experience, wisdom, argument, and dispute had all played their parts. That is as it should be, and it is of more than academic interest to note that executive councils have come in for less criticism and more praise than any other administrative body in the Service. In fact there are many who believe that their general structure should be more widely used.

Liaison Committees

I have noted with great satisfaction that some executive councils have taken positive steps to effect the fullest liaison between the three sections of the Service —general practitioner, hospital, and public health. In discussions before the passing of the Acts the medical profession expressed on many occasions its anxiety on this point. I believe it was expected in official quarters that this co-ordination would be effected in practice by the user; and executive councils, as the bodies closest to the consumer interest, can play a most important part in consultation with medical committees. The long-term policy, the question of modification of existing structures, and the methods of co-ordination are engaging the active attention of the profession, but in the interim the executive councils can and should promote the fullest co-operation. Much valuable experience of method will be obtained.

An example that readily springs to mind is the exchange of information on the hospital bed position and the potential demand from the periphery. Last winter we were shown the need for this during the influenza epidemic. Another example is in the field of preventive medicine—inoculation and vaccination.

A multiplicity of liaison committees, however, with necessarily the same people serving, should be avoided so far as possible. The number of committees, and the work of those committees, has increased in an alarming measure and shows few signs of diminishing. It is important to avoid a situation in which committee members have to devote so much time to committee work that only the semi-retired can do it.

So far as doctors are concerned it is of the greatest importance that those who serve on committees should have the most up-to-date practical knowledge and that the younger man should be there to express his views and state his difficulties.

Feeling of Frustration

That there have been many expressions of frustration by the doctors in the National Health Service is common knowledge. It is interesting to note that the word constantly used has been "frustration." The reasons are not far to seek. Apart from the questions of finance and status, which are to be dealt with elsewhere, this frustration arises because the doctor is so often prevented from doing the best and most useful work of which he is capable. Before the Service began doctors were promised an easier life for their families and themselves, and particular stress was placed on the point that they would be able to lead a fuller and more useful professional life. In fact it was this expectation that decided very many doctors to enter the Service.

The general practitioner believes, I think rightly, that he is the most important person in the organization of a health service. He believes that no occupation is so satisfying as good general practice carried on in a proper way with the fullest two-way confidence and understanding between his patient and himself.

This was the promise. Has it been implemented? The answer is, "No." The reasons are plain to see. There has been a substantial increase in the items of service provided. The increase in hours of work has been even greater. There has been a change in the

*An address, here slightly shortened, delivered on October 11, 1951, at the Fourth Annual Meeting of Executive Councils Association (England).

relationship between general practitioner and patient, in many cases not for the better. We hear on all sides of unreasonable demands made by a small minority; stories, well substantiated, of a great increase in the number of calls asked for, particularly those asked for at the wrong end of the day for no proper reason. Indeed, many such calls are not asked for; they are demanded with abuse; and I have had reported to me cases of actual violence by the patient against the doctor because the doctor asked for some further information. The doctor has no redress except in the ordinary courts, but a hasty word by a tired doctor can, and does, lead to a medical service committee inquiry, with all its anxieties to the doctor and possible publicity.

Have executive councils any responsibility, by acts of commission or omission, for the state of affairs I have indicated? I think that they have. Executive councils have facilities for bringing to the notice of the Press much that could be of value, yet most reports of executive council meetings are confined to juicy medical service committee cases and finance.

Consider Your Doctor

This is a new service. Its efficiency, indeed its very existence, depends upon the use made of it. The users must be educated, conditioned to it. They must be made to understand that it is theirs and therefore they must cherish it and use it prudently, thinking not only of themselves but of their fellows. "Use your Service properly. It is your Service." "Consider your doctor. He is human, too." "Use your doctor wisely. You may need him yourself some day." Such thoughts which I have presented in slogan form could form the basis of such an education.

The type of publicity attaching to executive council reports up to the present has so far had the effect only of emphasizing to the public their right of making complaints. How much more useful would my suggestion be?

It may be that the life of a general practitioner is not sufficiently known in detail. It would not be amiss at this stage in the growth of the Service to set out in brief a doctor's day. First and foremost it is the same doctor who does the morning surgery, the morning visits, the afternoon visits, the evening surgery, the evening visits, the late visits, and the night visits, who is disturbed by the telephone, often most unreasonably, at meal times seven days a week, week in, week out. This same doctor has to find time to write his case notes, his letters, to read to keep abreast of current literature. He is always expected to be 100% efficient, 100% alert, 100% courteous. His family has to carry a big burden to maintain a 24-hour service in these days of difficulty with domestic staff. It is a very great anxiety to do this. His opportunities for social and family life are few and disturbed, and it is one of the basic factors in current thought that a man must have adequate leisure.

Work in the 70th Hour

He knew all this when he went into general practice, but difficulties have increased. Whatever the size of his list, whatever his age, whatever the state of his health, if he is at work, he must give the full 24-hour service. In one country in which statistics were recently prepared it was found that the expectation of life of a doctor was 15 years less than that of the average of the population. It will not help the public if this gap is widened. The public itself will be the main sufferer if the doctor is overtired unnecessarily.

Let us take one example—the late call. It is not realized that a call that comes after the doctor has started on his morning round cannot easily be done until the afternoon, or that one coming in after he has started his afternoon round may not be possible until after he has finished a very heavy evening surgery (I am, of course, excluding the emergency for which everything is dropped). In the winter this is often a hard three- to four-hour session *started* when he has already done an eight-hour day. Picture, then, the doctor, after a heavy 11- or 12-hour day, as so often happens in the winter, having to get out his car and drive on a winter's night over ground he has covered already, perhaps many times, that day, to find that the message could quite easily have been sent at the proper time, or, in fact, that a visit was not at all necessary—the patient could have come to surgery. It is a serious waste of valuable professional time.

In these days of the 40-hour week, how are you to assess in terms of wear and tear on the doctor the work done in the 70th hour?

Here, then, is part of the frustration. To know that you can be of help to those who suffer, to want to give that help and to be prevented by unreason on the part of those whom you wish to help, is particularly annoying, fatiguing and irritating, and here the executive councils could help. Sympathy and understanding of the work and difficulties of the general practitioner by the non-medical members of the executive councils is the prerequisite, its dissemination to the public the natural sequel.

Unreasonable Complaints

I have mentioned only a few points and examples. I could have mentioned cases of the grossest abuses which could, in National Health Insurance days, have been dealt with by a complaint from the doctor. The doctor can no longer lodge a complaint. But even under present regulations it is not impossible for the executive councils to bring to the notice of those who misbehave the folly of their actions.

The very doctors who are most conscientious are those who are likely to get most fatigued and irritable, and the general practitioner should be protected against the trivial and unreasonable. The machinery of the medical service committee once started is bound to cause the greatest anxiety to the doctor and is detrimental to the quality of his work. If such machinery has to be put into operation, let it be as speedy as possible, even to the extent of calling special meetings of the committees.

Executive councils are bodies honoured and respected in their areas. They have the ear of the Press. If they want to create better understanding, let their thoughts constantly be along the lines, How can we help the doctor to help the patient?

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Southwark, Stoke Newington.

Non-County Borough Councils.—Crewe.

Urban District Councils.—Droylsden, Houghton-le-Spring, Huyton-with-Roby.

GENERAL MEDICAL SERVICES SUBCOMMITTEE (SCOTLAND)

At the first meeting of the new session of the General Medical Services Subcommittee (Scotland), Dr. J. T. BALDWIN (Milton Bridge) was appointed chairman in place of Dr. W. M. Knox (Glasgow), whose period of office had expired. Dr. Baldwin, in accepting office, stated that in normal circumstances the chairman would have been Dr. W. Jope, the former vice-chairman of the Subcommittee, but owing to health reasons Dr. Jope had decided to resign from the chairmanship of the Conference of Local Medical Committees and not to seek re-election to the G.M.S. Committee; consequently, he was not a member of the Scottish Subcommittee. The Subcommittee expressed appreciation of the work done on behalf of the profession by Dr. Jope and Dr. Knox and congratulated Dr. Knox on his appointment.

Dr. C. J. Swanson, Aberfeldy, was appointed vice-chairman. Appointments were also made to the various subcommittees for the ensuing year.

The Subcommittee considered further the proposal of the Department of Health to appoint to the general medical services part of the National Health Service regional medical officers for the purpose of liaison with the other branches of the profession and to assist in the routine day-to-day administration.

Inflation of Lists

There was also considerable discussion on the question of the reinstatement on doctors' lists of persons who have been abroad, and the removal from those lists of persons going abroad for a short period only, together with the general question of inflation of lists.

The view of the Subcommittee was that the onus of notifying change of name and/or address should be placed on the patient, and it was agreed to discuss with the Department of Health the possibility of having a note to this effect incorporated on the medical card.

PRIVATE PRACTICE COMMITTEE

FEE REVISIONS

A meeting of the Private Practice Committee of the Association was held on January 2. In the absence of the chairman, Dr. I. D. Grant, Dr. ROBERT FORBES was voted to the chair.

It was reported that the Air Ministry had agreed that in view of the attitude of the Association it had no alternative to the payment of a fee of 1 guinea for examination for fitness for gliding. Previously the fee was 5s.

The British Employers' Confederation had agreed to meet the Committee's representatives to discuss certificates of incapacity required by employers; the meeting had been arranged for January 8.

The details of the revised scale of fees for practitioners called in by the police had been circulated to police authorities and to Branch and Division secretaries. A number of chief constables had asked for additional copies of the scale.

A conference had taken place with the Home Office on the proposed new procedure for cremation certificates at which criticism of the scheme was made. The final views of the Home Office are now awaited.

Part-time Work under Local Authorities

The Committee discussed the revised fees for part-time work under local authorities—a proposed revision of the 1947 agreement which had been under discussion by the Public Health Committee. The proposals met with general concurrence, and the Private Practice Committee recommended that the revision be negotiated through the Whitley machinery.

It was stated that a "catastrophe service" scheme was being prepared by the chief constable of Derby, with a view to ensuring the attendance of trained personnel in the event of a serious railway accident in the vicinity of that town. The Derby Medical Committee, which had been informed of this project by the chief constable, had asked for advice and suggested that this was a national rather than a regional problem. It was agreed to discuss the matter with the chief medical officer of British Railways.

For the completion of a certificate under the appropriate section of the Coal Mines Act, 1911, as to the eyesight and hearing of firemen, examiners, and deputies—the customary fee for which was said to be 5s.—the Committee decided that the appropriate fee would be 10s. 6d. for the first case of a series and 7s. 6d. for subsequent cases.

A protest is to be made against a proposal by the Ministry of Labour to increase the number of recruits called to attend National Service Boards.

The Committee considered certain principles of medical certification put forward by the World Medical Association. The chairman of the Ethical Committee stated that in the view of his committee only the first of the ten—which concerned professional secrecy—came within its province. The others were concerned with accuracy, objectivity, and the like. The Private Practice Committee, while not prepared to commit the profession to all the principles, took no exception to any of them, but it suggested that one of them—namely, "The statements in a certificate should be sufficient to achieve its purpose"—required further elucidation.

Tribunals and Written Evidence

The question of written evidence submitted to tribunals set up under the Dangerous Drugs Regulations had previously exercised the minds of the Committee, and the opinion of the solicitor of the Association had been sought. The solicitor said that as a lawyer he had an instinctive dislike for all evidence other than oral, on which the witness could be cross-examined, but he agreed that to insist on oral evidence in all cases, whether the evidence was likely to be challenged or not, meant inconvenience to doctors who were required to give it, and might preclude a respondent, when it was a question of drug addiction, from putting in a medical certificate to the effect that he had been cured.

The Committee adhered to its objection to written evidence, but modified its view to the extent that evidence which was agreed by both sides might go forward in the written form without the personal appearance of the witness.

Retired Pay Posts

It was reported that discussions with the War Office and other interested departments on the revised conditions of service and increased rates of pay for retired medical officers were well advanced, but that the new scheme was not likely to be promulgated for some months. It had been pointed out that this meant considerable hardship to several practitioners in that their salary, in addition to pension, was restricted to £428 a year, and the War Office had now agreed to increase the annual rates of pay for retired medical officers employed as full-time civilian medical practitioners to £650 in London, £635 in the provinces, and £620 elsewhere.

Cars for Doctors

Dr. A. WESTON, of Greenford, attended the Committee by invitation to put forward some suggestions for a revised scheme for the preferential delivery of doctors' cars. He

considered the present position was unsatisfactory and suggested that a scheme was badly needed which would enable a doctor to replace a car which was no longer reliable for his professional work.

Dr. L. S. POTTER, Assistant Secretary, said that there were some points in such a scheme which would require careful examination. The implication was that there would be a pool of cars which would go to members of the medical profession. But would the profession take kindly to a method of allocation whereby if a doctor refused the car offered to him he would lose any further priority? No arrangement was entirely satisfactory. After a long experience he could not conceive of any scheme on paper which would not permit of possible evasion and abuse, but he thought there were dangers in recasting the present scheme, in which they had the co-operation of the manufacturers.

It was decided that Dr. Potter should prepare a detailed memorandum for the next meeting of the Committee, to which Dr. Weston was invited, and the whole matter could then be fully discussed.

THE HEALTH SERVICE IN INFLATION

[FROM A SPECIAL CORRESPONDENT]

This is the season of the year when Government departments are preparing their annual estimates for the coming financial year and the Treasury is as busily asking them to cut their estimates down. It can be taken for granted that this year the axe will be wielded more severely than it has been for some time. Not only is there a new Government in office which is pledged to make savings on administrative costs, there are also the hard facts of the economic situation.

At the end of last week the Treasury announced large increases in salary for non-industrial Civil Servants. Some 600,000 benefit from the increases, which will cost about £30m. a year. Even so, the new rates do not affect Civil Servants earning £1,500 and over, for whom a separate claim has been submitted but not yet decided. Nor do they give the Civil Servants to whom they do apply full compensation for the rise in the cost of living as measured by the index of retail prices. But the increases, which will mean an extra £80 a year for a Civil Servant earning £1,200, do reflect, according to the Treasury, wage increases that have taken place during the past year in outside industry while Civil Service pay was unchanged.

Wage Increases

Information on these increases in wages was given in the *Ministry of Labour Gazette* for December, 1951. In the first 11 months of 1951 some 12 million workpeople received increases amounting to £5,940,000 a week. In November alone about three million people received increases amounting to £1,419,000 a week. In the whole of 1950 the increase in weekly wage rate was only £2m. In the autumn of that year, however, the wage freeze, which had been slowly melting for some time, gave way altogether. Since then, as can be seen from the accompanying Table, the index of wage rates has been slowly climbing point by point, jumping three points in November, 1951.

	All Ages		All Ages
1947:		1951:	
June	100	January	115
December	103	February	116
1948:		March	117
June	106	April	118
December	107	May	118
1949:		June	119
June	109	July	120
December	109	August	120
1950:		September	121
June	110	October	122
December	114	November	125

Compared with the Civil Servants' £30m. a year, the increases to workers in the engineering and shipbuilding trades will cost about £78m. The railway workers received an increase in November which will cost £14m. a year; but this is in addition to the award made last February, which cost £12m. Nor do the November figures take into account the recent increases to coalminers, which will cost about £26m. a year. The increases in wage rates granted in 1951 will in fact raise the wage bill by well over £300m. a year.

Even this is not the whole story, for all the figures given are for wage rates, not for earnings, which are affected by overtime or short time. No earnings figures are available for a later date than April, 1951. They then showed an increase of 156% on 1938, compared with an increase of 140% in October, 1950, and 133% in April of that year.

Prices and Wages

It was only to be expected, once wage restraint was abandoned, that the trade unions would attempt to catch up with the rise in the cost of living, which was being steadily pushed upwards as a result of devaluation and the war in Korea. Nor have wage rates, as distinct from earnings, actually risen quite as much as retail prices. The official index of retail prices was 129 in November, 1951, compared with 116 in November, 1950. There are also signs that the effects of devaluation on import prices are wearing off. Since July the monthly index of import prices has fallen.

But it would be much too optimistic to hope that an uneasy equilibrium has been reached between wages and prices. Already the higher wages for railway workers and coalminers have been reflected in increased freight charges, in higher monthly return fares, in—eventually—higher railway fares all round, and in higher prices for coal. Higher prices for coal increase the railways' costs, and higher freights increase the National Coal Board's costs. Higher prices for coal directly affect the price of gas and electricity, and together with increased transport charges enter into the costs of industry as a whole. The alarming prospect is that the country is beginning to enter a period of serious wage inflation superimposed on an inflation of prices.

Whether this is happening or not will not be apparent for some time. For the time being the big trade unions will doubtless be satisfied by the advances they have won. But food prices have already risen, and the Ministry of Food is being obliged to pay more for some of the food it buys abroad, while prices for home-produced food were increased at the end of November to take into account a £16m. wage award to farm workers. It is fairly certain that a new round of wage claims will, in the absence of a direct policy of restraint, begin in a few months' time.

Need to Reconcile Claims

Just then, however, the rearmament programme will be getting into its stride; labour for civilian production will be scarcer; and earnings, as distinct from wage rates, will be higher still. Next April the new Chancellor of the Exchequer will have to ask for an additional £700m. (compared with the present financial year) for the arms programme.

Once again, therefore, this year's Budget will be an exercise in reconciling claims on the country's resources. It can be assumed that there will be no reduction in the arms programme. Higher taxation, especially direct taxation, at a time when the country is already severely taxed, is likely to defeat its own ends. There are already signs that the rise in industrial output since the war is slowing down—that the Government can no longer rely on the national output expanding enough to satisfy the larger claims upon it. Heavier taxation, which damps incentive, is likely to slow down the expansion of resources even more.

An anti-inflationary policy remains therefore a question of cutting down the Government's own expenditure. The education service has already been warned. The Health Service, costing £400m. a year, can hardly escape.

DENTAL HAEMORRHAGES

FEES FOR TREATMENT

As there has been some doubt about the correct fees a doctor may claim for treating dental haemorrhage, they are set out below.

The fee for arresting the bleeding is 15s., and if the doctor visits the patient's home he can in addition claim a fee of 7s. 6d., but both these fees are at present subject to an economy cut of 10%.

The fee for the arrest of haemorrhage is a fee per case and covers all treatment necessary in connexion with all the extractions carried out at one session. For example, if three teeth were extracted at one session, but the doctor treated the patient on two separate occasions, only one fee of 15s., less 10%, is payable. But if the two occasions when treatment was given were visits to the patient's home, then two fees of 7s. 6d., less 10%, may be claimed for the two separate home visits.

What most often happens is that a patient suffering from haemorrhage following tooth extraction calls on his doctor several times, and then only the one fee for treating the haemorrhage may be claimed.

CIVIL SERVICE DOCTORS

REPRESENTATIONS ON HOWITT REPORT

The following agreed statement has been issued by the Treasury:

The Financial Secretary received a deputation [on January 3] from the Civil Service Medical Officers' Joint Committee representing the British Medical Association, the Institution of Professional Civil Servants, and the Ministry of Health Medical Staff Association. Representations were made about the remuneration of Civil Service medical officers with special reference to the recommendations of the Howitt Committee. The Financial Secretary undertook to report to the Chancellor of the Exchequer the views of the deputation, and he would reply to these as soon as possible.

MEETING AT WELSH HOUSE

Dr. Agnes Kelynack, Assistant Secretary, will speak at 5.30 p.m. on Thursday, January 24, at the Welsh House, 195, Newport Road, Cardiff. Her subject will be "The Present Position in the Public Health Field," and she will speak particularly on the award of the Industrial Court. Dr. H. R. Frederick, chairman of the Welsh Committee, will be in the chair.

Any member who wishes to attend and has not received an invitation is requested to communicate with Dr. S. J. Hadfield, at 195, Newport Road, Cardiff.

Nearly 100 preclinical and clinical students from many of the medical schools in Great Britain attended the fourth annual conference of the British Medical Students Association, held in Bristol on September 24–28. The conference was organized by the Bristol Medical School's Students' Society, which was greatly helped by the co-operation of the staffs of the University of Bristol and the Bristol Royal Hospitals. The delegates were welcomed by the Vice-Chancellor, Sir Philip Morris, and were received by the Lord Mayor of Bristol at the Mansion House. Lectures, demonstrations, and hospital ward rounds were arranged for both clinical and preclinical students. The social side of the conference was acknowledged to have been very successful, and the B.M.S.A. hopes that these annual conferences will continue to grow from strength to strength.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Entry to Partnership

SIR,—Every day that passes brings fresh evidence of the difficulty doctors not on the list of an executive council are experiencing in finding a way of entering general practice. The so-called evil of buying and selling practices has been replaced—in the absence of the promised health centres—by other real evils to which a practitioner is exposed even after appointment to a practice vacancy by the Medical Practices Committee—i.e., the inability to secure adequate housing accommodation in the practice area at a reasonable and economic figure, and the loss of units in the practice during the laborious advertising of the vacancy, selection of a suitable practitioner, and often the hearing of an appeal.

It is pathetic to find something in the region of 40 applications from a large percentage of excellent candidates for such vacancies, and, in the absence of any easy or obvious way of solving the difficulties set out, I feel that, apart from the obvious and very necessary step of raising the capitation fee, the trainee assistant scheme should be so adapted as to encourage and facilitate entry to partnership practice.

It has been my experience to have a succession of three trainee assistants in the partnership practice of which I am the senior partner. From the start my partners and I set out to facilitate the introduction of an assistant to the practice with the definite aim of offering a satisfactory trainee a practice share at the end of the training period. Our third trainee filled the bill, and, I am glad to say, is now a partner making up a firm of five. This step was taken gladly and with a full realization of the preliminary load on the partnership, but I feel that this load is discouraging other principals who may give consideration to the introduction of a trainee to the practice as a partner, and I feel that some adjustment here may be one way of facilitating entry to good general practice—keeping in mind the conditions under which permission to employ a trainee is granted.

When a trainee joins a partnership the principal loses the trainee salary previously paid by the executive council and has to carry the new partner in his early years without receiving any capital return, and without any possibility of the new partner receiving one of the much-abused basic salaries. The total cost may well be in the region of £2,000 in the first year. I suggest:

(1) that approval of the employment of a trainee assistant with a principal should be for a limited period only—e.g., three years of one year for each trainee employed, to give the principal a reasonable opportunity of ascertaining that the future partner is to be acceptable, and

(2) that a trainee who is legally introduced as a partner after his year's service should rank for a diminishing trainee grant over the first three to five years—e.g., two-thirds in the first year, half in the second, one-third in the third, as a suggestion.

In my opinion if this procedure is established it will facilitate the introduction of those seeking work as general practitioners to the best type of group practices without the necessity of facing the problems set out at the beginning of this letter, and do much to eliminate some of the difficulties that now exist, and will continue to exist, in the present economic state whatever the result of the long-awaited arbitration.—I am, etc.,

Bishop's Stortford, Herts. R. P. GAMMIE.

Health Service Discipline

SIR,—Professional banishment from a town or county or a whole country is not entirely new. Among some African tribes banishment is still a punishment under tribal laws, though imposed only for very serious offences, as it

cuts the person off from his friends and seriously endangers his livelihood. Civil banishment in England persisted into the eighteenth century. It involved the loss of the society of one's fellows and of the protection of the law courts. By the N.H.S. Act of 1946 we were back again to the eighteenth century in that medical men were denied the protection of the law courts in matters arising out of the new health scheme. You will remember that our Socialist friend, Dr. H. B. Morgan, reasoned strongly with the then Minister of Health, as did others, on this point of elementary citizen justice without avail, the Minister giving the view quite frankly that the law courts would take power out of his hands.

Banishment in the old days was the punishment for crime or refusal to submit to a tribunal or its decrees. Outlawry has only been abolished in England comparatively recently by the Act of 1879, the last sentence being imposed in 1855. It was not, however, abolished in Scotland in the 1879 Act, which is amazing in a country with such liberal traditions.

This banishment of a doctor from his practice, livelihood, friends, old patients, and old associations is very serious. Wherever he seeks to start a new life his history will follow him from executive council to executive council throughout the land, and they may close all doors against him as an old offender. It is a dreadful business, and we seem not to be able to do anything about it. If such banishment had been imposed on a Glasgow docker the whole union would have paralysed the port and probably other ports as well. It seems a strange anomaly of our time that we depend on the less orderly, less reasonable, less responsible elements in our country for the preservation of our elementary rights while our orderliness, sense of responsibility, and professional virtues are getting us more and more tied up.—I am, etc.,

Shrewsbury. ALBERT E. NICHOLLS.

SIR,—The timely letter from Dr. R. W. Cockshut (*Supplement*, December 29, 1951, p. 291) drawing attention to the serious issue raised by the action of the disciplinary tribunal at Glasgow will be welcomed by all who value freedom and who are concerned with the proper administration of justice. The question is, of course, not so much whether the tribunal acted within its rights, not whether the findings were correct, and not even whether the sentence imposed was just (and this last seems at least doubtful, especially in view of the result of the appeal to the Secretary of State), but whether such a body ought to be in a position to usurp functions which should be performed by the General Medical Council. It is, as Dr. Cockshut demonstrates so clearly, an intolerable situation that doctors should be "at the mercy of unwritten regulations."

Surely it should be possible for a man so accused and so severely dealt with to have the right of appeal to the G.M.C., which is after all not only the statutory body appointed by a definite Act of Parliament but is by its composition and experience far better fitted to deal with appeals than a Secretary of State. It is hardly necessary to point out that the G.M.C. would be automatically protected from having to deal with frivolous appeals owing to the power it possesses of being able to erase a name from the *Register*.—I am, etc.,

London, N.W.7. A. H. MORLEY.

SIR,—The A.R.M. passed unanimously (*Supplement*, June 23, 1951, p. 271) a motion by Westminster and Holborn that:

This meeting views with grave disquiet the recent findings of certain medical service committees and the Tribunal. It demands that the procedure shall be overhauled and reiterates the principle that there must be a right of appeal to the courts.

Letters from Dr W. A. S. Thom (*Supplement*, December 15, 1951, p. 266) and Dr. R. W. Cockshut (December 29, 1951, p. 291) prompt the question, What has happened to this resolution? In the Interim Report on Reform of the Health Service the vital question of right of appeal is not mentioned, and I find no reference to the matter in your report of the S.R.M. (*Supplement*, December 22, 1951, p. 269), nor in your leading article (*Journal*, December 22, 1951, p. 1506). Dr. Sutherland told the meeting that his committee had picked out from the Acts the matters which they thought most important, and one would expect that a demand for the right of appeal would have been put in the forefront. Why delay action? In pressing for the withdrawal of this injustice the profession would have wide public support, for fundamental rights of the citizen are involved. I can visualize future Ministers, desirous of power, extending the principle to other professions and sections of the community. The position, if left as it is, will not stop at the doctors.—I am, etc.,

Sheffield. HENRY BROWN.

*** The Secretary of the Association writes: This resolution was referred to the G.M.S. Committee, which has appointed a representative subcommittee to review the whole of the disciplinary machinery. In the meantime all local medical committees have been asked for their views on the present arrangements and suggestions for their improvement.

Tracing Patients

SIR,—A lot has recently been written concerning the purging of G.P. lists. Recently my partner and I have been going through a list of patients to trace their addresses. In some the reason for inquiry has been stated to be that the house is demolished. I have, however, found this to be untrue. I also have found that no inquiries have in fact been made by the executive council, and I feel that their statement that this has been done must be taken with a large pinch of salt.

It seems that the efficiency of the council must be examined more fully: I find that notifications of acceptance since 1949 have not been followed by the record envelopes even now. It seems that one must demand from the council a full list of one's registrations, and then find out for which patients one has M.R.E.s. This would put a lot of work on to the council but would ensure that one was paid correctly.—I am, etc.,

London, W.6. P. GORDON LEVER.

SIR,—As usual, practitioners are to blame for accepting conditions now existing. In my case in half an hour I "replaced" a hundred names on my list. Obviously no inquiry had been made by the executive council (the matron of a first-class nursing-home would certainly have replied to a letter). Of course the B.M.A. is not much help in defending the practitioner.—I am, etc.,

Glasgow, W.1. J. E. KENNEDY.

SIR,—Is there any limit to the fierce indignities and abuses that are heaped upon general practitioners to-day? If one were to sit down and tabulate the unfair burdens that must be the daily lot of the practitioner the result would exceed in length the list of "Dos and Don'ts" presented to us when the National Health Service commenced.

The latest insulting demand is on the part of the various executive councils, who are requesting doctors to act as inquiry agents in order to prove the existence and whereabouts of patients named on lists; otherwise, we are informed, these names will be removed from the individual doctor's list.

While it is right and proper that redundancy should, as far as possible, be eliminated, why, oh why, should the onus of proof of whether these patients are still at risk lie with the hapless general practitioner? Why, indeed, should the busiest time of the year be chosen for the infliction of this task? It might take weeks of inquiry to elicit the current address of one person, let alone 75 persons who are listed for my attention. Is it expected that the general practitioner will, at his own expense, engage a team of private inquiry agents in order to trace these people?

Why did the B.M.A. condone this procedure? I take it that they did in fact agree with the Ministry of Health on this *modus operandi*, although as usual I did not see any

indication in the *Journal* that the opinion of the general practitioners had been sought in this matter.

In spite of cheap jokes made about general practitioners, they still remain a hard-working and conscientious body of men and women, who are reasonably well educated and trained to think logically. But it has always been a source of wonderment to me that they should allow themselves to be represented by leaders who are patently inarticulate on their behalf. Take, for instance, the vexed question of remuneration. While other sections of the community have in several instances managed to negotiate for two and sometimes three increments in their remuneration, our representatives have found it beyond their powers to settle with the Ministry the question of reasonable payment on entry into the National Health Service. This, mark you, after the latter has been in existence over three years.

If general practitioners were not so timid, frustrated, and tired, they would have sacked their representatives long ago and replaced them with men and women from their midst who would be prepared to do battle for their enslaved hosts. Until this is brought about, I am afraid that a new deal for general practitioners is about as far away as a peaceful settlement among the wrangling nations.—I am, etc.,

North Wingfield, near Chesterfield. H. FIRMAN.

Payment of Dispensing Doctors

SIR,—As a rural practitioner I find myself wholly in agreement with Dr. J. Richards, of Newbury (*Supplement*, December 15, p. 267), when he pleads that our peculiar problems shall not be overlooked when it comes to implementing the various promises, broken and unbroken, of our recent Ministers of Health. But it is singularly unfortunate that he should choose for criticism the one item of service which at the moment of writing is fairly and reasonably paid. The dispensing payment by means of E.C. 10 forms completed, sorted, and sent quarterly to the Pricing Bureau is without doubt the fairest possible. The capitation method of payment shall be mentioned only to be condemned.

The doctor who has to dispense for his patients is bound to be put to extra trouble. Dr. Richards's suggestion will not save him much labour. The completion of Form E.C. 10 takes no longer in rural than in urban practice. The placing of the completed form in the appropriate box "S" or "A" cannot be called time-consuming; and, if a note is made at the time of writing of the number of forms and prescriptions on a separate piece of paper, the prescriptions can be bundled in hundreds with elastic bands as they accumulate, and the actual packing and dispatching four times a year is a negligible burden.

I would like to point out in passing that our friends the chemists have negotiated quite substantial increases for us recently, and the Pricing Bureau Superintendent is always ready to help with difficult problems like elastic hosiery.

If I may comment briefly on Dr. Richards's suggested alternative to the very excellent arrangements now in force, I should like to say that it is bureaucratic in conception, that it sacrifices the substance of independence to the shadow of salaried security, that it would almost certainly bring in less money, and that it appears to me to save neither time nor labour. The actual dispensing is the time-consuming part of the work, and if you cannot pay a dispenser or persuade your wife you will have to do it yourself whatever the method of remuneration.—I am, etc.,

Brailsford, Derbyshire. J. J. HAMILTON.

SIR,—I am gratified to see that once again this unsatisfactory aspect of rural dispensing practice is receiving prominence. It has been brought up on innumerable occasions before and always it has proved an insoluble problem to the great administrative minds. Perhaps someone could explain to us why this should be. All we ask is payment for what we dispense, and for work done, without being put to a lot of time-wasting correspondence to collect our money.

The system of dispensing against Form E.C. 10 is too complicated and time-absorbing as well as being a losing proposition on occasions. The dispensing capitation system is an easy arbitrary method of payment which does not keep pace with the rapid rise in the cost of drugs and dressings. The method of reclaiming payment for expensive preparations not on the schedule puts the doctor, the chemist, the executive council, and the Ministry of Health to endless trouble and correspondence.

To remove an expensive drug addict from the doctor's list is no cure, because the occasion arises when the patient has to be provided with drugs from the doctor's dispensary, for which payment is not forthcoming. I have on occasion invited such patients to purchase their supplies from the chemist direct and defray the cost from their own pockets, but this has invariably involved me in much correspondence and explanation with the executive council.

Dr. John Richards (*Supplement*, December 15, 1951, p. 267) suggests a method of dealing with the problem which I feel sure will be condemned out of hand owing to its sheer simplicity. A modification would be to adopt the system of dispensing against Form E.C. 10, and instead of receiving a dispensing fee the services of a dispenser-secretary could be provided or the expenses of one defrayed.

To pass from the sublime to the ridiculous: for real economy in prescribing I would advocate that all doctors in the N.H.S., hospital consultants included, be raised to the same responsible status as the rural dispensing doctor and be put on a dispensing capitation basis.—I am, etc.,

Harrold, Beds. R. STUART.

Compulsory Retirement in Hospital Service

SIR,—We have read with interest the correspondence concerning Mr. N. P. Jewell (*Supplement*, October 27, p. 188) and other consultants compulsorily retired. It is fair to put on record that the news of Mr. Jewell's compulsory retirement was heard with universal regret in this district and it was unanimously decided to sign a petition on his behalf. This received the signature of many general practitioners in this district, but was rejected by the regional hospital board and, after an appeal, by the Ministry of Health. Surely the time has come to recognize the fact that attaining the age of 65 years should not condemn a surgeon or physician to a life of idleness.

We feel that the cases of Mr. Jewell and his other equally eminent colleagues should be reconsidered in the light that a surgeon who is considered capable of private practice could equally be allowed to carry on practice as a general consultant under the National Health Service. It is a recognized fact that no surgeon over the age of 65 years would dream of carrying on operative surgery unless he himself felt capable of doing so.—We are, etc.,

M. E. WINTERS.
Harrow, Middlesex. F. O'SULLIVAN.

Time to Instruct Counsel

SIR,—Since the bland announcement that it would take some months to instruct counsel in the case for the G.P. I have eagerly sought letters in the *Journal* from more authoritative and influential pens than mine protesting to high heaven. If our case is not virtually ready now, what on earth have our presumed leaders been doing since July, 1948, aye and before? Must we go on waiting, waiting, waiting, worried all the time by ever-mounting financial commitments which we are unable to meet?

Even were it granted that the capitation fee appointed by Mr. Aneurin Bevan at the beginning of the National Health Service was just and fair, it would need no elaborate preparation of a case to prove that in 1952 it will be utterly inadequate. Is it quite impossible to press *now* for an increase based on the manifest rise in the cost of living and on the increase in earnings of almost every other section of the community?

Over and over again one feels tempted to think that the man who is wholly dependent on his practice and whose practice is dependent on him is, in the nature of things, virtually debarred from the higher ranks of the B.M.A. This may in part account for the apparent fact that our represen-

tatives and "leaders" appear to be unaware that at this very moment many of us are torn and distracted by acute financial worries. We want help *now*.—I am, etc.,

Launceston, Cornwall. DONALD M. O'CONNOR.

*** The Secretary of the Association writes: The fact that it would take some little time to instruct counsel and our team of expert witnesses on the many facets of the profession's case was reported to the Annual Conference of Local Medical Committees and no exception was taken to the advice given by the G.M.S. Committee. Much of the evidence is based on the cost of living and the remuneration of comparable professions, and this must be submitted as from a current date.

Amenity Beds

SIR,—The medical profession will certainly agree with the sentence in Dr. David H. Patey's letter (*Supplement*, January 5, p. 6) in which he stated that, as doctors, we welcome an increase in the number of single-bedded ward units for those patients whose medical condition requires privacy. Such patients are not amenity-bed patients, but come into the category of what the Minister has called "medical-need patients"; and it is rightly laid down that a medical-need patient should always have the first call on any single-bed accommodation without charge.

Amenity beds are beds in single rooms or in small cubicled wards which are charged at the inclusive rate of two guineas per week, and are not reserved for patients whose medical condition demands a separate room. They are helpful to elderly gentlefolk who appreciate quiet and privacy and whose reduced circumstances in the face of a rising cost of living make it impossible for them to afford a private room. Unfortunately, the demand for these beds often comes from social snobs who do not want to be in wards with their fellow-beings, but who pay a sum which is scarcely sufficient to cover the cost of their board and lodging. What is also unfair is that such a large number of amenity beds have been established in the private blocks of hospitals solely by a change of nomenclature, so that patients in them get the same advantages and treatment as those given to patients in identical beds who have to pay 13–23 guineas a week, together with charges for drugs and medical attention: nearly 2,000 private beds have been converted into amenity beds.

Surely the remedy is to reduce the cost of pay-beds to a level which makes them an economic possibility for those who have saved for a "rainy day," so that they may have a little extra comfort when illness befalls them. They were originally established for this purpose, and only political considerations have insisted on the conversion of fee-paying beds into amenity beds, while forcing up the cost of the fee-paying bed. The ultimate aim is clearly to abolish private practice and establish a State monopoly.—I am, etc.,

London, W.1. E. C. WARNER.

POINTS FROM LETTERS

Tracing Patients

Dr. I. LIBMAN (Heywood, Lancs) writes: I am amazed that the British Medical Association has given its consent to the local executive councils with regard to tracing of patients. This decision will cause great inconvenience to the practitioner and it will entail many extra hours of clerical work on top of our heavy winter rush of urgent cases which keep us busy for twenty-four hours each day. . . . The burden of the National Health Service is being borne solely by the practitioners, and they are doing a grand job in spite of the lack of assistance from the Government and the executive council and are meeting the rush of patients in a valiant manner. Most practitioners with whom I have been in contact are completely against this decision with regard to tracing patients. If all practitioners are hostile to the procedure, then it is up to the B.M.A. to inform the executive council of their decision to withhold their consent. . . .

Association Notices

AREA OF PORTSMOUTH AND SOUTHAMPTON DIVISIONS

Notice is hereby given that the Council has transferred the civil parishes of Sarisbury, Hook with Warsash, and Locks Heath from the area of the Portsmouth Division to that of the Southampton Division.

A. MACRAE,
Secretary.

Diary of Central Meetings

JANUARY

15	Tues.	Staff Side Committee B, 11 a.m.
15	Tues.	Finance Inquiry Committee, 11.15 a.m.
15	Tues.	Finance Committee, to follow Finance Inquiry Committee.
15	Tues.	Whitley Committee B (at 1, Richmond Terrace, Whitehall, S.W.), 2.30 p.m.
16	Wed.	General Practice Review Committee, 11 a.m.
17	Thurs.	Publishing Subcommittee, 10.30 a.m.
17	Thurs.	General Medical Services Committee, 11 a.m.
18	Fri.	Consulting Pathologists Group Committee, 2 p.m.
22	Tues.	Staff Side of Committee C (at 1, Richmond Terrace, Whitehall, S.W.), 10 a.m.
22	Tues.	Whitley Committee C (at 1, Richmond Terrace, Whitehall, S.W.), 12 noon.
22	Tues.	"Dual Appointments" Conference (at 1, Richmond Terrace, Whitehall, S.W.), 3.30 p.m.
23	Wed.	**Council**, 10 a.m.
24	Thurs.	Subcommittee *re* Arbitration on Remuneration of General Practitioners, General Medical Services Committee, 10.30 a.m.
24	Thurs.	Registrars Group Executive Committee, 2 p.m.
25	Fri.	Venereologists Group Committee, 2.30 p.m.

FEBRUARY

1	Fri.	Committee *re* Fees for Part-time Work under Local Authorities, 2 p.m.

Branch and Division Meetings to be Held

BARNSTAPLE DIVISION.—At Imperial Hotel, Barnstaple, Thursday, January 17, 7.15 for 7.30 p.m., dinner with North Devon members of the legal profession, followed by address by Dr. Robert Forbes: "Legal Hazards in Medical Practice."

BIRMINGHAM DIVISION.—At Birmingham Medical Institute, 154, Great Charles Street, Birmingham, Tuesday, January 15, clinical meeting by Miss Dorothy M. Shotton.

BURTON-ON-TRENT DIVISION.—At General Infirmary, Burton. Tuesday, January 15, 8 p.m., clinical meeting. A series of cases will be shown illustrating hypertension.

CITY DIVISION.—At Metropolitan Hospital, Kingsland Road, London, E., Tuesday, January 15, 8.30 p.m., meeting.

EAST KENT DIVISION.—At Winter Gardens, Margate, Friday. January 18, 9 p.m. to 2 a.m., annual supper and ball in aid of Royal Medical Benevolent Fund.

GREENWICH AND DEPTFORD DIVISION.—At Miller General Hospital, Greenwich High Road, London, S.E., Wednesday. January 16, 8.30 p.m., lecture by Dr. D. D. Towle: "Medical Aspects of Atomic Warfare." Illustrated by a film. Members of Lewisham and Woolwich Divisions and others interested are invited.

LAMBETH AND SOUTHWARK DIVISION.—At Lambeth Hospital, Brook Drive, London, S.E., Tuesday, January 15, 8.15 p.m., motion picture with sound: "Radiography of the Vertebrae."

LINCOLN DIVISION.—Thursday, January 17, meeting in association with Lincolnshire Medical Society. (1) At Saracen's Head Hotel, 7.15 for 7.45 p.m., dinner; (2) at Lindsey County Council Offices, 8.45 p.m., B.M.A. Lecture by Dr. G. W. M. Findlay: "Antibiotics."

MID-ESSEX DIVISION.—At Reception Hut, St. John's Hospital (upper entrance), Wood Street, Chelmsford, Sunday, January 20, clinical meeting. 10.15 a.m., talk by Mr. Anthony Pearson: "Cervix Uteri in Obstetrics"; 11.30 a.m., discussion on everyday obstetric problems.

SOUTHAMPTON DIVISION.—At Nurses' Lecture Hut, Royal Southampton Hospital, Wednesday, January 16, 8 for 8.30 p.m., general meeting. Address by Dr. W. S. C. Copeman: "Cortisone, A.C.T.H., and the Rheumatic Diseases."

SUNDERLAND DIVISION.—At Royal Infirmary, Sunderland, Friday, January 18, 8 p.m., address by Mr. John Bruce: "Pain in the Right Iliac Fossa."

WOOLWICH DIVISION.—At Woolwich Memorial Hospital, Shooters Hill, London, S.E., Tuesday, January 15, 8.30 p.m., lecture by Dr. Francis Camps: "The Modern Approach of the Forensic Pathologist to a Case of Murder by Violence." Illustrated by lantern slides.

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The swords of Toledo were long famed as the sharpest in Europe. They were hand made by craftsmen. VIM needles are also famed for their sharpness. Skilful grinding by craftsmen produces VIM's incomparable razor-keen points and cutting edges. Made from Firth-Brearley stainless steel, uniformly tempered, with accurately tapered mounts and individually tested... : The perfect instrument for safe, pain-free injections.

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Children

A SAFE AND ACCURATE DOSE OF ASPIRIN—There is little fear of an anxious mother giving too large a dose of Angiers Junior Aspirin for Children. Each tablet contains 1¼ grains of Aspirin.

IN AN EASY TO TAKE TABLET—The pleasant orange flavour and sweetening in this small pink tablet makes Angiers Junior Aspirin acceptable to children even if sucked or chewed.

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Bottles of 50 tablets 1/6

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Rational, symptomatic treatment in Asthma & Bronchitis

Each tablet contains Ephedrine, the important antispasmodic for bronchial spasm, Theobromine, for its relaxing effect on the bronchial muscle and for stimulation of the coronary circulation, Phenazone, for its soothing effect on the higher centres, and Calcium gluconate, a readily absorbable calcium salt, for diminishing capillary permeability and checking the secretion of mucus.

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Ephedrine hydrochloride	¼ grain
Theobromine	½ grain
Phenazone	1 grain
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This preparation is sanctioned for prescription under N.H.S. Please write for samples and descriptive leaflet.

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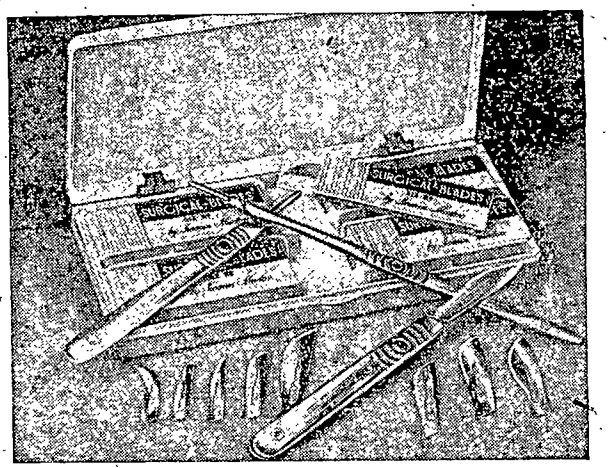

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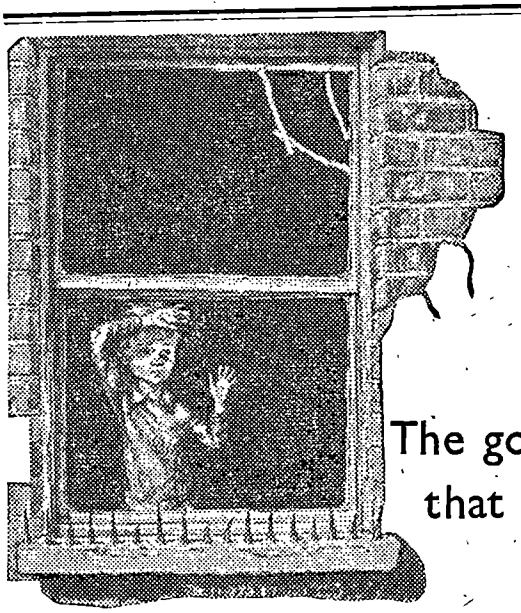

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There are so many ways of hurting a child. Lack of love and companionshi confinement, for whole days at a time, alone in a bare room — these are e amples of the not-so-obvious forms of cruelty. And so, if you want to ma a bequest to a really good cause, you could not find a better one than t NATIONAL SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN. business is to protect and it only prosecutes when help and advice have faile

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3¾″ sq. individual dressings, packed 12 to a carton.
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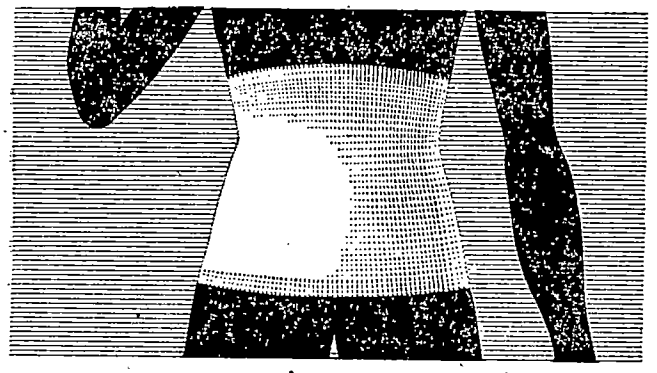

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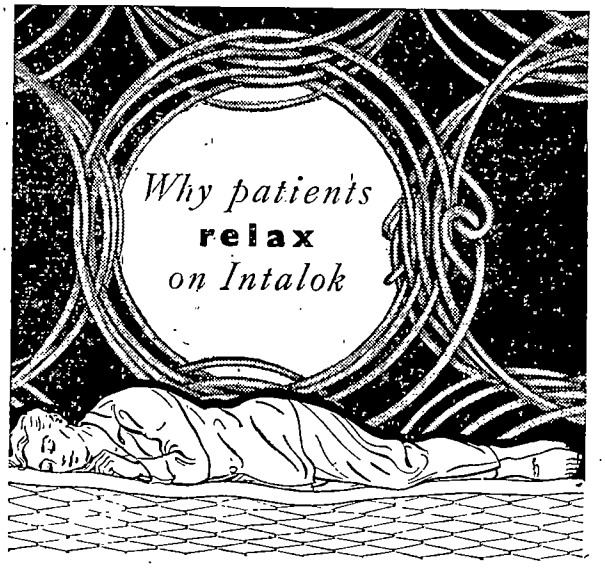

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The reason is clearly shown in this illustration.

The background photograph shows a top-view of a section of the mattress. It consists of a mass of fine gauge springs loosely interlinked throughout the whole length and breadth. Surface coils take the first pressure, and as weight increases, more and more springs share the load.

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APPOINTMENTS

Applicants should state name, address, age, nationality, qualifications, and enclose 3 copies (unless otherwise specified) of recent★ testimonials with short statement of experience and appointments held.

Applications should be sent at once if no closing date is given.

Canvassing in any form will disqualify.

★*SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

Deferment of call-up for "R" practitioners (i.e., practitioners liable for call-up under the National Service Acts) is granted at the discretion of the Central Medical War Committee and (in Scotland) the Scottish Central Medical War Committee. The Committees normally allow an "R" practitioner to hold a First House Officer post (N.H.S. salary £350 per annum) provided that he obtains it without delay. *Under present arrangements* the Committees also normally allow an "R" practitioner to hold a Second House Officer post (£400) and a Senior House Officer post (£670), provided in each case that the higher appointment is secured before the termination of the practitioner's current appointment.

"R" practitioners may not accept Third House Officer posts (£450 per annum) unless they have obtained the special permission of the C.M.W.C. or (in Scotland) the Scottish C.M.W.C.

SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

Registrar Grades, Whole-time

(*a*) *REGISTRAR:* Posts obtained normally not less than two years after registration as a medical or dental practitioner and held normally for two years: £775 per annum in the first year; £890 per annum in the second and any subsequent years.

(*b*) *SENIOR REGISTRAR:* Posts obtained normally not less than four years after registration as a medical or dental practitioner and held normally for three years: £1,000 per annum in the first year; £1,100 per annum in the second year; £1,200 per annum in the third year; £1,300 per annum in any subsequent years.

Other Grades, Whole-time

(*a*) *HOUSE OFFICER:* £350 per annum for the first post held, £400 per annum for the second post held; £450 per annum for the third and any subsequent post held; with, in each case, a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Each post shall be tenable for six months.

The Minister will be prepared to authorize, in exceptional circumstances, salaries up to £50 per annum higher than the standard rates specified above where a post cannot be filled otherwise

(*b*) *SENIOR HOUSE OFFICER:* Posts obtained normally not less than one year after registration as a medical or dental practitioner and normally held for one year only: £670 per annum.

(*c*) *JUNIOR HOSPITAL MEDICAL OFFICER:* Officers who have held house appointments but who are not registrars and who have less responsibility than other hospital officers of non-consultant status: £700 (for an officer appointed not less than two years after registration as a medical practitioner) by £50 to £1,000 per annum.

ALL NATIONAL HEALTH SERVICE HOSPITAL APPOINTMENTS ARE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SERVICE OF HOSPITAL MEDICAL STAFF

Those intending to apply for resident appointments in the Registrar grades are recommended to make inquiries with regard to the deductions proposed for board and lodging at the time of submitting their applications, where this is not stated in the advertisement.

(19/12/51).

CLASSIFICATION

and order of appearance

Practices	Assistantships
Partnerships	Locums

HOSPITAL APPOINTMENTS

CONSULTANTS
S.H.M.O.s
REGISTRARS
J.H.M.O.s
SENIOR HOUSE OFFICERS
HOUSE OFFICERS
CLINICAL ASSISTANTS

under appropriate specialty headings, e.g.:—

Anaesthetics	Ophthalmology
Bacteriology	Orthopaedics
Blood Transfusion	Paediatrics
Cardiology	Pathology
Chest and Tb.	Physical Medicine
Dental	Psychiatry
Dermatology	Radiology
E.N.T.	Rheumatology
Infectious Diseases	Venereology
Neurology	Medicine
Neurosurgery	Surgery
Obstetrics and Gynaecology	Casualty

PUBLIC HEALTH

in alphabetical order of names of employing authorities

Industrial	Accommodation
Overseas	Consulting Rooms, etc.
University	Hotels
Personal	Motor Cars, Hire, etc.
Notices	Miscellaneous
Educational	Nursing Homes
Situations (Non-med.)	Homes
Pharmacists, etc.	Agents
Receptionists, etc.	

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

LONDON

Applications invited for urban vacancies as follows: (1) **Camberwell.** List at present approximately 2,600. Residence in S.E.23 will be available for purchase, but not the surgery, which is in S.E.15. (2) **Greenwich.** List at present approximately 2,100. Premises not available. (3) **Hampstead.** List at present approximately 2,300. Premises not available. Apply, on Form E.C.16A, stating for which vacancy, not later than January 25, 1952, to C. H. Lyon, Clerk, London Executive Council, Insurance House, Insurance Street, W.C.1.

DOVERS FARM ESTATE
Rainham, Hornchurch, Essex

Applications invited for vacancy (urban). Not retirement or death vacancy. No list of patients. Accommodation available. Apply on Form E.C.16A by January 25, 1952, to the undersigned. —E. Bergdahl, Clerk, Essex Executive Council, 131/3, Fillebrook Road, Leytonstone, E.11.

PENRHYNDEUDRAETH, North Wales

Applications invited for vacancy (urban and rural). List at present approximately 1,500. Residence and surgery available for purchase. Knowledge of Welsh desirable. Applications, in writing, on Form E.C.16A (obtainable from the address given below), should be sent to the undersigned, together with details of professional experience, age, and any other supporting particulars, including any reference it is desired to submit, not later than January 31, 1952.—Merionethshire Executive Council, Beechwood House, Dolgelley. D. G. Roberts, Clerk to the Council.

PRACTICES (Wanted)

WANTED, PRACTICE PARTNERSHIP OR early view succession, preferably West Riding Yorkshire, Doncaster area. Capital available house purchase, equipment, etc.—Box P104, B.M.J.

EXPERIENCED JEWISH G.P. SEEKS PARTnership or Succession, Manchester. Ample capital house purchase.—Box P103, B.M.J.

REQUIRED, PRACTICE, PARTNERSHIP OR Assistantship with View. Private or with N.H.S. Ample capital for house, etc.—Box P170, B.M.J.

PRACTICES (Exchange)

LONDON. Practice N.H.S. 1,300. Approx. annual income £1,400 per annum. No residential accommodation available. Wanted: Practice or Partnership in South of England.

KENT. Practice N.H.S. 6,600. Annual income £5,700. Residential accommodation available. Wanted: Minimum income £3,000 N.W. London suburbs.

Apply, Medical Practices Advisory Bureau, B.M.A. House, Tavistock Square, W.C.1.

PARTNERSHIPS (Offered)

Partnership. Commencing one-third share worth about £1,850 offered after short assistantship. Cathedral city East Midlands. Scotsman preferred. —Box P135, B.M.J.

PARTNERSHIPS (Wanted)

Partnership, Succession or Early View. M.B., Ch.B.(Edinburgh), age 30, married, two children, car owner, three years G.P. London suburb, one year postgraduate hospital, ex-squadron leader, R.A.F. Non-industrial area preferred.—Box P136, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, Temporary Male or Female Assistant, semi-rural area twelve miles Cardiff. Own car essential. Unfurnished house available.—Box 110, B.M.J.

Wanted, Trainee Assistant, N.W. London, male, married. Unfurnished flat available. Work light. Suit postgraduate reading.—Box 159, B.M.J.

Wanted, February, Trainee Assistant, male, Bournemouth district. Car provided, or £150 allowance for car owner.—Box 154, B.M.J.

Wanted immediately, Trainee Assistant, either sex. Conscientious, willing to learn. Furnished flat available. Car essential.—Box 139, B.M.J.

Wanted immediately, male Assistant, live in/out, Liverpool suburb. Salary by arrangement.—Box 140, B.M.J.

Wanted, Trainee Assistant, male or female. Live out. Car driver. Rural Herefordshire.—Box 141, B.M.J.

Wanted, experienced married Assistant. Good unfurnished house, London (Essex) area. Car owner.—Box 142, B.M.J.

Wanted, Assistant, Tyneside, male, married, British. Own car. Salary £1,000, car allowance £100. Rent free unfurnished house available.—Box 123, B.M.J.

Wanted, Scottish woman Trainee for London.—Box 122, B.M.J.

Wanted, January, Assistant, either sex, industrial practice within easy distance Leeds and Wakefield. Own car an advantage.—Box 115, B.M.J.

Wanted, Assistant, early Partnership, North Staffs. Car owner. Indian considered. House available.—Box 114, B.M.J.

Wanted, Trainee Assistant, London, S.W., with car.—Box 111, B.M.J.

Wanted immediately, Trainee Assistant, single, London, S.W.6.—Box 105, B.M.J.

Wanted, Assistant, outdoor, South-East Coast town, February 1. Salary £800, car allowance £150. —Box 109, B.M.J.

Wanted, Indoor Assistant immediately, married or single. Car provided. Norfolk. Salary by arrangement.—Box 107, B.M.J.

Wanted, Assistant with view, for country practice in Wiltshire, good salary, unfurnished house. Must be car owner. Allowance made, and petrol paid. Commence approximately March 20 or even before. —Box 102, B.M.J.

Wanted, Assistant, indoor, country, East Anglia. Commence early February. Car owner.—Box 2028, B.M.J.

Assistant wanted, married, 12 miles Birmingham, £800, £120 car allowance. Free unfurnished house, rates, light. No view.—Box 113, B.M.J.

Assistantships Vacant—contd.

Assistant required, married or single, February, Accrington. Accommodation available, work moderate.—Box 138, B.M.J.

Assistant, male, required, general practice, pleasant seaside town, three months beginning February 4, 1952. Car essential. £75 monthly.—Dr. J. Gordon, Commercial Row, Pembroke Dock, Pembrokeshire.

Doctor in Catford, S.E.6, wishes to contact doctor willing to assist with day visits and occasional night calls.—Box 144, B.M.J.

Indian doctor in Midlands town requires experienced Assistant. Ultimate partnership to suitable man. Modern unfurnished house available.—Box 108, B.M.J.

N. London doctor requires immediately full-time permanent Male Assistant. Car essential. Furnished flat over surgery available in three months. Rota. Salary by arrangement.—Box 106, B.M.J.

Required, Male Assistant, S. Wales industrial practice, living in £1,000 per year plus £200 car allowance or outdoor £1,100 per year plus £200 car allowance. Prospects. Car essential. References, full particulars.—Box 112, B.M.J.

Trainee Assistant, single, male. Accommodation provided. Work varied. Two-partner practice. Colchester. Full allowances. With or without car. —Box 137, B.M.J.

Trainee G.P. wanted, mid-March, Manchester North, outdoor. Car essential. Salary £1,000 per annum.—Box 155, B.M.J.

Trainee wanted immediately, male, unmarried. Practice in East London. Work together with principal (Jewish). Rota system for nights and week-ends.—Box 124, B.M.J.

Trainee Assistant, British, residential practice Birkenhead. Ample scope. Car available.—Box 116, B.M.J.

Young male Assistant wanted with view to partnership, town and country practice North Wales. Own car essential. Allowance made.—Box 143, B.M.J.

ASSISTANTS AVAILABLE

Assistantship required by Irish doctor. Hospital. 1½ years' G.P. experience. Married. Car owner. South preferred.—MacCarthy, 20, The Broadway, Northbourne, Bournemouth.

Assistantship required, Scot, Presbyterian, St. Andrews graduate, with possible view. Free February.—Box 157, B.M.J.

Doctor, 27, single, requires Assistantship Southern England. G.P. experience.—Box 117, B.M.J.

Experienced lady general practitioner requires Part-time Assistantship in York or Leeds area.—Box 126, B.M.J.

Lady doctor requires Part-time Duties S.W. London. Car driver.—Box 145, B.M.J.

M.B., B.Chir., car owner, available for Evening Surgeries, Night Calls, and Week-ends, East London suburbs, north of Thames.—Box 146, B.M.J.

M.B., M.R.C.P.E., seeks Assistantship preferably with view, Scotland or England, 30, married. Car owner. G.P., hospital experience. Accommodation required. Free early March.—Box 119, B.M.J.

Part-time work wanted High Wycombe-Maidenhead-Reading area. Experienced G.P. Own car.—Phone Marlow 979.

Trainee Assistantship or Assistantship required, Glasgow or North-East England. M.B., Ch.B. Ex-Serviceman.—Box 156, B.M.J.

Woman graduate, hospital, G.P. and paediatric experience, desires Part-time Assistantship, London, commencing February. Furnished flat required.—Box 125, B.M.J.

Young single Jewish M.B., B.S. seeks Assistantship, extensive G.P. experience, London area.—Box 118, B.M.J.

LOCUMS (Vacant)

Guy's Hospital, S.E.1. Department of Psychological Medicine.—**Locum Registrar** required for period of approximately four weeks. Applications should be forwarded to the Superintendent, Guy's Hospital, S.E.1, not later than January 15. (5928)

Westminster Hospital, St. John's Gardens, S.W.1. —Applications are invited for the post of **Locum Tenens Senior Registrar** to the Orthopaedic Department for six months' duty commencing April 1, 1952. The appointment is being reviewed in the light of proposals of the Ministry of Health for the establishment of Senior Registrars for the Region and may be renewed on a permanent basis. Applications (three copies), with the names of two referees, should be sent to me by February 16, 1952.—Charles M. Power, House Governor and Secretary. (5879)

Whittington Hospital. North-West Metropolitan Regional Hospital Board.—Anaesthetist locum required for whole-time duties to act for consultant in anaesthetics at the Whittington Hospital. Appointment for a period of three to six months, commencing forthwith. Applications from practitioners with appropriate experience and possessing the Diploma in Anaesthetics to be forwarded immediately to the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1. Remuneration 45 guineas or 31½ guineas per week according to status. (5931)

Basingstoke, Park Prewett Group Hospital Management Committee No. 47. South-West Metropolitan Regional Hospital Board.—Locum Tenens Psychiatric Registrar. Applications are invited for the above appointment at the Park Prewett Hospital, Basingstoke. Previous psychiatric experience not essential. Terms and conditions will be in accordance with national scales. Please apply to the Secretary as soon as possible. (5727)

Billericay, St. Andrews Hospital. South-East Essex Hospital Management Committee.—Applications are invited from registered medical practitioners for the post of **Locum Surgical Registrar** at the above hospital. Resident. Salary £775 per annum, less £130 residential emoluments. The post, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (5616)

Chester (near), Meadowslea Hospital, Penyffordd. Wrexham, Powys and Mawddach Hospital Management Committee.—Applications are invited for a resident **Locum Tenens** at the above hospital to commence immediately. Salary will be at the rate of £700 to £1,000 per annum, according to experience. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, to be addressed to the Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (5647)

Hemel Hempstead, Herts. West Herts Hospital.—**Locum Senior Registrar (Surgical)** required for an indefinite period from January 14, 1952. National Health Service terms and conditions. Please apply to the Administrator at the hospital. (5728)

Lincoln County Hospital.—Locum Anaesthetist (S.H.M.O. or Consultant) required from mid-January for approximately three months.—Apply Secretary, Lincoln County Hospital. (5631)

REPLIES TO BOX NUMBER ADVERTISEMENTS

The names and addresses of advertisers using box numbers are held by us in strict confidence and cannot be disclosed. Applications should be separately enclosed and clearly addressed :

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British Medical Journal,
B.M.A. House,
Tavistock Square, W.C.1.

All communications are forwarded to advertisers under plain cover.

It is not possible for this office to accept telephone messages for relay to advertisers.

Maidenhead (near), Canadian Red Cross Memorial Hospital, Taplow.—Locum Obstetric and Gynaecological House Surgeon required immediately. Salary on national scale. Applications, stating age, experience and qualifications, together with copies of two recent testimonials, should be sent to the Administrative Officer. (5646)

Shrewsbury Group 15 Hospital Management Committee.—Locum Medical Officer required for the **Cross Houses Hospital, Cross Houses, near Shrewsbury (183 beds).** Vacant immediately. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications should be made to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7039)

Southend-on-Sea, General Hospital.—Required Locum Anaesthetic Senior House Officer (Male or female) for the period January to April, 1952, for duties at various hospitals in the Group. Applications, etc., to be sent as soon as possible to the undersigned at the hospital.—J. C. Field, Secretary. (5559)

Welsh Regional Hospital Board.—Wanted at once a whole-time Locum Tenens Assistant Chest Physician for the Rhymney Valley area, based at the Caerphilly Chest Clinic. The period of the locum will be for three months and remuneration will be at the rate of 31½ guineas per week in accordance with the terms and conditions of service. Applications should be addressed immediately to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, The Temple of Peace and Health, Cathays Park, Cardiff. (5929)

Welsh Regional Hospital Board.—Wanted from February 1, 1952, a **whole-time Locum Tenens Assistant Chest Physician** for the Montgomery and Merionethshire area. The period of the locum will be for three months and the successful candidate will be based at the Chest Clinic, Machynlleth. Remuneration will be at the rate of 31½ guineas per week in accordance with the terms and conditions of service. Applications to be addressed immediately to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, The Temple of Peace and Health, Cathays Park, Cardiff. (5930)

LOCUMS (Available)

Woman doctor available daytime surgeries, visits, week-days, Wembley or district. Own car.—Box 120, B.M.J.

Experienced lady doctor free now, long or short engagements.—Tel. : Hillside 5046, Box 158, B.M.J.

Woman postgraduate, G.P. experience, car owner, available Surgeries or Week-ends, London area.—Box 127, B.M.J.

APPOINTMENTS

ANAESTHETICS

CROYDON GROUP OF HOSPITALS
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of

WHOLE-TIME ASSISTANT ANAESTHETIST

Duties mainly at Mayday Hospital. Salary scale £1,300 by £50 to £1,750 per annum. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than January 26, 1952. Applicants may visit the hospitals by local arrangement. (5673)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

WHOLE-TIME ASSISTANT ANAESTHETIST
(S.H.M.O. scale)

resident in or near Pontefract for duties mainly at hospitals in the Pontefract and Castleford Hospital Management Committee Group, together with additional duties at hospitals in the Wakefield "A" and Leeds "A" Hospital Management Committee Groups. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than February 2, 1952. (5291)

PERTH GENERAL HOSPITALS, COUNTY AND CITY OF
Eastern Regional Hospital Board (Scotland)

Applications are invited for the whole-time post of

ANAESTHETIST

at hospitals in the above group (including Bridge of Earn Hospital and Perth Royal Infirmary). The anaesthetic services are under the supervision of the Consultant Anaesthetist for the Perth area. Salary £1,300 by £50 to £1,750. Terms and conditions of service in accordance with national agreement. Further particulars and forms of application from the Secretary to the Board, 430, Blackness Road, Dundee, with whom applications must be lodged not later than February 12, 1952. (5932)

BIRMINGHAM, UNITED HOSPITALS

Applications are invited for the post of

RESIDENT ANAESTHETIC REGISTRAR
(Registrar Grade)
for duties at the Birmingham Maternity Hospital and the adjacent General Hospital

The appointment is for one year in the first instance. Preference will be given to candidates who have passed Part I, D.A. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him not later than January 28, 1952. (5881)

AMENDED ADVERTISEMENT
DERBYSHIRE ROYAL INFIRMARY
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of

ANAESTHETIC REGISTRAR

to the above hospital, which is a recognized training hospital for the D.A. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 28, 1952. (5648)

EDINBURGH—SOUTH-EASTERN REGIONAL HOSPITAL BOARD, Scotland

Applications are invited from suitably qualified medical practitioners for the following posts in the Regional Pool of Anaesthetists, based on the Royal Infirmary of Edinburgh :

SENIOR REGISTRAR

to be appointed for a period of two years in the first instance.

REGISTRAR

to be appointed for a period of one year in the first instance.

The posts are superannuable, and conditions of service will be in accordance with the regulations. Applications, giving details of age, qualifications and previous experience, together with the names of two referees, should reach the Secretary, South-Eastern Regional Hospital Board, 11, Drumsheugh Gardens, Edinburgh, 3, within fifteen days. (5725)

IMPORTANT : All intending applicants should read the revised NOTICE at the top of page 22

Anaesthetics—contd.

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the post of
REGISTRAR in Anaesthetics (Non-resident)
for duties at hospitals in the Hull "A" Hospital Management Committee Group together with additional duties as may be required at other hospitals in the Hull "B" and East Riding Hospital Management Committee Groups. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than Jan. 19. (5292)

NEWMARKET GENERAL HOSPITAL
East Anglian Regional Hospital Board
Applications are invited for
ANAESTHETIC REGISTRAR
Single quarters are available. The appointment will be for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 28, 1952.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5649)

GERMAN HOSPITAL, Dalston, E.8
Applications are invited for the post of
SENIOR HOUSE OFFICER
(Resident Anaesthetist)
The successful candidate will also be required to act as Casualty Officer. The appointment is for a period of one year in the first instance. Salary £670 per annum, less £130 per annum for residential amenities. Applications, with copies of three testimonials, should reach the Group Secretary, Hospital Management Committee, Administrative Offices, Hackney Hospital, London, E.9, within six days of the appearance of this advertisement, quoting the reference GH/1. (5791)

METROPOLITAN HOSPITAL
Kingsland Road, London, E.8
(General—147 beds)
Central Group Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetist)
The appointment will be for six months only in the first instance. Salary will be at the rate of £670 per annum, less residential charges of £130 per annum. Applications, giving details of age, qualifications and experience, together with the names of three referees, should reach the House Governor by January 22, 1952. (5792)

ST. OLAVE'S HOSPITAL (323 beds)
Lower Road, Rotherhithe, S.E.16
Bermondsey and Southwark Hospital Management Committee
Applications are invited for the appointment of a
SENIOR HOUSE OFFICER (Anaesthetics)
Salary at the rate of £670 per annum. The appointment will be initially for a period of one year. Applications, with copies of testimonials, to be submitted within seven days of this publication to the Secretary, Bermondsey and Southwark Hospital Management Committee, New Cross General Hospital, Avonley Road, S.E.14, quoting reference B.M.J. (5876)

BURY GENERAL HOSPITAL
(183 beds—mainly surgical, with beds for other specialties)
Bury and Rossendale Hospital Management Committee
There is a vacancy for a
SENIOR HOUSE OFFICER (Anaesthetics)
(Resident or non-resident)
at the above hospital. The post is vacant now, and is recognized for the D.A. examination. Applications should be made to the undersigned.—H. Wilkinson, Secy. to the Committee, Bury General Hospital, Walmersley Rd., Bury, Lancs. (3584)

CHELMSFORD, ST. JOHN'S HOSPITAL
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
to large surgical units, for a period of twelve months, commencing February 14, 1952. The appointment will include duties at the Chelmsford and Essex Hospital a short distance away. Applications, stating age, sex, qualifications and experience, with recent testimonials, should reach the Secretary, Hospital Management Committee, Chelmsford Group, Chelmsford and Essex Hospital, London Road, Chelmsford, not later than January 22, 1952. (5447)

XIII CHESTER AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT HOUSE OFFICER ANAESTHETIST
The post is recognized for the D.A. The successful applicant will be required to carry out duties in conjunction with the present Resident Anaesthetist at Chester Royal Infirmary and Chester City Hospital and will be required to reside at the Chester Royal Infirmary. Salary £670 per annum, less a deduction of £150 per annum in respect of board and lodging, etc. Applications, giving details of age, experience and qualifications, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Esq., Secretary, 5, King's Buildings, Chester. (5841)

DARLINGTON MEMORIAL HOSPITAL
RESIDENT ANAESTHETIST (S.H.O.)
Applications are invited from male or female practitioners for the above appointment, to commence February 1, 1952. Salary £670 per annum. Previous experience in anaesthesia an advantage, but not essential. Apply, with references and full details, to the undersigned forthwith.—G. W. Beckwith, Secretary. (4954)

DARTFORD HOSPITAL MANAGEMENT COMMITTEE
SENIOR HOUSE OFFICER
(Specialty—Anaesthetics)
The appointment will be for one year, commencing on March 1, 1952. Duties will consist of routine and emergency surgery in the following units: General Surgery, Orthopaedics, Ear, Nose and Throat, Obstetrics, Gynaecology, Ophthalmology, Urology. The appointment is recognized for the D.A. Applications, stating age, nationality, qualifications and experience, and the names and addresses of two persons to whom reference may be made for testimonials, should be sent to the Secretary, Dartford Hospital Management Committee, The Bow Arrow Hospital, Dartford, so as to reach him before January 21, 1952. (5617)

HITCHIN, LUTON AND HITCHIN GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
to work in the Hitchin area under the direction of the whole-time Consultant Anaesthetist. The appointment, which is vacant now, offers experience in general surgery, E.N.T., gynaecology and obstetrics, and orthopaedics, and is recognized for the D.A. examination. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent immediately to the Medical Director, The Lister Hospital, Hitchin. (5711)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding (Full Consultant Staffs)
Applications are invited for the appointment of
SENIOR HOUSE OFFICER IN ANAESTHETICS
(Either sex)
for duty at the above hospitals for the acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment. Vacant now. Salary £670 per annum. National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. Jonn's Hospital, Keighley. (5270)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Luton and Hitchin Group Hospital Management Committee
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
at the Luton and Dunstable Hospital. The appointment, which is vacant now, offers varied experience, and this post is recognized for the D.A. examination. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (5712)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
SENIOR HOUSE OFFICER (Anaesthetics)
Applications are invited from registered medical practitioners for the above post, which is vacant on January 31, 1952. The appointment will be for twelve months at a salary of £670 per annum, less £130 per annum for residential accommodation and services. The hospital is recognized by the Conjoint Board for training for the Diploma in Anaesthetics. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (5823)

MID-KENT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the appointment of
RESIDENT ANAESTHETIST
for joint duties at the Kent County Ophthalmic and Aural Hospital, and the West Kent General Hospital, Maidstone (total beds 248), vacant end of January. The salary will be £670 a year, with a deduction at the rate of £150 for residential emoluments. The post is recognized for the Diploma of Anaesthetics, and there will be excellent experience for this examination with Consultant Anaesthetists. Applications should be forwarded to the Administrative Officer, West Kent General Hospital, Maidstone. (5933)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT ANAESTHETIC SENIOR HOUSE OFFICER
Duties to commence as soon as possible. Terms and conditions of service as published by the Ministry of Health. £150 deducted for emoluments. Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to the undersigned as soon as possible.—Henry M Stanley, Secretary. (5271)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer Grade)
(Recognized for D.A.)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5356)

SHEFFIELD, UNITED, HOSPITALS
Royal Hospital Unit
Applications are invited from registered medical practitioners for the resident post of
SENIOR HOUSE OFFICER in Anaesthetics
at the above hospital. The duties will be mainly carried out at the Royal Hospital, but the successful candidate may be required to work at any unit of the United Sheffield Hospitals. Applications, stating age, qualifications and experience, together with the names of three referees, should be forwarded immediately to the undersigned.—A. P. Prentice, Superintendent, The Royal Hospital, West Street, Sheffield, 1. (5793)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds—8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer status)
which falls vacant on February 4, 1952. The post is tenable for one year at a salary of £670, less £100 for emoluments, and subject to the regulations of the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5257)

MIDDLESEX HOSPITAL, W.1
Applications are invited for the post of
JUNIOR RESIDENT ASSISTANT ANAESTHETIST (House Officer grade)
for six months from February 1, 1952. Previous anaesthetic experience not necessary. Forms of application obtainable from the Deputy Superintendent, and should be submitted, with names of three referees, as soon as possible. (5882)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT ANAESTHETIST AND HOUSE PHYSICIAN
vacant February, 1952. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications and experience, with a copy of two recent testimonials, and the name of one referee, should be sent immediately to Group Sec., St. Helier Hospital, Carshalton, Surrey. (5293)

ST. GILES' HOSPITAL, Camberwell, S.E.5
Camberwell Hospitals Management Committee
Applications are invited for appointment as
HOUSE OFFICER (Anaesthetist duties)
Salary £350, £400 or £450 a year, according to posts held, less charge for residence. Post vacant now. Applications, stating age, details of qualifications and experience, and enclosing copy testimonials, to the Secretary, Camberwell Hospitals Management Committee, Dulwich Hospitals, East Dulwich Grove, S.E.22, as soon as possible. (5601)

WEST LONDON HOSPITAL
Hammersmith Road, W.6
HOUSE OFFICER (Anaesthetics)
required February 22, 1952. Applications, stating age, medical school, qualifications, experience, copies of two testimonials, to the Secretary by February 2, 1952. (5883)

BRISTOL, UNITED, HOSPITALS
Applications are invited for two posts of
RESIDENT ANAESTHETIST
(Second or third post)
for the six months commencing March 1, 1952. The candidates appointed will be required to reside in the Royal Infirmary Branch or the General Hospital Branch, but the appointment will include duties in other branches of the Teaching Hospital Group. Salary £400 or £450 per annum, with a deduction of £100 per annum for residence. Applications, on forms to be obtained from the undersigned, should be returned on or before January 26, 1952.—Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (5794)

Anaesthetics—contd.

GATESHEAD AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Queen Elizabeth and Bensham General Hospitals
Applications are invited for the following appointment at the above hospitals:
RESIDENT ANAESTHETIST (House Officer)
(The post is recognized for the purposes of D.A.)
This appointment becomes vacant on February 1, 1952, and applications, together with copies of two recent testimonials, should be addressed to the Medical Superintendent, Queen Elizabeth Hospital, Sheriff Hill, Gateshead, 9, Co. Durham, as soon as possible. The appointment will be in accordance with the national terms and conditions and the National Health Service Regulations. (5421)

ISLE OF MAN, NOBLE'S HOSPITAL
Applications are invited for the post of
RESIDENT ANAESTHETIST
in busy hospital with over 150 beds and the usual ancillary departments. Post will provide ample and varied experience in pleasant surroundings. Salary £400 per annum, less £100 per annum for board and lodging. Duties may include acting in the medical wards or casualty. Appointment for six months in first instance. Applications, with copies of two recent testimonials, to the Secretary, Noble's Hospital, Douglas. (5123)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (Anaesthetist)
(Second or third post)
Required in the Department of Anaesthesia. Hospital recognized for purpose of D.A. qualification. Resident or non-resident. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to the Secretary of the Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date January 22, 1952. (5729)

BACTERIOLOGY

WESTERN REGIONAL HOSPITAL BOARD
Scotland
Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:
REGISTRAR IN BACTERIOLOGY
based at Glasgow Western Infirmary
Applications (sixteen copies), stating age, qualifications and experience, and present appointment, and giving the names of three referees, should be submitted not later than January 26, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the N.H.S. (Scotland) (Superannuation) Regulations. (5795)

BLOOD TRANSFUSION

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified practitioners for the whole-time appointment of
DEPUTY BLOOD TRANSFUSION OFFICER
(S.H.M.O. scale) of the Blood Transfusion Service in the Leeds Region
The person appointed will be required to act as Deputy to the Regional Blood Transfusion Officer and opportunities will be given for original work and research of an academic nature. Applicants must have been qualified at least six years and some previous experience in clinical pathology would be desirable. The headquarters of the service is at the Regional Blood Transfusion Centre, Bridle Path, York Road, Seacroft, Leeds. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary to the Board, Park Parade, Harrogate, not later than Feb. 2. (5294)

LIVERPOOL REGIONAL HOSPITAL BOARD
Regional Blood Transfusion Service
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
for duties with the Regional Blood Transfusion Service with headquarters in Liverpool. The post will consist of the whole range of medical duties undertaken by the Blood Transfusion Service, including serological and haematological investigations, undertaking transfusions in hospitals, and the collection of blood from donors. Forms of application obtained from, and to be returned to, Dr. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than January 26, 1952.—Vincent Collinge, Secretary to the Board. (5782)

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
WHOLE-TIME ASSISTANT MEDICAL OFFICER
(J.H.M.O. Grade)
at the Regional Blood Transfusion Centre, Northfield Road, Sheffield. Applicants should have had previous clinical experience. The appointment affords scope in all aspects of blood transfusion work and serology, including research. Applications, stating present appointment, date of birth, qualifications, and experience, and the names of three referees, should be sent to the Secretary, Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, not later than February 2, 1952. Applicants may visit the Blood Transfusion Centre by arrangement with the Director. (5272)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time appointment of
SENIOR HOUSE OFFICER
in the Blood Transfusion Service for the Leeds Region
The person appointed would be required to have one year's experience in house appointments and would be given opportunities to obtain experience in all branches of blood transfusion technique. Previous experience with a regional blood transfusion service is not essential. The headquarters of the service is at the Regional Blood Transfusion Centre, Bridle Path, York Road, Leeds. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary to the Board, Park Parade, Harrogate, not later than Feb. 2. (5295)

CARDIOLOGY

NATIONAL HEART HOSPITAL
Westmoreland Street, London, W.1
(With which is associated the Institute of Cardiology)
REGISTRAR
A vacancy for this post will occur as from February 1, 1952. Applicants should have been fully trained in general medicine and should possess a higher medical qualification. The selected candidate will be trained for from one to two years in all aspects of cardiology and should be then ready for a consultant post. Applications, with copies of three recent testimonials, should be sent to me not later than Monday, January 21, 1952.—Robert G. E. Whitney, Secretary to the Board of Governors. (5560)

CHEST AND TUBERCULOSIS

ST. THOMAS' HOSPITAL, London, S.E.1
CHEST SURGEON
With full consultant status and membership of the Medical Committee. Four half-day sessions a week. F.R.C.S. essential. Applications, twelve copies, including names and addresses of three referees, to Clerk of the Governors by February 16, 1952. (5364)

HARROW CHEST CLINIC
199, Station Road, Harrow
North-West Metropolitan Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME ASSISTANT PHYSICIAN
Salary scale £1,300 to £1,750 per annum. Candidates should possess a higher medical qualification and have good general medical experience and special experience in the treatment of chest diseases and tuberculosis. The successful applicant will work under the general supervision of the consultant physician in charge, and duties will include the care of 10 beds at Hendon Isolation Hospital, Hendon, N.W.4, and 28 beds at Edgware General Hospital, Edgware, for the treatment of tuberculous patients. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 16, 1952. Candidates are welcome to visit the Clinic by direct appointment with the Consultant in Charge. (5884)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the post of
WHOLE-TIME ASSISTANT CHEST PHYSICIAN
(S.H.M.O. scale)
for duties at the Leeds Chest Clinic. The appointment offers considerable scope for experience in tuberculosis and diseases of the chest, and there is close collaboration with the thoracic surgery unit at the Teaching Hospital. The person appointed will work under the immediate direction of the Senior Chest Physician and the duties will include attendance at chest clinic sessions, general hospitals and tuberculosis hospitals within the area, together with such domiciliary visits as may be necessary. Candidates must possess good qualifications and previous experience of the diagnosis and treatment of chest diseases. Applications, stating age, qualifications, and details of experience, together with the names of three referees, should be forwarded to the Secretary to the Board, Park Parade, Harrogate, not later than Feb. 2. (5296)

MALVERN, ST. WULSTAN'S HOSPITAL
(258 beds)
Birmingham Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME ASSISTANT CHEST PHYSICIAN
to the South Worcestershire Group, to take charge of Surgical Wards and Theatre
Experience of bronchoscopy and wide experience in the pre-operative and post-operative care of Chest Surgery cases essential. Resident post; married quarters available. Salary scale £1,300 to £1,750 per annum. Appointment subject to National Health Service (Superannuation) Regulations. 15 copies of application, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before Jan. 28. Candidates may visit hospital concerned. (5875)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time post of
TUBERCULOSIS PHYSICIAN
in the Wigan and Leigh Hospital Areas to work under the general guidance of a consultant chest physician. Previous experience in general and thoracic medicine and tuberculosis essential. Salary £1,300 by £50 to £1,750. The appointment may be made in conjunction with the Local Health Authorities concerned, for whom the appointee will carry out duties in connexion with prevention, care and after-care. Forms of application may be obtained from the Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than January 21, 1952. (5365)

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the whole-time appointment of an **ASSISTANT CHEST PHYSICIAN (S.H.M.O. scale)** to serve the Welsh Regional Hospital Board in the Rhymney and Sirhowy Valleys and part of the North Monmouthshire Hospital Management Committee Groups. The candidate should have had experience in chest diseases and tuberculosis in particular and will work, under the direction of the Chest Physician in charge of the area. Fourteen copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (5842)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest
Applications are invited for two vacancies of
PART-TIME MEDICAL REGISTRAR
(Registrar Grade)
Appointment is for one year in the first instance and attendances are equivalent to five sessions a week. Applications, stating age, qualifications (with dates), and previous appointments held, together with copies of three testimonials, should be sent to the undersigned not later than January 24, 1952.—House Governor, London Chest Hospital, London, E.2. (5451)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1, or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
(Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

LANCASHIRE COUNTY COUNCIL
(Assistant Divisional Medical Officers)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,

A. MACRAE,
Secretary

January 8, 1952.

Chest and Tuberculosis—contd.

COTTINGHAM, near HULL, CASTLE HILL HOSPITAL
Leeds Regional Hospital Board
Applications are invited for the appointment of
REGISTRAR in Thoracic Surgery
for duties at the Thoracic Surgical Unit. The unit has thirty-eight beds and provides full facilities for the surgical treatment of both tuberculous and non-tuberculous cases. The appointment will be resident for which the necessary deductions from salary will be made. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than January 25, 1952. (5618)

LEICESTER, MARKFIELD SANATORIUM AND ISOLATION HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
REGISTRAR (Chest Diseases and I.D.)
to the above hospital, where minor thoracic surgery (T.B.) is undertaken. The duties are mainly in the hospital, but clinic work may be undertaken under the supervision of the Consultant. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5297)

OXFORD REGIONAL HOSPITAL BOARD
Applications are invited for the post of
WHOLE-TIME REGISTRAR
in Diseases of the Chest at Peppard Sanatorium
The successful candidate may be required to undertake duties in the hospitals and clinics of the Reading area. The appointment will be for one year and eligible for extension to two years. Single accommodation is available at the Sanatorium. Applications, on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by February 1. (5674)

WORCESTER (near), KNIGHTWICK SANATORIUM (100 beds)
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
The appointment and salary will be in accordance with the terms and conditions of service laid down for hospital medical staff. Applications, with copies of testimonials, should be sent to the Secretary, Worcester Royal Infirmary. (5934)

MANSFIELD (near), NOTTS, NEWSTEAD SANATORIUM, Fishpool (236 beds)
Applications are invited for appointment as
RESIDENT SENIOR HOUSE OFFICER (Female)
The successful applicant may be required to undertake some work at neighbouring chest clinics, including B.C.G. vaccination. Apply, giving age, qualifications and two referees, to the Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood Hospital, near Mansfield, Notts. (5843)

NEWCASTLE, WALKER GATE HOSPITAL
Chest Department
Newcastle-upon-Tyne Hospital Management Committee
SENIOR HOUSE OFFICER
Applications are invited for the above post. The appointee will carry out duties at the above hospital assigned to him under the supervision of the Senior Chest Physician. The appointment is resident. Salary and conditions as defined under the terms and conditions of service of hospital medical and dental staff (England and Wales), paragraph 4, on the scale appropriate to Junior Registrars, at £670 per annum. Applications, with three testimonials, to be sent to the Secretary, Hospital Management Committee, Newcastle General Hospital, Westgate Road, Newcastle-upon-Tyne, 4, as soon as possible. (5776)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield No. 1 Hospital Management Committee
Applications are invited from suitably qualified medical practitioners for the resident post of
SENIOR HOUSE OFFICER
to the Thoracic Surgery Unit
Preference will be given to candidates with experience in chest diseases and holding a higher surgical qualification. Apply, giving full details of age, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (5602)

AYLESBURY, BUCKS, TINDAL GENERAL HOSPITAL (281 beds)
HOUSE PHYSICIAN (Male or female)
Vacant March 24, 1952. Work is generally connected with diseases of the chest (T.B. and non-T.B.) and care of some acute medical beds. Applications, with two testimonials, to the Administrative Officer by February 11. (5676)

BRAINTREE, ESSEX, BLACK NOTLEY HOSPITAL (550 beds)
Applications are invited for the post of
HOUSE SURGEON (First, second or third post)
for work in the Department of Surgical Tuberculosis at the above hospital. Tenable for six months. Salary in accordance with the terms of service issued by the Ministry of Health, plus £50 per annum. Applications, with copies of three recent testimonials, should be forwarded to the Secretary, Colchester Group Hospital Management Committee, 14, Pope's Lane, Colchester. (5935)

BRISTOL, FRENCHAY HOSPITAL
(428 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee
HOUSE SURGEON
(Thoracic Surgery Department)
Vacancies occur shortly in the above department which is the Regional Thoracic Surgery Centre (108 beds) for the South-West. Applications, with full particulars, should be addressed to the Secretary, Frenchay Hospital, quoting "Thoracic." (3239)

CARDIFF, GLAN ELY HOSPITAL
(236 beds Pulmonary and Non-pulmonary Tuberculosis)
Cardiff Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
at the above, which is a hospital for the treatment of all forms of tuberculosis. Experience afforded in thoracic surgery and tuberculosis of bones and joints, genito-urinary tract and skin. Applications to the Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (5650)

DARTFORD, BOW ARROW HOSPITAL
HOUSE OFFICER
(Specialty—Diseases of the Chest)
Salary in accordance with terms and conditions of service of hospital medical and dental staff. The appointment will be limited to a period of six months in the first instance. The Bow Arrow Hospital is a hospital of 120 beds for active treatment of early tuberculosis. Facilities will be made available for the person appointed to see general medical cases at the nearby large general hospitals. Applications, stating age, qualifications, experience and the names of two persons to whom reference may be made, should be sent to the Secretary, Dartford Hospital Management Committee, The Bow Arrow Hospital, Dartford, Kent. (5675)

STOURBRIDGE (near), PRESTWOOD SANATORIUM
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE OFFICER
at the above Sanatorium. Post vacant immediately. The Sanatorium consists of 200 beds at Prestwood, 35 beds at Edge View, and 60 beds at The Limes, and is for pulmonary tuberculosis. The salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Preference will be given to candidates with some previous experience in the treatment of pulmonary tuberculosis. The post is for six months in the first instance. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (9028)

DENTAL

IPSWICH, EAST ANGLIAN REGIONAL HOSPITAL BOARD
CONSULTANT DENTAL SURGEON
Required whole-time or maximum part-time in the Ipswich area. Main hospitals: East Suffolk and Ipswich Hospital (360 beds); Borough General Hospital, Ipswich (300 beds); Nayland Sanatorium (210 beds); Ipswich Sanatorium (120 beds); St. Audry's Hospital, Melton (1,075 beds); St. Clement's Hospital, Ipswich (445 beds). The main hospitals only are stated, but the duties may include work at other hospitals or clinics in the same area. Eight copies of applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 28, 1952.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5619)

AYLESBURY (near), STOKE MANDEVILLE HOSPITAL
Oxford Regional Hospital Board
Applications are invited from qualified dental practitioners for the post of
ASSISTANT DENTAL SURGEON
in the grade of Senior Hospital Dental Officer to the Plastic Surgery and Jaw Injury Centre
Applicants for this post should hold a higher dental qualification or a medical qualification and the successful candidate will be required to live in the area. Applications (nine copies), stating age, qualifications, experience and the names and addresses of three referees, should reach the Secretary of the Board, 43, Banbury Road, Oxford, from whom further details can be obtained, by Feb. 15. (5677)

ROYAL DENTAL HOSPITAL OF LONDON
Leicester Square, W.C.2
(St. George's Hospital Group)
Applications are invited from registered dental practitioners for one part-time post of six sessions per week as
SENIOR REGISTRAR (Trainee specialist)
in the Orthodontic Department
Previous orthodontic experience is essential. Grading according to age, qualifications and experience. Duties to commence as soon after appointment as practicable. Applications should be forwarded within one month of the appearance of this advertisement, giving the names and addresses of three referees, to the Secretary-Superintendent, from whom further particulars may be obtained. (5730)

ROYAL FREE HOSPITAL GROUP
Dental Department
Applications are invited for the appointment of
FULL-TIME DENTAL REGISTRAR
to work under the general supervision of the visiting Dental Surgeons. Duties would be of a varied general nature including opportunities for surgical theatre work. The appointment is for one year in the first instance, duties to commence on April 1, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Application forms may be obtained from the Secretary to the Board of Governors, The Royal Free Hospital, Gray's Inn Road, London, W.C.1, to whom they should be returned not later than February 11, 1952. (5796)

OXFORD REGIONAL HOSPITAL BOARD
Applications are invited for the post of
REGISTRAR in Dental Surgery
to the hospitals of the Aylesbury area based on Stoke Mandeville (ex-Ministry of Pensions) Hospital
The appointment will be for one year and eligible for extension to a second year. Applications on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by February 1. (5678)

DERMATOLOGY

DUNDEE ROYAL INFIRMARY
(which is a teaching hospital of 510 beds) and Clinics in the Region
Eastern Regional Hospital Board (Scotland)
Applications are invited for the post of
SENIOR REGISTRAR in Dermatology
Established training post. Higher qualification desirable. Appointment for twelve months in first instance. Salary and conditions of service in accordance with national agreement. Further particulars and forms of application from the Secretary, 430, Blackness Road, Dundee, with whom applications must be lodged not later than January 19. (5449)

EAR, NOSE, AND THROAT, etc.

HOSPITALS FOR DISEASES OF THE CHEST
The Board of Governors invite applications for the appointment of
ASSISTANT LARYNGOLOGIST (Consultant)
to the London Chest Hospital, E.2. The duties involve attendance on one notional half-day per week at the hospital and one notional half-day in alternate weeks at the hospital's country branch at Arlesey, near Letchworth. Applications, stating date of birth, qualifications, and experience, with the names of three referees, should reach the undersigned not later than Saturday, February 23, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (5885)

CARSHALTON, QUEEN MARY'S HOSPITAL FOR CHILDREN
South-West Metropolitan Regional Hospital Board
Carshalton Group Hospital Management Committee
REGISTRAR (Non-resident)
required in the E.N.T. Department
for five half-days a week. The appointment will be subject to the provisions of the National Health Service (Superannuation) Regulations and will be in accordance with the agreed terms and conditions of service of hospital medical and dental staff for the time being in operation. Canvassing will disqualify, but candidates are not precluded from visiting the hospital. Forms of application will be supplied by the undersigned on receipt of a stamped, addressed, foolscap envelope, and should be returned, duly completed, by January 26, 1952.—A. F. B. Lloyd, Secretary, Carshalton Group Hospital Management Committee, Queen Mary's Hospital for Children, Carshalton, Surrey. (5886)

WESTMINSTER HOSPITAL
St. John's Gardens, S.W.1
Applications are invited for the post of
SENIOR HOUSE OFFICER
to the E.N.T. Department
The appointment is for one year as from March 1. Applications (three copies), with the names of two referees, should be sent to me by January 19.—Charles M. Power, House Governor and Sec. (5797)

Ear, Nose, and Throat, etc.—contd.

ROYAL NATIONAL THROAT, NOSE AND EAR HOSPITAL and INSTITUTE OF LARYNGOLOGY AND OTOLOGY
Gray's Inn Road, London, W.C.1, and Golden Square, W.1
Applications are invited for the post of
SENIOR HOUSE OFFICER
with effect from March 1, 1952. The appointment is in accordance with the terms and conditions of service for medical staff in the National Health Service, and for an initial period of six months. Applicants should have had good clinical experience in general surgery and in this speciality, and they should preferably hold a higher surgical qualification or have passed the primary examination for the F.R.C.S. Applications, giving full information as to qualifications and experience, with the names of two referees, should be sent on or before February 5, 1952.—John H. Young, House Governor and Secretary. (5731)

BLACKBURN, ROYAL INFIRMARY
Blackburn and District Hospital Management Committee
Vacancy for
SENIOR HOUSE OFFICER
to E.N.T. and Ophthalmic Units, both units being under clinical direction of consultants. Salary £670 per annum, less £155 for board residence. Applications, giving age, experience and qualifications, and names of two referees, to Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (5651)

BLACKPOOL, VICTORIA HOSPITAL
SENIOR HOUSE OFFICER (E.N.T. Department)
Post recognized for D.L.O. and F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (5679)

BRIGHTON AND LEWES HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
HOUSE SURGEON
for duties in the E.N.T. Department of the Group Hospitals (recognized for F.R.C.S. and D.L.O.). Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer, Royal Sussex County Hospital, within seven days of the appearance of this advertisement. (5798)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
HOUSE SURGEON
Required in the Ear, Nose and Throat Department at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. Recognized for D.L.O. National scales and conditions. Six-monthly appointment, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8468)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE SURGEON (E.N.T. and Ophthalmic)
Post recognized for D.L.O. Applications immediately to the Secretary, Hospital Management Committee. (5444)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for the post of
E.N.T. AND OPHTHALMIC HOUSE SURGEON
at the above hospital. The appointment will be subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to the number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Follard, Sec. to the Committee. (4740)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Ear, Nose and Throat)
Applications are invited from registered medical practitioners for the above post, which is now vacant. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience, £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (5824)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)
Applications are invited for the post of
HOUSE SURGEON (E.N.T. Department)
Vacant March 1, 1952. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

NORFOLK AND NORWICH HOSPITAL
Norwich (440 beds)
Applications are invited for the appointment of
JUNIOR CASUALTY OFFICER and HOUSE SURGEON (House Officer Status)
to the E.N.T. and Ophthalmic Departments
Post vacant February 14, 1952. Six months' appointment. Salary £350, £400 or £450, according to experience, less deduction £100 per annum for residence, etc. Applications, stating age, experience, qualifications, with names of two referees, to the Secretary, Norwich, Lowestoft and Great Yarmouth Hospital Management Committee, St. Stephen's Road, Norwich. (5633)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 residents)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
JUNIOR HOUSE PHYSICIAN AND HOUSE SURGEON, E.N.T.
Salary £350 to £450 per annum, depending on experience, with £100 per annum deduction in respect of residential emoluments. Applications, stating age, qualifications and experience, with copies of two recent testimonials, should be forwarded to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (8538)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (E.N.T. Department)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (5828)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full consultant staff)
CITY HOSPITAL, York
(Modern general hospital of 265 beds, with full consultant staff)
E.N.T. HOUSE SURGEON
The E.N.T. Department (which is mainly at the County Hospital) has approximately 30 beds, is recognized for the D.L.O. and offers excellent opportunities for learning the specialty. The appointment is for six months initially and is vacant immediately. Previous experience preferable but not essential. Residence available at the County Hospital. Salary £400 for second post held, £450 for third post, less £100 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (5733)

INFECTIOUS DISEASES

ILFORD ISOLATION HOSPITAL
Grove Road, Chadwell Heath (near London)
Ilford and Barking Group Hospital Management Committee
There is a vacancy for a
SENIOR HOUSE OFFICER
Salary will be £670 per annum, less emoluments. Small furnished bungalow available. Applications, giving particulars of experience and qualifications, and accompanied by copies of testimonials, should be sent to the undersigned within seven days of this date.—G. Austin Hepworth, Secretary, King George Hospital, Ilford. (5680)

PARKSTONE, DORSET, ALDERNEY INFECTIOUS DISEASES HOSPITAL (60 beds)
Bournemouth and East Dorset Hospital Management Committee
HOUSE PHYSICIAN
Required immediately. Applications to the Assistant Secretary of the hospital. (5052)

NEUROLOGY

LONDON HOSPITAL, Whitechapel, E.1
Applications are invited for the post of
REGISTRAR to the Department of Neurology
A higher qualification, although desirable, is not essential, but experience in general medicine is necessary. The appointment will be for one year in the first instance. Applications (twelve copies), giving the names and addresses of three referees, should be addressed to the House Governor (from whom further particulars may be obtained) to arrive not later than January 31, 1952.—H. Brierley, House Governor. (5936)

NATIONAL HOSPITALS FOR NERVOUS DISEASES
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the National Hospital, Queen Square, W.C.1
This post carries the grade of Registrar. The appointment will be for one year in the first instance. Applications, with copies of testimonials, to be sent to the undersigned not later than January 31, 1952.—H. Ewart Mitchell, Secretary, The National Hospital, Queen Square, W.C.1. (5887)

BIRMINGHAM, UNITED HOSPITALS
Queen Elizabeth Hospital
Applications are invited for the temporary non-resident appointment of
SENIOR REGISTRAR
in the Department of Neurology
Post vacant February 9 and tenable until December 31, 1952. Previous neurological experience and possession of the M.R.C.P. are essential. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him not later than January 28, 1952. (5888)

NEUROSURGERY

BRISTOL, FRENCHAY HOSPITAL
(448 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee
SENIOR HOUSE OFFICER
(Regional Neurosurgery Unit)
Applications invited for the above post. This post offers useful surgical experience and the opportunity of gaining a working knowledge of neurological diagnosis. Two referees required. Applications to the Secretary, Frenchay Hospital, quoting "N.S.F." (3238)

REGIONAL NEUROSURGICAL CENTRE
(50 beds)
Brook General Hospital, Shooters Hill Road, S.E.18
NEUROSURGICAL HOUSE SURGEON
The post provides excellent opportunity for training in neurology. Vacant now. Salary £350 to £450, less £100 per annum for residence. Apply to Sec., Memorial Hospital, Woolwich, S.E.18. (5734)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
HOUSE PHYSICIAN (Neurosurgical Unit)
Applications are invited from registered medical practitioners for the above appointment in the neurosurgical unit. Tenable for six months. This post would be suitable for candidate seeking a higher qualification as it offers excellent experience in neurology. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5634)

OBSTETRICS AND GYNAECOLOGY

MANCHESTER, PARK HOSPITAL, Davyhulme
(73 obstetric beds, 29 gynaecological beds)
Manchester Regional Hospital Board
Applications are invited for the whole-time post of
CONSULTANT OBSTETRICIAN/GYNAECOLOGIST (Assistant)
Candidates must be of high professional standing and possess higher qualifications. The successful candidate will be required to live near the hospital. Forms of application can be obtained from the Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than January 21, 1952. (5527)

DERBY CITY HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
REGISTRAR (Obstetrics and Gynaecology)
to the above hospital which is a recognized training for the D.(Obst.)R.C.O.G. and M.R.C.O.G. The appointment is for one year in the first instance and may be renewed for a further year. The appointed person to commence duty on March 21, 1952. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5300)

GRIMSBY HOSPITAL MANAGEMENT COMMITTEE
Sheffield Regional Hospital Board
Applications are invited for the non-resident whole-time post of
REGISTRAR (Obstetrics and Gynaecology)
to the Grimsby group of hospitals. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualification, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than Jan. 21. (5275)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Obstetrics and Gynaecology—contd.

TAPLOW, BUCKS, CANADIAN RED CROSS MEMORIAL HOSPITAL
North-West Metropolitan Regional Hospital Board
OBSTETRICAL AND GYNAECOLOGICAL REGISTRAR
Required for one year in the first instance. Post recognized for training for M.R.C.O.G. There are 35 maternity and 25 gynaecological beds, and duties include ante- and post-natal clinics in the neighbourhood. Candidates are welcome to visit the hospital by direct appointment with the Secretary. Application forms obtainable from, and returnable to, the Secretary, Windsor Group Hospital Management Committee, Kipling Memorial Building, Alma Road, Windsor, Berks, by Jan. 21. (5652)

ROYAL NORTHERN HOSPITAL
Holloway, London, N.7
Northern Group Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)
Vacant February 19, 1952, for a period of one year. Salary £670 per annum, less £130 per annum for board residence. Applications, with copies of three recent testimonials, to be sent to the Assistant Secretary, not later than January 26, 1952. (5889)

BEBINGTON, CHESHIRE, CLATTERBRIDGE HOSPITAL (840 beds)
Central Wirrall Group
SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)
Salary in accordance with current terms and conditions of service. Application forms from Group Secretary, Clatterbridge Hospital, Bebington, Cheshire, to be returned by February 14. (5845)

BIRMINGHAM, 16, ST. CHAD'S HOSPITAL
Hagley Road
Birmingham (Dudley Road) Group of Hospitals
Applications are invited from registered medical practitioners for the appointment of
SENIOR HOUSE OFFICERS
in the Obstetric and Gynaecological Unit of the above hospital. The appointment is for twelve months. Residential emoluments £160 per annum. The post, which falls vacant on February 1, 1952, is recognized by the Royal College of Obstetricians and Gynaecologists for the D.Obst.R.C.O.G. and the unit is affiliated to the University of Birmingham for undergraduate clinical tuition. Applications, stating age, qualifications and experience, accompanied by copies of two recent testimonials, to be sent immediately to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (5457)

CARDIFF, ST. DAVID'S HOSPITAL
Cardiff Hospital Management Committee
SENIOR HOUSE OFFICER (Obstetrics)
Required for the above hospital. Applications, with names of two referees, to the Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (5259)

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
Applications invited for post of
SENIOR HOUSE OFFICER
in the Obstetric and Gynaecological Department (108 Obstetric and 30 Gynaecological beds)
Vacant early March. The post is recognized for the M.R.C.O.G. Applications, stating age, qualifications, and experience, with a copy of two testimonials, and the name of one referee, should be sent to Group Secretary. (5713)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Applications are invited from fully qualified medical practitioners for the post of
SENIOR HOUSE OFFICER (Obstetrics)
in the Obstetrical and Gynaecological Departments (48 obstetrical beds, 11 gynaecological beds, and a small block for puerperal pyrexia). This hospital is recognized for training for the D.R.C.O.G. The appointment is for a period of one year commencing February 1, 1952. Preference will be given to candidates who have experience in obstetrics and gynaecology. Salary will be as published by the Ministry. Applications, stating age, experience, qualifications and nationality, with copies of three recent testimonials, should be sent to H. M. Stanley, The Secretary, Nottingham No. 1 Hospital Management Committee, The General Hospital, Nottingham. (5276)

OLDHAM, BOUNDARY PARK GENERAL HOSPITAL
Oldham and District Hospital Management Committee
SENIOR OBSTETRICAL HOUSE OFFICER
Applications are invited for the above appointment. The obstetrical department contains 100 beds and there are 38 gynaecological beds. There are two Resident Obstetrical Officers and one House Officer. Applications, containing full particulars of qualifications and experience, together with the names of two persons to whom reference may be made, and quoting reference number A/788, should be forwarded immediately to the undersigned.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (5799)

STIRLING ROYAL INFIRMARY
Board of Management for Stirling and Clackmannan Hospitals
Applications are invited for the post of
SENIOR HOUSE OFFICER
in Obstetrics and Gynaecology
The appointment will be for one year in the first instance. Applications, stating age, qualifications and present appointment, and giving the names of three referees, should be submitted immediately to the Secretary of the Board, 1, Randolph Road, Stirling. (5735)

WORCESTER, RONKSWOOD HOSPITAL
Newtown Road (326 beds)
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER
(Gynaecology and Genito-Urinary)
(for which there are 40 beds allotted)
Applications, with copies of testimonials, to the Administrator. (5399)

EAST HAM MEMORIAL HOSPITAL
Shrewsbury Road, London, E.7
Applications are invited from registered medical practitioners for the appointment of
RESIDENT OBSTETRIC OFFICER
(House Officer, Third post)
For six months commencing February 28, 1952. Candidates should send applications, together with copies of recent testimonials, to the undersigned by February 4, 1952.—M. J. Huntley, Secretary, West Ham Group Hospital Management Committee, Stratford, London, E.15. (5890)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1
Applications are invited from registered women medical practitioners for the post of
HOUSE SURGEON
to Gynaecological Department
(Recognized for M.R.C.O.G.)
Duties to commence March 1, 1952. Appointment for six months. Salary according to national scale for House Officers. Applications, with copies of three recent testimonials, should be sent to the Secretary by January 16. (5367)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1
Applications are invited from registered women medical practitioners for the post of
HOUSE SURGEON
for Gynaecological and Special Departments
Duties to commence March 1, 1952. Appointment for six months. Salary according to national scale for House Officers. Applications, with copies of three recent testimonials, should be sent to the Secretary by January 16. (5368)

HACKNEY HOSPITAL, E.9 (797 beds)
Applications are invited from registered medical practitioners for the appointment of
OBSTETRICAL AND GYNAECOLOGICAL HOUSE SURGEON
(Post recognized for M.R.C.O.G.)
Vacancy occurs on February 8, 1952. Preference will be given to applicants who have held resident surgical and medical posts in a general hospital and who have held an obstetric appointment. Appointment will be for a period of six months. Applications should be submitted not later than January 23, 1952, to the Secretary, Hospital Management Committee, Hackney Hospital, E.9. (5800)

THE MOTHERS' HOSPITAL (SALVATION ARMY), Clapton, E.5 (Maternity, 110 beds)
Applications are invited from registered medical practitioners (women) for the posts (two) of
RESIDENT OBSTETRIC HOUSE SURGEON
(House Officer, Second or third post)
The vacancies occur on March 1, 1952, and April 1, 1952, respectively. The posts are recognized for the M.R.C.O.G. and the appointments will be for a period of six months. Candidates should have held resident surgical or medical posts. Applications, giving age, nationality, qualifications and experience, with copies of three testimonials, should be submitted not later than January 31, 1952, to the Secretary, Hospital Management Committee, Hackney Hospital, London, E.9. (5369)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
(Gynaecology and Obstetrics)
Salary, terms and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications and experience with three recent testimonials, to be forwarded immediately to Secretary, St. Martin's Hospital, Bath.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (5681)

GLASGOW, S.W.1, DAVID ELDER INFIRMARY
RESIDENT JUNIOR HOUSE OFFICER
Required for Gynaecological Department for the term commencing February 1, 1952. Applications should be sent to the Medical Superintendent, Southern General Hospital, Glasgow, S.W.1, immediately. (5788)

BILLERICAY, ST. ANDREWS HOSPITAL
(34 beds. New unit)
South-East Essex Hospital Management Committee
OBSTETRIC HOUSE SURGEON
Applications are invited for the above appointment from registered medical practitioners, male or female. Resident. Six months' appointment in the first instance. Post vacant immediately. Applications, stating age, qualifications and experience, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Sec., Thurrock Hospital, Grays, Essex. (4118)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the posts of
TWO HOUSE SURGEONS
to the Department of Obstetrics and Gynaecology
The appointments are for a period of six months commencing February 5, 1952, and March 17, 1952. There are about 1,500 deliveries per year in this department, and the posts are recognized for the D.R.C.O.G. and the M.R.C.O.G. in obstetrics. Applications, giving full particulars, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester (5460)

EDINBURGH, CHALMERS HOSPITAL
Applications are invited from registered medical practitioners (female) for appointment of
HOUSE SURGEON
in the Gynaecological Ward of the above hospital, for six months commencing February 1, 1952, the appointment being resident at National Health Service scales of salary. Applications, stating age, qualifications and experience, and the names of two referees, to be received immediately by the Medical Superintendent, Edinburgh Central Hospitals, 18, Rillbank Terrace, Edinburgh, 9. (5937)

GATESHEAD AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Queen Elizabeth and Bensham General Hospitals
Applications are invited for the following appointments at the above hospitals:
TWO RESIDENT OBSTETRIC OFFICERS
(House Officers)
These appointments become vacant on February 1, 1952, and applications, together with copies of two recent testimonials, should be addressed to the Medical Superintendent, Queen Elizabeth Hospital, Sheriff Hill, Gateshead, 9, Co. Durham, as soon as possible. The appointments will be in accordance with the national terms and conditions and the National Health Service Regulations. (5422)

MAIDENHEAD (near), CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow, Berks
HOUSE SURGEON
to the Unit of Obstetrics and Gynaecology
Required for post vacant March 3, 1952. Post recognized for M.R.C.O.G. Preference will be given to candidates who have had previous experience in midwifery and gynaecology. Salary on national scale. Applications, stating age, experience and qualifications (with dates), together with copies of two testimonials, should be sent to the Administrative Officer. (5243)

MIDDLESBROUGH, NORTH ORMESBY HOSPITAL (188 beds)
Tees-side Hospital Management Committee
Applications are invited for the appointment of
GYNAECOLOGICAL HOUSE SURGEON
the post is vacant from the end of January, 1952, offers excellent experience in gynaecology and is recognized for the M.R.C.O.G. examination. Applications, stating age, qualifications, and accompanied by copies of testimonials, should be forwarded as soon as possible to the Assistant Secretary, North Ormesby Hospital, Middlesbrough. (5464)

NEWPORT, MON, ST. WOOLOS HOSPITAL
(379 beds)
Applications are invited for the post of
HOUSE OFFICER
(Obstetrics and Gynaecology)
vacant February 1. The department consists of 43 obstetric and 22 gynaecological beds. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (5653)

REDRUTH, CAMBORNE-REDRUTH MINERS' AND GENERAL HOSPITAL
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
FIRST HOUSE SURGEON
to the Obstetrical and Gynaecological Departments
at a salary according to national scale, commencing March 1, 1952. This appointment will be for six months. This hospital has been recognized in obstetrics for M.R.C.O.G. Applications, together with copies of three testimonials, should be sent to the undersigned by January 18, 1952.—Norman O. Deans, Administrative Assistant. (5302)

SOUTHEND-ON-SEA, GENERAL HOSPITAL
Applications are invited for the post of
RESIDENT GYNAECOLOGICAL HOUSE SURGEON
vacant February 17, 1952. Post recognized for M.R.C.O.G. Applications, etc., should reach the undersigned not later than January 24, 1952.—J. C. Field, Secretary. (5873)

Obstetrics and Gynaecology—contd.

ROMFORD, ESSEX, RUSH GREEN HOSPITAL (247 beds)

Applications are invited from registered medical practitioners for the post of

RESIDENT HOUSE SURGEON (Woman)

for duties in the Gynaecological Unit comprising 25 gynaecological and 6 maternity beds at the above hospital. Previous experience not necessary. Post tenable for six months from February 1, 1952. Applications, stating (in order) age, qualifications (with dates), present appointment and details of experience, accompanied by copies of two recent testimonials or names of referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. Applicants may see the hospital by arrangement with the Medical Superintendent. Telephone: Romford 7711. (5620)

SOUTH SHIELDS GENERAL HOSPITAL
Department of Obstetrics and Gynaecology

Applications are invited from registered medical practitioners for the post of

RESIDENT HOUSE SURGEON

Salary £350 to £450 per annum, for a period of six months from February 1, 1952. Post recognized for both the Diploma and Membership Examinations of the R.C.O.G. Applications to be forwarded to the Medical Superintendent, General Hospital, Harton Lane, South Shields. (5147)

SOUTHAMPTON GENERAL HOSPITAL
(Recognized for M.R.C.O.G., Obstetrics, and D.R.C.O.G. purposes)
TWO HOUSE SURGEONS (Resident)

Required early in March in obstetric and gynaecological unit. Tenable for six months. Applications, with copies of testimonials, to be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (5891)

WAKEFIELD, MANYGATES HOSPITAL
Barnsley Road
Hospital Management Committee No. 9 Wakefield "A" Group

Applications are invited for the post of

OBSTETRICAL HOUSE SURGEON

at the above hospital and annexe. Total number of beds 50. The post is recognized for training for the D.Obst.R.C.O.G. The terms and conditions of service are in accordance with the National Health Service Act and Regulations. Forms of application may be obtained from the undersigned. —W. Read, Secretary. (5303)

OPHTHALMOLOGY

BOURNEMOUTH, ROYAL VICTORIA HOSPITAL (485 beds)
Bournemouth and East Dorset Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER

Required for post vacant January 25, for Ophthalmic and E.N.T. duties at Westbourne Hospital (72 beds). The appointment is recognized for the D.O. and D.L.O. Diplomas, and is tenable for twelve months. Applications to the Assistant Secretary of the hospital. (5682)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee

Applications are invited for the appointment of

SENIOR HOUSE OFFICER

in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952. Salary £670 a year, less £100 a year for residential emoluments. Applications should be forwarded as soon as possible to Secretary, Mid-Kent Hospital Management Committee, 103, Tonbridge Road, Maidstone. (5359)

ROYAL EYE HOSPITAL, S.E.1
King's College Hospital Group

Applications are invited for the post of

HOUSE SURGEON (Third or subsequent post)

from March 1, 1952. Salary in accordance with terms and conditions of service for medical staff. Applications, with copies of recent testimonials, should be made to the Secretary, The Royal Eye Hospital, St. George's Circus, S.E.1, by January 26, 1952. (5892)

WEST LONDON HOSPITAL
Hammersmith Road, W.6
HOUSE OFFICER
(Ophthalmic, E.N.T., and Skin)

Required March 1. Applications, stating age, medical school, qualifications, experience, and copies of two testimonials, to Secretary by Feb. 2. (5893)

HALIFAX, ROYAL INFIRMARY

Applications are invited for the post of

HOUSE SURGEON (Male or female)

to the Ophthalmic and E.N.T. Departments at this busy acute general hospital. The post includes part-time casualty duty and is recognized for the D.O. Applications, stating age, qualifications and experience, together with three recent testimonials, to be forwarded to the Secretary. (5465)

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church Street, Birmingham, 3
Birmingham (Dudley Road) Group of Hospitals
HOUSE SURGEON

Required to take up duty February 1, 1952. Salary in accordance with the terms and conditions of service of hospital medical and dental staffs (England and Wales). Appointment for six months, but renewable, and will enable successful candidate to prepare for Diploma in Ophthalmology. Applications, stating age, nationality, qualifications and experience, within seven days of the appearance of this advertisement, to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (5562)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds)
South Warwickshire Hospital Group

Applications are invited for the post of

HOUSE SURGEON
of the Ophthalmic and E.N.T. Departments

Tenure of post is six months. Salary, etc., in accordance with the number of posts previously held and the terms and conditions of service of hospital medical staff. Apply as soon as possible to Miss V Wells, Assistant Secretary, Warneford General Hospital. (5041)

MANCHESTER ROYAL EYE HOSPITAL
United Manchester Hospitals
HOUSE SURGEON

Salary £350 to £450 per annum, according to the number of positions previously held, less £100 per annum for residential emoluments. Appointment of a practitioner within three months of qualification and subject to National Service Acts would be limited to six months. Applications, stating age, details of qualifications and experience, and nationality, should be forwarded immediately to H. R. North, General Superintendent. (5149)

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY
(Recognized for the full course of instruction for admission to the D.O.M.S.)
Wolverhampton Hospital Management Committee Group No. 16, Birmingham Region
HOUSE OFFICER. Vacant now.

Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (5833)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full consultant staff)

Applications are invited from registered medical practitioners for the post of

EYE HOUSE SURGEON

The post is recognized for the D.O. and is vacant from January 23, 1952. The appointment is for six months in the first instance and can be renewed thereafter. Salary £350 for first post, £400 for second post, £450 for third post and subsequent posts, less £100 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (5736)

ORTHOPAEDICS

EAST ANGLIAN REGIONAL HOSPITAL BOARD

Applications are invited for the following consultant appointment (whole-time or maximum part-time) at hospitals in the East Suffolk and Ipswich Area:

CONSULTANT ORTHOPAEDIC SURGEON

The main general hospitals are the East Suffolk and Ipswich and the Borough General, Ipswich. Applicants are required to have wide experience in their respective specialties and possess appropriate higher qualifications. Eight copies of applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 21, 1952. Applicants are invited to visit the appropriate hospitals and clinics by direct arrangement with the Hospital Management Committee Secretary at the East Suffolk and Ipswich Hospital.—K. V. F. Morton, Sec., 117, Chesterton Road, Cambridge. (5328)

GUY'S HOSPITAL

Applications are invited for the post of

WHOLE-TIME ORTHOPAEDIC REGISTRAR
(First year) with duties at Guy's Hospital and Orpington Hospital

Duties to commence as soon as possible. Forms of application, which can be obtained from the Superintendent, Guy's Hospital, London Bridge, S.E.1, should be sent in, accompanied by the names of two referees, not later than January 23. (5938)

HIGHLANDS HOSPITAL
Winchmore Hill, London, N.21
(818 beds, including 48 for Orthopaedic Surgery)
North-West Metropolitan Regional Hospital Board
WHOLE-TIME RESIDENT ORTHOPAEDIC REGISTRAR

Required for one year in the first instance. Candidates are welcome to visit the hospital by direct appointment with the Medical Superintendent. Application forms obtainable from, and returnable to, the Secretary, Northern Group Hospital Management Committee, Royal Northern Hospital, Holloway, London, N.7, by January 23, 1952. (5894)

GRIMSBY GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of

REGISTRAR (Orthopaedic Surgery)

to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 28, 1952. (5621)

NOTTINGHAM GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of

REGISTRAR (Orthopaedic Surgery)

to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointment (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5329)

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL (269 beds)
Scunthorpe Hospital Management Committee
ORTHOPAEDIC REGISTRAR
(Resident or non-resident)

Required in busy department offering good clinical experience. National terms and conditions of service. Applications, stating age, nationality, qualifications and experience, with names of two referees, to the Secretary at the War Memorial Hospital, Scunthorpe, Lincs. (5244)

ALBERT DOCK FRACTURE AND ORTHOPAEDIC HOSPITAL, Alnwick Road, E.16

Applications are invited for the appointment of

SENIOR HOUSE OFFICER

at £670 per annum, with authorized deductions. Applications, stating age, qualifications and experience, together with the names of three referees, should be sent immediately to the undersigned.—F. A. Lyon, Secretary, Dreadnought Hospital, S.E.10. (5532)

LEWISHAM HOSPITAL, London, S.E.13
Lewisham Group Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER
to the Department of Orthopaedics and Trauma

Resident preferred but not essential. The appointment is vacant immediately and is tenable for one year. Applications, stating age, qualifications and experience, with names of three referees, should be addressed to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (5683)

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL
ORTHOPAEDIC, TRAUMATIC AND CASUALTY SENIOR HOUSE OFFICER

Applications are invited for the above resident appointment. Hospital comprises 189 beds with large out-patient departments. Duties comprise service in the orthopaedic, traumatic and casualty departments, and the post is recognized for F.R.C.S. Salary £670 per annum, less £100 per annum for emoluments. Applications, with two recent copy testimonials, to be forwarded to the Secretary, Barrow and Furness Hospital Management Committee, 52, Paradise Street, Barrow-in-Furness. (5467)

BIRMINGHAM, 15, ROYAL ORTHOPAEDIC HOSPITAL, 80, Broad Street
(Acute Orthopaedic Hospital with 338 beds and extensive Out-patient Service)
Group 25 Birmingham (Selly Oak) Hospital Management Committee

Applications are invited from registered medical practitioners, preferably with previous orthopaedic experience, for the position of

SENIOR HOUSE OFFICER

Applications, with copies of testimonials, to the Administrator. (5398)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
SENIOR ORTHOPAEDIC HOUSE SURGEON

Applications are invited for the above appointment, which is tenable for one year. Salary £670 per annum and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (5468)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Orthopaedics—contd.

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute General Hospital, mainly surgical, with beds for orthopaedic, medical and other specialties)
Bury and Rossendale Hospital Management Committee

Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Orthopaedic)
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Sec. to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9580)

HARROGATE, ROYAL BATH HOSPITAL
Cornwall Road (145 beds)
(A National Hospital for the treatment of rheumatism and allied diseases which is the centre of rheumatism research for the area)
Harrogate and Ripon Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
(Surgical Orthopaedic Unit)
Previous orthopaedic experience desirable but not essential. Salary £670 per annum, subject to a deduction of £140 per annum in respect of board and lodging. The appointment is subject to the National Health Service (Superannuation) Regulations, 1950. Applications to be forwarded to the Assistant Secretary. (5939)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee

Applications are invited for the following posts in the Fracture and Orthopaedic Department:
SENIOR HOUSE SURGEON
vacant February 15, 1952. Salary £670 per annum, less £165 for residence.
HOUSE SURGEON
vacant February 1, 1952. Salary £350 to £450, less £100 for residence.
Applications, with full particulars, to the Secretary, Hospital Management Committee. (5846)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)

Applications are invited for the post of
SENIOR HOUSE OFFICER
to the Orthopaedic, Accident and Casualty Department of the above hospital Salary £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible.—A. Ashworth, Secretary to the Committee. (5339)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER
(Orthopaedic)
Duties to commence as soon as possible. Duties will relate mainly to accident and fracture cases, both in- and out-patients, and include orthopaedic cases. Previous experience of this type of work is essential. Salary and conditions of service in accordance with the Ministry Regulations. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (5801)

OLDHAM ROYAL INFIRMARY
Oldham and District Hospital Management Committee

Applications are invited for the appointment of
RESIDENT SENIOR HOUSE OFFICER
in the Fracture and Orthopaedic Service at the above hospital, vacant immediately. Applications, stating age, nationality, full detais of previous experience, and containing the names of two persons to whom reference may be made, should be forwarded to the undersigned. Please quote reference No. A/777.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (5470)

PAISLEY AND DISTRICT HOSPITALS, BOARD OF MANAGEMENT FOR

Applications are invited for the undermentioned posts:
Royal Alexandra Infirmary
SENIOR HOUSE OFFICER (Orthopaedic)
Salary in accordance with the terms of service of medical staff in the National Health Service, i.e., £670 per annum. This appointment is recognized by the Royal College of Surgeons for six of the twelve months period of surgical training required of candidates for the Final Fellowship examination.
HOUSE SURGEON (Orthopaedic)
Salary according to experience. Vacant February 1, 1952.
Applications should be made within seven days of the date of this advertisement to the Group Medical Superintendent, Royal Alexandra Infirmary, Paisley. Applicants for the Senior House Officer post should also include copies of two testimonials. (5343)

PLYMOUTH, MOUNT GOLD ORTHOPAEDIC HOSPITAL

Applications are invited for the appointment of
TWO SENIOR HOUSE OFFICERS
at the above hospital (120 beds). The appointments are resident and the salaries and conditions of service are in accordance with the National Health Service terms. Some experience in orthopaedics is desirable. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, should be sent to the Director of Orthopaedics, Mount Gold Hospital, Plymouth, within fourteen days of the appearance of this advertisement. (5737)

SALISBURY GENERAL HOSPITAL
Salisbury Group Hospital Management Committee

Applications are invited for
RESIDENT ORTHOPAEDIC SENIOR HOUSE OFFICER
Wide variety of experience available. Apply immediately, naming two referees, to Group Secretary, Odstock Hospital, Salisbury. (5847)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
TWO SENIOR HOUSE OFFICERS (Orthopaedic)/CASUALTY OFFICERS
required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7795)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
The post is recognized for the F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5819)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee

Applications are invited for the vacancy of
RESIDENT SENIOR HOUSE SURGEON
to the Orthopaedic and Traumatic Department
which occurs on February 7, 1952. This is a large and busy specialty with two consultants, 70 beds, and deals with the greater part of the casualties in West Cornwall. The post is tenable for one year at a salary of £670, less £100 for emoluments, and subject to the terms and conditions published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of two recent testimonials, should be forwarded to the Administrative Assistant without delay. (4807)

WIGAN (near), WRIGHTINGTON HOSPITAL
Appley Bridge
SENIOR HOUSE OFFICER
Required for this 352-bedded hospital which is the Manchester Regional Orthopaedic Tuberculosis Centre. Salary £670 per annum, less deduction for residence, etc. Also
HOUSE SURGEON
Terms and conditions as per national scales.
Applications to Secretary, giving qualifications and names of two referees. (5738)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
Winchester Group Hospital Management Committee
SENIOR HOUSE OFFICER
in the Orthopaedic Department
The appointment will be for six months in the first instance and will be resident. Salary at the rate of £670 per annum, less £150 for board and residence. Applications should be sent to the Secretary. (5472)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee Group No. 16, Birmingham Region
SENIOR HOUSE OFFICER
(Fracture and Orthopaedic Department)
HOUSE OFFICER
(Fracture and Orthopaedic Department)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (5829)

PRINCE OF WALES'S GENERAL HOSPITAL N.15 (218 beds)
Tottenham Group Hospital Management Committee (Group 4)

Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE SURGEON
to the Orthopaedic, Fracture and Traumatic Department and Senior Casualty Officer
(Second or third post)
Application form from the Secretary, Tottenham Group Hospital Management Committee, The Green, Tottenham, N.15. (5871)

AMERSHAM GENERAL HOSPITAL, Bucks
(124 acute beds)
RESIDENT HOUSE OFFICER
Orthopaedic and Accident Department
Applications are invited. Duties include charge of casualty department under visiting consultant staff and care of in-patient beds. Hospital is a peripheral centre of Oxford Regional Orthopaedic Service based on Wingfield Morris Orthopaedic Hospital. Applications, with copies of three recent testimonials, to Medical Director. (5684)

BATH, ROYAL UNITED HOSPITAL
Bath Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Orthopaedic)
Salary, terms, and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications, and experience, with three recent testimonials, to be forwarded immediately to Administrative Officer, Royal United Hospital, Combe Park, Bath.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (5714)

BRADFORD ROYAL INFIRMARY
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Sec. (5473)

BRADFORD, ST. LUKE'S HOSPITAL
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (5474)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)

Applications are invited for the post of
ORTHOPAEDIC HOUSE SURGEON
Vacant now. Applicants, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (5801)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
ORTHOPAEDIC AND GENERAL SURGICAL HOUSE SURGEON
The above post, which is recognized for the F.R.C.S. Diploma, becomes vacant at the end of January. National Health Service salary and conditions. Applications to be addressed to the Chief Administrative Officer at the hospital (5533)

DARTFORD, WEST HILL HOSPITAL
HOUSE OFFICER
(Specialty—Orthopaedic Surgery)
Required immediately by the Dartford Management Committee. Salary in accordance with terms and conditions of service of hospital medical and dental staff. The appointment is limited to a period of six months. The hospital is a large general hospital, affording opportunities for wide experience, and is within easy reach of London. Applications, stating age, qualifications, experience and the names of two persons to whom reference may be made, should be sent to the Surgeon Superintendent, The West Hill Hospital, Dartford, Kent. (5685)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Vacant now. National scales and conditions. Six-monthly appointment, terminable at any time by one month's notice on either side. Forms of application from the Administrative Officer. (7138)

INVERNESS, RAIGMORE HOSPITAL (408 beds)
TWO ORTHOPAEDIC HOUSE SURGEONS
Required for the six months' period commencing February 1, 1952 (orthopaedic department, 140 beds). Apply, with two references or names of two referees, within fourteen days of appearance of this advertisement to Medical Superintendent. (5848)

MANCHESTER, 4, ANCOATS HOSPITAL
Mill Street

Applications are invited for the following House Officer Grade post:
HOUSE SURGEON
to Orthopaedic and Fracture Department
Applications, stating age and qualifications, together with two recent testimonials, should be received by the undersigned as soon as possible.—John H. Dafforne, General Superintendent and Secretary (Dept. B.M.J.). (5686)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds)

Applications are invited for the post of
HOUSE OFFICER (Orthopaedic)
vacant about February 1. The post is recognized for the Fellowship of the Royal College of Surgeons. The fracture and orthopaedic department is a self-contained unit of 36 beds with its own X-ray, out-patient department, etc., and affords an excellent opportunity of gaining considerable experience. Apply, with the names of three referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (4777)

Orthopaedics—contd.

NORWICH, NORFOLK AND NORWICH HOSPITAL (440 beds)
HOUSE SURGEON
to the Orthopaedic Department

Post vacant now. Salary £350, £400 or £450 per annum, according to experience, less £100 per annum for residential emoluments. Six months' appointment. Applications, stating age, qualifications, experience, with names of two referees, to Secretary, Group 6 Hospital Management Committee, St. Stephen's Road, Norwich. (5161)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

ORTHOPAEDIC AND FRACTURE HOUSE SURGEON

The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee

Applications are invited for the appointment of

ORTHOPAEDIC HOUSE SURGEON

Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference number A/778, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (5475)

PORTSMOUTH, ROYAL HOSPITAL (205 beds)
Portsmouth Group Hospital Management Committee

Applications are invited for

HOUSE SURGEON (Orthopaedics)

Vacant January 30, 1952. Applications, stating age, experience, and qualifications, and names of two referees, should be submitted as soon as possible to the undersigned.—E. H. Hurst, 35, Grove Road South, Southsea. (5604)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5534)

PAEDIATRICS

CARDIFF, ST. DAVID'S HOSPITAL
Welsh Regional Hospital Board

Applications are invited for the post of

REGISTRAR (Non-resident)

in the neonatal and premature baby unit. Opportunities will be afforded for the successful candidate to work in the University Department of Child Health. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (5771)

CARDIFF, UNITED, HOSPITALS

Applications are invited for the appointment of **REGISTRAR in the Department of Child Health** Salary in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, stating age, nationality, qualifications, experience, and present appointment, together with the names of two referees, should be sent to the undersigned immediately.—Arnold Tunstall, Secretary and Principal Administrative Officer, The United Cardiff Hospitals, The Cardiff Royal Infirmary, Newport Road, Cardiff. (5739)

NORTHAMPTON AREA
Oxford Regional Hospital Board

Applications are invited for the whole-time resident post of

REGISTRAR in Paediatrics

The appointment will be for one year and eligible for extension to a second year. Accommodation for a single person is available. Applications on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by February 1. (5687)

SHEFFIELD CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of

REGISTRAR (Paediatrics)

to the above hospital, which is a recognized training hospital for the D.C.H. The appointment is for one year in the first instance and may be renewed for a further year, and will become vacant on March 1, 1952. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5306)

QUEEN ELIZABETH HOSPITAL FOR CHILDREN MANAGEMENT COMMITTEE
Hackney Road, E.2, Shadwell, E.1, and Banstead Wood, Surrey

Appointment of

RESIDENT MEDICAL OFFICER
(Male or female) (Graded Senior House Officer) at Hackney Road, E.2

Applications are invited for the above appointment to become vacant on March 1, 1952. Candidates must have had experience in the treatment of sick children. The appointment will be for one year. Salary £670 per annum, subject to a charge of £100 per annum for residential emoluments. Application forms may be obtained from the Secretary at Hackney Road, and should be returned with not more than three testimonials not later than January 28, 1952. (5941)

CARSHALTON, SURREY, QUEEN MARY'S HOSPITAL FOR CHILDREN

Applications are invited for the appointment of

RESIDENT SENIOR HOUSE OFFICER

for medical duties Salary £670 per annum. Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be sent to the Secretary, to reach him not later than January 26, 1952. Appointment subject to medical examination. (5895)

MANCHESTER, 9, BOOTH HALL CHILDREN'S HOSPITAL

RESIDENT SENIOR HOUSE OFFICER (Medical)

Conditions are those of the national scale. Post vacant in February, 1952. Previous paediatric experience essential. State age, nationality and usual relevant particulars and enclose copies of two recent testimonials. Applications should reach the Medical Supt. not later than January 19. (5477)

ST. GEORGE'S HOSPITAL, S.W.1

Applications are invited for the post of

RESIDENT HOUSE PHYSICIAN

for duty at the Victoria Hospital for Children, Chelsea, for a period of six months from March 1, 1952, but taking up duty as soon after January 17, 1952, as possible. Applicants should have had previous experience, and the duties will include some service in the Casualty Department. Applications, together with the names of two referees, should reach the undersigned by January 15, 1952. —P. H. Constable, House Governor. (5740)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
TWO HOUSE OFFICERS (Surgical)

Required for six months, to commence duty on February 1, 1952. The duties will be mainly general surgery, but the officers will have, in addition, the opportunity of undertaking a certain amount of special surgery. Forms of application may be obtained from the undersigned and should be returned immediately.—N. R. Winwood, House Governor. (5741)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
HOUSE OFFICER (Medical)

Required for six months to commence duty on April 1, 1952. Forms of application may be obtained from the undersigned, and should be returned not later than January 28, 1952.—N. R. Winwood, House Governor. (5835)

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke Road (140 beds)
Brighton and Lewes Hospital Management Committee

Applications are invited for the post of

HOUSE SURGEON

Vacant January, 1952, for a period of six months. Duties include a certain amount of medical work. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, nationality qualifications and experience, together with copies of recent testimonials, to be submitted to the Administrative Officer before January 19, 1952. (5479)

CARSHALTON, SURREY, QUEEN MARY'S HOSPITAL FOR CHILDREN

Applications are invited for the appointment of

RESIDENT HOUSE OFFICER

for surgical duties. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be sent to the Secretary, to reach him not later than Jan. 26, 1952. Appointment subject to medical examination. (5896)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for the post of

HOUSE PHYSICIAN
to the Paediatric Department

The appointment is for a period of six months, commencing March 17, 1952. The department is recognized for D.C.H. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5480)

HILLINGDON HOSPITAL
near Uxbridge, Middlesex

RESIDENT PAEDIATRIC HOUSE PHYSICIAN
(Male) required for the Paediatric Department

Duties include experience in neonatal unit and paediatric out-patient clinics. Appointment recognized for D.C.H. Vacant end February. Applications, not later than February 21, stating age, qualification, nationality and experience, with copies of 3 recent testimonials, to Medical Director. (5688)

MANCHESTER, 9, BOOTH HALL CHILDREN'S HOSPITAL

HOUSE OFFICER (Surgical)

Post vacant now. National scale conditions. Applications should state age, nationality and usual relevant particulars and should be sent to the Medical Supt. not later than January 19. (5478)

MANCHESTER, 19, DUCHESS OF YORK HOSPITAL FOR BABIES
Manchester Babies' and Children's Hospital Management Committee
HOUSE PHYSICIAN (Male or female)

Required for six months from March 1, 1952. Salary in accordance with national scale. Applications, with copies of three testimonials, to be sent to the Administrative Officer of the hospital before January 25, 1952. (5481)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)

Applications are invited for the post of

HOUSE SURGEON

with duties in the Paediatric Department. Salary £350 to £450, according to previous posts held, with deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications, and experience, together with names of two referees, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible.—A. Ashworth, Secretary to the Committee. (4815)

NOTTINGHAM CHILDREN'S HOSPITAL (134 beds)

RESIDENT HOUSE SURGEON
RESIDENT HOUSE PHYSICIAN

Applications are invited for the above posts. That of Resident House Surgeon is immediately vacant. The post of House Physician will fall vacant on March 1, 1952. Both appointments are tenable for six months in the first instance. Salary £350 to £450 per annum, less emoluments. Applications, with copies of two testimonials, should be sent to the Assistant Secretary, Nottingham Children's Hospital, Chestnut Grove, Nottingham (5482)

PORTSMOUTH, SAINT MARY'S HOSPITAL (773 beds)
Portsmouth Group Hospital Management Committee

Applications are invited for

PAEDIATRIC HOUSE PHYSICIAN

Vacant now. There is a paediatric unit of 60 beds, and the post is recognized for candidates preparing for the D.C.H. Applications, stating age, experience, and qualifications, and names of two referees, should be submitted as soon as possible to the undersigned.—E. H. Hurst, 35, Grove Road South, Southsea. (5605)

SOUTHAMPTON CHILDREN'S HOSPITAL
(Recognized by Conjoint Board for D.C.H.)

HOUSE OFFICER

Post vacant February 17. Salary, etc., as nationally advocated. Preference given to candidates intending to specialize in paediatrics. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (5802)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

RESIDENT HOUSE OFFICER (Paediatrics)

vacant February 15, 1952. Post recognized for D.C.H. examination. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5056)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region

HOUSE OFFICER (Paediatric Department)

Vacant February 4. Appointment recognized for D.C.H. Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, Royal Hospital, Wolverhampton. (5830)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

PATHOLOGY

BIRKENHEAD AREA
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME CONSULTANT PATHOLOGIST
to hospitals in the Birkenhead Hospital Management Committee Group. Possession of a higher diploma in pathology or an M.D. in pathology is desirable. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than February 2, 1952.—Vincent Collinge, Secretary to the Board. (5784)

GUILDFORD (SURREY) GROUP OF HOSPITALS
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME ASSISTANT PATHOLOGIST
to work under the Group Pathologist. Candidates should have wide experience in all branches of clinical pathology with preferably a special interest in haematology and/or biochemistry. Salary scale £1,300 by £50 to £1,750 per annum. Residence in the Guildford area required. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than January 26, 1952. Applicants may visit the hospitals by local arrangement. (5689)

LIVERPOOL, UNITED, HOSPITALS
Applications are invited for an appointment as
PATHOLOGICAL REGISTRAR
with duties at the Royal Liverpool Children's Hospital, the Women's Hospital, and the Maternity Hospital, in the first place for the period to September 30, 1952. The post is assessed in the Registrar grade. Applications should be made on forms which may be obtained from the undersigned, to whom they should be returned by January 26, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (5721)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board
Applications are invited for the post of
REGISTRAR
to the Portsmouth and Isle of Wight Area Pathological Service, based in the Central Laboratory, Milton Road, Portsmouth. The successful candidate will be expected to do a tour of duty in each of the departments of the Central Laboratory, i.e., bacteriology, haematology, histology, and biochemistry, and may also be required to work in any of the hospital laboratories in the area. The possession of a car is desirable. The laboratory service is recognized for the Diploma of Pathology. Forms of application may be obtained from the Secretary, 35, Grove Road South, Southsea, and completed forms should be returned to him not later than January 25, 1952. Canvassing will disqualify. Candidates may view the Central Laboratory on application to the Senior Pathologist. (5654)

WINCHESTER GROUP HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board
Applications are invited for the post of
REGISTRAR in the Department of Pathology
(preferably resident)
The successful candidate will work at the main hospital of the Group. The work will include all branches of pathology and the post is recognized by the Examining Board in England for the Diploma in Pathology. Forms of application may be obtained from the Secretary of the Winchester Group Hospital Management Committee, Royal Hampshire County Hospital, Winchester (stamped addressed envelope should be sent), and must be completed and returned within fourteen days of the appearance of this advertisement (58'9)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
RESIDENT ASSISTANT CLINICAL PATHOLOGIST
Applications are invited for the above appointment, with status of J.H.M.O. Previous experience in pathology desirable but not essential. The laboratory is recognized for the Diploma in Clinical Pathology, University of London, and the post offers excellent scope for training in hospital pathology. Applications, with copy testimonials, and details of previous experience, should be forwarded as soon as possible to the Secretary, Hospital Management Committee, Princes Road Hartshill Stoke-on-Trent.—Thornburrow Gibson Secretary (5484)

ST. GEORGE'S HOSPITAL, S.W.1
Applications are invited for the post of
RESIDENT ASSISTANT CLINICAL PATHOLOGIST
in the Grade of Senior House Officer
Previous experience in laboratory work is not essential, but applicants should have held a previous clinical appointment. Applications, together with the names of two referees, must be received by the undersigned not later than January 19, 1952.—P. H. Constable, House Governor. (5777)

ST. OLAVE'S HOSPITAL (323 beds)
Lower Road, Rotherhithe, S.E.16
Bermondsey and Southwark Hospital Management Committee
Applications are invited for the appointment of a
SENIOR HOUSE OFFICER
(Pathology and General Medicine)
Salary at the rate of £670 per annum. The appointment will be initially for a period of one year. Applications, with copies of testimonials, to be submitted within seven days of this publication to the Secretary, Bermondsey and Southwark Hospital Management Committee, New Cross General Hospital, Avonley Road, S.E.14, quoting reference B.M.J. (5877)

WESTMINSTER HOSPITAL
St. John's Gardens, S.W.1
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
to the Department of Clinical Pathology
The appointment is for one year. The successful candidate will be required to take up his duties as soon as possible. The salary will be at the rate of £670 per annum, less £100 per annum for board residence. National Health Service terms and conditions of service will apply. Applications (three copies) with the names of two referees, should be sent to me by January 19.—Charles M. Power, House Governor and Secretary. (5850)

BEVERLEY, YORKSHIRE, WESTWOOD HOSPITAL
RESIDENT SENIOR HOUSE OFFICER
Assistant Pathologist in the new premises of the Area Laboratory at the above general hospital. The position offers experience in all branches of clinical pathology. Applications, with the names of two referees, to the Secretary. (5606)

ENFIELD, MIDDLESEX, CHASE FARM HOSPITAL
Enfield Group Hospital Management Committee
RESIDENT PATHOLOGIST
(Senior House Officer Grade)
Required in the Group Laboratory. Vacant now. General pathological duties. Twelve months' appointment. Applications, stating age, qualifications, experience, nationality, and the names of two referees, to the Secretary of the Management Committee at Chase Farm Hospital by Jan. 17. (5851)

READING, ROYAL BERKSHIRE HOSPITAL
(403 beds)
Applications are invited from registered medical practitioners (male) for the post of
RESIDENT ASSISTANT PATHOLOGIST
vacant immediately, for six months. Previous experience in pathology not necessary. £100 deduction for board residence (£350 to £450 per annum). Applications, stating age, qualifications (with dates), nationality, and present post, with copies of three recent testimonials, to Administrative Officer. (3937)

PHYSICAL MEDICINE

BEDFORD, REHABILITATION CENTRE
Clapham Park
Branch of the Manor House Hospital (exempted from National Health Service)
Applications are invited for a
RESIDENT FULL-TIME PHYSICIAN
Candidates should hold a diploma in physical medicine, and have had experience of rehabilitation. Commencing salary £1,300 a year, rising by increments of £50 to £1,750 a year, less charge for residential emoluments to be fixed by agreement. Applications, with copies of three testimonials, to be forwarded to The Secretary, Manor House Hospital, Golders Green, N.W.11. (5897)

CONNAUGHT HOSPITAL
Walthamstow, E.17
CLINICAL ASSISTANT
Required in the Department of Physical Medicine at Connaught Hospital for two sessions per week on Tuesday and Friday mornings. Salary in accordance with paragraph 10(b) of service conditions, i.e., £175 a year for each weekly notional half-day. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, Hospital Management Committee, Forest Group (No. 11), Langthorne Road, Leytonstone, E.11. (5247)

PSYCHIATRY

CANTERBURY GROUP OF HOSPITALS
South-East Metropolitan Regional Hospital Board
Applications are invited for an appointment as
PART-TIME CONSULTANT PSYCHIATRIST
to undertake four notional half-days a week, mainly at out-patient clinics at the Kent and Canterbury Hospital, Canterbury. Applicants must have had wide experience in psychiatry with particular training in the treatment of the psychoneuroses. Applicants may visit the hospital. The last day for acceptance of applications will be January 25, 1952, and selected candidates will be interviewed in London on February 25, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, W.1. (5690)

LIVERPOOL REGIONAL HOSPITAL BOARD
Alder Hey Hospital
Applications are invited for the post of
WHOLE-TIME CHILD PSYCHIATRIST
(Consultant)
with duties mainly at the above hospital. Applicants should have considerable experience in child psychiatry and be conversant with modern therapeutic procedures. Possession of the D.P.M. desirable. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than February 2, 1952.—Vincent Collinge, Secretary to the Board. (5785)

HORNSEY CHILD GUIDANCE CLINIC
"The Priory," Priory Road, N.8
North-West Metropolitan Regional Hospital Board
Applications are invited from suitably qualified medical practitioners with relevant experience for the appointment of part-time
ASSISTANT CHILD PSYCHIATRIST
(salary scale £1,300 to £1,750 per annum) for four half-days a week. The successful candidate will be in the employment of the Board, but the child guidance service will be administered by the Education Department of the Middlesex County Council. Applications, stating date of birth, qualifications, and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than Jan. 26. (5535)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time post of
DEPUTY MEDICAL SUPERINTENDENT AND ASSISTANT PSYCHIATRIST
at Calderstones Hospital, Whalley, near Blackburn
(2,378 beds for mental defectives)
Married or single quarters available. Candidates should have had good experience in the care of mental defectives and possess the D.P.M. Salary £1,300 to £1,750 per annum. Forms of application may be obtained from the Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than January 21, 1952. (5375)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of an
ASSISTANT PSYCHIATRIST (Whole time)
to work under Consultant Psychiatrists at Netherne Hospital, Coulsdon, Surrey, which is a large mental hospital of 2,000 beds, including approximately 250 at the long-stay annexe at Clerk's Croft, Bletchingley. All modern forms of treatment are carried out, there are approximately 1,300 admissions each year, and 18 out-patient clinics are operated in neighbouring general hospitals. Candidates should possess the D.P.M. and be well experienced in all branches of psychiatry. Salary scale £1,300 by £50 to £1,750 per annum. Applications (five copies), stating date of birth, qualifications, experience, and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than January 26, 1952. Applicants may visit the hospital by local arrangement. (5607)

TWICKENHAM CHILD GUIDANCE CLINIC
58, Hampton Road, Twickenham
North-West Metropolitan Regional Hospital Board
Applications are invited from suitably qualified medical practitioners with relevant experience for the appointment of part-time
ASSISTANT CHILD PSYCHIATRIST
(salary scale £1,300 to £1,750 per annum) for four half-days a week. The successful candidate will be in the employment of the Board, but the child guidance service will be administered by the Education Department of the Middlesex County Council. Applications, stating date of birth, qualifications, and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than January 26. (5537)

UXBRIDGE CHILD GUIDANCE CLINIC
255-6, High Street, Uxbridge, Middlesex
North-West Metropolitan Regional Hospital Board
Applications are invited from suitably qualified medical practitioners with relevant experience for the appointment of part-time
ASSISTANT CHILD PSYCHIATRIST
(salary scale £1,300 to £1,750 per annum) for three half-days a week. The successful candidate will be in the employment of the Board, but the child guidance service will be administered by the Education Department of the Middlesex County Council. Applications, stating date of birth, qualifications, and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than Jan. 26, 1952. (5536)

Psychiatry—contd.

BIRMINGHAM, UNITED, HOSPITALS
REGISTRAR to the Psychiatric Department
Applications are invited for this appointment, Senior Registrar Grade. Candidates must be medical practitioners, registered for not less than two years, and must hold the D.P.M. (or Part I). The post offers good facilities for training. The psychiatric department is an integral part of the departments of neurology, neurosurgery and psychiatry of the teaching hospital and of the University. The duties will include work in both the in-patient and out-patient departments of the hospital. Applications should be submitted on a special form which will be forwarded on request to the undersigned, from whom all further information may be obtained.—G. A. Phalp, Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (5742)

CAMBRIDGE (near), FULBOURN MENTAL HOSPITAL
East Anglian Regional Hospital Board
REGISTRAR in Psychiatry
There are 750 beds in the hospital, which includes a very active early treatment unit. It affords facilities for teaching and research to the department of experimental psychology of Cambridge University and runs out-patient clinics in general hospitals. The appointment will be for one year, renewable for a second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 21, 1952. Candidates are invited to visit the hospital by direct arrangement with the Medical Superintendent.—K. V. F. Morton, Sec., 117, Chesterton Road, Cambridge. (5309)

DUNDEE (by), BALDOVAN INSTITUTION (400 beds)
Eastern Regional Hospital Board (Scotland)
Applications are invited for the post of
SENIOR REGISTRAR
in the Regional Establishment for Mental Deficiency
Authorized training post. Salary and conditions of service in accordance with national agreement. Further particulars and forms of application may be had from the Secretary to the Board, 430, Blackness Road, Dundee, with whom applications must be lodged not later than January 26, 1952. (5940)

IPSWICH, ST. CLEMENT'S MENTAL HOSPITAL
East Anglian Regional Hospital Board
REGISTRAR in Psychiatry
The hospital, which has 400 beds, is situated in the town and does a large volume of out-patient work both on the premises and in the general hospitals. The appointment includes the opportunity to make regular weekly attendances at a modern child guidance clinic under the direction of a full-time consultant. The appointment will be for one year, renewable for a second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 21, 1952. Candidates are invited to visit the hospital by direct arrangement with the Medical Superintendent.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5310)

MAIDSTONE, KENT, OAKWOOD HOSPITAL
South-East Metropolitan Regional Hospital Board
Applications are invited to fill a vacancy for a
WHOLE-TIME REGISTRAR in Psychiatry
Previous experience in general medicine is desirable. The appointment will be for one year in first instance and in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales). The post will include opportunities for gaining further experience in a wide range of psychiatry. Applications, giving particulars of age, qualifications and experience, with relevant dates, together with the names and addresses of three referees, should be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1, not later than January 25, 1952. Candidates will be interviewed in London on February 11, 1952. (5691)

WOKING, BROOKWOOD HOSPITAL (1,600 beds)
South-West Metropolitan Regional Hospital Board
Brookwood Hospital Management Committee
Knaphill, Woking, Surrey
Applications are invited for the post of
PSYCHIATRIC REGISTRAR
Candidates, who shoud be single, must have held house appointments in a general hospital, but no previous psychiatric experience is necessary. The hospital staffs several out-patient clinics and carries out all modern methods of treatment. There are facilities for attending courses of instruction in London for the D.P.M. The appointment is resident and the salary and conditions of service are in accordance with the Ministry of Health regulations. Candidates may visit the hospital by arrangement with the Physician Superintendent. Application forms are obtainable from the Secretary, Brookwood Hospital, Knaphill, Woking, Surrey, to whom they should be returned, duly completed, not later than fourteen days after the appearance of this advertisement. (5803)

SEDGEFIELD, WINTERTON MENTAL HOSPITAL
Newcastle Regional Hospital Board
WHOLE-TIME REGISTRAR (Resident)
Salary £775 to £890. Appointment for one year, which may be renewed for a further year. Arrangements can be made for the person appointed to take the necessary course of study for the University of Durham diploma in psychological medicine. Appointment subject to national terms and conditions of service, and the National Health Service (Superannuation) Regulations, 1950. Applications together with one/three referees and/or one/three testimonials, should be sent to the Regional Psychiatrist, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (5715)

WALLINGFORD (near), BERKS, FAIR MILE (MENTAL) HOSPITAL, and ancillary premises
Oxford Regional Hospital Board
Applications are invited for the whole-time post of
REGISTRAR in Psychiatry
The appointment will be for one year and eligible for extension to a second year. An unfurnished house is available. Applications, on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by February 1. (5692)

BIRMINGHAM, RUBERY HILL HOSPITAL (950 beds)
No. 6 Group (Mental B) Hospital Management Committee
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
(Male or female) (Resident or non-resident)
Out-patient clinic held at Selly Oak Hospital, Birmingham. Valuable experience provided in the diagnosis and treatment of all forms of neurosis and psychosis. Previous postgraduate psychiatric experience not essential. Appointment in accordance with the National Health Service terms and conditions of service. Applications, stating full name, age, nationality, qualifications and experience, and providing the names of three referees, to be sent within fourteen days of this advertisement to the Secretary, Offices of the Group H.M.C., Rubery Hill Hospital, Birmingham. (5693)

CANTERBURY (near), ST. AUGUSTINE'S HOSPITAL, Chartham
Applications are invited by the Management Committee of this hospital for mental and nervous disorders, from registered practitioners, male or female, for the following posts:
JUNIOR HOSPITAL MEDICAL OFFICERS
(Two posts). Salary £700 per annum by £50 to £1,000 per annum.
SENIOR HOUSE OFFICERS (Two posts)
for tenure of one year. Salary £670 per annum.
A house is available on the hospital estate, for which a rental will be charged. Unmarried accommodation is also available in the hospital, for which a charge of £150 per annum will be made. Apply to the Medical Superintendent, stating nationality, age, sex, qualifications and experience, with the names of three referees, within fourteen days of this advertisement. (5743)

EPSOM, SURREY, THE MANOR (1,332 beds)
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER or SENIOR HOUSE OFFICER
The hospital caters for patients of all ages and both sexes certified under the Mental Deficiency Act and provides excellent opportunities for research in high grade mental defectiveness associated with delinquency and behaviour disorders. It is a recognized institution for the purposes of the D.P.M. examination. Special departments include school and psychological units, and an extensive employment and licensing system is operated from The Manor and its two hostels. Applications, stating name, date and place of birth, nationality, details of education, professional qualifications, and present and previous appointments, with names and addresses of three referees, should reach the Physician Superintendent, The Manor, Epsom, Surrey, not later than fourteen days after the publication of this advertisement. (5655)

WELLS, SOMERSET, MENDIP HOSPITAL (920 beds)
Applications are invited for the appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
(Married or single)
with experience in psychiatry, for duty at the above mental hospital. Salary will be £700 by £50 to £1,000 per annum, with a charge of £150 per annum for quarters and residential services, or in the case of a married man a flat can be provided at a charge of £80 per annum (flat partly furnished, heating, gas, etc.). The appointment will be in accordance with the terms and conditions of service issued by the Ministry of Health. Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should be forwarded to the Medical Superintendent, Mendip Hospital, Wells, Somerset. (5898)

WORCESTER (near), POWICK MENTAL HOSPITAL
South Worcestershire Hospital Management Committee
A vacancy exists for a
JUNIOR HOSPITAL MEDICAL OFFICER
Experience of mental hospitals is not essential but desirable. Salary will be on the scale of £700 by £50 to £1,000, according to experience, and the conditions will be according to the terms laid down for hospital medical staff. A deduction for residential emoluments of £150 per annum will be made. Applications, with copies of three testimonials, should be sent to the Medical Supt., Powick Mental Hospital, nr. Worcester. (5899)

MIDDLESEX HOSPITAL, W.1
Applications are invited for the post of
SENIOR HOUSE OFFICER (Resident)
at St. Luke's-Woodside Hospital, N.10
This is the in-patient department of psychological medicine of the Middlesex Hospital, and is recognized for part of the training for the D.P.M. examination. The appointment will be for one year. Forms of application are obtainable from the Deputy Superintendent, The Middlesex Hospital, and should be submitted, with names of three referees, as soon as possible. (5900)

LANCASTER, ROYAL ALBERT HOSPITAL
The Royal Albert Hospital Management Committee invite applications for the post of
SENIOR HOUSE OFFICER
at the Royal Albert Hospital for Mental Deficiency. Salary on the approved scale. The appointment is open to a single or married man, there being residential quarters for a single applicant or a small house available for rental for a married man. Applications should be forwarded to the Medical Supt. not later than January 14. (5487)

WALLINGFORD, FAIR MILE HOSPITAL
Berkshire Mental Hospitals Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
at the above hospital, which is recognized for training. Approved prospective candidates for the diploma may enrol as postgraduate students of Oxford University for the purpose of receiving formal instruction in psychology, and attendance on the clinical practice of neurology, mental deficiency and child psychiatry can be arranged at approved hospitals and clinics in the Oxford Region. Salary in accordance with the terms and conditions of service of hospital medical staff. Applications, in writing, should be sent to the Medical Superintendent within fourteen days of the appearance of this advertisement. (5772)

ST. THOMAS' HOSPITAL, London, S.E.1
RESIDENT HOUSE PHYSICIAN
(Second or third appointment)
for Department of Psychological Medicine. Out-patients and in-patients, 15 beds
Applications, including names and addresses of three referees, to the Clerk of the Governors by January 19, 1952. (5411)

GLASGOW, S.W.1, SOUTHERN GENERAL HOSPITAL
TWO JUNIOR HOUSE OFFICERS
Required for the Psychiatric Department for the term commencing February 1, 1952. Applications should be sent to the Medical Superintendent immediately. (5787)

HOVE, SUSSEX, LADY CHICHESTER HOSPITAL
Aldrington House, New Church Road
(For the Treatment and Rehabilitation of Early Nervous Disorders of Men, Women, and Children)
Hospital Management Committee for St. Francis and the Lady Chichester Hospitals
HOUSE OFFICER (Second or third post)
(Man or woman)
required at once. Appointment for six months. Preference will be given to applicants who have held resident surgical or medical posts in a General Hospital. Salary at the rate of £400 or £450 per annum (in accordance with previous posts held), less a charge at the rate of £100 per annum for residential emoluments. Applications, stating age and sex, together with the names of three persons to whom reference may be made, to be sent to the Secretary, St. Francis Hospital, Haywards Heath, Sussex, not later than two weeks after the appearance of this advertisement. (5901)

CONNAUGHT HOSPITAL
Walthamstow, E.17
CLINICAL ASSISTANT
Required in the psychiatric department of Connaught Hospital for one session per week, Friday p.m. Salary in accordance with paragraph 10(b) of service conditions, i.e., £175 a year for each weekly notional half-day. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, Hospital Management Committee, Forest Group (No. 11), Langthorne Road, Leytonstone, E.11. (5250)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

RADIOLOGY

EAST ANGLIAN REGIONAL HOSPITAL BOARD

Applications are invited for the following consultant appointment (whole-time or maximum part-time) at hospitals in the East Suffolk and Ipswich Area:

CONSULTANT RADIOLOGIST

The main general hospitals are the East Suffolk and Ipswich and the Borough General, Ipswich. Applicants are required to have wide experience in their respective specialties and possess appropriate higher qualifications. Eight copies of applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 21, 1952. Applicants are invited to visit the appropriate hospitals and clinics by direct arrangement with the Hospital Management Committee Secretary at the East Suffolk and Ipswich Hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5331)

LEEDS, UNITED, HOSPITALS

Applications are invited from registered medical practitioners for the whole-time post of

CONSULTANT RADIOTHERAPIST

The successful candidate will be required to assist the Director with the work of the Radiotherapy Centre at the above hospitals, but he will also be expected to help at other centres in the region when required. Candidates must have a Diploma in Radiotherapy and considerable experience in this specialty. A higher general or radiotherapeutic qualification will be an advantage. Salary will be on the scale of £1,700 to £2,750 per annum. Applications, stating date of birth, qualifications and experience, with the names of three referees, must reach the Secretary, United Leeds Hospitals, The General Infirmary, Leeds, 1, not later than February 1, 1952. (5377)

ROYAL CANCER HOSPITAL
Fulham Road, London, S.W.3

Applications are invited for the full-time appointment of **ASSISTANT RADIOTHERAPIST** commencing salary £1,300 by £50 to £1,750 per annum. Candidates must hold a Diploma in Medical Radiology. Forms of application are obtainable from the House Governor, to whom applications, together with copies of three recent testimonials, should be sent not later than January 28, 1952. (5176)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL
East Anglian Regional Hospital Board
WHOLE-TIME ASSISTANT RADIOTHERAPIST

Candidates must have a wide experience in the specialty and possess the D.M.R.(T.). Salary scale £1,300 to £1,750. Eight copies of applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 28, 1952. Applicants are invited to visit the hospital by direct arrangement with the Hospital Management Committee Secretary at the hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5695)

LEEDS, UNITED, HOSPITALS

Applications are invited from registered medical practitioners for the whole-time post of

ASSISTANT RADIOTHERAPIST
(Senior Hospital Medical Officer scale)

The major part of the work will be carried out at the above hospitals, but the successful candidate will be expected to work anywhere in the region when required. Candidates must have a Diploma in Radiotherapy and considerable experience in this specialty. A higher general or radiotherapeutic qualification will be an advantage. Salary will be on the scale of £1,300 to £1,750 per annum. Applications, stating date of birth, qualifications and experience, with the names of three referees, must reach the Secretary, United Leeds Hospitals, The General Infirmary, Leeds, 1, not later than February 1, 1952. (5378)

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for an appointment as **WHOLE-TIME ASSISTANT RADIOLOGIST** to the following Groups of hospitals: Medway and Gravesend, Dartford, Mid-Kent. Candidates must have had general experience in radiology, and the possession of a higher qualification is desirable. Salary within the scale £1,300 by £50 to £1,750. Applicants may visit the hospitals concerned. The last day for acceptance of applications will be January 25, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1. (5694)

CHARING CROSS HOSPITAL
REGISTRAR in the Radiodiagnostic Department
(Full-time, non-resident)
(Registrar Grade, First or second year)

Tenable for one year in the first instance, with eligibility for re-election. Candidates, who should hold a radiological qualification, should submit applications, stating date of birth, full details of qualifications and experience, and the names of three referees, to reach the undersigned by first post on January 25, 1952.—George J. Jones, House Governor and Secretary to the Board, Charing Cross Hospital, Strand, W.C.2. (5745)

BIRMINGHAM, UNITED, HOSPITALS

Applications are invited for the post of

REGISTRAR in Radiodiagnosis (Non-resident)
(Registrar Grade)

for duties within the teaching group. Possession of the D.M.R. would be an advantage. Post vacant and tenable for one year in the first instance. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him not later than January 28. (5746)

MANCHESTER, WITHINGTON, WYTHENSHAWE, AND BAGULEY HOSPITALS
Manchester Regional Hospital Board

Applications are invited for the post of

SENIOR REGISTRAR IN DIAGNOSTIC RADIOLOGY
(D.M.R.(D.) essential)

Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with names of three referees, to be received by January 21. (5902)

SCUNTHORPE, LINCOLNSHIRE RADIOTHERAPY CENTRE, WAR MEMORIAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the non-resident whole-time post of

REGISTRAR (Radiotherapy)

to the above centre. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5312)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL
South-West Metropolitan Regional Hospital Board
Southampton Group Hospital Management Committee

Applications are invited for the post of

WHOLE-TIME RADIOLOGICAL (DIAGNOSTIC) REGISTRAR (Non-resident)

Previous experience is essential and possession of the D.M.R. is desirable, but candidates with Part I will be considered. The appointment entails duties at other hospitals in the Group. Candidates may visit the hospital if they so desire. Forms of application, which should be returned to the undersigned not later than January 26, 1952, will be forwarded on receipt of a stamped addressed envelope.—Frank Jennings, Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (5804)

RHEUMATOLOGY

ST. STEPHEN'S HOSPITAL
Fulham Road, Chelsea, S.W.10
RESIDENT HOUSE PHYSICIAN

Required for duty in the Rheumatism Unit. The position offers unique opportunities in the clinical management of rheumatic diseases, in research, and in general medicine. Vacancy February 1. Applications, giving names of two personal referees, to the Medical Superintendent immediately. (5922)

VENEREOLOGY

LONDON LOCK HOSPITAL
91, Dean Street, W.1
Paddington Group Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (Non-resident)

for duty commencing March 1, 1952. The appointment is tenable for one year in the first instance. Experience in the treatment of venereal diseases desirable. Salary in accordance with the National Health Service scales. Applications, stating age, experience, qualifications, present post, together with the names and addresses of two referees, to reach the undersigned by February 11, 1952.—C. R. Jolly, Secretary, Paddington Group H.M.C., 285, Harrow Road, W.9. (5903)

MEDICINE

HAREFIELD HOSPITAL, Harefield, Middlesex
North-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of

PART-TIME PHYSICIAN (Consultant)
in the General Medical Unit of 40 beds for three half-days a week

Candidates should possess a higher qualification and have had wide experience in general medicine. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 16, 1952. Candidates are invited to visit the hospital by direct appointment with the Medical Director. (5904)

LIVERPOOL REGIONAL HOSPITAL BOARD
Sefton General Hospital (1,028 beds)

Applications are invited for the post of

WHOLE-TIME CONSULTANT PHYSICIAN SUPERINTENDENT

to the above hospital. The post is mainly clinical, with a small proportion of time devoted to medical administration, and the salary will be at the Consultant level in accordance with the terms and conditions of service of hospital medical and dental staff. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than February 9, 1952.—Vincent Collinge, Secretary to the Board. (5783)

LIVERPOOL REGIONAL HOSPITAL BOARD
Whiston and St. Helens Hospitals

Applications are invited from practitioners with a higher qualification in general medicine for the appointment of

CONSULTANT PHYSICIAN

either whole-time or for maximum part-time sessions. Duties will be mainly at Whiston County Hospital and St. Helens Hospital and the successful candidate will work with the existing Senior Visiting Physician. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than February 9, 1952.—Vincent Collinge, Secretary to the Board. (5786)

MANCHESTER, CRUMPSALL HOSPITAL
(1,200 beds)
Manchester Regional Hospital Board

Applications are invited for the part-time consultant post (eight half-days) of

GENERAL PHYSICIAN

Higher qualifications are essential and the person appointed will be required to live within reasonable distance of the hospital. Forms of application may be obtained from the Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than January 21, 1952. (5381)

HAMMERSMITH HOSPITAL AND POSTGRADUATE MEDICAL SCHOOL OF LONDON

Applications invited for the following full-time appointments in the Department of Medicine:

NON-RESIDENT REGISTRAR from March 1
NON-RESIDENT REGISTRAR from April 1
RESIDENT SENIOR HOUSE OFFICER
from March 1

Applications, stating age, qualifications, Medical School, past and present appointments, names of two referees, to the Secretary, Board of Governors, Hammersmith Hospital, Du Cane Road, London, W.12, by January 26. (5852)

ST. STEPHEN'S HOSPITAL
Fulham Road, Chelsea, S.W.10
NON-RESIDENT REGISTRAR

Required for general medical, some tuberculosis and teaching duties. Application forms from Secretary, St. Luke's Hospital, Sydney Street, Chelsea, S.W.3, returnable by January 25. Enclose S.A.E. (foolscap). (5853)

BARNET GENERAL HOSPITAL, Barnet, Herts
Barnet Group Hospital Management Committee

Applications are invited for the post of

SENIOR MEDICAL REGISTRAR
to an Acute Unit of 50 beds

The post, which is immediately available, is temporary pending the approval of a permanent appointment by the Regional Board. Candidates should possess a higher qualification. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent to the Med. Director. (5382)

CAMBRIDGE, UNITED, HOSPITALS

The Board of Governors invite applications for appointment to the post of

NON-RESIDENT MEDICAL REGISTRAR, in the Grade of Registrar

now vacant. The holder will work mainly at Addenbrooke's Hospital. The appointment is for one year in the first instance, reviewable annually. Applications, stating age and nationality, qualifications (with dates) and experience, with copies of three recent testimonials, should be sent to the undersigned not later than Saturday, January 26, 1952.—J. A. Beardsall, Secretary. (5656)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board

Applications are invited for the following posts with the above Group:

Non-resident SENIOR MEDICAL REGISTRAR
vacant immediately
RESIDENT MEDICAL REGISTRAR
vacant February 27, 1952

The successful applicants will be expected to carry out duties mainly at St. Mary's Hospital, Portsmouth. Forms of application may be obtained from the Secretary, Portsmouth Group Hospital Management Committee, 35, Grove Road South, Southsea, which should be returned to him duly completed on or before January 25, 1952. Canvassing will disqualify. Candidates may visit the above hospital by arrangement with the Secretary of the Group. (5657)

Medicine—contd.

CHERTSEY, SURREY, ST. PETER'S HOSPITAL
(Late Botleys Park War Hospital, 430 beds)
South-West Metropolitan Regional Hospital Board
Woking and Chertsey Group Hospital Management Committee
SENIOR MEDICAL REGISTRAR
Required mainly at St. Peter's Hospital, occasional duties at other local hospitals. Requests for application forms to the undersigned within fourteen days of the appearance of this advertisement. Canvassing will disqualify, but candidates may visit the hospital.—J. F. Lomer (Lieut.-Col.), Secretary, St. Peter's Hospital, Chertsey, Surrey. (5622)

EDINBURGH, ROYAL INFIRMARY
South-Eastern Regional Hospital Board, Scotland
Applications are invited from suitably qualified medical practitioners for the post of
REGISTRAR IN MEDICINE
in one of the professorial charges. The appointment will be for a period of one year in the first instance. The post is superannuable, and conditions of service will be in accordance with the regulations. Applications, giving details of age, qualifications and previous experience, together with the names of two referees, should reach the Secretary, South-Eastern Regional Hospital Board, 11, Drumsheugh Gardens, Edinburgh, 3, within fifteen days. (5726)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
SENIOR REGISTRAR to a General Medical Unit
Vacant on March 1, 1952. Whole-time non-resident post, tenable for twelve months, renewable. Applicants must possess a higher qualification and preference will be given to those interested in neurology. Applications to be made on forms obtainable from the undersigned and to be returned not later than January 23, 1952.—F. J. Cable, Secretary to the Board of Governors. (5491)

LINCOLN, ST. GEORGE'S HOSPITAL (126 beds)
Lincoln No. 1 Hospital Management Committee
Applications are invited for the post of
RESIDENT MEDICAL OFFICER
within the J.H.M.O. Grade at the above hospital. Salary and conditions of service in accordance with the terms for hospital medical staff. Salary being at the rate of £700 by £50 to £1,000 per annum. Applications, stating age, qualifications and experience, together with copies of recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary, County Hospital, Lincoln. (53 3)

CARLISLE, CUMBERLAND INFIRMARY
(322 beds)
East Cumberland Hospital Management Committee
SENIOR HOUSE PHYSICIAN
Applications are invited for the above appointment, which will fall vacant on February 2, 1952. Salary £670 per annum, less £150 for board residence. Applications should be sent to the undersigned to be received not later than Wednesday, January 23, 1952.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (5635)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE PHYSICIAN
(Senior House Officer)
required March 15. Salary £670 per annum, less £155 for residential emoluments. Applications, with details of age, qualifications, and experience, together with copies of two recent testimonials, to be submitted to M. H. Boone, Secretary. (5636)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Medical)
Required for the above hospital. Duties to commence on or about February 5. Salary £670 per annum. If resident £150 deducted for emoluments. Conditions of service in accordance with the published conditions of the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (5637)

SALFORD, 5, LANCS, LADYWELL HOSPITAL
Salford Hospital Management Committee
A vacancy exists for a newly established post of
RESIDENT SENIOR HOUSE OFFICER
at the above hospital. Salary £670 per annum, less a deduction of £155 per annum for board residence. The post offers good experience in infectious, chest, venereal and skin diseases and geriatrics. There is ample time for study and further facilities are available in other hospitals of the Group. Applications, stating age, qualifications and experience, and giving the names of two referees, should be forwarded to the Administrative Officer, Ladywell Hospital, Eccles New Road, Salford, 5, Lancs, as soon as possible. (5854)

ST. STEPHEN'S HOSPITAL
Fulham Road, Chelsea, S.W.10
RESIDENT HOUSE PHYSICIAN
Required for general medical duties. Vacancy February 1. Applications, giving names of two personal referees, to Medical Superintendent immediately. (5923)

DULWICH HOSPITAL
East Dulwich Grove, London, S.E.22
Camberwell Hospitals Management Committee
Applications are invited for appointment as
HOUSE OFFICER (Medical duties)
Salary £350, £400 or £450 a year, according to experience. Appointment tenable for six months in first instance. Resident post, with deduction at rate of £100 a year for residential services provided. Applications, stating age, details of qualifications and experience, enclosing copy testimonials, to the Secretary, Camberwell Hospitals Management Committee, Dulwich Hospital, East Dulwich Grove, S.E.22. (5638)

FULHAM HOSPITAL
St. Dunstan's Road, Hammersmith, W.6
Fulham and Kensington Hospital Management Committee
Registered medical practitioners are invited to apply for the following vacancies:
HOUSE PHYSICIANS (Three vacancies)
Appointments, commencing February 1, 1952, are resident and limited to six months. Application forms (stamped addressed foolscap envelope required) obtainable from the Secretary (B.M.J. 199), Fulham and Kensington Hospital Management Committee, St. Mary Abbots Hospital, Marloes Road, Kensington, W.8, and to be returned to him not later than January 21, 1952. (5748)

ST. MARY ABBOTS HOSPITAL
Marloes Road, Kensington, W.8
Fulham and Kensington Hospital Management Committee
Registered medical practitioners are invited to apply for the following vacancies:
HOUSE PHYSICIANS (Two vacancies)
Appointments, commencing February 1, 1952, are resident and limited to six months. Application forms (stamped addressed foolscap envelope required) obtainable from the Secretary (B.M.J. 200), Fulham and Kensington Hospital Management Committee, St. Mary Abbots Hospital, Marloes Road, Kensington, W.8, and to be returned to him not later than January 21, 1952. (5747)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER
(Physician and Casualty)
to commence duties on February 13, 1952. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid-Cheshire H.M.C., The Hospital, Sinderland Road, Altrincham, Cheshire. (5086)

ASHFORD (near), KENT, WILLESBOROUGH HOSPITAL, Willesborough
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE PHYSICIAN
at the above hospital. The person appointed will be required for duty in the medical wards and busy out-patient department under the supervision of Consultants visiting four times weekly. Fully equipped cardiographic unit. Salary £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone, Kent. (5838)

ASHTON-UNDER-LYNE, LAKE HOSPITAL
(600 beds)
Ashton, Hyde and Glossop Hospital Management Committee
HOUSE PHYSICIAN
Required late January. Salary £350 to £450, according to experience, less £100 per annum for board and lodging, etc. Applications, giving age, nationality, qualifications and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (4410)

AYLESBURY, TINDAL GENERAL HOSPITAL
(281 beds)
HOUSE PHYSICIAN
for Acute General Medicine and Geriatrics
Vacant now. Applications, with two testimonials, to the Administrative Officer. (5696)

BATH, ROYAL UNITED HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Salary, terms and conditions of service in accordance with those published by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to Administrative Officer, Royal United Hospital, Combe Park, Bath. Appointment effective from January 20, 1952.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (5697)

BATLEY, GENERAL HOSPITAL, Carlinghowhill
(102 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER
This hospital is a general hospital at present but will shortly specialize in orthopaedic and general surgery, ophthalmology and oto-rhino-laryngology. Applications, giving full details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Sec., 20, Oxford Rd., Dewsbury. (4420)

BEDFORD GENERAL HOSPITAL (426 beds)
Applications are invited for the posts of
HOUSE PHYSICIANS
at the above hospital, which consists of two wings. The post at the South Wing is vacant on January 18, 1952, and at the North Wing on January 29, 1952. Applications, stating age, nationality, qualifications, previous appointments, together with the names of two referees, should be sent to the Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton Road, Bedford. (5658)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
at the above hospital. The duties of this post cover a wide range of medical work, i.e., general medical, skins, neurology, infectious diseases. The appointment, which becomes vacant on February 14, 1952, is for six months in the first instance. Resident. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (5639)

BOLTON, ROYAL INFIRMARY (237 beds)
Bolton and District Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
(Second or third appointment)
Post vacant immediately and tenable for six months. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (5608)

BOURNEMOUTH, CHRISTCHURCH HOSPITAL
Hants (298 beds)
Bournemouth and East Dorset Hospital Management Committee
HOUSE PHYSICIAN
Required immediately. The Consultant Physicians are the same as at the Royal Victoria Hospital. Applications to be forwarded to the Assistant Secretary, Christchurch Hospital, Christchurch, Hants (5314)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE PHYSICIAN, vacant January 17, 1952.
HOUSE PHYSICIAN, vacant January 25, 1952.
HOUSE PHYSICIAN, vacant February 14, 1952.
Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (5493)

BURY AND ROSSENDALE HOSPITAL
MANAGEMENT COMMITTEE
Applications are invited for the post of
HOUSE PHYSICIAN
to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
HOUSE PHYSICIAN
The above post becomes vacant in the middle of January. N.H.S. salary and conditions. Applications to be addressed to the Chief Administrative Officer at the hospital. (5544)

CARMARTHEN, WEST WALES GENERAL HOSPITAL (160 beds)
West Wales Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN (First appointment)
Six months' appointment. Full residential emoluments. Applications, stating age, qualifications, experience, and names of three referees, to N. A. Ball, Secretary, West Wales Hospital Management Committee, Glangwili, Carmarthen. (5925)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Medicine—contd.

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE PHYSICIANS
Applications are invited from registered medical practitioners for the above posts. Vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (5813)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
Duties attached to this post will incude work with the Chest Unit. The appointment is for a period of six months commencing February 17, 1952. Applications, giving age, experience and qualifications, together with copies of two recent testimonials, should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5494)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
The appointment is for a period of six months, commencing February 17, 1952. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5495)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
HOUSE PHYSICIAN
Required March 1 for six months' appointment. Salary in accordance with national rates. Applications, with details of age, qualifications, and experience, and copies of three testimonials, to be submitted to the undersigned immediately.—M. H. Boone, Secretary. (5640)

DERBYSHIRE ROYAL INFIRMARY, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Vacant January 25, 1952. Applications, stating full details, together with copies of two recent testimonials, should be sent as soon as possible to the Sec., Derbyshire Royal Infirmary, Derby. (5315)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
Applications are invited from candidates possessing some hospital experience for the position of
RESIDENT HOUSE PHYSICIAN
to the Department of Medicine
vacant early February. The post offers wide experience in general medicine and is an excellent opportunity for candidates studying for M.R.C.P. Applications, stating age, qualifications and previous experience, should be, forwarded to the Medical Superintendent. (5659)

DOVER, BUCKLAND HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
at the above hospital. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made for residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone. (5839)

DRIFFIELD, YORKS, EAST RIDING GENERAL HOSPITAL
HOUSE PHYSICIAN
Required. Post vacant end February. Duties to include medical wards, out-patients, and some anaesthetics. Salary £350 to £450 per annum. Applications to Sec., Westwood Hospital, Beverley. (5716)

EASTBOURNE, ST. MARY'S HOSPITAL
(261 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN for General Medicine
Staff of five House Officers. Salary in accordance with terms and conditions as published by Ministry of Health. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, to the Secretary, 29, Bedfordwell Road, Eastbourne. (5283)

EPPING, ST. MARGARET'S HOSPITAL
(485 beds)
HOUSE PHYSICIAN
Required at the above hospital. Applications, together with copies of two recent testimonials, to be forwarded to the Secretary, Epping Group Hospital Management Committee, St. Margaret's Hospital, Epping, by not later than January 26. (5699)

EDGWARE GENERAL (formerly Redhill County) HOSPITAL, Edgware, Middlesex (715 beds)
RESIDENT HOUSE PHYSICIAN
Post vacant February 15, 1952. Salary £400 to £450 per annum, according to experience. Deduction of £100 per annum for board, lodging, etc. Six months' appointment. Applications, stating age, qualifications, experience and enclosing copies of up to three recent testimonials, to Medical Director of hospital by January 26, 1952. Candidates selected for interview will be notified by February 2, 1952. (5926)

ELLESMERE PORT HOSPITAL (50 beds)
XIII Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN (General)
The appointment is for a period of six months, commencing April 18, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5156)

FALMOUTH, DISTRICT HOSPITAL
(62 beds, 2 Residents)
West Cornwall Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
vacant February 26, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Falmouth and District Hospital, Falmouth. (5262)

FOLKESTONE, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
RESIDENT HOUSE PHYSICIAN
at the above hospital. Salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone. (5840)

HARROGATE AND DISTRICT GENERAL HOSPITAL (253 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Vacant mid-January. Salary, according to experience, on the National Health Service scale. Applications as soon as possible to the Assistant Secretary. (4537)

HASTINGS GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE PHYSICIANS
Required at Royal East Sussex Hospital, Hastings (150 beds), post now vacant, and at St. Helen's Hospital, Hastings (452 beds), post vacant January 28, 1952. National scales of salary. Applications to the Administrators at the respective hospitals. (5660)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)
Applications are invited for the post of
HOUSE PHYSICIAN (Second or subsequent post)
for a term of six months from February 21, 1952. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (5499)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
HOUSE PHYSICIAN (Male)
(Second or third post held)
Six months' appointment. Preference will be given to applicants who have held resident surgical and medical posts in a general hospital. Salary is at the rate of £400 to £450 per annum, less £100 for residential emoluments. Duties to commence immediately. Applications to the Secretary, Mr. P. G. Brooks, Hertford No. 1 Group Hospital Management Committee, Hertford County Hospital, Hertford, Herts. (5905)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE PHYSICIAN
Required to commence duty as soon as possible after February 1, 1952. Salary in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, together with copies of three recent testimonials, should be addressed to the undersigned.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (5500)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE PHYSICIAN
Required February 22, 1952. Applications, with full particulars, to the Secretary, Hospital Management Committee. (5855)

LEIGH INFIRMARY, Leigh, Lancashire
HOUSE PHYSICIAN
Required at the above hospital, resident post, vacant January 19, 1952. Applications, stating age, qualifications, and details of previous employment, together with the names of two referees, should be forwarded to the Secretary, Wigan and Leigh Hospital Management Committee, Knowsley House, Wigan, as early as possible. (5501)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the following appointment:
HOUSE PHYSICIAN
Six months' appointment. Post vacant March, 1952. Salary at the rate of £350, £400 to £450, according to experience. A deduction at the rate of £100 a year is made in respect of board and lodging and other services provided. Applications should be forwarded as soon as possible to the Administrative Officer at the hospital. (5723)

MEXBOROUGH, MONTAGU HOSPITAL
(123 beds)
SANDYGATE HOUSE ANNEXE (30 beds)
RESIDENT HOUSE PHYSICIAN
Required, tenable for a period of six months in the first instance. Salary £350 to £400 per annum, according to experience, from which a deduction of £100 per annum for residential emoluments will be made. Applications, stating age, experience, qualifications and nationality, with names of three referees, to be addressed to the Secretary, Management Committee, Fern Bank, Doncaster Road, Rotherham, Yorks, as soon as possible. (5610)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)
For the care of both medical and surgical cases. Appointment for six months. Duties to commence February 1, 1952. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
(Male or female)
Required for the above hospital. Duties to commence on or about January 31, 1952. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5285)

PAISLEY AND DISTRICT HOSPITALS, BOARD OF MANAGEMENT FOR
Royal Alexandra Infirmary Annexe (Craw Road)
HOUSE PHYSICIAN/SURGEON
Required for general medicine and surgery. Salary according to experience. Applications should be made within seven days of the date of this advertisement to the Group Medical Superintendent, Royal Alexandra Infirmary, Paisley. (5344)

PORTSMOUTH, ROYAL, HOSPITAL (205 beds)
Portsmouth Group Hospital Management Committee
Applications are invited for
HOUSE PHYSICIAN
Vacant at once. Applications, stating age, experience and qualifications and names of two referees, should be submitted as soon as possible to the undersigned.—E. H. Hurst, 35, Grove Road South, Southsea. (5611)

READING, AREA DEPARTMENT OF MEDICINE
Applications invited from registered medical practitioners for posts of
THREE HOUSE PHYSICIANS
vacant February 8, 20, and March 1, 1952, each for period of six months. Salary £350 to £450, less £100 board residence, etc. Successful applicants will be required to carry out duties at following Reading hospitals. Royal Berkshire (403 beds), Battle (364 beds), and Prospect Park (104 beds), where 40 acute medical beds will be opened shortly. The experience to be gained in these appointments is exceptional as it covers the whole field of clinical medicine, including children's diseases, fever, pulmonary T.B., and geriatrics. Applications, stating age, qualifications with dates, nationality, present post, with copies of three recent testimonials, to Administrative Officer, Royal Berkshire Hospital, Reading. (5386)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
HOUSE PHYSICIAN
Applications are invited from registered medical practitioners for the above appointment. The post is resident and tenable for six months. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent, immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5624)

Medicine—contd.

ROCHDALE, BIRCH HILL GENERAL HOSPITAL
TWO HOUSE PHYSICIANS
National Health Service terms and conditions. Apply at once to the Secretary. (5856)

ROMFORD, ESSEX, VICTORIA HOSPITAL (91 beds)
RESIDENT HOUSE PHYSICIAN
Applications are invited from registered medical practitioners (male) for the above post vacant from February 13, 1952. Six months' appointment. Applications, stating age, nationality, qualifications (with dates), and experience, together with copies of three recent testimonials, or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5717)

SALISBURY GENERAL HOSPITAL
Salisbury Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE PHYSICIAN
The appointment is vacant on February 22, 1952, and is for a period of six months. Applications, together with the names of two referees, should be sent immediately to the Secretary to the Committee, Odstock Hospital, Salisbury. (5503)

SCARBOROUGH HOSPITAL
Yorkshire (163 beds)
Applications are invited from male or female registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
which will become vacant in early February. The salary is in accordance with the national scale and the appointment will be for six months. Applications, stating age, and qualifications, with testimonials, to be sent to the Secretary. (5159)

SHEPPEY GENERAL HOSPITAL
Minster, Sheppey, Kent
Medway and Gravesend Hospital Management Committee
HOUSE PHYSICIAN
Applications are invited from registered medical practitioners for the above post, now vacant. Salary £350 to £450 per annum, according to experience, plus £50 per annum special allowance. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (5815)

SHREWSBURY (near), CROSS HOUSES HOSPITAL (183 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT MEDICAL OFFICER
Vacant immediately. Preference will be given to those applicants with previous obstetrical experience. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (6063)

SOUTH SHIELDS GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
(two appointments, respectively vacant on February 3 and 12, 1952) for General Medicine in a busy, well-equipped hospital. There are three House Physicians in the Medical Department. Applications, with copies of not more than three recent testimonials, to be addressed to the Medical Superintendent, General Hospital, Harton Lane, South Shields. (5116)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
TWO RESIDENT HOUSE OFFICERS (Medical)
Posts vacant immediately and February 1 respectively. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5062)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
(Medical and Paediatrics)
vacant February 1, 1952. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke on-Trent.—Thornburrow Gibson, Secretary. (5820)

STROUD GENERAL HOSPITAL
Gloucester, Stroud and the Forest Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
Salary £350 to £450 per annum, according to experience, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications and experience, with copies of two testimonials, should be sent as soon as possible to the Secretary, Stroud General Hospital, Stroud, Gloucestershire. (5661)

TILBURY AND RIVERSIDE GENERAL HOSPITAL, Orsett Branch
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the above hospital. The duties for this post cover a wide range of medical work, i.e., general medical, skins, neurology, infectious diseases. The appointment will be for six months in the first instance. Salary scale will be at the rate of £400 to £450 per annum, according to experience, less £100 for residential emoluments. Applications for the post, which is vacant from January 21, 1952, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (4735)

TRURO, ROYAL CORNWALL INFIRMARY (General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN (Male or female)
Post vacant March 1, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, giving details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5263)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL (350 beds)
Tunbridge Wells Group Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for post of
RESIDENT HOUSE PHYSICIAN
for six months in first instance or for locum duties (vacant February 1, 1952). Applications, stating age, experience, with copies of recent testimonials, to Administrative Officer. (5158)

WAKEFIELD, CLAYTON HOSPITAL (200 beds)
Hospital Management Committee No. 9 Wakefield "A" Group
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN
at the above hospital. Terms and conditions of service in accordance with national recommendations. Application forms may be obtained from the Administrative Officer.—W. Read, Sec. (5316)

WALSALL HOSPITAL MANAGEMENT COMMITTEE
Walsall General Hospital (181 beds)
HOUSE PHYSICIAN
Required at the above hospital. Post vacant February 1, 1952. Apply Secretary.
Manor Hospital (333 beds)
HOUSE PHYSICIAN (General Medicine)
HOUSE PHYSICIAN (Paediatrics)
Required at the above hospital. Posts vacant February 1, 1952. Apply Administrative Officer. These are two busy General Hospitals within easy reach of Birmingham and Wolverhampton, offering wide experience. (4901)

WEST BROMWICH, HALLAM HOSPITAL
Hallam Street
West Bromwich and District Hospitals Management Committee, Group No. 18
TWO HOUSE PHYSICIANS
The above posts will be vacant on February 1, 1952, and are resident. Salaries, terms and conditions in accordance with the Ministry of Health regulations. Applications, accompanied by copies of two recent testimonials, to the Medical Secretary, Hallam Hospital, West Bromwich. (5789)

WEST HARTLEPOOL, CAMERON HOSPITAL (92 beds)
Applications are invited for the appointment of
HOUSE PHYSICIAN and CASUALTY OFFICER
now vacant. To be responsible for medical beds and casualty department. Salary and conditions of service in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (5749)

WESTCLIFF HOSPITAL
Balmoral Road, Westcliff-on-Sea
Applications are invited for the position of
RESIDENT HOUSE MEDICAL OFFICER
(House Officer Grade)
post now vacant. The hospital deals with communicable diseases in its widest sense, e.g., common exanthemata, primary pneumonias, infections of the nervous system, tuberculosis, infective hepatitis, gastro-enteritis, etc. In addition there is a ward for general medical cases. The appointment covers a wide field of medicine including paediatrics and offers excellent training for general practice. Applications, etc., to be sent to the Secretary at the above hospital as soon as possible.—J. C. Field, Secretary, Southend-on-Sea Hospital Management Committee. (5773)

WEST HARTLEPOOL GENERAL HOSPITAL
Hartlepools Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
Salary and conditions in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary, Hartlepools Hospitals Management Committee, General Hospital, West Hartlepool, as soon as possible. (8684)

WORKINGTON INFIRMARY (86 beds)
West Cumberland Hospital Management Committee
HOUSE PHYSICIAN
Required on February 1 for six months appointment. Salary in accordance with national scales (£350 to £450). Applications, stating qualifications (with dates) and experience, and accompanied by copies of two testimonials, to be sent to the Secretary, Workington Infirmary, Workington, Cumberland. (5318)

SURGERY

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for the following consultant positions:
FULL-TIME OR MAXIMUM PART-TIME CONSULTANT SURGEON
North Middlesex Hospital and Annexes
Silver Street, Edmonton, N.18

PART-TIME CONSULTANT SURGEON
St. Andrew's Hospital, Devons Road, Bow, E.3
(Three sessions a week)

PART-TIME CONSULTANT SURGEON
Prince of Wales's General Hospital, South Tottenham, N.15, and St. Ann's Hospital, St. Ann's Road, N.15
(Three sessions a week)

FULL-TIME CONSULTANT SURGEON
Colchester Group of Hospitals
The successful candidate will be required to live in the Colchester area, to provide services to the following hospitals: Black Notley Hospital, Harwich Hospital, Clacton Hospital, Essex County Hospital.

Separate applications (six copies), indicating post concerned and stating private address, date of birth, full details of qualifications and experience, present appointment(s) (including number of sessions), grade and salary, together with names and addresses of three referees, should reach C. E. Nicol, Secretary, 11a, Portland Place, London, W.1, by Saturday, January 26, 1952. (5857)

HIGHLANDS HOSPITAL
Winchmore Hill, London, N.21
(818 beds, including 30 for General Surgery)
North-West Metropolitan Regional Hospital Board
WHOLE-TIME RESIDENT SURGICAL REGISTRAR
required for one year in the first instance. Candidates are welcome to visit the hospital by direct appointment with the Medical Superintendent. Application forms obtainable from and returnable to the Secretary, Northern Group Hospital Management Committee, Royal Northern Hospital, Holloway, London, N.7, by January 23, 1952. (5906)

NORTH MIDDLESEX HOSPITAL, Edmonton, N.18
TEMPORARY REGISTRAR IN SURGERY
required now for some weeks. Higher qualification in surgery desirable. Work consists mainly of general and traumatic surgery. Whole time. Salary £775 to £890 per annum, non-resident, according to qualifications and experience. Required to sleep in on duty nights. Residence could be arranged if desired. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials or names of two referees, to Secretary of hospital immediately. (5907)

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications are invited for the following whole-time appointments:
SURGICAL REGISTRAR (R.S.O.)
to the Dudley and Stourbridge Group; duties at Corbett Hospital, Stourbridge (106 beds.)
SURGICAL REGISTRAR
to the Dudley and Stourbridge Group; duties at Guest Hospital, Dudley (154 beds)
For both appointments some experience in general surgery essential and higher qualification an advantage. Appointments subject to N.H.S. superannuation regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to the Secretary, 10, Augustus Road, Birmingham, 15, before January 28, 1952. Candidates for both appointments should forward seven copies of applications in respect of each vacancy. Candidates may visit the hospitals concerned. (5874)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Surgery—contd.

EAST ANGLIAN REGIONAL HOSPITAL BOARD
Applications are invited for the following appointments:
RESIDENT SURGICAL OFFICER
(Registrar Grade)
West Norfolk and King's Lynn Hospital
RESIDENT SURGICAL OFFICER
(Registrar Grade)
North Cambridgeshire Hospital, Wisbech
The appointments will be for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 28, 1952.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5662)

GRANTHAM AND KESTEVEN GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
SURGICAL REGISTRAR
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 21, 1952. (5334)

MACCLESFIELD AND DISTRICT GROUP OF HOSPITALS
Manchester Regional Hospital Board
Applications are invited for the post of
RESIDENT REGISTRAR IN GENERAL SURGERY
with main duties at Macclesfield General Infirmary
Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by January 21, 1952. (5908)

NEWPORT, MON., ST. WOOLOS HOSPITAL (379 beds)
Welsh Regional Hospital Board
Applications are invited from registered medical practitioners for the appointment of
REGISTRAR in General Surgery
The post is non-resident. The appointment will be for one year in the first instance and will be reviewed at the end of this period. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh R.H.B., Cathays Park, Cardiff. (5750)

NORTHAMPTON GENERAL HOSPITAL
Oxford Regional Hospital Board
Applications are invited for the whole-time post of
REGISTRAR in General Surgery
The appointment will be for one year and eligible for extension to a second year. Accommodation for a single person is available. Applications on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by February 1. (5720B)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
SENIOR HOUSE OFFICER (Resident)
Required to commence duties on February 26, 1952. Twelve months' appointment. Salary £670 per annum, less a deduction of £155 for residential emoluments. Post recognized for the F.R.C.S. qualification. This resident surgical appointment in a busy general hospital staffed by Manchester Consultant Surgeons offers excellent opportunities of practical surgical experience to suitably qualified candidates. Applications, stating qualifications, previous hospital experience, age, nationality, names and addresses of three referees, should be forwarded to the Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham Cheshire. (5091)

BARNSLEY, BECKETT HOSPITAL
HOUSE SURGEON SPECIALS (S.H.O.)
Required for duties mainly in Casualty Department. Some E.N.T., ophthalmic, anaesthetic and orthopaedic work. Salary £670. Apply to Secretary, Barnsley Hospital Management Committee, 33, Gawber Road, Barnsley. (5700)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (100 occupied beds)
(Midway between London and Cambridge. Main Line Railway from Liverpool Street)
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER (Surgical)
Salary £670 per annum, less £130 per annum in respect of residential emoluments. The appointment is due to commence as soon as possible, for a period of one year. Applications, stating nationality, age, qualifications, and experience, with copies of recent testimonials, or the names of referees, should be sent to the Secretary, Hertford Group Hospital Management Committee, Hertford County Hospital, Hertford, Herts. (5774)

CARMARTHEN, WEST WALES GENERAL HOSPITAL (160 beds)
West Wales Hospital Management Committee
Applications are invited for the post of
RESIDENT SURGICAL OFFICER
(Senior House Officer grade)
Appointment will be for one year and is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with national scales. Applications, stating age, qualifications, experience and names of three referees, to N. A. Ball, Secretary, West Wales Hospital Management Committee, Glangwili, Carmarthen. (5924)

CLACTON AND DISTRICT HOSPITAL
Clacton-on-Sea, Essex
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
(Resident Surgical Officer)
Salary in accordance with recommendations published by Ministry of Health. Applications, with copies of two recent testimonials, should be sent as soon as possible to the Secretary, Colchester Group Hospital Management Committee, 14, Pope's Lane, Colchester. (5858)

COSHAM, QUEEN ALEXANDRA HOSPITAL (464 beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the following appointment:
SENIOR HOUSE SURGEON
Applications, stating age, experience and qualifications and names of two referees, should be submitted as soon as possible to the undersigned.—E. H. Hurst, 35, Grove Rd. South, Southsea. (5612)

DUNDEE ROYAL INFIRMARY
TWO SENIOR HOUSE OFFICERS
Surgical Out-Patient and Casualty Departments
Salary £670 per annum, with deductions for residence, etc. Applications, stating qualifications and experience, with names of two referees, to the Medical Superintendent. (5751)

ECCLES AND PATRICROFT HOSPITAL
(General Hospital, 72 beds)
West Manchester Hospital Management Committee
SENIOR HOUSE OFFICER AND HOUSE OFFICER
Applications are invited from registered medical practitioners for these two appointments which are now vacant. The work of the hospital is mainly surgical and there is a busy out-patient department. Salaries for House Officer posts £350 to £450 per annum, according to experience. A deduction of £100 per annum will be made for residential accommodations and services. Six months' appointment. The Senior House Officer's appointment will be for twelve months at a salary of £670 per annum, less £130 per annum for residential accommodation and services. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (5827)

LINCOLN, COUNTY HOSPITAL (200 beds)
Lincoln No. 1 Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
in Surgery and E.N.T.
The post is recognized for the F.R.C.S. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary. (5319)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE SURGEON
at the above hospital. The post is recognizable for the F.R.C.S.(Eng.). Salary will be £670 a year, with a deduction at the rate of £150 for residential emoluments. Applications should be forwarded to the Secretary of the Mid-Kent Hospital Management Committee, 103, Tonbridge Road, Maidstone. (4969)

MANCHESTER NORTHERN HOSPITAL
(General Hospital—116 beds)
North Manchester Hospital Management Committee
Applications are invited for the appointment of
RESIDENT SURGICAL OFFICER
(Senior House Officer Grade)
at the above hospital, vacant from the end of February, 1952. Applications, stating age, nationality, qualifications (with dates), previous appointments (with dates), together with the names and addresses of two referees, to be sent to the undersigned immediately.—A. T. Sampson, Sec. to Committee, Crumpsall Hospital, Manchester, 8. (5625)

MINEHEAD AND WEST SOMERSET HOSPITAL (58 beds) Minehead, Somerset
Bridgwater, Minehead and Butleigh Hospital Group
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
with care of surgical and medical cases at the above hospital immediately. Salary £670 per annum. One year's appointment. Appointment will be subject to a deduction of £150 per annum for residential emoluments. Applications to the Clerk in Charge, Minehead and West Somerset Hospital, The Avenue, Minehead, Somerset. (5909)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence as soon as possible. Salary £670 per annum and conditions of service in accordance with the published conditions of the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (4133)

ST. LEONARDS-ON-SEA, BUCHANAN HOSPITAL (102 beds)
Hastings Group Hospital Management Committee
SENIOR HOUSE OFFICER
Required for hospital specializing in urology, E.N.T., gynaecology, and children's surgery. Post now vacant. Duties will be primarily in connexion with urology and children's surgery. National salary scale and conditions, viz., £670 per annum, less £150 for full board. Applications to the Administrator at the hospital. (5626)

SALFORD ROYAL HOSPITAL
Salford Hospital Management Committee
THREE SENIOR SURGICAL HOUSE OFFICERS
(Resident or non-resident)
Vacant February and March. Appointment for 12 months. Salary subject to £155 per annum for board and lodging. Applications, with copies of three recent testimonials, should be sent to the Superintendent, Salford Royal Hospital, Salford, 3, as soon as possible. (5910)

SOLIHULL HOSPITAL
Lode Lane, Solihull, Birmingham
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
RESIDENT SURGICAL OFFICER
(Senior House Officer)
which becomes vacant at the end of January, 1952. This is a busy general hospital with five other resident medical staff. Applications, stating age, nationality, qualifications, and experience, together with copies of three testimonials, to be sent to the Medical Superintendent within fourteen days of the appearance of this advertisement. (5550)

STOURBRIDGE, CORBETT HOSPITAL (106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Resident, Surgical)
Post now vacant. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (9745)

STROUD GENERAL HOSPITAL
Gloucester, Stroud and the Forest Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT SURGICAL OFFICER
Salary will be in the Senior House Officer grade, i.e. £670 per annum, with a deduction of £125 per annum in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent as soon as possible to the Secretary, Stroud General Hospital, Stroud, Gloucestershire. (5663)

SUTTON-IN-ASHFIELD, NOTTS, KING'S MILL HOSPITAL
Mansfield Hospital Management Committee
Applications are invited for the post of
RESIDENT SURGICAL OFFICER
(Senior House Officer Grade)
Applicants should have had previous surgical experience. The hospital contains 115 surgical beds and the post offers good facilities for practical experience in general surgery. A flat is available for the successful candidate if married, for which an appropriate deduction will be made from salary. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary. (4817)

WHITEHAVEN HOSPITAL (112 beds)
Annexe (19 beds)
West Cumberland Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
With obstetrical and gynaecological duties, required immediately. Salary in accordance with national scales (£670 per annum). Applications, stating qualifications (with dates) and experience, and accompanied by copies of two testimonials, to be sent to the Secretary, Workington Infirmary, Workington, Cumberland. (5627)

Surgery—contd.

WEST HARTLEPOOL, CAMERON HOSPITAL
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
vacant January 25, 1952. To be responsible for surgical and gynaecological beds. Salary and conditions of service in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (5942)

WOKING, VICTORIA HOSPITAL
Woking, Surrey (74 beds)
SENIOR HOUSE OFFICER
(Surgical and Medical duties)
Resident preferred. Non-resident considered. Salary and conditions of service as published by Ministry of Health, viz., £670 per annum, less emoluments. Applications, with testimonials, to Assistant Secretary, Victoria Hospital, Woking, Surrey. (5628)

WORKINGTON INFIRMARY (86 beds)
Annexe (26 beds)
West Cumberland Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required immediately. Salary in accordance with national scales (£670 per annum). Applications, stating qualifications (with dates) and experience, and accompanied by copies of two testimonials, to be sent to the Secretary, Workington Infirmary, Workington, Cumberland. (5629)

BOLINGBROKE HOSPITAL
Wandsworth Common, S.W.11
Battersea and Putney Group Hospital Management Committee
RESIDENT HOUSE SURGEON
Required for six months from February 1, 1952. Applications, stating age, nationality, experience and qualifications, with dates, accompanied by copies of three recent testimonials, to be sent to the Administrative Officer as soon as possible. (5943)

COLINDALE HOSPITAL
Colindale Avenue, London, N.W.9
HOUSE SURGEON
Required at the above hospital to assist in thoracic, orthopaedic, and genito-urinary surgery. Salary £400 to £450 according to experience. Deduction of £100 per annum for board, lodging, etc., if resident. Six months' appointment. Apply immediately, stating age, qualifications, experience, and enclosing copies of up to three recent testimonials, to the Physician Superintendent. (5911)

DULWICH HOSPITAL
East Dulwich Grove, S.E.22
Camberwell Hospitals Management Committee
Applications invited for appointment as
HOUSE OFFICER (Surgical duties)
Position vacant from February 13, 1952. Salary £350 to £450 a year, according to posts held, with deduction at rate of £100 a year in respect of residence. Appointment tenable for six months in first instance. Applications, stating age qualifications, and experience, enclosing copy testimonials, to the Sec., Camberwell Hospitals Management Committee, Dulwich Hospital, S.E.22, as soon as possible. (5720)

FULHAM HOSPITAL
St. Dunstan's Road, Hammersmith, W.6
Fulham and Kensington Hospital Management Committee
Registered medical practitioners are invited to apply for the following vacancies:
HOUSE SURGEONS (Three vacancies)
Two appointments recognized for F.R.C.S., third mainly orthopaedics
Appointments, commencing February 1, 1952, are resident and limited to six months. Application forms (stamped addressed foolscap envelope required) obtainable from the Secretary (B.M.J. 199), Fulham and Kensington Hospital Management Committee, St. Mary Abbots Hospital, Marloes Road, Kensington, W.8, and to be returned to him not later than January 21, 1952. (5752)

HACKNEY HOSPITAL, E.9 (783 beds)
Applications are invited for the appointment of
HOUSE SURGEON (First, second or third post)
Post recognized for F.R.C.S. Six months' appointment. Applications, together with copies of three testimonials, should be sent to the Secretary, Hackney Group Hospital Management Committee, Hackney Hospital, E.9, not later than Jan. 19. (5944)

KING EDWARD MEMORIAL HOSPITAL Ealing
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (Second or third post)
to a General Surgeon, with some duties in the Ear, Nose and Throat Department
Vacant February 21. Applications, stating age, nationality, qualifications (with dates) and details of experience, together with copies of two recent testimonials, to the Secretary of the Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date February 11, 1952. (5859)

LAMBETH HOSPITAL, Brook Drive, S.E.11
RESIDENT HOUSE SURGEON
Appointment for six months. For form of application apply to the Physician Superintendent at the hospital. (5641)

MEMORIAL HOSPITAL
Shooters Hill, Woolwich S.E.18
TWO HOUSE SURGEONS
(Recognized for F.R.C.S.)
Vacant mid-February. Both appointments are in general surgery, one also assists in E.N.T. and the other in orthopaedics. Salary £350 to £450 per annum, less £100 per annum for residence. Apply to Secretary. (5805)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications invited for appointment of:
RESIDENT SURGICAL OFFICER
vacant February, 1952. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, and experience, with a copy of two testimonials, and the name of one referee, should be sent immediately to Group Secretary, St. Helier Hospital, Carshalton, Surrey. (5718)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

ST. JOHN'S HOSPITAL
Lewisham, London, S.E.13
Lewisham Group Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
(Second, third or subsequent post)
vacant immediately and tenable for six months. Applications, stating age, qualifications and experience, with copies of three recent testimonials or names of referees, should be addressed to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (5642)

ST. LEONARD'S HOSPITAL
Nutfall Street, London, N.1
Central Group Hospital Management Committee
(Acute General—166 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
The appointment is for six months only, and the salary, depending upon the number of previous posts held, £350, £400 or £450 per annum. The hospital is recognized for the final F.R.C.S. (Lond.). Applications, stating age, nationality, qualifications and experience and names of two referees, to be forwarded to the Assistant Secretary of the hospital by January 22, 1952. (5806)

ST. MARY ABBOTS HOSPITAL
Marloes Road, Kensington, W.8
Fulham and Kensington Hospital Management Committee
Registered medical practitioners are invited to apply for the following vacancies:
HOUSE SURGEONS (Two vacancies)
Appointments, commencing February 1, 1952, are resident and limited to six months. Application forms (stamped addressed foolscap envelope required) obtainable from the Secretary (B.M.J. 200), Fulham and Kensington Hospital Management Committee, St. Mary Abbots Hospital, Marloes Road, Kensington, W.8, and to be returned to him not later than January 21, 1952. (5753)

ST. OLAVE'S HOSPITAL
Lower Road, Rotherhithe, S.E.16
HOUSE SURGEON
Appointment tenable for six months, commencing February 1, 1952. Salary £350, £400 or £450, according to length of previous experience, less £100 for residential emoluments. Applications should be made to Mr R. A. V. Lewys-Lloyd, F.R.C.S., Surgeon Superintendent, within fourteen days of the appearance of this advertisement, quoting reference B.M.J. (5754)

WEST LONDON HOSPITAL
Hammersmith Road, W.6
HOUSE SURGEON (General and Orthopaedics)
Required March 1, 1952. Applications, stating age, medical school, qualifications, experience, copies of two testimonials, to Secretary by Feb. 2. (5912)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Surgical)
Required to commence duties on February 15, 1952. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (5093)

ASHFORD HOSPITAL
Ashford, Kent (125 beds)
South-East Kent Hospital Management Committee
Applications are invited from medical practitioners for the post of
RESIDENT HOUSE SURGEON
at the above hospital. The appointment will be for a period of six months. Excellent experience to be obtained of emergency and general surgery with rapid turnover. Two General Consultant Surgeons and a Consultant Orthopaedic Surgeon hold sessions at this modern hospital. Some casualty work shared with other House Officer. Salary £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone (5837)

BANBURY, HORTON GENERAL HOSPITAL
(170 beds)
HOUSE SURGEON
Required immediately for general surgical and gynaecological beds. Four other residents. Post tenable six months in first instance. Salary from £350, according to experience. Recognized for six months' training F.R.C.S.(Eng.). Applications, stating age, nationality, qualifications and names of two referees, to the Secretary, Hospital Management Committee, Horton General Hospital, Banbury, Oxon. (4095)

BARNSTAPLE, NORTH DEVON INFIRMARY
(110 beds)
North Devon Hospital Management Committee
TWO HOUSE SURGEONS
Posts now vacant. Applications to Secretary and Finance Officer, 19, Alexandra Road, Barnstaple, Devon. (4832)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
Salary, terms and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded immediately to Secretary, St. Martin's Hospital, Bath.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (5701)

BILLERICAY, ST. ANDREW'S HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
for the General Surgery and Orthopaedic Departments. These departments of this hospital provide interesting and active traumatic experience. Six months' appointment in the first instance. Resident. Post now vacant. Salary scale £350 to £450 per annum according to experience, less £100 residential emoluments. Applications, together with copies of not more than three testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex (3221)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for a
RESIDENT HOUSE OFFICER (Surgical)
(First or second post)
Salary £350 to £450 per annum, less £100 per annum for residential emoluments. Appointment to commence immediately. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent as soon as possible to the Administrative Officer (5416)

BOLTON, ROYAL INFIRMARY (237 beds)
Bolton and District Hospital Management Committee
RESIDENT HOUSE SURGEON
Required for general surgical duties. Post vacant immediately and tenable for six months. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (5702)

BOURNEMOUTH, ROYAL VICTORIA HOSPITAL (485 beds)
Bournemouth and East Dorset Hospital Management Committee
TWO HOUSE SURGEONS
One for general and thoracic surgery for post vacant February 11, the other for general surgery for post vacant February 16. Both appointments are recognized for the F.R.C.S. examinations. Application to the Assistant Sec. at the hospital. (5703)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (General)
Vacant March 1, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials to Secretary. (5512)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Surgery—contd.

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON
Vacant March 1, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (5513)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
HOUSE SURGEON
Vacant immediately. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, should be sent to the Administrative Officer of the hospital within seven days of the appearance of this advertisement. (5414)

BURNLEY, GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is vacant now, and is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. The post is recognized for the F.R.C.S. examination. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (9287)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical, with beds for orthopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
GENERAL SURGICAL AND UROLOGICAL HOUSE SURGEON
The above post, which is recognized for the F.R.C.S. Diploma, is now vacant. N.H.S. salary and conditions. Applications to be addressed to Chief Administrative Officer at the hospital. (5551)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant on January 14, 1952. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (5814)

CHERTSEY, SURREY, ST. PETER'S HOSPITAL
(Late Botleys Park War Hospital) (430 beds)
RESIDENT HOUSE SURGEON
Required for the Gynaecological and Special (E.N.T., Eye, etc.) Departments. Salary in accordance with terms and conditions of National Health Service. Hospital within easy reach of London. Applications, together with testimonials or names of referees, should be sent to the Physician Supt., St. Peter's Hospital, as soon as possible. (4758)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for
TWO HOUSE SURGEONS
The appointments are for a period of six months, duties to commence February 20, 1952, and April 4, 1952, respectively. Applications, giving full particulars, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, King Street, Chester. (5755)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
HOUSE SURGEON
Required immediately for busy General Hospital. National salary and conditions of service.—M. H. Boone, Secretary. (5643)

CHICHESTER, ROYAL WEST SUSSEX HOSPITAL
RESIDENT HOUSE SURGEON
Required for six months' appointment at this General Acute Hospital of 202 beds. Six residents on staff, including R.S.O. and three House Surgeons. National scale for first, second or third post. Applications, giving details of qualifications, age and experience, should be forwarded to the Senior Administrative Officer at the Royal West Sussex Hospital. Vacancy occurs middle of January. (5807)

CHORLEY AND DISTRICT HOSPITAL, Lancs
HOUSE SURGEON (J.H.O. Grade)
Six months' post. National scale and conditions. Applications to be forwarded to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary. (5808)

DARTFORD, JOYCE GREEN HOSPITAL
HOUSE OFFICER (General Surgery)
Required immediately. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. The hospital is a large general hospital offering opportunities for wide experience and is within easy reach of London. Applications, stating age, qualifications, experience and the names of two persons to whom reference may be made, should be sent to the Medical Superintendent, The River Hospitals, Joyce Green, Dartford, Kent. (5704)

DARTFORD, KENT, WEST HILL HOSPITAL
HOUSE SURGEON (General)
Required at the beginning of February for duty at the above hospital. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. The hospital is a large general one offering opportunities for wide experience and is within easy reach of London. Applications, stating age, qualifications, experience and the names of two persons to whom reference for testimonials may be made, should be sent to the Surgeon Superintendent of the hospital. (5707)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
Salary at the rate of £350, £400, or £450 per annum, according to experience, from which a deduction at the rate of £100 per annum will be made for board, residence, etc. The post will be vacant on February 19, 1952. Applications, stating age, qualifications with dates, nationality, and present post, and accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (5719)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
RESIDENT HOUSE SURGEON
Vacant end February, 1952. The post affords good experience in general surgery and casualty work. Apply to the Medical Superintendent. (5664)

DUDLEY, GUEST HOSPITAL (154 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Surgical)
Post now vacant, tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (6561)

DUNDEE, MARYFIELD HOSPITAL (350 beds)
Board of Management for the Dundee General Hospitals
Applications are invited for the appointment of
HOUSE SURGEON
attached to the Surgery Unit for the period to July 31, 1952. Salary £350 to £400, according to experience, less £100 for residential emoluments. Applications, stating age, nationality, qualifications, experience and names of two referees, should be sent now to the Medical Superintendent. (5758)

DURHAM HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners (male or female) for resident posts of
HOUSE SURGEON
at the undermentioned general hospitals. The posts, which will become vacant on February 1, 1952, are tenable for six months.
Dryburn Hospital, Durham (355 beds)
General Hospital, Chester-le-Street (233 beds)
County Hospital, Durham (120 beds)
Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees and/or copies of three recent testimonials, should be sent to the undersigned not later than January 15, 1952, stating choice of hospitals in order of preference.—A. W. Youngs, Secretary. (5552)

EASTBOURNE, ST. MARY'S HOSPITAL (261 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
for general surgery. Staff of five house officers. Salary in accordance with terms and conditions published by Ministry of Health. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, to The Sec., 29, Bedfordwell Rd., Eastbourne. (5720A)

EDGWARE GENERAL (formerly Redhill County) HOSPITAL, Edgware, Middlesex (715 beds)
RESIDENT HOUSE SURGEON
Post vacant February 12, 1952. Post recognized for F.R.C.S. Salary £400 to £450 per annum, according to experience. Deduction of £100 per annum for board, lodging, etc. Six months' appointment. Applications, stating age, qualifications, experience and enclosing copies of up to three recent testimonials, to Medical Director of hospital by January 26, 1952. Candidates selected for interview will be notified by February 2, 1952. (5927)

EPPING, ST. MARGARET'S HOSPITAL (500 beds)
HOUSE SURGEON
Required at the above hospital. Applications, with copies of two recent testimonials, to be forwarded immediately to the Secretary, Epping Group Hospital Management Committee, St. Margaret's Hospital, Epping. (5254)

EPSOM DISTRICT HOSPITAL
Dorking Road, Epsom, Surrey (300 beds)
RESIDENT HOUSE OFFICER (Surgical)
Required at the above hospital. Full Consultant staff. The post, recognized by the Royal College of Surgeons, is vacant on February 15, 1952. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent as soon as possible to the Secretary at above address. (5335)

EXETER, ROYAL DEVON AND EXETER HOSPITAL
(300 beds—10 Resident Medical Staff employed)
Exeter and Mid-Devon Hospitals Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
HOUSE SURGEON
vacant February 17, 1952. The appointment is for a period of six months. Salary £350, £400 or £450 per annum, less deduction of £100 per annum for residential emoluments. Health service terms and conditions. Applications, with copies of two recent testimonials, should be forwarded to the Senior Administrative Officer by Jan. 19. (5860)

FALMOUTH, DISTRICT HOSPITAL
(62 beds, 2 Residents)
West Cornwall Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
vacant February 8, 1952, in an extremely active general hospital doing major surgery and with both out patient and casualty departments. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, nationality, qualifications, and experience, and accompanied by copies of two recent testimonials, should be forwarded to the Administrative Assistant, Falmouth and District Hospital, Falmouth. (5265)

GLOUCESTERSHIRE ROYAL HOSPITAL
Southgate Street Unit (245 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
which becomes vacant on or about January 14, 1952. The post is recognized for the F.R.C.S. examination. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, nationality and experience, accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—C. J. Adams, Group Secretary. (5665)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON
With opportunity for experience in Obstetrics and Gynaecology
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, nationality, qualifications, and experience, to be addressed to the Administrative Officer. (5817)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications invited for the post, now vacant, of
HOUSE OFFICER (Male or female)
for General Surgery, E.N.T. and Ophthalmic Departments. The hospital is approved for the D.L.O. Apply to the Administrative Officer, Grimsby General Hospital, Grimsby. (4309)

GUILDFORD, ST. LUKE'S HOSPITAL
Guildford Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
in the General Surgical Unit (66 beds)
This unit is recognized for the F.R.C.S. The post is for a period of six months and falls vacant in February, 1952. Applications, giving full details of qualifications, age and experience, together with copies of three recent testimonials, should be forwarded to the Physician Superintendent as soon as possible. (5945)

Surgery—contd.

HALIFAX GENERAL HOSPITAL (425 beds)
Applications are invited for the post of
HOUSE SURGEON (Male or female)
Salary according to experience. Applications, stating age, nationality, qualifications and experience, with copies of three testimonials, to be addressed to the Secretary at the Royal Halifax Infirmary, Halifax. (5514)

HARROW HOSPITAL
(In association with Charing Cross Hospital)
HOUSE SURGEON (First post)
Required for service at Harrow Hospital (122 beds) on February 12, 1952. Resident post for six months. Applications, with the names of three referees, should be sent as soon as possible to George J. Jones, Secretary to the Board of Governors, Harrow Hospital, Roxeth Hill, Harrow, Middlesex. Telephone BYRon 2232. (5756)

HARTLEPOOLS HOSPITAL
Friar Street, Hartlepools (126 beds)
Applications are invited for the appointment of
HOUSE SURGEON (with obstetric duties)
vacant immediately. Salary and conditions in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (3929)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL
(170 beds—4 Residents)
Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
for a term of six months from February 8, 1952. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (5515)

HEREFORD GENERAL HOSPITAL (154 beds)
Herefordshire Hospital Management Committee
Applications are invited from registered medical practitioners for appointment of
HOUSE SURGEON
(Casualty, E.N.T. and Fracture Departments)
Applications, with copies of two recent testimonials, should be sent to the Secretary, Hospital Management Committee, County Hospital, Hereford. (8343)

HERTFORD COUNTY HOSPITAL
Hertford, Herts (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
HOUSE SURGEON (Male) (for General Surgery)
(First, second or third post held)
Six months' appointment. Salary is at the rate of £350 to £450 per annum, less £100 per annum for residential emoluments. Duties to commence immediately. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (5415)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
RESIDENT HOUSE SURGEON
Required at the above busy acute general hospital. Four other resident medical staff. Busy casualty and out-patient departments. Applications, stating age, qualifications and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (5705)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant now. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8754)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the Sutton Branch Hospital. Vacant February. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Admin. Officer. (5757)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE SURGEON to Senior Consultant General Surgeon
Post recognized for F.R.C.S. Applications immediately to the Secretary, H.M.C. (5445)

ISLE OF WIGHT GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE SURGEON
Royal I.W. County Hospital, Ryde, I.W., but may be required to undertake duty at any hospital in the Group in emergency. Vacant February 20, 1952. Salary £350, £400 or £450 per annum, according to experience. National terms of service. Applications, stating age, qualifications, experience and nationality, to H. Forshaw, Chief Administrative Officer, Hospital Management Committee, St. Mary's Hospital, Newport, I.W., as soon as possible. (5553)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton (64 beds)
(Yorkshire, West Riding)
(Full Consultant Staffs)
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
(Either sex)
at each of the above hospitals. First, second or third appointments. Now vacant. Six months' appointments. Salary in accordance with the National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley. (5287)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds)
South Warwickshire Hospital Group
HOUSE SURGEON (General Surgery)
Salary £350 per annum, less £100 per annum for residential emoluments, and in accordance with the terms and conditions of service of hospital medical staff Apply as soon as possible to Miss V. Wells, Assistant Sec., Warneford General Hospital. (5043)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners (male and female), for the post of
HOUSE SURGEON (Genito-Urinary Surgery)
The person appointed will attend the Cystoscopic Clinic at the above hospital and the Out-patient Clinic at the teaching hospital. The appointment is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Folkard, Secretary to the Committee. (4738)

LONDONDERRY, CO., NORTHERN IRELAND, BANN VIEW HOSPITAL, Coleraine
Coleraine and Portrush Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (Casualties and Gynaecology)
(Male or female)
HOUSE SURGEON (Male or female)
Salary £350 to £450 per annum, according to experience, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications and experience, with copies of two recent testimonials, should be sent as soon as possible to the Sec., Bann View Hospital, Coleraine Co. Londonderry, Northern Ireland. (5779)

LOUTH, LINCS, COUNTY INFIRMARY
(240 beds)
Grimsby Hospitals Management Committee
HOUSE OFFICER (Surgical)
Applications are invited for the above post, which will shortly become vacant at this busy general hospital. Salary £350 to £450 per annum, according to experience, and deduction of £100 per annum will be made in respect of residential emoluments. Applications, giving details of age, experience, nationality, together with names of two referees, to be addressed to the Administrative Officer at the hospital. (4112)

MAIDENHEAD HOSPITAL
St. Luke's Road, Maidenhead, Berks
HOUSE SURGEON
Required for post now vacant. Salary on national scale. Applications, stating qualifications (with dates) and experience, together with copies of testimonials, should be sent to the Administrative Officer. (5322)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the following appointment:
HOUSE SURGEON
Six months' appointment. Post vacant March, 1952. Salary at the rate of £350, £400 to £450, according to experience. A deduction at the rate of £100 a year is made in respect of board and lodging and other services provided. Applications should be forwarded as soon as possible to the Administrative Officer at the hospital. (5724)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy General Hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (4139)

MANCHESTER, 4, ANCOATS HOSPITAL
Mill Street
Applications are invited for the following House Officer Grade posts:
TWO HOUSE SURGEONS (General)
Applications, stating age and qualifications, together with two recent testimonials, should be received by the undersigned as soon as possible.—John H. Dafforne, General Superintendent and Secretary (Dept. B.M.J.). (5706)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
TWO HOUSE OFFICERS (General Surgery)
Applications are invited from registered medical practitioners for the above posts, one of which will be vacant on January 30, 1952, and the other on February 6, 1952. These posts are recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (5825)

MERTHYR GENERAL HOSPITAL (120 beds)
Merthyr and Aberdare Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
The appointment, which is resident, is for a period of six months. Salary in accordance with the terms of service issued by the Ministry of Health. The hospital is an acute general hospital with the usual special departments staffed by whole-time and visiting consultants. Applications, with full particulars, should be sent to the Secretary, Merthyr and Aberdare Hospital Management Committee, St. Tydfil's Hospital, Merthyr Tydfil. (5666)

MORECAMBE, QUEEN VICTORIA HOSPITAL
(100 beds)
Lancaster and Kendal Hospital Management Committee
RESIDENT HOUSE OFFICER (General Surgery)
Applications are invited from registered medical practitioners for the above appointment. The post is vacant now and is normally tenable for six months. Applications, stating age, qualifications, experience and nationality, along with the names of two referees, should be forwarded immediately to the Secretary, Lancaster and Kendal Hospital Management Committee, Royal Lancaster Infirmary, Lancaster. (5861)

NEWMARKET GENERAL HOSPITAL
Newmarket, Suffolk
Applications are invited for the post of
HOUSE SURGEON
Post now vacant. Duties include care of general surgical, E.N.T. and ophthalmic patients. The post is resident and available for six months. Applications, with copies of three recent testimonials, should be addressed to the Physician Supt. (5569)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant about February 1. The post also includes some gynaecology. The appointment is recognized for the Fellowship of the Royal College of Surgeons. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (4795)

NEWPORT, MON, ST. WOOLOS HOSPITAL
(379 beds)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant at the end of January. The Surgical Department of 62 beds consists of a full-time Consultant who works only at this hospital, a Registrar and this post. The appointment is recognized for the Fellowship of the Royal College of Surgeons. Apply, stating age, and the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (5068)

NORTHWOOD, MIDDLESEX, MOUNT VERNON HOSPITAL AND THE RADIUM INSTITUTE
Harefield and Northwood Group Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER
(General Surgery, Urology and Ophthalmology)
at Mount Vernon Hospital, Northwood, Middlesex
Post is vacant immediately. This post is recognized in general surgery for the final F.R.C.S. Applications, accompanied by testimonials, to be sent to the Secretary and House Governor. (5913)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Surgery—contd.

NORWICH, NORFOLK AND NORWICH HOSPITAL (440 beds)
HOUSE SURGEON (Male or female)
Post vacant now, recognized for Final F.R.C.S. examination requirements. Duties entirely general surgical. Salary £350 to £450, according to experience. Deduction £100 for residential emoluments. Applications, stating age, experience, qualifications, with names of two referees, to Secretary, Norwich, Lowestoft and Great Yarmouth H.M.C., St. Stephen's Road, Norwich. (5266)

NOTTINGHAM CITY HOSPITAL (833 beds)
HOUSE OFFICER (General Surgery)
Post vacant February 8, 1952. Conditions of service in accordance with terms issued by Ministry of Health. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be sent immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (5570)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence on or about January 31, 1952. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (General)
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference number A/779, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (5517)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Freedom Fields
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON (Second or third post)
Vacant March 1, 1952. Recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications, and experience, together with names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (5914)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON (Second or third post)
Vacant February 1, 1952. Recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications, and experience, together with names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (5915)

PONTEFRACT, WARDE-ALDAM HOSPITAL
South Elmsall
Pontefract and Castleford Hospital Management Committee (Yorks)
HOUSE SURGEON
Required for 32 surgical beds. Good experience in general and orthopaedic surgery. Salary £350 to £450, according to posts held. Applications to W. Bowring, Secretary, Great Northern House, Salter Row, Pontefract. (5323)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments:
Saint Mary's Hospital (773 beds)
HOUSE SURGEON. Vacant January 27.
Queen Alexandra Hospital (464 beds)
HOUSE SURGEON
Royal Portsmouth Hospital (205 beds)
HOUSE SURGEON. Vacant January 30.
Applications, stating age, experience and qualifications and names of two referees, should be submitted as soon as possible to the undersigned.—E. H. Hurst, 35, Grove Rd. South, Southsea. (5614)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)
Applications are invited for the post of
JUNIOR HOUSE SURGEON (Male or female)
resident at Blagrave Hospital, for a period of six months. Vacant immediately. Post provides opportunity for further medical studies. Salary £350 to £450, according to experience, less £100 for residential emoluments. Apply, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (8738)

PRESTON ROYAL INFIRMARY (400 beds)
GENERAL HOUSE SURGEON
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5554)

ROMFORD, ESSEX, VICTORIA HOSPITAL (91 beds)
RESIDENT HOUSE SURGEON
Applications are invited from registered medical practitioners (male) for the above post, vacant from February 29, 1952. Six months' appointment. Applications, stating age, nationality, qualifications (with dates), and experience, together with copies of three recent testimonials, or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5680A)

RUGBY, HOSPITAL OF ST. CROSS
HOUSE SURGEON for General Surgery including accidents and some orthopaedics
Required February 1. Applications, stating age, qualifications, together with copy testimonials, should be addressed to the Assistant Secretary, Hospital of St. Cross, Rugby. (5778)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid-Herts Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of a
HOUSE SURGEON (House Officer Grade)
for one of the two surgical teams. Recognized for the F.R.C.S. Post vacant January 13, and tenable for six months. Applications, together with the names of two referees, should be sent to the Secretary, Osterhills, Normandy Rd., St. Albans. (5337)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners (male or female) for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consultant Surgeon. The post is vacant immediately, tenable for six months, and recognized for the F.R.C.S. Salary as published by the Ministry of Health. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (9391)

SOUTH SHIELDS, GENERAL HOSPITAL (670 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (First or second post)
vacant now. The appointment will be for a period of six months. The post is recognized for the F.R.C.S. (London and Edinburgh). Applications to be addressed to the Medical Supt. (5759)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
HOUSE SURGEON
Required immediately. Post tenable for six months. Applications, with copies of testimonials, to be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (3039)

SOUTHEND-ON-SEA, GENERAL HOSPITAL
Applications are invited for the post of
RESIDENT HOUSE SURGEON
vacant February 1, 1952. Applications, etc., to reach the undersigned at the hospital by January 24, 1952.—J. C. Field, Secretary. (5872)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the following posts
TWO RESIDENT HOUSE OFFICERS
(General Surgery)
and
ONE RESIDENT HOUSE OFFICER
(General Surgery combined with Thoracic Surgery)
vacant February 1, 1952. The posts are recognized for F.R.C.S. examination. Applications, with copy testimonials, stating age, nationality and full details of previous appointments, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow, Gibson, Secretary. (5821)

SOUTHPORT AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Promenade Hospital (General)
HOUSE SURGEON (Resident)
Post now vacant.
Southport General Infirmary
TWO HOUSE SURGEONS (Resident)
Appointments vacant January 29 and February 8, 1952, respectively.
Apply immediately, with details of age, nationality, and qualifications, together with copies of two testimonials, to T. Crook, Secretary, Promenade Hospital, Southport. (5518)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Surgery)
vacant immediately. Post recognized for F.R.C.S. examination. Applications, with copy testimonials, should be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5822)

SUTTON-IN-ASHFIELD, NOTTINGHAMSHIRE KING'S MILL HOSPITAL
Applications are invited for the post of
HOUSE SURGEON
The hospital contains 115 surgical beds and the post offers facilities for practical training in general surgery and E.N.T. surgery. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Salary £350 to £450, according to previous posts held, with a deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary to the Committee. (4818)

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident appointment of
HOUSE SURGEON
Full particulars of age, qualifications and experience, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (5809)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Orsett Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
for General Surgery and Orthopaedic Departments
The appointment will be for six months in the first instance and the salary scale £400 to £450 per annum, according to experience, less £100 residential emoluments. Applications, together with copies of not more than three testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (5579)

TRURO, ROYAL CORNWALL INFIRMARY (General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the office of
HOUSE SURGEON
in an extremely active general hospital doing major surgery and with busy out-patient departments. Post vacant February 1, 1952. The appointment will be resident and tenable for six months. The salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, enclosing copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5267)

TRURO, ROYAL CORNWALL INFIRMARY (General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for
HOUSE SURGEON (Male or female)
for General Surgery and Gynaecology
Post vacant March 18, 1952. The successful candidate will be responsible jointly with the House Surgeon for the 74 beds allocated to the two specialties. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, qualifications and experience, and copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5268)

WALSALL HOSPITAL MANAGEMENT COMMITTEE
Walsall General Hospital (181 beds)
TWO HOUSE SURGEONS
Required at the above hospital. Posts vacant immediately. Apply Secretary.
Manor Hospital (333 beds)
HOUSE SURGEON
required at the above hospital. Post vacant February 1, 1952. Apply Administrative Officer. These are busy General Hospitals within easy reach of Birmingham and Wolverhampton, offering excellent experience in all branches of general surgery. (4900)

Surgery—contd.

WARRINGTON GENERAL HOSPITAL (372 beds)
There are immediate vacancies for
TWO RESIDENT HOUSE SURGEONS
The hospital is modern and offers excellent experience in general surgery. Salary and conditions in accordance with national scales.—H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington. (4667)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Second or third post)
Vacant end of February. Salary according to National Health Service scale. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent to the undersigned.—Cyril Hopkinson, Administrator. (5862)

WEST BROMWICH, HALLAM HOSPITAL
Hallam Street
West Bromwich and District Hospitals Management Committee, Group No. 18
TWO HOUSE SURGEONS
The above posts are resident and are at present vacant. The hospital is recognized by the Royal College of Surgeons of England. Salaries, terms and conditions in accordance with the Ministry of Health regulations. Applications, accompanied by copies of two recent testimonials, to the Medical Sec., Hallam Hospital, West Bromwich. (5790)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL
HOUSE SURGEON in General Surgery
Required for post vacant January 22, 1952. Post recognized for F.R.C.S. Salary on national scale. Applications, stating age, experience, qualifications (with dates), nationality, together with copies of recent testimonials, should be sent to the Administrative Officer. (5667)

WOLVERHAMPTON, NEW CROSS HOSPITAL
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (General Surgery)
Vacant January 31. Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (5834)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (General Surgery)
Vacant January 31.
HOUSE OFFICER (General Surgery)
Vacant February 16.
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (5831)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the following appointment:
HOUSE SURGEON (General Surgery) now vacant. This appointment is tenable for six months and is in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of testimonials, should be sent to the Secretary. (8077)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital, to commence immediately. Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (5668)

WORTHING GROUP HOSPITAL MANAGEMENT COMMITTEE
Worthing Hospital and Courtlands Recovery Hospital (273 beds—5 Resident Officers)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
Applications to Administrative Officer, Worthing Hospital, Lyndhurst Road, Worthing, stating age, qualifications (with dates), nationality and details of experience, with two testimonials.—A. V. Oakton, Secretary Administrator. (4721)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full consultant staff)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
which is vacant immediately and recognized under F.R.C.S. regulations. Salary £350 per annum for first post, £400 for second post, £450 for third post, less £100 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (5760)

CASUALTY

YORK, CITY HOSPITAL
(Modern general hospital of 265 beds with full consultant staff)
Applications are invited from registered medical practitioners for the post of
CASUALTY OFFICER and ORTHOPAEDIC OFFICER
The post is graded Junior Hospital Medical Officer (salary £700 by £50 to £1,000 per annum). Residence is available for which a charge of £153 per annum will be made. Arrangements can be made for the person appointed to be non-resident or partly resident. Post vacant immediately. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (5761)

HACKNEY HOSPITAL, E.9 (797 beds)
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
for Casualty Officer duties
Post tenable for twelve months. Salary is at the rate of £670 per annum, less £130 per annum for residential emoluments. Applications, together with copies of three testimonials, should be sent to the Secretary, Hackney Group Hospital Management Committee, Hackney Hospital, E.9, by not later than January 21, 1952. (5810)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
Edmonton Group Hospital Management Committee
CASUALTY OFFICER
Duties mainly surgical casualties (including fractures) and out-patients. Over 2,500 minor operations a year. Salary £670 per annum, non-resident. Six months' appointment, with possible extension to one year. Vacant March 1. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials or names of two referees, to Secretary of hospital by Jan. 26 (5863)

ST. MARY'S HOSPITAL, W.2
Applications are invited from suitably qualified practitioners for the post of
CASUALTY SURGEON
(Resident or non-resident—preference to be stated)
Candidates must have held an appointment as House Surgeon at this hospital, or at another general hospital approved by the Board of Governors. The appointment is for a first period of six months as from March 1, 1952, with remuneration at the rate of £670 per annum, i.e., graded Senior House Officer. Applications, stating nationality, date of birth, permanent address, qualifications (with dates) and details of previous appointments, together with the names and addresses of three referees, should reach the undersigned by Jan. 31.—Alan Powditch, House Governor. (5946)

ST. OLAVE'S HOSPITAL (323 beds)
Lower Road, Rotherhithe, S.E.16
Bermondsey and Southwark Hospital Management Committee
Applications are invited for the appointment of a
SENIOR HOUSE OFFICER (Casualty)
Salary at the rate of £670 per annum. The appointment will be initially for a period of one year. Applications, with copies of testimonials, to be submitted within seven days of this publication to the Secretary, Bermondsey and Southwark Hospital Management Committee, New Cross General Hospital, Avonley Road, S.E.14, quoting reference B.M.J. (5878)

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL
SENIOR HOUSE OFFICER
(Accident and Orthopaedic Service)
Vacant now. Duties include main charge of the casualty department under a visiting consultant together with those of Senior Resident. The accident and orthopaedic department of the area is centred on this hospital. Salary £670 per annum, less a deduction of £140 for residence, etc. Applications, with two testimonials, to the Secretary-Superintendent as soon as possible. (5708)

BILLERICAY, ST. ANDREW'S HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
at St. Andrew's Hospital, Billericay, for the Casualty, Orthopaedic and General Surgery Departments. Resident. The appointment will be for six months in the first instance, and the post is vacant immediately. Applications, together with copies of not more than three testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (7747)

DARLINGTON MEMORIAL HOSPITAL
CASUALTY OFFICER (S.H.O.)
Applications are invited from male or female practitioners with experience for the above post. Salary £670 per annum, deduction of £150 per annum for full residential emoluments. The post is tenable for twelve months and is renewable annually. Apply, with references, stating age and experience, to the undersigned.—G. W. Beckwith, Secretary. (8990)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (5816)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds)
SENIOR HOUSE OFFICER
(Casualty and Orthopaedic Surgery Department)
Required March 1. Salary £670 per annum, less deduction of £150 for board residence. One year tenure first instance. Post recognized for F.R.C.S. Busy out-patient department. Full consultant staff. Duties include control of four other residents. Applications, with testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (5710)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE-OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary (5418)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Chairman: James Fenton, CBE, MD.

MEDICAL INSURANCE AGENCY

Hon. Secretary: Henry Robinson, MD, DL, JP.

FAMILY PROVISION

- Superannuation under the N.H.S. Regulations provides reasonable PENSION
- but NEGLIGIBLE FAMILY PROTECTION.
- Do you appreciate the limitations?
- We specialize in these matters and have policies to suit every requirement.

General Manager, A. N. Dixon, ACII

Unbiased Advice **Direct Saving** **All surplus to Medical Charities**

LEEDS: 20/21 Norwich Union Bldgs., City Sq
MANCHESTER: 33 Cross Street.
BIRMINGHAM: 154 Great Charles Street.

CHIEF OFFICE: B.M.A. House, Tavistock Sq., London, W.C.1.
Telephone: Euston 5561-2-3.
EDINBURGH: 6 Drumsheugh Gardens
NEWCASTLE-UPON-TYNE: 16 Saville Row.

GLASGOW: 234 St. Vincent Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.

Casualty—contd.

HUDDERSFIELD ROYAL INIFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
RESIDENT CASUALTY OFFICER
Required to commence duties immediately. Senior House Officer grade. Salary in accordance with the terms and conditions of service for hospital medical and dental staff, £670 a year, less £130 in respect of residential emoluments. Applications, together with copies of three recent testimonials, to be sent to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (5520)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds)
South Warwickshire Hospital Group
Applications are invited for the post of
RESIDENT CASUALTY OFFICER
This incorporates the House Surgeon to the Orthopaedic and Traumatic Injury Department and a small amount of V.D. work. The salary is that of Senior House Officer, i.e., £670 per annum. Terms and conditions of service in accordance with those laid down for hospital medical staff. Apply as soon as possible to Miss V. Wells, Assistant Secretary, Warneford General Hospital. (5045)

LIVERPOOL, ROYAL, CHILDREN'S HOSPITAL
United Liverpool Hospitals
Applications are invited for an appointment as
SENIOR CASUALTY OFFICER
(Resident or non-resident)
at the City Branch of the Royal Liverpool Children's Hospital for the period to December 31, 1952. The post is assessed in the Senior House Officer grade. Applicants should have had previous experience in paediatrics. Applications should be made on forms which may be obtained from the undersigned, to whom they should be returned by January 26, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (5722)

NOTTINGHAM, GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Casualty)
Duties to commence as soon as possible. Salary £670 per annum, less £150 emoluments. Terms and conditions of service as published by the Ministry. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (4819)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for the appointment of
SENIOR HOUSE OFFICER
to Casualty and Fracture Department
Vacant immediately. Salary at £670 per annum. Terms and conditions in accordance with the National Health Service terms. The appointment will be for a period of 12 months and is renewable. Applications, stating age, nationality, qualifications, and experience, together with the names of three referees, to be sent to the undersigned.—Arthur R. Cash, Sec., 7, Nelson Gardens, Devonport. (5916)

PORTSMOUTH, ST. MARY'S HOSPITAL
(773 beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Casualty Dept.)
Vacant March 1, 1952. Applications, stating age, experience, and qualifications, and names of two referees, should be submitted as soon as possible to the undersigned.—E. H. Hurst, 35, Grove Road South, Southsea. (5640A)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties, which include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROTHERHAM, DONCASTER GATE HOSPITAL
(155 beds)
SENIOR HOUSE OFFICER
(Casualty and Orthopaedic)
Commencing salary £670 per annum, less £140 per annum residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (5615)

MEMORIAL HOSPITAL
Shooters Hill, Woolwich, S.E.18
CASUALTY OFFICER
Vacant mid-January. Six months' appointment. Salary £350 to £450 per annum, less £100 per annum for residence. Apply to Secretary. (5762)

PRINCE OF WALES'S GENERAL HOSPITAL
N.15 (218 beds)
Tottenham Group Hospital Management Committee (Group 4)
Applications are invited from registered medical practitioners for the appointment of
RESIDENT CASUALTY OFFICER (Third post)
for a period of six months. Application form from the Secretary, Tottenham Group Hospital Management Committee, The Green, N.15. (5870)

ST. JOHN'S HOSPITAL
Lewisham, London, S.E.13
Lewisham Group Hospital Management Committee
Applications are invited for the post of
RESIDENT CASUALTY OFFICER
(House Officer Grade)
vacant on January 15, 1952, and tenable for six months. Applications, stating age, qualifications and experience, with copies of three recent testimonials or names of referees, should be addressed to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (5644)

BANBURY, HORTON GENERAL HOSPITAL
(170 beds)
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
Required immediately. Post tenable six months in first instance. Salary from £350, according to experience. Applications, stating age, nationality, qualifications and names of two referees, to the Secretary, Hospital Management Committee, Horton General Hospital, Banbury, Oxon. (4100)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
HOUSE OFFICER (Casualty)
Required for six months, to commence duty on April 1, 1952. Forms of application may be obtained from the undersigned, and should be returned not later than January 28, 1952.—N. R. Winwood, House Governor. (5836)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
CASUALTY HOUSE SURGEON
(including care of Fracture Cases)
Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (5811)

BURY ST. EDMUND'S, WEST SUFFOLK GENERAL HOSPITAL (289 beds)
West Suffolk Hospital Management Committee
HOUSE SURGEON
for Casualty and Orthopaedic duties
Post recognized for Fellowship of Royal College of Surgeons. National Health Service terms and conditions of service and salary apply. Appointment initially for six months. Post vacant mid-February. Applications, including the names of three referees, to the House Governor. (5631)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
CASUALTY OFFICER (House Officer)
Required immediately. National salary and conditions.—Apply M. H. Boone, Secretary. (5645)

DARTFORD, WEST HILL HOSPITAL
HOUSE OFFICER (Casualty)
Required immediately by the Dartford Hospital Management Committee. Salary in accordance with terms and conditions of service of hospital medical and dental staff. The hospital is a large general hospital, affording opportunities for wide experience, and is within easy reach of London. Applications, stating age, qualifications, experience and the names of two persons to whom reference may be made, should be sent to the Surgeon Superintendent, The West Hill Hospital, Dartford, Kent. (5709)

HASTINGS, ROYAL EAST SUSSEX HOSPITAL
(150 beds)
Hastings Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Post vacant January 17, 1952. National scales of salary. Applications to the Administrator at the hospital. (5669)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for residential emoluments. The post will be tenable for six months and terminable by one month's notice either side. Forms of application from the Administrative Officer. (6325)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN
Busy Casualty Department. Good scope for medical experience. Applications immediately to the Secretary, H.M.C. (5446)

MAIDENHEAD HOSPITAL (100 beds)
St. Luke's Road, Maidenhead, Berks
HOUSE SURGEON to the Accident Department
Required immediately. Salary authorized at £50 per annum higher than the standard rate. Applications, stating age, qualifications (with dates), and experience, together with copies of two testimonials, should be sent to the Administrative Officer. (5320A)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Casualty and Orthopaedic)
Applications are invited from registered medical practitioners for the above post, which is vacant on February 2, 1952. The post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (5826)

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
CASUALTY HOUSE SURGEON
Post vacant January 21, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance (6447)

PONTEFRACT GENERAL INFIRMARY
Pontefract and Castleford Hospital Management Committee
RESIDENT CASUALTY OFFICER
(Second or third post)
Salary £400 or £450. Vacant now. An appropriate deduction will be made for emoluments. *Applications, with names of two referees, to be* forwarded to the Secretary of the Committee, Great Northern House, Salter Row, Pontefract, Yorks.—W. Bowring, Secretary. (7495)

PRESTON ROYAL INFIRMARY (400 beds)
CASUALTY OFFICER (House Officer grade)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5917)

ST. ALBANS CITY HOSPITAL (425 beds)
Applications are invited from registered medical practitioners for the appointment of
CASUALTY OFFICER (House Officer Grade)
Post vacant February 1, 1952, and tenable for six months. Applications, together with the names of two referees, should be sent to the Secretary, Osterhills, Normandy Road, St. Albans. (5338)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (Junior Casualty Officer)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (5832)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

PUBLIC HEALTH

(See Important Notice page 25)

MIDDLESEX COUNTY COUNCIL
County Health Department
ASSISTANT MEDICAL OFFICER (Whole-time)
Required initially in Area 3 (Hornsey and Tottenham). Duties include supervision of health of young children attending infant welfare clinics, toddlers clinics and day nurseries, with routine medical inspections at schools and attendance at clinics for school children. Should possess D.P.H. or equivalent qualification. Salary £850 by £50 to £1,150 per annum inclusive. Established. Subject to medical assessment and prescribed conditions. Applications (no forms), stating age, qualifications, experience, two referees, to Area Medical Officer, Local County Offices, Somerset Road, Tottenham, N.17, by January 26 (quoting K.310 B.M.J.). Canvassing disqualifies.—C. W. Radcliffe, Clerk of the County Council. (5868)

Public Health—contd.

BOLTON, COUNTY BOROUGH OF

Three vacancies exist for

ASSISTANT MEDICAL OFFICERS OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICERS OF HEALTH

and applications are invited from suitably qualified registered medical practitioners for such vacancies. The duties will be mainly in connection with the Maternity and Child Welfare Service and the School Health Service, but the persons appointed will be expected to carry out such duties as may be allotted to them by the Medical Officer of Health. The possession of a D.P.H. or a D.C.H. is desirable, but not essential. The salary will be on the appropriate step of the scale, £850 rising by annual increments of £50 to £1,150 per annum, according to experience and qualifications. The appointments will be subject to the provisions of the Local Government Superannuation Acts, and the successful candidates will be required to pass a medical examination. Appointments will be terminable by one month's notice on either side. There are no forms of application, but further particulars can be obtained from the Medical Officer of Health, Civic Centre, Bolton. Applications, giving full particulars of age, qualifications, and experience, and the names and addresses of three referees, should be forwarded to the undersigned not later than January 24, 1952.—Philip S. Rennison, Town Clerk, Town Hall, Bolton. (5521)

CAERNARVONSHIRE COUNTY COUNCIL

ASSISTANT COUNTY AND SCHOOL MEDICAL OFFICER

Applications are invited for the above post from those possessing the Diploma or Certificate in Public Health. The salary scale will be £850 by £50 to £1,150, and the commencing salary on this scale may be determined by the length of service in a similar post. Opportunities are available for gaining experience in public health administration. Travelling and subsistence allowances will be paid in accordance with national scales. A knowledge of Welsh is desirable. Further information may be obtained from the County Medical Officer of Health. Applications, giving complete particulars of training and experience, together with copies of two recent testimonials and the names of two referees, should be sent to the undersigned by not later than January 31, 1952.—Gwilym T. Jones, Clerk of the County Council, County Offices, Caernarvon. (5866)

NORTHUMBERLAND COUNTY COUNCIL
School Health Service

Applications are invited from registered medical practitioners for the post of

ASSISTANT SCHOOL MEDICAL OFFICER
(Male or female)

Preference will be given to candidates who have experience in the diseases of children, and to those who have been approved by the Minister of Education for the purpose of the ascertainment of educationally subnormal pupils. The salary will be at the rate of £850 per annum, rising by annual increments of £50 to a maximum of £1,150 per annum. Previous experience may be taken into consideration in determining the commencing salary. Travelling expenses and subsistence allowances, in accordance with the Council's scale, will be paid. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, as amended by the National Health Service (Superannuation) Regulations, and the successful candidate will be required to pass a medical examination. Forms of application, which may be obtained from Dr. J. B. Tilley, School Medical Officer, County Hall, Newcastle-upon-Tyne, 1, should be returned not later than January 26, 1952. —E. P. Harvey, Clerk of the Council, County Hall, Newcastle-upon-Tyne, 1. (5402)

NOTTINGHAM, CITY OF
Health Department

Applications are invited from qualified medical practitioners for the post of

ASSISTANT MEDICAL OFFICER OF HEALTH

The duties will be chiefly in connexion with maternity and child welfare, together with any other duties allocated by the Medical Officer of Health. Preference will be given to candidates possessing higher qualifications and the salary attached to the appointment will be £850 by £50 to £1,150 per annum. The post will be subject to three months' notice on either side at any time. The successful candidate will be required to pass a medical examination under the provisions of the National Health Service (Superannuation) Regulations or the Local Government Superannuation Act, 1937. Conditions of appointment and forms of application may be obtained from the undersigned to whom they must be returned, together with the names of two persons to whom reference may be made, not later than January 26, 1952.—T. J. Owen, Town Clerk, The Guildhall, Nottingham. (5671)

GLAMORGAN EDUCATION AUTHORITY
Rhondda Urban District Council
Committee for Education

Applications are invited from registered medical practitioners for appointment as

MALE ASSISTANT MEDICAL OFFICER

under the supervision of the District School Medical Officer at a salary of £850 per annum, rising by annual increments of £50 to £1,150 per annum. Preference will be given to candidates holding the D.P.H. or D.C.H., and experience in paediatrics will be an advantage. The successful candidate, if in need of housing accommodation and not already a resident of the Rhondda Urban Area, may be offered the tenancy of a Council house. Forms of application and conditions of appointment may be obtained from the District School Medical Officer, Tydfil House, Pentre, Rhondda, by whom completed applications should be received as soon as possible.—D. J. Jones, Clerk of the Council. (5867)

SOMERSET COUNTY COUNCIL

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

Applications (men or women) are invited for the above appointment. The salary is £850, rising by £50 to £1,150 per annum, but in fixing the commencing salary the Council will have regard to previous experience. Possession of the D.P.H. or D.C.H. would be an advantage. The duties will be mainly concerned with the services of school medical inspection and maternity and child welfare. Possession of a motor car is essential. Travelling allowance will be paid in accordance with the county scale. The post is superannuable and subject to a satisfactory medical examination. Applications should be made forthwith, on forms to be obtained from the undersigned.—J. F. Davidson, County Medical Officer of Health, County Hall, Taunton. (5670)

STOCKTON-ON-TEES, BOROUGH OF

Applications are invited from duly qualified medical practitioners for the position of

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER

The salary will be at the rate of £850 per annum, rising by annual increments of £50 to £1,150 per annum. The duties of the appointment will be principally of a clinical nature and will concern the school health service and the general work of the department. Preference will be given to candidates who hold a Diploma in Public Health or a Diploma in Child Health. The person appointed will not be allowed to engage in private practice and the appointment will be subject to two months' notice. Applications, giving particulars of age, qualifications, experience and present and previous appointments, together with the names of two persons to whom reference may be made, endorsed "Assistant Medical Officer of Health," must be received by the undersigned not later than January 20, 1952.—John B. Haworth, Town Clerk, Barclays Bank Chambers, Stockton-on-Tees. (5572)

SWINDON, BOROUGH OF

DEPUTY MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER

Applications are invited from duly qualified medical practitioners holding a Diploma in Public Health or similar qualification for the appointment of Deputy to the Medical Officer of Health and Borough School Medical Officer who is also Area Medical Officer under the Wiltshire County Council. The salary and conditions of service will be in accordance with the recent award of the Industrial Court. The present salary is at the rate of £1,034 per annum, rising by four increments of £50 to a maximum of £1,234 per annum. Assistance will be given in the provision of housing accommodation if required. Forms of application and further particulars of the post may be obtained from the undersigned with whom applications should be lodged not later than Saturday, January 19, 1952.—D. Murray John, Town Clerk, Civic Offices, Swindon. (5256)

INDUSTRIAL APPOINTMENTS

"MEDICAL ADVISER ON PUBLICITY" . . . The advertisers (Box No. 1924, B.M.J., Dec. 29, 1951), wish to thank the many applicants for the post and to announce that after careful consideration to each application an appointment has now been made.

NORTH WESTERN GAS BOARD.—APPLICATIONS are invited for the new post of **Chief Medical Officer** to the Board at a commencing salary of £2,300 per annum. Applicants should have experience of industrial medicine and should possess a higher qualification. The successful candidate may be required to pass a medical examination and to subscribe to such superannuation scheme as the Board may adopt. Detailed applications, including the names of three referees, should reach the Secretary, North Western Gas Board, 60, Whitworth Street, Manchester, 1, by January 21, 1952. A brief outline of the scope of this post may be obtained on application to the above address. (5767)

OVERSEAS

ALBANY HOSPITAL, Albany, N.Y.

Internships and residencies available in Albany Hospital, Albany, New York, 750-bed general hospital, directly associated with Albany Medical College. House officers receive appointments in medical school. Salaries range from a minimum of $300 a year for interns to $1,400 a year for residents. Details on request. (9695)

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

ALBANY HOSPITAL, Albany, N.Y.

Residency in tuberculosis available at Albany Hospital, Albany, New York, associated with Albany Medical College, beginning July 1, 1952, for a period of twelve months. Salary ranges from $1,800 to $2,400. (9920)

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

CAMEROONS DEVELOPMENT CORPORATION
Cameroons under British Trusteeship, West Africa

Vacancies exist for

MEDICAL OFFICERS

in the service of the Cameroons Development Corporation, established by statute for the development of certain plantation areas in the British Cameroons. The appointment in the first instance will be for one tour of 12 to 24 months, with probability of renewal if service satisfactory. Candidates should have a good experience of general medical and health work, and preference will be given to those who either possess a diploma in tropical medicine, or have had tropical experience. The work chiefly consists of general medical and health supervision of all personnel in large plantations, but offers opportunity for surgery. First-class passages are provided to and from the Cameroons for officers and their wives, together with free furnished accommodation during residence in the Cameroons. A reasonable amount of free lighting and fuel is also provided, and necessary transport. An outfit allowance of £80 is payable on first appointment. The salary is at the rate of £1,310 rising by increments to £1,710 per annum over a period of 10 years; initial salary according to experience. Children's allowances are paid up to a maximum of two, but children's passages are not paid. Officers of the Corporation are required to contribute 10% of their salary to the Provident Fund, the Corporation contributing a like amount. Applications, giving full particulars in regard to qualifications and experience, together with copies of testimonials, all in triplicate, should be sent to the Corporation's London agents: Rubber & Mining Agencies, Ltd., 52, Leadenhall Street, London, E.C.3. Candidates should have performed their National Service. (5919)

DEPARTMENT OF HEALTH, NEWFOUNDLAND

The Newfoundland Department of Health requires internes for the 450-bed General Hospital situated in the capital city of St. John's. This hospital is approved for interneship by the Canadian Medical Association, and the rotating interne arrangement guarantees services in General Surgery, General Medicine, and in at least two of Orthopaedics, Paediatrics, Radiology, and Ear, Eye, Nose, and Throat. There is also a one month affiliation in Obstetrics.

These posts carry a salary of $1,800.00 per annum (Canadian funds) together with full maintenance at the institution. Full cost of transportation to Newfoundland is paid by the Department of Health and the cost of return transportation is paid at the end of one year's satisfactory service. Interested applicants should apply to the Medical Superintendent, General Hospital, St. John's, Newfoundland, Canada.

Overseas—contd.

VANCOUVER GENERAL HOSPITAL
Vancouver, Canada
ASSISTANT RESIDENT and SENIOR RESIDENT in Paediatrics

Required for one year commencing July 1, 1952. Honorarium :—Assistant $80. Senior Resident $150 monthly, both plus full maintenance.

ASSISTANT RESIDENT and ASSOCIATE RESIDENT in Otorhinolaryngology

Required for one year, commencing July 1, 1952, or sooner. Honorarium :—Assistant $80, Associate $125, both plus full maintenance.

Address inquiries to Secretary, Interne Committee, Vancouver General Hospital, Vancouver, Canada. (5781)

HIS MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom, with one or more years' experience after qualification, are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH

for general medical and health duties. A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of *one tour of three years in the Malayan* medical service. Appointment is available (a) on probation for permanent establishment, (b) on employment from the National Health Service, and (c) on short term contract with gratuity. **(a) Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale There is also a cost-of-living allowance at varying rates, according to family circumstances, subject *to maximum of £336 per annum for single men* and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in His Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g. F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). **(b) National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malayan salary on leaving Malaya at the end of their engagements. *Emoluments as under (a) including* incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their Colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. **(c) Contract terms.** The contract will be for three years' resident service, renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a) including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. *Doctors on contract may be considered* for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e. those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates which are lower than those in the United Kingdom Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/242/51). (5187)

UNIVERSITY APPOINTMENTS

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL
Department of Obstetrics and Gynaecology
SENIOR LECTURER

Required on April 1, 1952. Salary dependent on experience but not less that £1,250 per annum with family allowance and superannuation. Applications (six copies) to the Dean's Office, St. Thomas's Hospital Medical School, S.E.1, by Jan. 25. (5812)

LONDON HOSPITAL MEDICAL COLLEGE
(University of London)

Applications are invited from graduates, who are medically qualified, for the post of

LECTURER IN ANATOMY

Initial salary, within scale £800 to £1,100, will be dependent on qualifications and experience. The successful candidate will be eligible for membership of the F.S.S.U. and family allowances of £50 per annum for each child. Applications (three copies) together with the names of two referees, must be received not later than January 31, 1952, by the Secretary, The London Hospital Medical College, Turner Street, E.1. (5864)

UNIVERSITY OF LIVERPOOL

Applications are invited for the post of

WHOLE-TIME RESEARCH ASSISTANT IN CHILD HEALTH

from persons holding a medical qualification and possessing some experience of paediatrics. The appointment will be for one year at a salary of £1,000 per annum. Laboratory and clinical facilities will be provided in the Department of Child Health. Applications, stating age, qualifications and experience, together with proposed subjects of research and the names of three referees, should be received not later than February 16, 1952, by the undersigned, from whom further particulars may be obtained.—Stanley Dumbell, Registrar. (5524)

UNIVERSITY OF MANCHESTER

Applications are invited for the post of

FULL-TIME RESEARCH ASSISTANT IN ANAESTHESIA

from persons possessing both clinical and research experience. Salary not less than £1,300 per annum. Membership of F.S.S.U. and children's allowance scheme. Further particulars from the Registrars, the University, Manchester, 13, to whom all applications must be submitted not later than January 31, 1952. (5428)

WELSH NATIONAL SCHOOL OF MEDICINE
(University of Wales)

Applications are invited for the post of

SENIOR LECTURER IN THE MEDICAL UNIT

The person appointed will be required to assist in all the work of the Professorial Department of Medicine as directed by the Professor, and to take charge of hospital medical patients in his absence. The unit has 40 beds and good laboratory accommodation. The post is full-time and the salary will be within the scale £1,500 by £100 to £2,000 per annum. Schemes of superannuation and family allowances apply to the appointment. Further particulars may be obtained from the undersigned, by whom applications should be received not later than Thursday, February 14, 1952.—F. Dodsworth, Secretary, 34, Newport Road, Cardiff. (5764)

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

PERSONAL

SURGICAL STOCKINGS, COMPRI-VENA (1937) LTD. Where leg support is prescribed in the treatment and after-care of varicose veins Compri-Vena give meticulous attention to instructions. Full particulars on request.—3, Ladbrook Road, Notting Hill Gate, W.11 BAYswater 8088.

AIR AMBULANCE TRANSPORT, MORTON Air Services, Ltd., Croydon Airport and Bristol Airport.—Croydon 7171-3. Bristol 26751. Night, Wallington 7832.

NOTICES

THE ROYAL MEDICAL FOUNDATION OF Epsom College has available, from time to time, pensions and grants of varying amounts for medical practitioners, widows and spinster daughters of varying ages, as well as scholarships, exhibitions and grants for boys and girls of public school age. Full information and forms of application may be obtained from the Secretary's office, Epsom College, Surrey. (5768)

APPLICANTS ARE ADVISED NOT TO SEND original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

EDUCATIONAL

F.R.C.S. POSTAL COURSES FOR PRIMARY AND FINAL EDIN. and ENG. RECIPROCAL EXAMS. Full details also of Private Tuition.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

D.OBSTET.R.C.O.G.: COURSE OF LECTURES for March examination commencing shortly. London.—Box 2011, B.M.J.

PRIMARY F.R.C.S., PHYSIOLOGY AND Pathology. Short course, February to April, in London by experienced teachers. C.N.S., Respiration, Circulation, General Pathology. Telephone: PRI 8266.—Box 152, B.M.J.

D.P.M., M.D., THESES. SPECIAL PERSONAL Postal Tuition by late D.P.M. Examiner. Modern courses. Many successes. Expert aid for all theses by F.R.C.P. A complete thesis service.—Box 101, B.M.J.

M.B. AND CONJOINT. REVISION COURSE in Physiology in London by experienced teacher, late afternoons. Tel.: PRI 8266.—Box 153, B.M.J.

GENERAL SURGERY (F.R.C.S.) WEEK-END: All day Saturday and Sunday, January 26 and 27. Queen Mary's Hospital for the East End, Stratford. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

GENERAL MEDICINE (M.R.C.P.): FEBRUARY 4 to March 15, 5 to 8.30 p.m. daily. Lectures, clinical cases, pathology, X-rays. Whittington Hospital (Archway Wing). Limited. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

INSTITUTE OF DENTAL SURGERY
(University of London)
Eastman Dental Hospital, Gray's Inn Road, London, W.C.1

A full-time postgraduate course in dental anaesthesia for medical practitioners will be held for one week from February 25 to March 1, 1952. The course will be limited to eight members, and priority will be given to candidates for the Diploma of Anaesthetics. The fee for the course will be £5. Further particulars and forms of application may be obtained from the Dean. (5920)

WEEK-END COURSE—HEALTH IN THE FACTORY. An intensive practical course for medical practitioners and nurses engaged or interested in industrial health, will be held at the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1 (Tel.: MUSeum 3041), on Saturday and Sunday, February 9 and 10, 1952. Fee one guinea. Apply to the Registrar for further information. (5921)

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides COACHING for all Medical Examinations, D.A., D.P.M., D.O.M.S., D.L.O., D.C.H., D.M.R.D. and D.M.R.T., M.R.C.P., F.R.C.S., M.D. thesis, and all qualifying exams. by a staff of highly qualified Tutors, Honoursmen and Gold Medallists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes, 1937-1950; M.D.Lond., 62; M.B., B.S.Lond., Final, 133, F.R.C.S.Eng., Primary, 212; F.R.C.S.Eng., Final, 173; M.R.C.P.Lond., 209; M.R.C.S., L.R.C.P., Final, 303; D.A., 177; D.C.H., 135; M. and D.Obst.R.C.O.G., 232; D.O., C.P.H., D.P.H., D.L.O., D.P.M., F.R.C.S.Edin., many successes. Assistance with M.D. Thesis. Prospectus, list of tutors, etc., on application to Dr. G. E. Oates, University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

UNIVERSITY OF MANCHESTER

Diploma in Medical Radiotherapy, R.C.P. and S.Eng.

A Course of instruction in Radiotherapy will begin at the CHRISTIE HOSPITAL and HOLT RADIUM INSTITUTE, MANCHESTER, on Wednesday, April 16. This will continue until the end of January, 1953, after which students must still spend a further 15 months working either in the Holt Radium Institute or in another approved hospital. Inclusive fee £52. Lectures and practical demonstrations will be given in the following subjects:

Principles and Practice of Radiotherapy	DR. RALSTON PATERSON and Radiotherapy Staff
Physics as Applied to Radiotherapy	W. J. MEREDITH and Physics Staff
Radiobiology and Pathology	DR. E. PATERSON, DR. W. M. DALE, and DR. H. RUSSELL

There are some Junior appointments available at the Christie Hospital under the National Health Service for which successful candidates would be eligible to apply. Special consideration will be given to candidates possessing a higher qualification in medicine and surgery (for whom posts as Registrars may be available). Further information may be obtained from the Director, Holt Radium Institute, Wilmslow Road, Manchester, 20. Applications must be sent to the Dean of the Medical School, University of Manchester, and all applicants will be required to attend for interview. (5765)

EDUCATIONAL

COURSE IN THERAPEUTICS
AT THE
INSTITUTE OF ORTHOPAEDICS

FEBRUARY 18–26, 1952

MONDAY, FEBRUARY 18—TOWN SECTION

10.00–11.00	Rest	MR. H. J. BURROWS
11.15–12.30	Movement	MR. H. J. BURROWS
12.45	Lunch	
2.00–3.00	Manipulation	MR. R. Y. PATON

TUESDAY, FEBRUARY 19—COUNTRY SECTION

10.00–11.00	Orthopaedic Appliances	MR. J. A. CHOLMELEY
11.15–12.15	Orthopaedic Appliances	MR. W. TUCK
12.45	Lunch	
2.00–4.00	Clinical Demonstration	MR. H. J. SEDDON
4.00	Tea	

WEDNESDAY, FEBRUARY 20—COUNTRY SECTION

10.00–11.00	Plaster-of-Paris Technique	MR. F. J. HEDDEN
11.15–12.30	Chemotherapy	DR. F. H. STEVENSON
12.45	Lunch	
2.00–3.45	Clinical Demonstration	MR. A. T. FRIPP
4.00	Tea	
4.15–5.15	Chemotherapy	DR. C. H. LACK

THURSDAY, FEBRUARY 21—TOWN SECTION

10.00–12.30	Principles in Treatment of Fractures	MR. D. TREVOR
12.45	Lunch	
2.00–3.00	Operative Exposure of Bones and Joints	MR. J. I. P. JAMES
3.00–4.00	Operative Surgery of the Hand	MR. J. I. P. JAMES
4.00	Tea	
4.15–5.15	Plastic Surgery in Orthopaedics	MR. D. N. MATTHEWS

FRIDAY, FEBRUARY 22—TOWN SECTION

10.00–12.30	Use and Abuse of Metal for Internal Fixation	MR. K. I. NISSEN
12.45	Lunch	
1.45–2.45	Arthodesis	MR. V. H. ELLIS
3.00–4.00	Arthroplasty	MR. P. H. NEWMAN
4.00	Tea	

SATURDAY, FEBRUARY 23—TOWN SECTION

10.00–11.30	Plastic Surgery in Orthopaedics	MR. D. N. MATTHEWS

MONDAY, FEBRUARY 25—TOWN SECTION

10.00–12.00	Clinical Demonstration (Nerve injuries clinic)	MR. D. M. BROOKS
12.45	Lunch	
2.00–4.00	Pathological Demonstration	DR. A. D. THOMSON
4.00	Tea	

TUESDAY, FEBRUARY 26—COUNTRY SECTION

10.00–12.00	Tendon Transplantation	MR. D. M. BROOKS
12.45	Lunch	
2.00–4.00	Treatment of Poliomyelitis	MR. H. J. SEDDON
4.00	Tea	

The fee for the course (including lunch and tea) is 10 gns. Early application should be made to the Dean at 234, Great Portland Street, London, W.1. (5766)

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE

GENERAL SURGERY

A three months' course of postgraduate surgery is arranged to start on March 24, 1952. It is suitable for surgeons requiring a refresher course in the current outlook on general surgery, or for graduates preparing to specialize in surgery; approximately 275 hours of instruction are provided. A similar course will be held starting on September 29, 1952. Fee £31 10s.

INTERNAL MEDICINE

A course lasting twelve weeks, suitable for graduates wishing a refresher course, or to specialize in medicine, begins on March 31, 1952. These courses consist of 320 hours' instruction, comprising lectures, clinical demonstrations and ward visits. A similar course begins on September 29, 1952. Fee £31 10s.

Additional instruction in Clinical Paediatrics is arranged in conjunction with the course in Medicine, for which there is a small fee; the numbers are limited.

MEDICAL SCIENCES

A three months' course in Applied Anatomy, Physiology, Pathology, Bacteriology and Biochemistry will begin on June 30, 1952. This course is suitable for postgraduates wishing to take the Primary Fellowship examination, as a final preparation in these subjects. Considerable basic knowledge is highly desirable prior to taking this course. Fee £31 10s.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

The nineteenth Fortnight General Refresher course for N.H.I. practitioners will start on May 5, 1952. Fee for graduates not claiming expenses from Government sources, 10 guineas.

Applications for enrolment should be addressed to Director of Postgraduate Studies, Surgeons' Hall, Edinburgh, 8. Applicants for courses, except general practitioners, should supply particulars of qualifications and postgraduate experience

UNIVERSITY OF LONDON
Institute of Obstetrics and Gynaecology (Incorporating the teaching facilities of Queen Charlotte's Maternity Hospital, Chelsea Hospital for Women, and the Department of Obstetrics and Gynaecology at the Postgraduate Medical School, Hammersmith Hospital)

Applications are invited from graduates with a registrable qualification, for enrolment for the Spring Term (March 10 to June 7, 1952). Graduates are allotted to one of the constituent hospitals for clinical work, and attend lectures and special demonstrations at all three hospitals. Enrolment fee £3. Tuition fee £30 for one term, £55 for two terms. General practitioners wishing further experience in obstetrics may be accepted to attend the course at Queen Charlotte's Maternity Hospital for shorter periods (i.e., two to four weeks). They will be allowed to do normal deliveries and will have the opportunity of attending the combined classes of lectures and demonstrations at the three hospitals of the Institute. Ministry of Health grants are payable to approved general practitioners attending for a period of two weeks. During vacation, graduates may attend the practice of the hospital at Queen Charlotte's Hospital and at the Postgraduate Medical School. Fee £1 per week. A Refresher Course for general practitioners will be held from February 25 to March 1, 1952. Fee £5 5s. Hostel accommodation is available at Queen Charlotte's Hospital and at the Postgraduate Medical School. Further particulars can be obtained from the Secretary, Institute of Obstetrics and Gynaecology, Dovehouse Street, S.W.3. (5865)

UNIVERSITY OF MANCHESTER
Faculty of Medicine

The Faculty of Medicine, in conjunction with the St. Mary's Hospitals for Women and Children, proposes to conduct a postgraduate course in Obstetrics, especially intended for general practitioners. The course is to comprise twelve weekly meetings to be held on Wednesdays from 10 a.m. to 4 p.m., commencing March 19, 1952, and concluding on June 18, 1952. The fee for the course is seven guineas, though doctors taking part in the National Health Service may be able to claim the fee and travelling expenses from the Ministry of Health. Application should be made to the Dean of Postgraduate Medical Studies not later than February 29, 1952. (5166)

SITUATIONS VACANT

Harrogate and Ripon Hospital Management Committee.—Biochemist required for the biochemical department of the hospitals in the Harrogate and Ripon Hospital Group. A medical qualification is not essential, but experience in hospital biochemistry is necessary. Salary on the appropriate position of the basic grade of the award made by the Industrial Court dated June 19, 1951, and subject to the terms and conditions to be issued by the appropriate Whitley Council. The appointment is subject to passing a medical examination and the National Health Service (Superannuation) Regulations. Applications, giving age, qualifications, experience and previous appointments, together with the names and addresses of two referees, to be forwarded to the Secretary to the Committee, Hereford Lodge, Cornwall Road, Harrogate. (5770)

Sarnia General Hospital, Sarnia, Ontario.—Chief Laboratory Technician.—$3,600 rising to $4,000 per annum. Applicant required to act as Chief Technician in a laboratory at present employing three full-time qualified technicians and one part-time, working with a British pathologist. The hospital is at present 148 beds and a new hospital is in the process of being built for 250 beds. The post is superannuable after one year. The applicant must be experienced and hold the F.I.L.M.T. The contract could provide for an advance of salary if desired. Sarnia is a growing town situated at the southern point of Lake Huron on the River St. Clair in Southern Ontario, the hospital serving a population of 60,000. Applications, stating full experience, and giving names of referees, should be addressed to the Superintendent, Sarnia General Hospital, Sarnia, Ontario, and posted within ten days of the appearance of this notice. (5769)

Readers frequently desire to refer to advertisements concerning appliances, preparations, etc., which have appeared in earlier issues of the *Journal*.

The Advertisement Manager can supply particulars at any time.

In dealing with written enquiries, especially from overseas, correspondents are, wherever possible, put in direct contact with the advertisers in whose products they are interested.

Write: Advertisement Manager,
British Medical Journal,
B.M.A. House,
Tavistock Square,
London, W.C.1.

PHARMACISTS, DIETITIANS, DISPENSERS, NURSES

VACANT

Royal National Throat, Nose and Ear Hospital, Gray's Inn Road, London, W.C.1, and Golden Square, W.1.—Applications are invited for a post of **Assistant Dispenser (M.P.S. or Hall qualification)**, preferably with previous hospital experience. Salary and conditions according to Whitley scales. Applications, giving details of age, qualifications and experience, should be sent to the House Governor immediately.

AVAILABLE

Dispenser (Apothecaries' Hall) seeks dispensing or combined post, secretarial experience.—Box 128, B.M.J.

RECEPTIONISTS, SECRETARIES, TYPISTS, ETC.

AVAILABLE

Belfast. Married woman, B.A. Honours (London), ex-Service, five years secretarial experience, seeks post Secretary and/or Receptionist in Belfast.—Box 129, B.M.J.

Chauffeuse-Secretary seeks post with doctor, London, experienced and reliable, first-class driver, shorthand, excellent references.—Box 130, B.M.J.

Educated, intelligent young woman, experienced reception, typing, some shorthand, can drive, desires medical receptionist/secretary position, London.—Box 132, B.M.J.

Lady seeks post with doctor. Experienced in typing, dispensing, nursing and receptionist's duties. Able to drive car. Reference available Surrey, Sussex areas.—Box 147, B.M.J.

Lady seeks part-time receptionist post to doctor or dentist, West End.—Box 2034, B.M.J.

Nurse (40), S.R.N., S.C.M. and gynaecological certificates, desires post as a receptionist at a specialist's practice. Knowledge of typewriting and general office work. London area.—Box 131, B.M.J.

Secretary Shorthand Typist (married) requires morning position with doctor. Similarly employed afternoons with Harley Street consultant.—Welbeck 4380-Cunningham 5037.

Secretary/receptionist, 23 years, single, desires situation in medical profession. London.—Box 134, B.M.J.

Young lady, 27 (ex-W.R.N.S.), seeks position as Receptionist with doctor, Central London, good education, appearance and personality. Typing but no shorthand.—Box 160, B.M.J.

Applicants requiring testimonials, theses, copies or duplicated, should communicate with Manton Secretarial Service, Ltd., 98, Victoria Street, S.W.1 (Victoria 0141), who are specialists.

Thoroughly trained Medical Secretarial staff may be engaged through Brook Street Bureau, Ltd., 59, Brook Street, W.1, Gro. 6666, and 2, George Street, Croydon. Phone 3363.

ACCOMMODATION
AVAILABLE

Portland Place, W.1. Two or three attractive flats and maisonettes to let in first-class building, also charming Mews Cottage, 3 bed, 2 bath, 2 reception, etc. Suitable combined residential/consulting room use.—Apply, Marcus Leaver & Co., 42, Sackville Street, W.1. MAYfair 4266.

CONSULTING ROOMS, ETC.
AVAILABLE

Consultant desires share exceptional three-room suite. Modern house, secretary, plate, central heating, Harley Street. Rental very reasonable. Unusual opportunity young consultant.—LAN. 3325.

Harley Street. Large unfurnished consulting-room, £350 inclusive. With secretary's room, £400. —Box 148, B.M.J.

Magnificent oak-panelled period consulting room with ante-room, first floor Harley Street. Vacant March quarter. Lift, central heating.—LAN. 2426.

Of interest to consultants and specialists. Wimpole Street. Excellent property for disposal. Suitable for consulting rooms, or residence and practice. Twelve rooms (some inter-communicating), excluding staff and usual offices. Ready for immediate occupation. Lease 999 years from 1915. Ground rent only £50 per annum.—Goddard & Smith, 22, King Street, St. James's, S.W.1. WHItehall 2721.

HOTELS

CORNWALL.—TREHARROCK MANOR and Farm. Jersey herd. Log fires. Come and enjoy our early spring now. Golf, St. Enodoc. Port Isaac 234.

MOTOR CARS, HIRE, ETC.

Ford Prefect 1939, black. Offers. Doctor owner. —Box 150, B.M.J.

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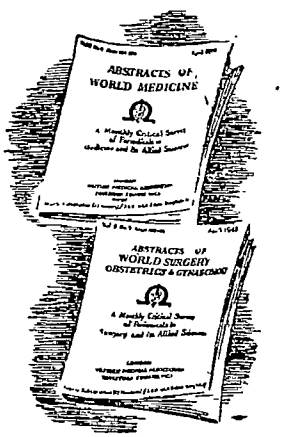

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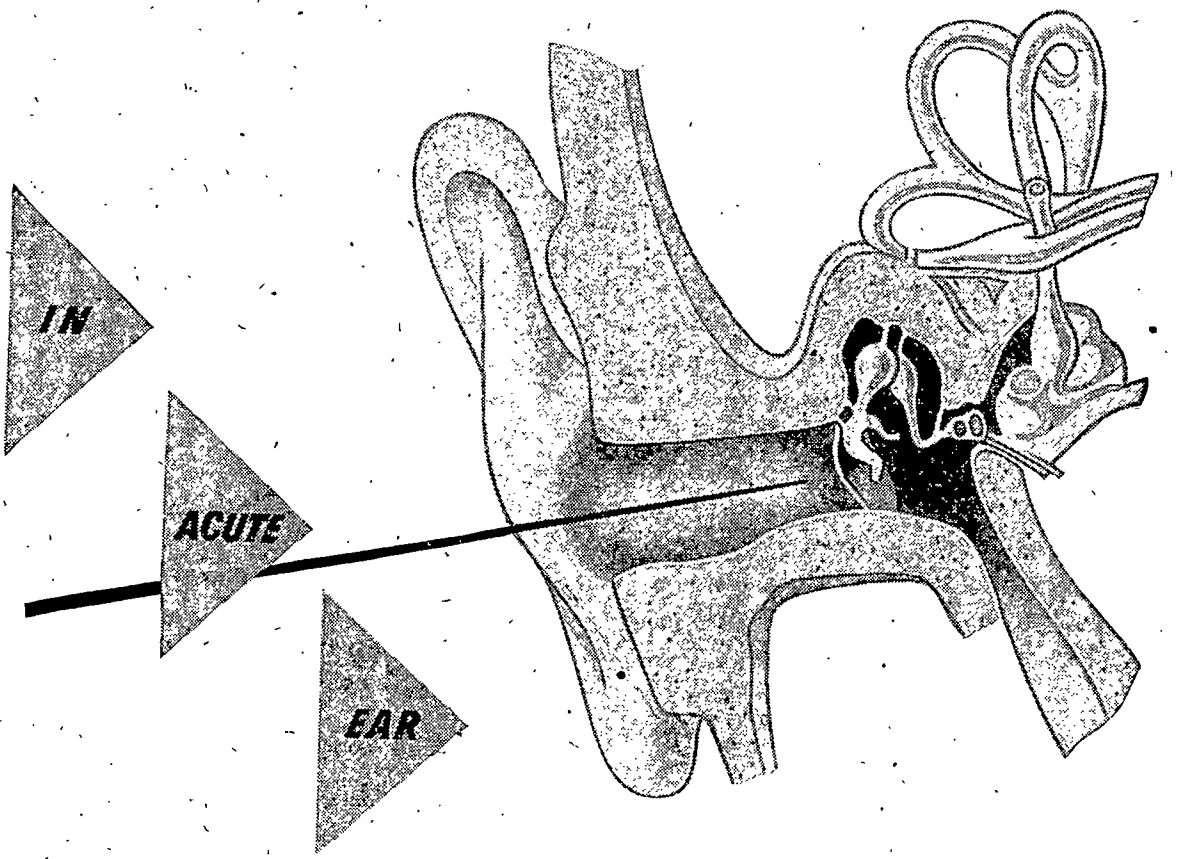

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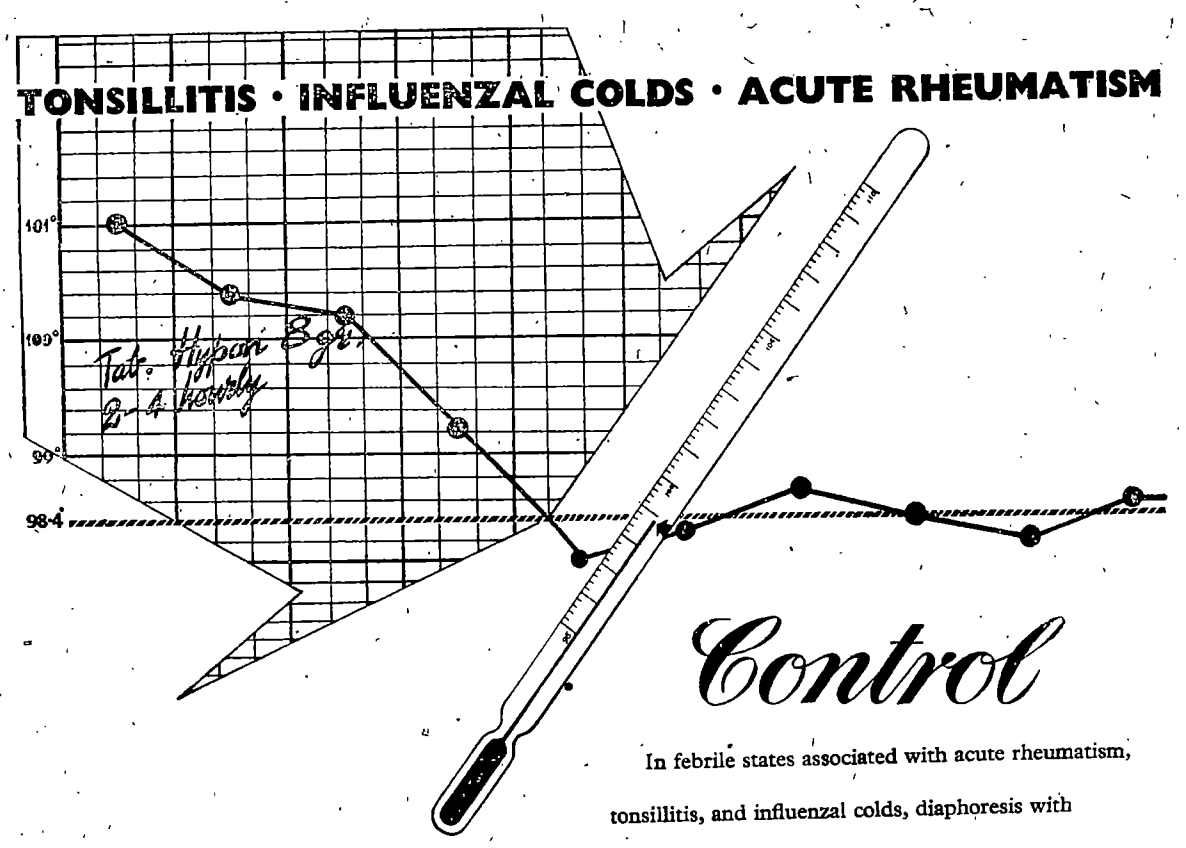

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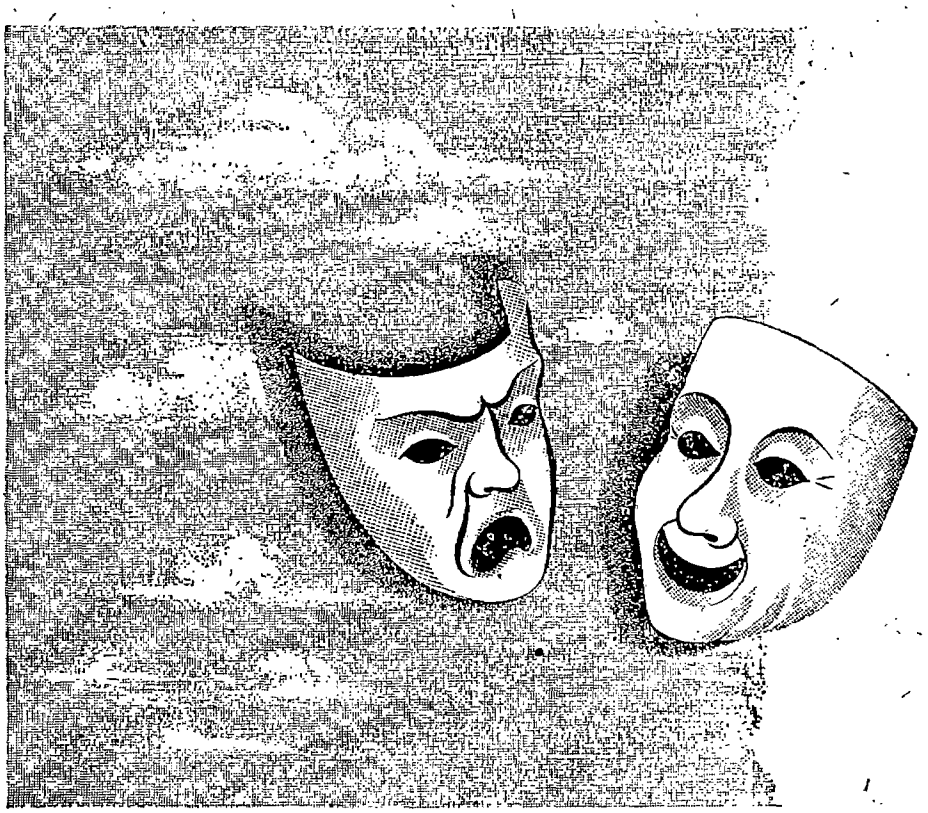

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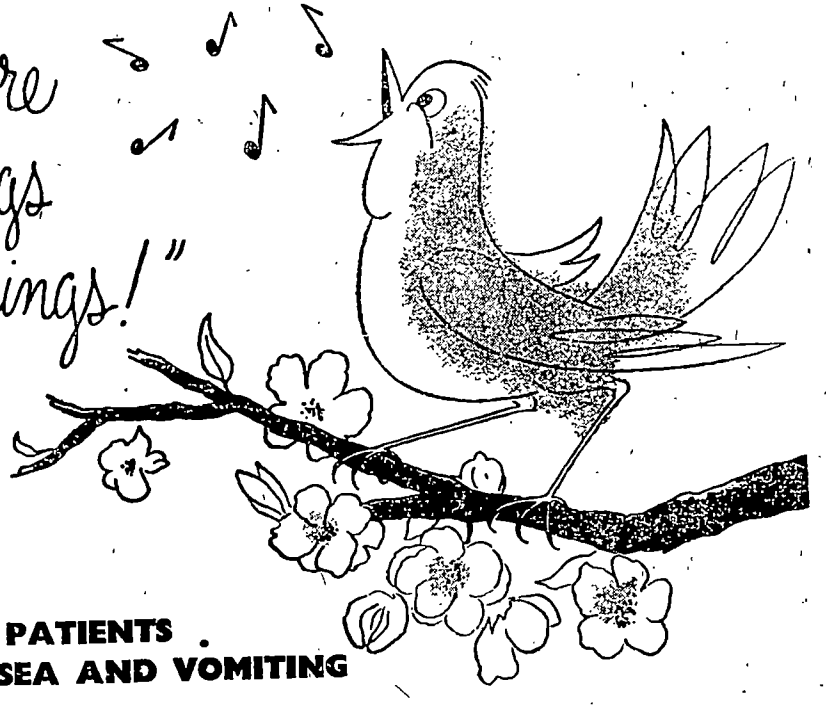

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* The use of Nidoxital in Emesis Gravidarum, Am. J. Obst. & Gynec. 59: 458 1950.

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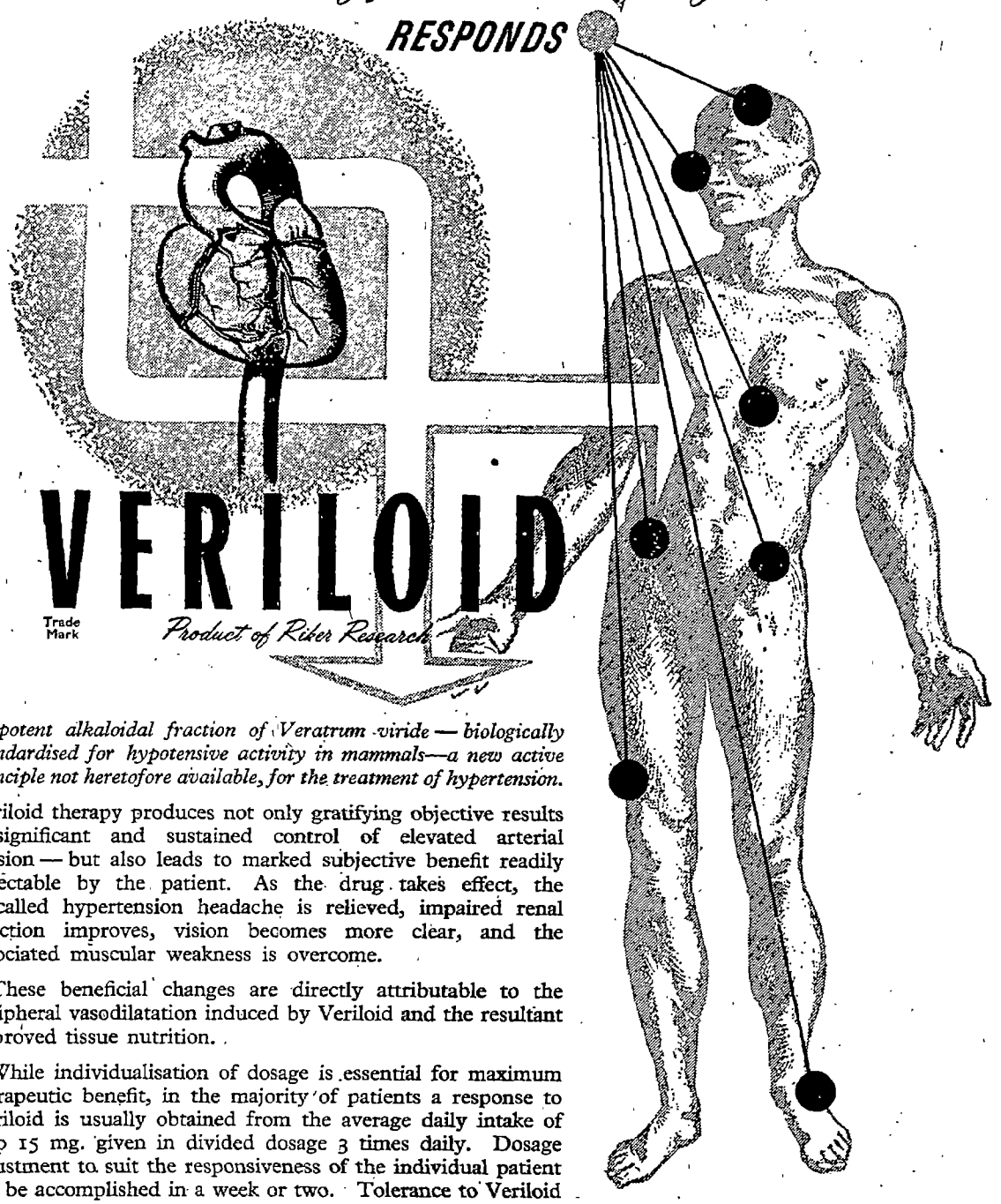

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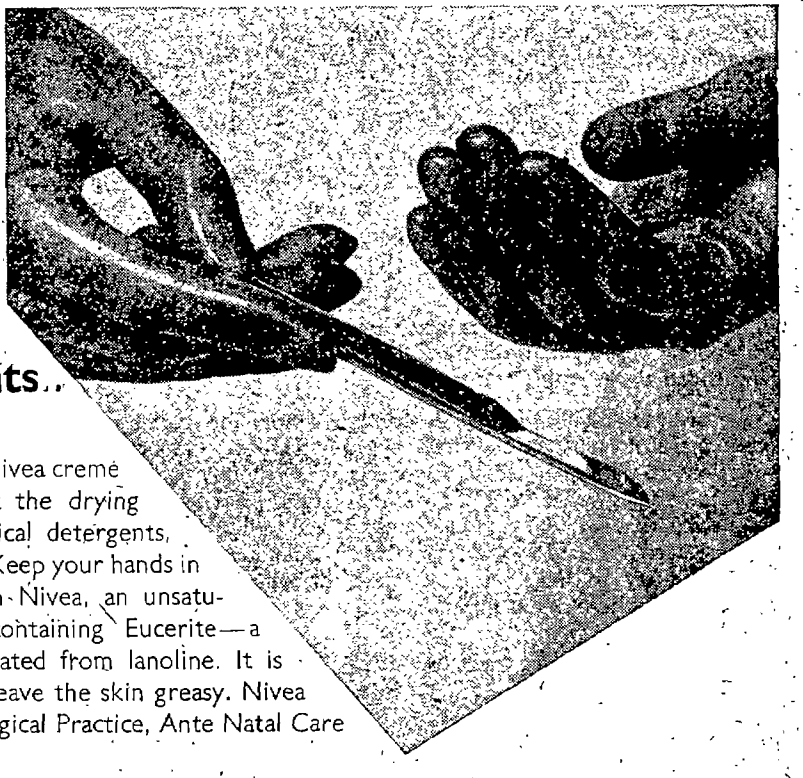

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 19 1952

STREPTOMYCIN IN OPHTHALMOLOGY

BY

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Tuberculous lesions of the eye and infections by Gram-negative bacilli constitute the two groups for which streptomycin therapy would be indicated on theoretical grounds. The cases diagnosed as tuberculous are a composite group. Tubercle bacilli, or typical giant-cell formation, can be demonstrated in tuberculous conjunctivitis, but for the mass of lesions diagnosed as tuberculous keratitis and tuberculous iritis no such definite evidence is generally available. The diagnosis in such cases is usually on clinical grounds, with very variable supporting evidence. As for infections by Gram-negative bacilli, these are on the whole infrequent, the outstanding examples being infection of the cornea by *Pseudomonas pyocyanea* and by *Proteus vulgaris*. Here bacteriological evidence is readily available. Apart from being easily established bacteriologically, the clinical picture that these Gram-negative bacilli give in the cornea is characteristic. Instead of the classical serpiginous corneal ulcer and hypopyon, there is a corneal ulcer with a sloughy base, frequently heaped up, and generally extending as infiltrates well into the surrounding corneal tissue; hypopyon is not a characteristic concomitant, but is not exceptional and is apt to appear very dense. These corneal infections do not respond to the sulphonamides or penicillin, and they run a rapid and disastrous course, often leading to opacification of the whole of the cornea and to perforation.

It is generally accepted that tuberculosis of the conjunctiva, cornea, iris, and retinal veins is secondary to a general infection. This does not exclude local therapy as an agent of some value, but does emphasize that exclusively local therapy is unlikely to prove satisfactory. In the case of infections with Gram-negative bacilli the lesion is exclusively local, and local treatment may therefore be expected to give the desired results.

In the present study an attempt has been made to establish the levels of concentration that can be reached in the eye by the systemic and subconjunctival injection of streptomycin; the efficacy of such administration in experimental infection of the cornea by *Ps. pyocyanea* has been investigated; and we have tried to evaluate the use of streptomycin clinically.

Experimental Studies

(a) Ocular Tolerance of Streptomycin Injected Subconjunctivally

The purified streptomycin salt at present available is soluble to the extent of 0.5 g. in 1 ml. of water. The solution thus obtained is well tolerated by the rabbit when injected subconjunctivally—in fact, very much better than 1,000,000 units of penicillin similarly given.

There is nothing to be gained by giving smaller doses subconjunctivally. Larger doses cannot be given, as more than 0.5 g. does not go into solution in 1 ml.

(b) Levels of Concentrations Reached in the Eye by the Systemic and Subconjunctival Injection of Streptomycin

Method.—Rabbits weighing 2.5–3 kg. were used for the tests. Dihydrostreptomycin sulphate was injected in three ways: (1) 50 mg. per kg. was injected in 2 ml. of physiological saline intramuscularly; (2) 500 mg. was injected in 1 ml. of distilled water subconjunctivally; and (3) 500 mg. was injected in 1 ml. of 1:1,000 adrenaline subconjunctivally. At appropriate times the animals were killed by the intravenous injection of pentobarbitone sodium and the eyes removed. In the case of the animals treated by intramuscular injection, both eyes were taken and treated as one. They were given a rapid rinse in sterile saline and were then immediately dissected. The aqueous humour, vitreous humour, anterior tissues, posterior tissues, and cornea were separated, minced with scissors, and after weighing were extracted with an appropriate amount of *p*H 8 phosphate buffer. Samples of blood were removed from the left ventricle of the animals just before death. The extracts and the blood samples were titrated for streptomycin content by either the capillary-tube method with *Bact. friedländeri* or by plate assay method using *Bacillus subtilis*.

The results are recorded in Table I.

The following points may be noted: (1) Intramuscular injection of 50 mg. per kg. in the rabbit is equivalent to approximately an intramuscular injection of 4 g. in an adult patient—well beyond the toxic limit. With this dose it will be noted that levels at four hours and subsequently are *nil* in the vitreous and cornea, whilst the aqueous gives a level of only 0.3 μg. at four hours. The levels at two hours are also not high. (2) A subconjunctival injection of 500 mg. in 1 ml. of water gives considerable levels in the aqueous and vitreous,

TABLE I.—*Ocular Concentrations of Streptomycin in the Rabbit After Administration by Different Routes*

Route and Dose	Time (hours)	Streptomycin Levels (μg./ml. or μg./g.)					
		Blood	Aqueous	Vitreous	Ant. Tissues	Post. Tissues	Cornea
Intramuscular; 50 mg./kg.	2		1·3	0·5			Trace
	4		0·3	0			0
	6		0	0			0
	8		0	0			0
Subconjunctival: 500 mg. in 1 ml water	2	254	14·0	7·0	360	230	35·0
			9·5	<2·2			460
	6	9·0	6·0	4·0	6·0	7·5	7·5
			4·0	<1·1			12·5
	12	0·57	1·6	1·0	<1·85	<1·85	<0·5
	16		1·44	<0·37			<3·7
	18	0·26	0	0	<1·0	<1·0	0
	20		<0·4	<0·2			<1·0
	24		0	0			0
Subconjunctival; 500 mg. in 1 ml. 1 : 1,000 adrenaline	2	190	156	190	4,000	3,000	1,575
	4		64				128
	6	17·0	<16	<2·2	30	38	25
			13·5				32
	12	5·3	164	2·3	164	47·5	282
	24	1·5	>28	15·3	112	30	3·5
			264				900
	28	1·62	>40	4·53	117	57	3·3
	36	<0·37	87·5	<0·37	3·1	10·25	283
		<0·2	<0·74	<1·0	2·15	1·9	<1·85
	48	<0·2	<1·0	<0·2	3·12	7·0	<2·0
			<0·4				<1·0

persisting for about 12 hours. (3) A striking feature is the markedly increased initial intraocular concentrations when streptomycin is dissolved in adrenaline 1 : 1,000 instead of water, and the considerably longer persistence of these levels : at 36 hours the levels are still significant.

These findings are of the same order as those recorded for penicillin: subconjunctival injection gives higher levels than intramuscular injection, and the levels become both higher and more persistent when adrenaline is added to the solvent.

(c) Experimental Infection of the Cornea with Ps. pyocyanea

Method.—Thirteen rabbits were used. The cornea of the right eye of each rabbit was scarified with a scalpel blade and infected with two loopfuls (3-mm. diameter loop) of a suspension of *Ps. pyocyanea* (24-hour agar culture of strain 150 E), the suspension being rubbed into the scarified area with the loop for about 15 seconds. Three of the animals were kept as controls. The remaining 10 were treated three hours after infection by the injection, subconjunctivally into the infected eye, of 0.5 g. of dihydrostreptomycin sulphate in 1 ml. of 1:1,000 adrenaline. A single dose only was given. The course of the infection was followed in all of the animals by daily inspection. The heavily infected control animals were killed on the sixth day, when the corneae had perforated.

The results in this experiment are summarized in Table II.

It will be seen that the three control animals all showed the disastrous course characteristic of *Ps. pyocyanea* infection in the rabbit. The 10 animals treated with a single subconjunctival injection of 0.5 g. of streptomycin in adrenaline 1 : 1,000 gave eminently satisfactory results. By the third day only two of these ten had not recovered fully. By the fifth day one of these two had become normal. The damage in the one animal that had not responded fully was almost negligible.

Clinical Experiences

The clinical results recorded here have been collected over the past three years. In the earlier stages purified streptomycin was not available and dosage was hampered by irritative reactions. In all, streptomycin was used systemically or locally in 53 cases, which fall into four clinical groups :

Group I.—Cases with a definite bacteriological or histological diagnosis. These comprised tuberculous conjunctivitis, acute conjunctivitis, dacryocystitis, infected corneal ulcer, and one case of intraocular infection, all due to Gram-negative bacilli or to penicillin-resistant organisms

Group II.—Cases presumed to be tuberculous on good clinical grounds. This group consisted of three cases of tuberculous keratitis.

Group III.—Cases presumed to be tuberculous on indefinite clinical grounds—Eales's disease, iridocyclitis, and scleromalacia perforans.

Group IV.—Cases of tuberculous allergy—phlyctenular ophthalmia.

Group I. Cases with Definite Histological or Bacteriological Diagnosis

(*a*) *A Case of Tuberculous Conjunctivitis.*—A child aged 5½ had a large sloughing ulcer in the inferior fornix of the left eye; biopsy showed it to be tuberculous, with tuberculous giant-cells and caseation; tubercle bacilli were demonstrated in the smear of the guinea-pig inoculation. Treatment with intramuscular streptomycin, 0.5 g. a day for 30 days, caused rapid resolution of the lesion clinically, but, histologically, cure was much slower. Biopsy three months later showed fibrous tissue with a few epithelioid cells, while guinea-pig inoculation

TABLE II.—*Treatment of Ps. pyocyanea Infections of the Cornea in Rabbits with Dihydrostreptomycin Sulphate in Adrenaline*

Rabbit No	Treatment	Appearance of Infected Eye after Infection			
		3 Days	5 Days	6 Days	19 Days
1	Control untreated	Leucoma of cornea in 3 mm. diam. zone at site of infection	Mild central opacity with peripheral vascularization. Commencing panophthalmitis	Perforation of cornea. Animal destroyed	
2	" "	Complete opacity of cornea with pus in anterior chamber	Complete corneal opacity with grey infiltration. Useless eye	" "	
3	" "	Complete opacity of cornea with conjunctival and corneal ulcer	Staphylomatous cornea with hypopyon. Useless eye	" "	
4	Treated with 0·5 g. streptomycin in adrenaline	Eye normal	Eye normal. Some slight lid reaction due to streptomycin		Eye normal
5	" "	" "	Eye normal		" "
6	" "	" "	" "		" "
7	" "	" "	" "		" "
8	" "	" "	" "		" "
9	" "	Slight corneal opacity, not at the spot where infected. Slight conjunctivitis with discharge	Very slight corneal haze. Otherwise normal eye		Slight corneal opacity
10	" "	Eye normal	Eye normal		Eye normal
11	" "	" "	" "		" "
12	" "	Very slight corneal opacity. Some lid reaction	" "		" "
13	" "	Eye normal	" "		" "

was negative. When seen recently, 18 months later, there was no sign of the lesion beyond fibrosis, and there had been no relapse.

(*b*) *Six Cases of Acute Conjunctivitis.*—All cases were due to *Proteus vulgaris* except one case, which produced a penicillin-resistant staphylococcus after prolonged local penicillin therapy. Four cases were initially treated by other drugs which had no effect; two cases, in which the smear showed Gram-negative organisms, were started on streptomycin immediately. Two cases were treated with drops (in a concentration of 0.5 g. per ml. instilled at half-hourly intervals), three with ointment (0.1 g. per g.), and one, following a cataract extraction, with subconjunctival streptomycin (0.5 g. in 10 min. (0.6 ml.) of water and 5 min. (0.3 ml.) of adrenaline 1:1,000). All cases cleared up quickly. The results were comparable to those seen with local penicillin therapy in conjunctivitis due to penicillin-sensitive organisms.

(*c*) *A Case of Acute Dacryocystitis.*—This was a severe recurrence of a typical acute dacryocystitis which did not respond to four days of systemic penicillin, in the last two of which the sac was also syringed with penicillin. Systemic streptomycin therapy (0.5 g. a day for five days) led to a rapid and uninterrupted recovery, the sac remaining patent. The organism proved to be *P. vulgaris*.

(*d*) *Nine Cases of Infected Corneal Ulcer.*—Six cases occurred within five days of having had a corneal foreign body; one was an ophthalmia neonatorum; one was a secondary infection of a dendritic ulcer; and one was a case of marginal ulcer of unknown cause. The organisms in these nine cases were *Ps. pyocyanea* in two cases, Gram-negative bacilli in three cases, and *P. vulgaris, Bact. coli, B. xerosis,* and bacillus of Patel in one case each. All but two cases were given daily subconjunctival injections of 0.5 g. of streptomycin within two or three days of the start of infection; one case had been worsening for three months, and in the other, the baby with ophthalmia neonatorum, treatment by drops and intramuscular injection was started 10 days after onset, there having been very slight improvement on systemic sulphonamide for six days. Two cases had been started on streptomycin immediately, one having been diagnosed as a Gram-negative type of infection clinically and confirmed bacteriologically next day, 24 hours thus being saved; while the other showed Gram-negative bacilli in the smear. Five cases had one dose of subconjunctival penicillin (1,000,000 units) on admission, the nature of the infection not being known till 24 hours later, from the culture. The conjunctiva became friable after repeated subconjunctival injections, and, when it would hold no more, streptomycin was given retrobulbarly. This is probably less effective.

The Subconjunctival Injection.—The dose was at first 1 g. of streptomycin in 2 ml. of fluid, but this has been reduced to 0.5 g. in 1 ml. The solvent used is as for subconjunctival penicillin—a stock solution, 10 min. (0.6 ml.) of which contains 1/40 gr. (1.6 mg.) of atropine sulphate and 1/8 gr. (8 mg.) of cocaine hydrochloride. To 10 min. (0.6 ml.) of this solution is added 5 min. (0.3 ml.) of adrenaline 1:1,000 before injection.

Results.—All cases were left with a quiet eye, except the one which was hopeless to begin with and became quiet only after perforating. Three cases had a poor visual result of 3/60 or less, due to dense corneal scarring owing to the severe initial damage before streptomycin treatment was instituted. The remaining cases obtained a good visual result, the corrected visual acuity being 6/9, 6/12, and 6/12 in three cases, and 6/36 under a mydriatic in a patient who could not be followed up. The baby with ophthalmia neonatorum had a thin residual scar.

(*e*) *A Case of Post-operative Intraocular Infection.*—A man with a right detached retina had a lens extraction for traumatic cataract in the other eye while under systemic penicillin and local treatment to control an intractable otorrhoea. Forty-eight hours after operation subconjunctival streptomycin, 0.5 g., and systemic streptomycin, 0.5 g., were started, as the anterior chamber was infected; treatment was continued for five days. The infection subsided and some useful vision may be expected after needling.

Group II. Cases Presumed to be Tuberculous on Good Clinical Grounds

Three Cases of Tuberculous Keratitis.—Three typical cases with long histories were treated for one or two months with between 2 g. and 0.5 g. of intramuscular streptomycin daily, the dosage tending to decrease while the duration of the course tended to increase. All cases improved markedly within a fortnight, and in one case the result was particularly striking: the visual acuity improved from hand movements in both eyes to 6/60 in the right eye and 6/9 in the left eye—very much better than it had been for years. These three cases have now remained quiet for periods of 10, 19, and 26 months respectively.

Group III. Cases Presumed Tuberculous on Indefinite Clinical Grounds

(*a*) *Four Cases of Eales's Disease.*—Four cases presented as Eales's disease: only one case showed (in a chest radiograph) any further evidence of tuberculosis. These patients were given systemic streptomycin for one or two months, with between 2 g. and 0.5 g. of intramuscular streptomycin daily, the dosage tending to decrease with a longer course. The results are dubious and indefinite. The most that can be claimed is the absence of relapses in three cases which seemed quiet or quiescent at the start, while the one active case has become worse.

(*b*) *Five Cases of Iridocyclitis.*—Four of these five cases had a common history of slowly worsening iridocyclitis for over six months, with the development of mutton-fat K.P., before streptomycin was started; in the remaining patient there was a history for only two months. Two of these cases had further indications of a possible tuberculous origin—tuberculous pleurisy in the one, and a strong family history of tuberculosis in the other. Two patients, both young women, developed retinal vasculitis. All received one dose of streptomycin, 0.5 g. a day for a month intramuscularly, except one patient who had side-effects necessitating its discontinuance after 17 days. One patient has shown only slight improvement, and it is now three months since she had the course; another became completely clear only seven months after the course; two patients who developed secondary glaucoma and pain just before the course had (three months later) normal tension and no pain, and the K.P. had become thinner and crenated. The patient who had had an incomplete course owing to toxic effects now has only a slight aqueous flare in both eyes, but, as she responded to *x*-ray therapy shortly after the streptomycin was discontinued it is impossible to say to which treatment (if to either) her improvement should be attributed.

(*c*) *Iridocyclitis with Nodules.*—Of three cases, one, that of a woman aged 20 with multiple nodules in one iris—the whole reaction strongly suggestive of sarcoidosis—showed no response to systemic administration of streptomycin. The two other cases, with an isolated nodule in each instance, appeared to improve. Steady diminution of the nodule was observed during a month's treatment by intramuscular injections of 0.5 g. daily, but the improvement has not been maintained. In one case the nodule is still as large as before, and in the other there is a recurrent iridocyclitis.

(*d*) *Three Cases of Scleromalacia Perforans.*—These cases, which had been progressing steadily, were given 0.5 g. of streptomycin systemically six-hourly for 28 to 56 days. In none was there any improvement.

Group IV. Cases of Tuberculous Allergy : Phlyctenular Ophthalmia

Children with phlyctenular ophthalmia were found to improve quickly on mydriasis and an open-air regimen at White Oak Hospital. Seventeen cases were given systemic streptomycin in addition, because they either showed no response or relapsed repeatedly. Fourteen cases had active lesions when the course was started—nine for at least two months and five for three weeks or less. Four of these children had long histories of repeated relapses. In addition streptomycin was given to two cases which had shown frequent relapses but were then quiet, and to one case which was almost quiet before the course started.

The diagnosis, made on clinical grounds, was supported in 15 cases by one or more of the following features : positive Mantoux reaction, a positive chest *x*-ray finding, and a family history of tuberculosis.

At first streptomycin was given on a basis of 20 mg. per lb. (0.45 kg.) body weight a day in divided doses for a week, but later in the investigation the amount of the drug was reduced, and it was given in one daily dose over a longer period, the ultimate dosage used being 10 mg. per lb. (0.45 kg.) a day for 56 days.

In the acute case streptomycin proved of value in cutting short the acute attack and possibly also in preventing recurrences. The results in the 14 active cases may be tabulated as follows :

Activity under Control Within	No. of Cases	Relapses Within 3 Months	No. of Cases	Follow-up Results After First 3 Months of 13 Controlled Cases	
				Quiet for	No. of Cases
7 days	2	No relapse	5	24–28 months	3
10 ,,	5	One ,,	3	18–24 ,,	3
21 ,,	4	Two relapses	3	12–18 ,,	3
28 ,,	1	Three ,,	2	Relapse: a year later	1
56 ,,	1	Uncontrolled	1		
Uncontrolled	1			Not known—trace lost	1
	14		14		13

The results in the three cases treated during the quiescent stage in the hope of controlling their tendency to frequent relapses were : (1) Frequent recurrences for the 21 months under observation in one case, but the attacks were probably milder. (2) Three relapses in the two months following the course and three more in the four months subsequent to a second course. Since then quiet for 18 months. (3) No relapse for four months after a course of treatment—in contrast to three attacks in two months before treatment.

Discussion

The excellent results achieved with penicillin in infections of the eye due to penicillin-sensitive organisms have thrown into sharp relief those infections, largely due to Gram-negative bacilli, for which penicillin is ineffective Some cases of acute conjunctivitis and acute dacryocystitis are caused by penicillin-insensitive organisms, but the more threatening of the acute lesions is infection of the cornea by Gram-negative bacilli. These run a rapidly destructive course, for the corneal reaction is essentially a proteolytic phenomenon consistent with the proteolytic properties of these organisms.

The recognition of Gram-negative infection of the cornea as a characteristic clinical entity calling for specific treatment appears to have been anticipated by the older literature. The concept of corneal abscess of the older literature does not seem to have been well defined, the term being used for corneal ulceration with diffuse infiltration as well as for interstitial corneal reaction without ulceration. It is likely that what went under the name of corneal abscess included the group of infections of the cornea by Gram-negative bacilli stressed here. In so far as it emphasizes the interstitial reaction of the cornea, that designation was most useful The complete clinical picture appears, however, to require equal stress on the sloughy, heaped-up base of these corneal ulcers.

The experimental evidence from infection with *Ps. pyocyanea* that such infected ulcers respond well to streptomycin is supported by the limited clinical experience reported here, and it may be assumed that with early and adequate streptomycin treatment these corneal infections will respond as readily as serpiginous ulceration responds to penicillin. Whilst the experimental results were obtained with 1 ml. of adrenaline as the solvent, clinically it would not be safe to use so much adrenaline. For this reason it would be best to use 10 min. (0.6 ml.) of water and 5 min. (0.3 ml.) of adrenaline. The solvent can readily be adjusted to give a mydriatic effect by incorporating 1/8 gr. (8 mg.) of cocaine hydrochloride and 1/40 gr. (1.6 mg.) of atropine sulphate in the 10 min. (0.6 ml.) of water. A stock solution containing these ingredients is easily prepared, and keeps well, but it is essential that the adrenaline should not be added to the solvent until use.

The value of streptomycin in the tuberculous infections of the eye is not so definite, if only because diagnosis is frequently uncertain. Judging by the proved case of tuberculous conjunctivitis recorded here, as also by the cases of presumed tuberculous keratitis, systemic treatment is of considerable help. Whether these cases should not in addition be treated by local applications is an open question. The results in phlyctenular ophthalmia are also hopeful. Here there seems less reason for local treatment. The disappointing results obtained in plastic and nodular iritis, presumed to be tuberculous in origin, and in Eales's disease, may arise from inadequate use of streptomycin or from a fallacious aetiological interpretation.

Summary

Streptomycin, 0.5 g. in 1 ml. of water, is well tolerated on subconjunctival injection.

Such doses give considerably higher intraocular levels when injected subconjunctivally than on intramuscular injection.

The intraocular levels are higher still and persist up to 36 hours if adrenaline 1:1,000 is the solvent.

In the experimental animal a destructive *Ps. pyocyanea* infection of the cornea is fully controlled by one subconjunctival injection of 0.5 g. of streptomycin in 1 ml. of adrenaline 1:1,000.

For clinical purposes streptomycin to be injected subconjunctivally should be dissolved in 10 min. (0.6 ml.) of water to which 5 min. (0.3 ml.) of adrenaline 1:1,000 is freshly added.

Clinically, streptomycin is effective when used subconjunctivally in infections of the cornea due to Gram-negative bacilli. As these lesions are highly destructive, early treatment is essential, and the characteristic clinical appearance of such infections facilitates early diagnosis. Streptomycin locally is also invaluable in acute conjunctivitis due to Gram-negative bacilli.

Systemic streptomycin therapy has proved helpful in tuberculous keratitis. It has given poor results in presumably tuberculous iridocyclitis and in periphlebitis. In phlyctenular ophthalmia it tends to cut short severe attacks, and probably reduces the frequency and severity of relapses.

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THE CLINICAL FEATURES OF THE PNEUMONIAS UNDERGOING VIRUS TESTS

BY

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The response of the pneumonias to sulphonamides and penicillin has broadened rather than solved the problem of the differential diagnosis and treatment of lung consolidations. Since such treatment has been introduced, a wide group of non-bacterial pneumonias caused by viruses and rickettsias has been revealed. American authorities have stressed the increasing incidence of virus pneumonias, Goodrich and Bradford (1942) finding them almost as frequent as pneumococcal pneumonias, and Reimann (1943) computed figures of 70% of all pneumonias for this group. The process of sorting out the various non-bacterial pneumonias is not yet far advanced, and while influenzal pneumonias and the pneumonias of psittacosis, lymphocytic choriomeningitis, glandular fever, lymphogranuloma venereum, and Q fever have emerged as definite entities other similar pneumonias await identification.

The group of "primary atypical pneumonia, aetiology unknown," has been considered by some as an entity (Joules, 1950); but this has been denied elsewhere (Scadding, 1948). In the last-named condition the non-specific cold agglutination reaction has been used as a diagnostic test; in the other pneumonias mentioned the diagnosis is confirmed by the detection of specific antibodies by complement-fixation and neutralization tests. A rise in antibody titre in these tests is diagnostic and is particularly valuable in influenza, in which it is often impossible to obtain the virus from the patient's nose or throat and so to isolate it by ferret inoculation.

The complement-fixation test was the one employed in the series of cases described below, and most of the cases were also examined for complement-fixing antibodies of *Rickettsia burneti*, psittacosis-ornithosis and lymphogranuloma viruses, and by *Streptococcus M.G.* agglutination. Where possible the tests were done on acute and convalescent phase sera, but in some cases only convalescent sera were obtainable. These tests were performed by Dr. B. P. Marmion, Dr. A. D. Macrae, and Dr. A. P. Goffe, of the Colindale Group Laboratory. Cold haemagglutination tests were also done on many of the cases at the Edgware General Hospital by Dr. E. D. Hoare. Nearly every case was questioned and examined by me so as to obtain a uniform approach to the clinical aspects of these cases of pneumonia. This paper is a review of the clinical findings in 159 of such cases seen in the Edgware General Hospital between the beginning of January, 1949, and the end of May, 1950.

Clinical Investigation

It soon became apparent that clinical methods did not readily distinguish the various forms of pneumonia, so *all* cases of suspected lung consolidation seen during the investigation were serologically tested. The cases are divided into two groups, the first being seen between January 1 and September 1, 1949, and the second group between early November, 1949, and the end of May, 1950. A fairly severe outbreak of influenza (mainly of the A type) is included in the first group, and the second group covers a lesser outbreak of influenza B in March and April, 1950. While the patients were being submitted to the tests just mentioned special consideration was also given to certain features: the history and symptoms of the illness; a past history of chest infection; the signs of the illness; the duration of the fever; the *x*-ray findings; the white cell counts; the sputum examinations; and the nature of any complications.

The two groups showed very similar numbers of cases. 88 being examined in the 1949 group, and 71 in the 1949–50 group. The cases were all of severe respiratory disorder, and either showed clear pneumonic signs or had such symptoms of lung involvement that pneumonia was immediately suspected. The patients had all been active till the onset of the illness, even though some had old respiratory or cardiac disease, and the rapid development of severe symptoms, often of sudden onset, was a feature in all. The composition of the two groups as determined by the special tests is shown in Table I, the

TABLE I

	Group 1 (1949)	Group 2 (1949–50)
Influenza (confirmed)	16	18
,, (probable)	22	—
Primary atypical pneumonia ..	11	11
Psittacosis-ornithosis	—	2
Unclassified	39	40
Total	88	71

"primary atypical pneumonias" being the cases in which a cold agglutinin titre of 1 in 16 or over was reached. The cases classified as definitely positive influenzas were those which showed a rise of influenza antibody titre between the acute and convalescent phases; if a signifi-

cantly high titre was found only in the convalescent phase the case was listed as "probable positive." Neither of the psittacosis-ornithosis cases appeared to have been exposed to avian infection. No case of Q fever was detected during the whole investigation.

The age distribution in the two groups is shown in Table II, and a remarkable similarity is noticeable. Thus

TABLE II.—*Age Distribution*

Age Groups (Years)	Group 1					Group 2		
	Infl. (Confirmed)	Prob. Infl.	Total Infl.	Primary Atypical Pneumonia	Uncl.	Infl.	Primary Atypical Pneumonia	Uncl.
0–9	1	1	2	0	2	0	0	1
10–19	1	5	6	1	2	0	0	3
20–29	1	1	2	3	2	2	2	4
30–39	3	0	3	2	7	3	3	5
40–49	3	5	8	3	4	4	3	4
50–59	6	5	11	1	10	2	1	13
60–69	1	4	5	0	8	7	1	9
70+	0	1	1	1	4	0	1	1
Totals	16	22	38	11	39	18	11	40

25 (65.8%) of the influenza cases of group 1 were over 40, and 13 (72.2%) of those in the second group were over 40. Of the unclassified cases 26 (66.6%) in group 1 and 27 (67.5%) in group 2 came in this age category. The primary atypical cases were fewer and also on the average younger than those in the other groups; thus 8 (72.7%) in each group were between 20 and 50. The influenza figures correspond with the observations of Stuart-Harris *et al.* (1950) on influenzal cases in Sheffield, many of his cases being in the older age groups.

During the investigation five patients died in group 1 and three in group 2. These figures, which are a striking testimonial to modern treatment, become even more remarkable when the ages of the patients and other associated conditions are considered. Thus in group 1 four patients with "probable" influenza (high complement-fixation titre at the only reading available) died; one of these was 75 and another 60; the third had a contracted horseshoe kidney and uraemia; and the fourth, a boy of 12, an old case of poliomyelitis, had widely paralysed respiratory muscles. One unclassified patient aged 63 died during the first half of the investigation. Of the three fatal cases in group 2 one aged 68 had probable psittacosis-ornithosis; another, a chronic bronchitic with emphysema, aged 52, had a suprarenal haemorrhage, and the third was admitted after six weeks' illness with organizing suppurative pneumonitis.

During the influenza B epidemic period four serologically uninvestigated patients (not included in Table I) died within a few hours of their admission, and three of them, aged respectively 21, 46, and 65 years, had sudden illnesses of influenzal type. All three failed to show influenza virus from lung culture on fertile hen's egg, but all showed a free growth of *Staph. aureus*—a possibly significant finding. The husband of the youngest of these was said to have had influenza a short time previously. The fourth, aged 69, proved to be a long-standing chronic bronchitic with a large area of grey hepatization. Thus among 159 patients with pneumonia who lived long enough to have some treatment and investigation there were eight deaths, usually facilitated by some disease other than the pneumonia, and there were four other deaths of patients in whose case there was no time for effective therapy.

Onset

A comparison between the influenzal cases and the various non-influenzal cases was attempted on the lines mentioned above. Stuart-Harris *et al.* (1938) had underlined the significance of a sudden onset as a feature of the influenzal infections; but in our investigation, which was mainly concerned with ill pneumonic cases, it was possible that this feature might be somewhat obscured. The figures given in Table III, however, show that this

TABLE III

	Sudden Onset	Possibly Sudden	Gradual
Group 1:			
Influenza	14	2*	0
Probable Influenza	17	3	2
Primary atypical pneumonia	6	2	3
Unclassified	15	5	19
Group 2:			
Influenza	11	3	4
Primary atypical pneumonia	7	1	3
Unclassified	13	5	22
Psittacosis	1	0	1

* Both bronchitic cases.

observation holds good, particularly amongst the influenzal cases of group 1. (These were mainly due to the A type of infection, only six B type infections being found.) Only in two of the "probable" cases of this year did the illness appear to have a gradual onset, and in one of these, a girl of 21, recent tuberculosis was also found; the other was an old bronchitic case. Many of this first series were admitted within a week of the onset of the illness. All the cases in group 2 found to be influenzal were of the B type; they were admitted on the average later in the illness, but, even so, only four had symptoms of seemingly gradual onset, and of these one was a case of gross mitral stenosis and two had illnesses of two and six weeks' duration. Thus in only one of the four was the true onset of the infection clearly discernible.

But sudden onset is not confined to influenzal pneumonias, as is clearly shown in Table III. It is noteworthy that over one-third of the "negative" unclassified cases in the two years should have had onsets very difficult to distinguish from influenza. This finding is one of those which encourage the belief that there are other respiratory viral infections yet to be identified. Of the two psittacosis-ornithosis cases the more strongly positive also showed a sudden onset.

Severe headache is regarded as a distinguishing feature of "primary atypical pneumonia," but only half our cases in this group showed this symptom, while headaches of varying severity were seen in just over a quarter of the influenzal and in nearly a third of the unclassified cases.

The frequent occurrence of two phases of onset of the illness is also remarkable in all the groups of cases, 28 of the 1949 cases and 27 of the 1949–50 cases showing this feature. In them, after a beginning usually "influenzal" and sudden, there was a period of malaise followed by partial improvement; then, sometimes after the patient had been active, the illness returned with redoubled force and usually with symptoms suggestive of lung involvement, such as chest pain, dyspnoea, and severe cough. The interval between the two phases ranged from two days to three weeks, but in many cases was about one week. The average length of the interval

was slightly more in the unclassified cases (ten days) than in the influenzal and primary atypical pneumonic cases (seven or eight days). The expected evidence of a bacterial invasion to account for the second phase was not forthcoming in more than two-thirds of these cases, and in them the progressing invasion by the viruses, facilitated by inadequate rest, probably explains the advance of infection.

It is also noteworthy that no influenza-positive case showed cold agglutinins and no case with cold agglutinins showed a positive influenza complement-fixation reaction.

Respiratory Symptoms

Stuart-Harris *et al.* (1938) also emphasized the greater preponderance of malaise and general symptoms over respiratory symptoms in the influenzal cases, though he also seemed to imply that coryzal and non-exudative pharyngitis were common features in influenza. But we found pharyngitis in only 5 to 10% and coryza in less than 20% of all our cases, and laryngitis was conspicuous by its absence. The fact that the cases had usually passed to a pulmonary phase in the disease, and that mental hebetude may have caused some of the patients to forget such early symptoms, does not account entirely for the lack of prominence of these symptoms. On the other hand, our influenzal pneumonias were like those of Scadding (1937) in not being prominently dyspnoeic—except in the rare fulminating cases—but they often showed light cyanosis and a very great deal of toxic apathy and asthenia. And the non-influenzal cases in many instances gave a clinical picture indistinguishable from this.

Before considering the other respiratory symptoms, the effect of preceding respiratory disorders in these cases cannot be overlooked. Thus an old bronchitic case developing influenza naturally soon tended to show an exacerbation of bronchitic symptoms, while an asthmatic was liable to show in addition marked bronchial spasm and wheezing. In such cases dyspnoea was often severe and cyanosis pronounced, and in them the sudden type of onset was less in evidence. The proportion of cases with preceding chronic bronchitis was as great amongst the influenzal cases during the two outbreaks as amongst the other pneumonic cases investigated. The only group in which chronic bronchitis was not a marked feature was the "primary atypical pneumonic" group, and, as has already been pointed out, the average age was lower in this group than in the others. Pleuritic pain was an early feature in from one-half to two-thirds of the cases in each category.

Generally speaking, the symptoms failed to distinguish the influenzal cases from non-influenzal pneumonic cases, an observation in line with those of Francis (1941) and other observers in the United States (Horsfall *et al.*, 1940; Sulkin *et al.*, 1941). Dingle and Abernethy and their co-workers (1948) in the U.S. Commission on Respiratory Diseases worked in two U.S. Army camps and failed to distinguish influenzal cases from other acute respiratory diseases by ordinary clinical methods. While they found sore throat and sputum commoner earlier symptoms in acute respiratory diseases, and sudden onset, muscular achings, and prostration commoner in influenza, such differences were not consistent enough to permit a clear separation. A survey of the results of our case symptoms showed that despite treatment there was a greater tendency to prolonged fever of over one week in the influenzal and "primary atypical pneumonic" cases. As all cases on admission were given full therapy with sulphonamides, and often with penicillin as well, and as resistant bacteria were rarely encountered, this tendency to prolonged fever may in these cases well have been a sign of viral infection.

Analysis of Physical Signs

Before making a comparison of physical signs in the two groups it is interesting to recall the old anatomical division of pneumonias into bronchopneumonias and lobar pneumonias. If an influenzal outbreak occurs the affected cases are likely to be further infected with the prevailing bacteria of the locality, and if these are pneumococci, lobar pneumonic manifestations are likely to be frequent. While a pure pneumococcal lobar pneumonia was once of apparently common occurrence, this is not so to-day, and in our series of 159 cases only one case without evidence of recent viral infection fulfilled all the criteria of lobar pneumonia as regards history, signs, radiological appearance, leucocytosis, and pneumococcal sputum. It is not improbable that pneumococci have been rendered less pathogenic and less widespread by the effective therapy of recent years, but it is also probable that "lobar pneumonias" could on past occasions have been viral pneumonias secondarily infected by pneumococci.

In our cases of the first group seven of those which were an established recent infection with influenza and ten with a probable recent infection showed large areas of dullness, bronchial breath sounds, and rales, and so might have been classified as lobar pneumonia. The signs were unilateral or bilateral and were usually basal. similar findings were made in 15—a similar proportion—of the unclassified cases. The findings in the second group of cases were very similar, and in both years there was one influenzal case in which the lung consolidation had broken down under the influence of *Staph. aureus* and had produced cavernous signs, apical in one instance and basal in another. Scadding (1937) has mentioned the cases in which the dullness to percussion is associated with an absence of breath sounds sufficient to suggest fluid. These cases were fewer in the Edgware series. only one among the influenzas, three among the probable influenzas, and seven among the unclassified cases. In a small proportion of these early cases pleural fluid, usually in small quantities, was actually present, but more usually it appeared later, masking previous typical pneumonic signs.

Scadding has also commented on a stage of influenzal lung infection where patches of slight percussion impairment, weak breath sounds, and adventitia unassociated with *x*-ray changes are found. In these he considers lung oedema to be present, and of those in group 1 we found nine among the established and probable influenzas—one cold-agglutinin positive and eight among the unclassified cases. Nine of the influenzal cases (including the "probables") and ten of the unclassified cases in group 1 showed merely bronchitic signs, unilateral or bilateral rales or rhonchi, or both, without percussion impairment. These cases included a number of chronic bronchitics, but it also must be emphasized that radiological evidence of consolidation occurred more often than could be elicited by physical signs.

The figures for group 2 were largely similar in all instances, and it is evident that influenzal cases cannot be separated from non-influenzal by mere consideration of physical signs.

Scadding (1937) has classified the lung involvement in influenzal pneumonia as follows: (*a*) Cases without clinical signs of lung involvement; (*b*) cases with lung signs but without consolidation; and (*c*) cases with demonstrable consolidation. The last two groups he has further subdivided according to their extent and severity. By use of his criteria, and making allowance for the presence of a number of borderline cases, the extent of lung involvement in our cases is shown in Table IV. It should be explained that, whereas C1 and C2 represent respectively consolidation and more extensive consolidation of patchy nature, C3 cases are those with much bronchitis as well as lobar consolidation, and C4 are cases of purely lobar type.

Table IV further shows the impossibility of separating the cases of the various categories on the basis of clinical signs. As will be seen, this difficulty extends to the so-called primary atypical pneumonias, though, as often noted in the past, these tended to show signs disproportionately small for the amount of consolidation. They also twice showed an extrapulmonary feature peculiar to them in this investigation—namely, conjunctival injection.

TABLE IV.—*Extent of Lung Involvement (Scadding's Classification)*

	1949				1949–50		
	Infl.	Prob. Infl.	Cold Agglut. Positive	Unclassified	Infl.	Cold Agglut. Positive	Unclassified
A ..	0	0	1	1	0	0	0
B1 ..	1	1	0	1	1	1	3
B2 ..	6	3	1	8	3	0	7
C1 ..	6	12	7	21	2	10	19
C2 ..	3	6	2	6	[illegible]	0	10
C3 ..	0	0	0	0	[illegible]	0	0
C4 ..	0	0	0	2	[illegible]	0	1
	16	22	11	39	18	11	40

An approximate correlation of the physical signs with the radiological findings is discussed in the next section.

Radiological Appearances Correlated with Physical Signs

In all groups these varied greatly, and it can be said at the outset that they did not have any conclusive power in separating cases in the various groups. As might have been expected, prominent bronchial shadows of a linear and branching type were a feature of the bronchitic cases (B1 and B2 of Scadding's classification). A closer-knit reticulation and a very fine mottling in the more affected areas—often basal—was the next degree. These cases and the more definite pneumonias with larger areas of mottling (C1 of Scadding) usually produced a variable degree of percussion-note change with weakened breath sounds and rales at one or both bases. The reticular and mottled appearances were found in all classes of the pneumonias investigated.

A curious dense haze in the lungs, sometimes referred to as a "ground-glass" shadow or "partial" consolidation, was also seen in cases in all groups. The bronchial markings could often be seen through it, and even when extensive it usually spared the lung periphery. There was often with it a history strongly suggestive of viral pneumonia, and it occurred noticeably in the "primary atypical pneumonia" series. The signs were often those of moderate percussion-note change, distant tubular breath sounds, and fine rales, but, like all the other radiological appearances of pneumonia, this partial consolidation was associated with variable signs, the breath sounds over it being sometimes much diminished, at times frankly bronchial, and at others a patchy mixture of the two. The same range of signs was noted both where there were large woolly, partly confluent areas, and also where the consolidation was fully confluent and dense. For example, in one of the "primary atypical pneumonias" a comparable partly confluent consolidation in one lower lobe was associated with bronchial breath sounds and in the other lower lobe with very weak breath sounds.

Where there was marked percussion impairment the *x*-ray shadows were usually dense, but smaller shadows were found in resonant zones, particularly where emphysema had a masking effect. Many cases with chest pain showed pleural friction, and a number of these went on to develop pleural effusions, usually small, clear, and sterile. Pleural effusions always showed typical signs, but these at times suggested rather more fluid than was present—a not surprising fact when one remembered that in other cases consolidation mimicked the presence of fluid.

Two influenzal cases which developed staphylococcal abscesses in the consolidated areas showed clear cavernous breath sounds in the dull area near the cavitation. One non-influenzal case with an abscess cavity associated with little consolidation of the near-by lung showed the usual paucity of signs manifested by lung abscesses.

The slowness with which severe influenzal pneumonias cleared has been previously mentioned, and our cases were no exception. One extensive case took almost five months to become clear, and periods of two months from the outset were not uncommon. The heavy consolidations were naturally the most persistent; the "ground-glass" shadows usually cleared within three weeks, and the fine mottling even more rapidly.

Our findings accord with those of Ackermann (1941), who did not observe any specific form of influenzal consolidation. He found lobular consolidations, peribronchial consolidations, and "miliary" consolidations all in varying combinations. He also found that the appearances suggested pulmonary tuberculosis in some of his cases; but, apart from one case actually complicated by pulmonary tuberculosis and another with small upper-zone abscess cavities, this difficulty did not arise in our cases. The consolidations were usually in the lower zones, and as the shadows were of such varied character tuberculosis was not strongly suggested.

Bacteriology and Blood Examinations

Investigations of the sputum and blood are considered in the same section because a relationship between them might be expected. Scadding (1937) has mentioned that as a general rule his groups A and B (influenzal pharyngitis, tracheitis, laryngitis, and bronchitis) show neither significant organisms nor initial leucocytosis, and he believed that when leucocytosis occurs later in group B it is probably due to secondary infection. Similarly, he considered that in his group C the consolidations were due to secondary invaders which also caused leucocytosis, and in his "lobar" groups C3 and C4 pneumococci predominated in every case.

The question whether influenza or other respiratory viruses can alone cause consolidation is not fully decided. Goodpasture (1919) has described two cases of probable

are so apparent. Statistical departments can play an important and useful part in the planning and efficient management of the hospital service; but their credentials will fall into disrepute if they fail to advise caution in interpreting figures and translating them into administrative action without sufficient recognition of their limitations.

Survey of the Facilities for Treatment of Malignant Disease in the Birmingham Region

A survey was undertaken to assess the adequacy of existing facilities for the treatment of malignant disease, with particular reference to the provision of beds for radiotherapy. For this purpose a census of all patients in hospital on one day was taken. They were classified as: (*a*) suffering from malignant disease, in hospital for investigation on its account, and in hospital for non-malignant conditions; (*b*) occupying beds allocated to radiotherapy, beds specially reserved for malignant disease, and beds in general surgical, medical, or other wards. Tables V and VI show some of the results.

TABLE V.—*Patients in Hospital on Account of Malignant Disease, November 1, 1950.*

Patients Admitted for	No.	%
Radiotherapy	109	12
Radiotherapy combined with other treatment	53	6
Special medical or surgical treatment only	265	29
Nursing care (no special treatment)	251	28
Investigation	220	25
Total number	898	100

TABLE VI.—*Treatment of Malignant Disease by Type of Hospital.*

Type of Hospital	Total No. of Patients Admitted for Malignant Disease	Percentage of Patients Undergoing Various Treatments				Percentage of Patients Admitted for Investigation
		Rad. Ther. Alone	Combined R.T and Other	Other	None	
A	340	28·8	7·4	35·3	3·5	25·0
1	56	—	—	45·0	23·0	32·0
2	124	2·4	7·2	30·0	22·5	37·0
3	28	—	—	35·5	39·5	25·0
4	168	1·0	9·0	30·0	37·0	23·0
5	40	—	—	—	72·0	28·0
6	106	2·0	2·0	8·5	79·0	8·5
7	2	—	100·0	—	—	—
9	22	13·5	—	36·5	45·5	4·5
14	1	—	—	100·0	—	—
15	11	9·0	—	36·5	18·0	36·5
Total	898	12·0	6·0	29·5	28·0	24·5

Note.—The types used in this table are the same as those shown in Table IV except that general hospitals of type 1 with a specific allocation of beds for radiotherapy have been classified separately as type A.

Of the confirmed cases, 38% were receiving surgical or medical treatment only, 36% were receiving no special treatment, 18% receiving radiotherapy only, and 8% were being treated by a combination of radiotherapy and surgical or medical measures. On the day of the census there were 172 patients receiving treatment involving radiotherapy. If we assume this number to be the daily average of beds occupied by such patients, the total number of beds required to be allocated to radiotherapy would be about 175.

In view of the fact that 28% of all patients in hospital on account of malignant disease were receiving no special treatment, their cases being presumably too far advanced for effective measures, it might be desirable to check the methods of cancer registration to ensure that such cases are included. Such cases are often seen initially in surgical out-patient departments and are later admitted to hospital (particularly those of types 5 and 6) for nursing care in the terminal stages.

The census method used in this survey is a speedy and economical way of obtaining an overall picture of the hospital services in the region. But as it is a sample of the hospital population on one day only it may be attended with considerable error. This can be reduced somewhat by suitable selection of the census day—holidays such as Christmas Day, bank holidays, and so on must obviously be avoided. If necessary the census can be repeated in different seasons of the year. In this region it is used as a stop-gap method until the results of the hospital discharge study discussed below are available.

Hospital Discharge Study

Many hospitals in this region are co-operating in a regional hospital discharge study. For this, a small form suitable for punch-card analysis is completed for every patient discharged from hospital. Information relating to age, sex, place of residence, duration of stay in hospital, and diagnosis is collected by this means. The analysis of these cards will provide data for estimating the requisite allocation of beds on the basis of present-day needs. The relative age incidence of diseases necessitating hospital admission is of interest in the prediction of future requirements, which must conform to the needs of a population changing with respect to its age structure. The average duration of stay is of value in determining whether the existing allocation of beds among the specialties is satisfactory.

It should be recognized that differences found between hospitals do not necessarily indicate that one is more or is less efficient than the other. The diversity of work undertaken, special local conditions, and many other factors operate to produce numerical differences, which can, however, be used to point out the need for further investigation.

Estimation of Hospital Catchment Areas

Most general and some special types of hospital commonly serve an area, more or less constant in size but difficult to delimit. We may conveniently speak of such an area as the catchment area of the hospital. Prior to the appointed day municipally administered hospitals had catchment areas clearly defined by the boundaries of the local authority; and in most cases a residential qualification was necessary for admission; but this was not true of voluntary hospitals, which admitted patients irrespective of their home address.

The National Health Service does not recognize any residential qualifications for admission to hospital. Theoretically, a patient may be admitted to any hospital in the country, but in practice patients find it convenient to be admitted to the nearest hospital offering facilities appropriate to their need. Moreover, general practitioners in a district know the staff of their local hospitals and they, too, commonly refer their patients to these.

In determining the population served by a particular hospital the first requisite is a knowledge of the admissions to hospital by their place of residence. At the time when the population survey was made the discharge slips mentioned above were not in use and consequently recourse was had to a census method as a temporary expedient. This entailed the following assumptions:

(1) That the hospital population on the census day gives a representative sample of that on any other day in the year.

Needless to say, this assumption is not legitimate if a substantial proportion of beds are available for treatment of conditions subject to considerable seasonal variation.

(2) That within each local administrative area the density of population is uniform throughout. In urban areas no great errors are likely to arise from this assumption, while in rural areas the number of persons involved is so small that even if there are considerable variations—for example, concentration of population in small towns and villages—the error will not be large.

On October 19, 1949, a census was taken of all patients in every hospital in the Birmingham Region. Each hospital completed a form showing the number of patients by the administrative area of their home; the information was transferred to punch-cards. Special hospitals, including mental and mental deficiency hospitals, were considered separately.

There were 107 local government areas in the region for which official estimates of population were available. The cards were sorted out according to these areas. Thus for each area the number of residents in hospitals on that day was known, and also the names of hospitals to which they were admitted. In most areas these numbers give a good estimate of the total hospital population on that day. Estimates for areas at the boundaries would not be so accurate, as no information was available regarding persons resident in these areas but in hospitals outside the region.

The method of determining the catchment areas from these data is shown in Appendix A.

Nursing Staff Requirements

Valid comparison of staff/bed allocation in different hospital groups must take stock of the fact that the target varies from hospital to hospital, the mean allocation presumably deemed adequate for mental hospitals in particular being far below the general. In the Birmingham Region the composition of the groups with respect to different types of hospitals is highly variable, and therefore a low staff/bed ratio for a particular management group does not necessarily signify that it is understaffed. Crude rates such as the number of nurses per 100 beds may therefore be very misleading, and it is necessary to interpret them in juxtaposition to some yardsticks of adequacy. Differences in the staff situation in hospitals of diverse types are exemplified in Table III. The overall nurse/bed ratio for any particular type of hospital is the number of nurses per 100 available—that is, open and ready for use—beds.

The problem would be simple if we had firm figures for the requirements of each type of hospital. In the absence of such figures, the calibration of any yardstick of adequacy we adopt must rely on arbitrary assumption; and it is not unreasonable to suppose that the overall figures in the region as a whole for any particular type of hospital listed in Table III are not far short of requirements. In any case, it is instructive to present the relevant information in such a way as to answer the question: "Does the staffing of the hospital exceed or fall short of the overall standard for the region as a whole?" The crude rate as defined above does not answer this question, but we can make an answer explicit by recourse to a Regional Standard Index (R.S.I.) which has the value 100 if the staff situation in the group is equivalent to that in the region as a whole. A value greater than 100 signifies that the current staff allocation is above, and a value less than 100 that it is below, the regional standard so defined. The method of computation of the R.S.I. is shown in detail in Appendix B. It involves the application of a simple standardization procedure (similar to that for age standardization in vital statistics) to the nurse/bed ratios of different hospital groups.

Summary

The role of statistics in the National Health Service is discussed.

Variations in the hospital needs of different localities are discussed and some estimates of the number of beds required for each 1,000 persons are shown.

The administrative uses of statistics are illustrated by reference to a survey on the hospital treatment of patients with malignant disease.

Future developments in the statistical service of the Birmingham Regional Hospital Board are outlined.

A method of obtaining the population of hospital catchment areas is given.

The use of standardization in administrative statistics is discussed, and an example is given of its use in making comparisons of staff/bed ratios between hospital management groups.

While it is a pleasure to acknowledge the assistance given to me in this work by the Birmingham Regional Hospital Board and its officers, it is necessary to point out that the views expressed are personal and should not therefore be attributed to that Board or any members thereof. I gladly acknowledge the guidance and encouragement which I have received at all times from Professor Lancelot Hogben, F.R.S., without which none of this work could have been done.

References

Charles, Enid (1935). Special Memorandum No. 40. London and Cambridge Economic Service, London.

—— (1948). Eighth Census of Canada, Census Monographs No. 1, Dominion Bureau of Statistics. Ottawa.

Nuffield Provincial Hospitals Trust (1948). Health and Sickness Records Bureau. Glasgow.

MacKay, Donald (1951). Studies on Medical and Population Subjects, No. 4. General Register Office. H.M.S.O., London.

Nightingale, Florence (1860). Programme of the Fourth Session of the International Statistical Congress, p. 63. London.

APPENDIX A

Determination of Population of Hospital Catchment Areas

Let the total number of residents of area A who were in hospital on the census day be a; the number in B be b, etc. The total number of patients in regional hospitals on that day was $(a + b + \ldots + r + \ldots + x)$.

In Hospital *1* there were a_1 patients from A, b_1 patients from B, r_1 patients from R, etc.

In Hospital *2* there were similarly a_2, $b_2 \ldots r_2$, etc., patients from A, B, etc.

The proportion of in-patients from area A in Hospital *1* is

$$\frac{a_1}{a_1 + a_2 + \ldots a_x} = \frac{a_1}{a}$$

In most instances where area A is close to Hospital *1*, a_1 is very nearly equal to a.

Let the total population of A be n_a, of B be n_b, etc. Then the population of A served by Hospital *1* is:

$$\frac{a_1}{a} \cdot n_a, \text{ by Hospital 2 is } \frac{a_2}{a} \cdot n_a, \text{ etc., and}$$

$$n_a = a_1 \cdot n_a \div a + a_2 \cdot n_a \div a + \ldots + a_r \cdot n_a \div a + \ldots a_x \cdot n_a \div a$$

$$= \frac{n_a}{a} \left[a_1 + a_2 + \ldots a_r + \ldots a_x \right]$$

$$= \frac{n_a}{a} \sum_{r=1}^{r=x} a_r$$

The population of B served by Hospital *1* is $b_1 \cdot n_b \div b$ and of C is $c_1 \cdot n_c \div c$, etc.

Therefore the total population served by Hospital *1* is

$$a_1 . n_a \div a + b_1 . n_b \div b + \ldots + r_1 . n_r \div r + \ldots + x_1 . n_x \div x$$

The splitting-up of the population of an area is arbitrary, and where two or more hospitals are in juxtaposition it is more satisfactory to determine the catchment area for the group rather than the individual hospitals.

The estimates would be more satisfactory if they were based on hospital admissions over a period of time—say six months or a year. In this region, when the discharge slips are received from all hospitals further estimates of the catchment areas will be made on that basis. However, the census method is recommended as a speedy and economical technique when facilities are not available for a more detailed survey.

APPENDIX B

Calculation of Regional Standard Index

The rationale of the R.S.I. is as follows. The overall nurse/bed ratio in the region for any particular type of hospital listed in Table III is obtained thus: if R_n is the total number of nurses employed and R_b the total number of available—that is, beds open and ready for use—beds in any one type, then the overall staff/bed ratio in the region for that type of hospital is $100\ R_n \div R_b$. The overall ratios for June 30, 1949, are shown in Table III.

For each type of hospital in Table III we have the overall nurse/bed ratio, which may be denoted thus: $n_1, n_2 \ldots n_{12}$. For any particular management group our returns cite $b_1, b_2 \ldots b_{12}$ beds in one or other type of hospital, and $N_1, N_2 \ldots N_{12}$ nurses. If the staff situation tallies with that of the region there would be $n_x . b_x \div 100$ nurses in the *x*th type of hospital, and the total (standard) number of nurses would be:

$$N_s = \frac{1}{100}(n_1b_1 + n_2b_2 + n_3b_3 + \ldots + n_{12}b_{12})$$

Actually it is

$$N_t = N_1 + N_2 + N_3 + \ldots + N_{12}$$

If N_t exceeds N_s the hospital allocation is above par, and if N_t falls short of N_s it is below par. We may use $N_t \div N_s$ expressed as a percentage to convey this information. Thus we define the Regional Standard Index as:

$$\text{R.S.I.} = 100\ N_t \div N_s$$

Computation of Regional Standard Index

In the Tables below two part-time nurses are counted as equivalent to one full-time nurse.

Type of Hospital	Overall Ratio for that Type ($100\ n_x$)	No. of Available Beds	Estimated No of Nurses Required $n_x . b_x \div 100$	Actual No. of Nurses Employed N_x
Hospital Management Committee A				
5. General ..	47·8	235	112	119·5
12. Tuberculosis and fever ..	33·6	59	20	25·5
7. Maternity ..	14·7	22	3	7·0
3. Cottage ..	41·0	9	4	4·0
3. Cottage ..	41·0	10	4	3·5
8. Mental ..	13·3	1,183	157	189·5
1. Chronic sick ..	23·1	290	67	48·5
Total ..		$B_t = 1{,}808$	$N_s = 367$	$N_t = 397·5$
Hospital Management Committee B				
5. General ..	47·8	159	77	80·0
5. General ..	47·8	287	136	120·0
1. Chronic sick ..	23·1	176	41	40·5
7. Maternity ..	14·7	14	2	5·0
11. Tuberculosis	20·4	19	4	10·0
4. Isolation ..	28·5	12	3	2·0
11. Tuberculosis	20·4	22	4	4·5
Total ..		$B_t = 689$	$N_s = 267$	$N_t = 262·0$

Crude rates $= 100\ N_t \div B_t$
Regional Standard Index $= 100\ N_t \div N_s$

	H.M.C. (A)	H.M.C. (B)
Crude rate ..	$\frac{100 \times 397·5}{1{,}808} = 22$	$\frac{100 \times 262}{689} = 38·8$
R.S.I.	$\frac{100 \times 397·5}{367} = 108$	$\frac{100 \times 262}{267} = 98$

Thus from the crude rates it would appear that B has almost twice as many nurses as A, but when due allowance is taken for the differences in composition of the groups A is somewhat higher and B lower than the regional average.

PRIMARY TUBERCULOUS PLEURAL EFFUSION IN OLDER AGE GROUPS

BY

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The primary serous pleural effusion in children and young adults no longer presents an aetiological problem. Many series of cases, carefully investigated and laboriously followed up, have been reported in the literature, leaving no doubt that, with few exceptions, the tubercle bacillus, although seldom declaring its presence in the fluid, is lurking in the background, prepared in later years to exact a further toll on the health of the victim.

A similar effusion in adults over 40 years of age presents a much greater problem in diagnosis, because of the lessening incidence of tuberculosis and the increasing incidence of malignant disease. From the statistical point of view it is clear that, unless care is taken at the outset to exclude malignant cases from consideration, morbidity and mortality occurring during a follow-up period, especially if the investigator is dependent on a postal questionary without necropsy control, may be wrongly attributed to tuberculosis. It is of interest in this connexion that Fauvet (1945), as a result of a follow-up of 731 cases of serous pleural effusion, believes that tuberculosis morbidity and mortality increase with advancing years. On the other hand, Maclean (1948) fears that such a deduction may be erroneous, and that it is almost certainly due to the inclusion of a number of cases in which malignant disease is the real cause. The *British Medical Journal* (1946) points out that the prognosis with respect to the development of tuberculosis is much better in children than in young adults, but does not venture an opinion on adults over 40, in whom it states that "carcinoma of the lung is common."

Another statistical error may occur in all age groups, but more so in the older groups, if cases with the adult type of pulmonary tuberculosis complicated by effusion are included. As Thompson (1947) has pointed out, the prognosis in this type of case is that of pulmonary tuberculosis in general, and is therefore much worse than that of effusion occurring in the period after a primary infection. Radiology may fail to reveal an adult type of lesion until considerable absorption of the effusion has taken place; such a case may be wrongly included as a primary effusion.

The present investigation was undertaken to determine the frequency and prognosis of primary tuberculous pleural effusion in patients over 40. Case material was selected from admissions to five medical charges in the Royal Infirmary of Edinburgh during a period of five years, from 1945 to 1949. All patients aged over 40 found on admission to have a serous pleural effusion of uncertain aetiology were included initially in the investigation, and total 60 in number. Cases in which the pleural effusion was secondary to some obvious lesion in the lungs, heart, or elsewhere were excluded (except those in which the lung lesion was suggestive of the adult form of pulmonary tuberculosis). Two of the 60 patients selected left hospital against advice before investigations could be completed, and were therefore omitted from the final analysis. The remaining 58 were carefully investigated, and the follow-up is complete. Table I shows the ultimate diagnosis in these cases.

TABLE I.—*Ultimate Diagnosis in 58 Cases of Pleural Effusion of Uncertain Aetiology occurring in Adults over 40*

Diagnosis	No. of Cases
Bronchial carcinoma	11
Tumours other than bronchial carcinoma	8
Simple inflammatory	7
Collagen disease	4
Cardiac transudate	2
Reticulosis	2
Pulmonary infarction	1
Adult pulmonary tuberculosis	2
Uncertain	1
Primary tuberculosis	20
Total	58

Comments on Diagnosis

Bronchial Carcinoma

Of the 11 cases, 1 was confirmed by necropsy, 2 by bronchoscopic biopsy, 1 by thoracoscopic biopsy, and 2 by the later development of unequivocal radiological signs; the remaining 5 were less certainly confirmed by the development of probable radiological signs and/or a rapid downhill clinical course with recurrence of massive blood-stained effusion and a fatal termination.

Tumours Other than Bronchial Carcinoma

Of the 8 cases, 4 were confirmed by necropsy, 1 by the development of undoubted (radiological) secondaries in the lungs, and 3 by the finding of malignant cells in the fluid associated with clinical or radiological evidence of a primary tumour elsewhere in the body.

Simple Inflammatory Cases

All 7 cases had been treated with a sulphonamide and/or penicillin before admission and had clear sterile effusions without definite radiological evidence of lung consolidation; 5 were regarded initially as possible tuberculous effusions, 1 as a possible malignant effusion (Case 6), and 1 as a possible simple inflammatory effusion (Case 7). Four cases had a predominance of polymorph neutrophils in the exudate, 1 a predominance of polymorph eosinophils, and 2 a predominance of ordinary lymphocytes. The subsequent course of events in each case was as follows:

Case 1.—Initial pyrexia subsided with further sulphonamide and penicillin, but subsequently became hectic, with leucocytosis; eventual cure occurred with the coughing up of a large quantity of pus, suggestive of pulmonary or pleuro-pulmonary abscess.

Case 2.—Pyrexia and fluid persisted. After discharge to a convalescent home the patient developed purulent sputum (negative for tubercle bacilli) and finger clubbing; subsequent investigation revealed a bronchiectatic lower lobe on the side of the effusion. The lobe was resected at thoracotomy, which revealed no evidence of tumour or tuberculosis; the original effusion was lymphocytic.

Case 3.—Pyrexia persisted and originally clear effusion became turbid; subsequent resection of empyema space showed no pathological evidence of tuberculosis.

Case 4.—Pyrexia subsided rapidly with further sulphonamide and penicillin. While convalescent the patient had a brisk haemoptysis. A radiological follow-up for four years showed gradual development of bilateral bronchiectatic changes.

Case 5.—Pyrexia had subsided before admission. Effusion contained 50% eosinophils. The Mantoux test (1:100) was negative, and has remained so during repeated tests over two years.

Case 6.—Pyrexia responded to further penicillin and sulphonamide; a subsequent relapse also responded. First aspiration—lymphocytes; second aspiration—lymphocytes plus possible malignant cells. The diagnosis of malignant disease was strengthened by the finding of a mass attached to the liver, but the patient was alive and well two years later. The mass is now thought to be an abnormal lobe of the liver. The condition is regarded as a simple inflammatory one because of the undoubted response on two occasions to sulphonamide and penicillin.

Case 7.—In addition to pyrexia and left pleural effusion, the patient had hypertension and auricular fibrillation, but there was no evidence of either left- or right-sided cardiac failure. The effusion was clear and sterile, but with polymorph exudate. Pyrexia responded slowly to penicillin and sulphonamide; the effusion cleared up, but localized coarse crepitations appeared and persisted in the left lower lobe, indicating resolving consolidation (not visible on x-ray film). The patient died of congestive cardiac failure some months after discharge.

Collagen Disease

Of the 4 cases, 1 presented with a bilateral pleurisy which went on to bilateral effusion with high temperature. The provisional diagnosis was miliary tuberculosis, but necropsy showed unequivocal evidence of disseminated lupus erythematosus. The remaining 3 cases presented with vague muscular pains, including chest pain, which was at first thought to be muscular in origin; all, however, developed bilateral effusion associated with a long-continued toxic illness, and eventually showed changes in the hands diagnostic of rheumatoid arthritis; 1 of the 3 cases had a predominance of eosinophils in the pleural fluid. Although it is impossible to exclude tuberculosis in those cases, it is regarded as important that in each case the fluid was bilateral and was associated with subsequent undoubted evidence of a disease known to involve diffusely all the fibrous tissues in the body. Bilateral effusion in tuberculosis is uncommon. Necropsy studies of cases of rheumatoid arthritis have shown that pleural fibrosis without evidence of tuberculosis, either past or present, is a common finding (Rosenberg, Baggenstoss, and Hench, 1944; Fingerman and Andrus, 1943).

Cardiac Transudate

Of the 2 cases, 1 presented with slight dyspnoea and was found to have a left-sided pleural effusion. Neoplasm and tuberculosis were being considered, when the patient died suddenly. At necropsy an unsuspected cardiac infarct, approximately three weeks old, was seen to involve the left ventricle. There was no evidence of neoplasm, tuberculosis, or lung infarct. The right pleural cavity was completely obliterated by old adhesions, thus accounting for the strictly unilateral nature of the

transudate. The other case has been reported previously (Robertson, 1951); this patient presented with a puzzling interlobar effusion which eventually proved to be cardiac in origin.

Reticulosis

One case presented with a right pleural effusion which was thought to be tuberculous in origin. Some months later signs of superior mediastinal obstruction and generalized lymphadenopathy developed: a gland biopsy showed a lymphoid follicular reticulosis, in which serous effusion is a common finding (Hadfield and Garrod, 1947). The other case was known to have a reticulosis of obscure type, gland biopsy suggesting the possibility of atypical Hodgkin's disease. Bilateral pleural effusion developed in the absence of radiological evidence of thoracic gland involvement. In view of the possible confusion pathologically between Hodgkin's disease and tuberculosis, the latter was considered in diagnosis. The effusions, however, proved to have a low protein content; this led to estimation of the plasma proteins, when the albumin was found to be 2.29 g.%. A high protein diet corrected the low plasma albumin, and the pleural fluid disappeared. It seems reasonable to conclude that the pleural effusions were transudates due to hypoproteinaemia complicating a reticulosis.

Pulmonary Infarction

This patient was in a hospital ward for investigation of gall-bladder disease. While in bed she developed an acute pleurisy, with subsequent rapid development of a clear serous effusion; there was no evidence of pneumonia. Haemoptysis appeared on the third day of illness. A pulmonary infarction seems the most probable diagnosis in view of the haemoptysis and the onset of illness while in bed; there was, however, no evidence of thrombophlebitis, and tuberculosis had been considered prior to the haemoptysis.

Adult Pulmonary Tuberculosis

Two cases had radiological changes in the lungs suggestive of this condition: in both, the sputum was found to contain tubercle bacilli. It should be noted that the number in this group is artificially small, as such cases are not admitted to the Royal Infirmary of Edinburgh if alternative accommodation can be obtained.

Uncertain

This patient, known to have hypertension, was resting in bed at home. She developed a febrile illness with pleuritic pain and copious purulent sputum, and a clear serous lymphocyte effusion subsequently occurred. All investigations for tuberculosis were negative. A follow-up for four years showed recurrent bronchitis, asthma, obesity, and hypertension. As the main illness took place at home and she was seen only when the effusion was clearing up, it is difficult to suggest a diagnosis: "simple inflammatory" seems a more probable diagnosis than tuberculosis.

Primary Tuberculosis

Of the original 58 cases 38 have been described above, leaving 20 in which a diagnosis of primary tuberculosis was made. It should not be thought, however, that this diagnosis rests entirely on a process of exclusion. Of these 20 cases 14 had an illness resembling in every respect the classical primary tuberculous effusion in the young adult—that is, sudden onset, in a previously healthy person, of acute pleuritic pain progressing to a clear serous lymphocytic effusion, with no radiological evidence of lung disease, and pursuing a protracted febrile course unresponsive to chemotherapy and antibiotics. Five others of the 20 had a similar illness, but the onset was more insidious, and there was little or no pleuritic pain. The remaining case had an acute pleurisy progressing to effusion, without pyrexia at any time. In only two cases was the tubercle bacillus isolated from the pleural fluid; this does not invalidate the diagnosis, since in similar cases in young adults it is notoriously difficult to isolate the bacillus unless special methods are used. No case had tubercle bacilli in the sputum or gastric washings. *X*-ray films of the chest after clearing of the effusion did not reveal any case of adult pulmonary tuberculosis. Follow-up has excluded any disease, other than tuberculosis, which might have accounted for a pleural effusion.

Discussion

In this series of 58 cases of serous pleural effusion of initially uncertain aetiology occurring in adults over 40 years of age, only 20 could be ascribed to primary tuberculous infection. Nineteen proved to be secondary to malignant disease of the lungs or elsewhere. Only two were due to the adult form of pulmonary tuberculosis, but this is an artificially small number because of the restricted admission of this type of case to a general hospital. Details of the remaining 17 cases have been included to justify their grouping under miscellaneous conditions given in Table I.

As stated earlier, this series of cases was selected from admissions to five medical charges during a period of five years from 1945 to 1949. In order to find the relative frequency of primary tuberculous effusion in adults over 40, the corresponding numbers of cases of primary tuberculous effusion in children and young adults admitted to the same five charges over the same period of time were determined. The details are given in Table II. It was found that almost 10% of primary tuberculous effusions occur in adults aged over 40.

TABLE II.—*Age Distribution of 216 Cases of Primary Tuberculous Pleural Effusion Occurring over a Five-year Period*

Age (Years)		No of Cases		%	
Under 20		117		54·1	
20–29		60		27·8	
30–39		19		8·8	
40–49		12		5·5	
50–59		3	20	1·4	9·3
60–69		4		1·9	
70–79		1		0·5	
Total		216		100	

It is difficult to estimate how many people in Great Britain over 40 are tuberculin-negative. Recent tuberculin surveys have concerned children and young adults, but in 1934 Kayne found that among non-tuberculous admissions to a general hospital in London 15% of the 45–59 age group and 14% of the over-60 age group were tuberculin-negative. Those figures are probably artificially high, as it is well known that debility and intercurrent illness in hospital patients may inhibit the tuberculin reaction. In a recent paper from Norway, Jonsen and Ustvedt (1950), using a combination of Mantoux and B.C.G. tests, conclude that lack of tuberculous allergy in old people is not so common as has been assumed, being in the region of 12%.

While there may be some doubt about the precise number of older people liable to acquire a primary

infection, Terplan (1940) and Pagel (1948), in their pathological studies, have proved beyond question that primary infection does occur. Terplan in addition has shown that an older person may acquire a "second" primary infection when the "first" primary infection has become completely inactive (presumably with reversion to tuberculin negativity). Kayne, Pagel, and O'Shaugnessy (1948) believe, further, that an old primary infection may commonly flare up in people over 45 years. It would seem, therefore, that a primary tuberculous effusion may occur in older people following delayed primary infection, reactivation of old primary infection, or "second" primary infection.

In the present series of 20 cases, one case which came to necropsy showed reactivation of a primary Ghon focus. Most of the 20 had lived in large cities since early childhood and therefore had every opportunity of acquiring infection earlier in life. No case had a history of recent contact with a known source of infection. Only one case showed radiological evidence of hilar gland enlargement, this being the only point in which the clinical picture differed from that of similar effusions in children and young adults, in whom such radiological evidence is much more common. This difference has been noted previously (Landau, 1949), and may mean that in the older person a typical primary complex, in which hilar gland enlargement is usually marked, is not commonly present. It is not possible to draw definite conclusions from this series of cases, but it would seem that delayed primary infection, in its typical form, is probably not an aetiological factor.

While it has been proved (Graham, 1925; Smithers, 1934; Vaizey and Perry, 1940; Landau, 1949) that primary tuberculous effusion in children has a surprisingly good prognosis, there is little agreement in the literature concerning the influence of advancing years. Thompson (1946), whose series of 233 cases included only 13 over 40 years of age, considers that age *per se* does not matter with respect to the development of tuberculous lesions. On the other hand, Fauvet (1945), Gaarde (1930), and Farber (1943) show that in those over 40 years of age the prognosis tends to become worse. It is unfortunate that many series in the literature include no cases older than 40, and that those which do have, of necessity, all too few for statistical purposes. The old enemies, inadequate follow-up and doubtful diagnosis, also play a part in invalidating statistics.

Unfortunately, the present series of 20 cases over 40 years of age is also small, but efforts have been made to eliminate errors in diagnosis, and follow-up over a period of three to six years is complete. All surviving cases have been examined clinically and radiologically, and necropsy has been performed on those who died. Table III indicates that the incidence of tuberculous morbidity is 45%, with a corresponding mortality.

TABLE III.—*Follow-up of 20 Cases of Primary Tuberculous Pleural Effusion in "over 40" Age Group*

	No. of Cases
Alive and well	11
Dead—Pulmonary tuberculosis	2
" —miliary "	1
" —pericardial "	1
Alive—active pulmonary tuberculosis	3
" —inactive " "	1
" —recurrence of effusion on other side	1

Although no sweeping deductions can be made from this small series, it is clear that the primary tuberculous effusion is a potentially serious disease in older people. The morbidity figure of 45% compares unfavourably with the average morbidity of 14% calculated from nine series of cases of primary effusion, mostly in younger age groups, published beween 1945 and 1949. That its potential gravity is perhaps not fully appreciated is illustrated by the fact that only 9 of the 20 cases received a period of treatment at a convalescent home before being returned to normal life; and in only 3 was that period longer than one month (it so happens that those 3 are alive and well). It may be that the bad prognosis in this series is partly due to this factor. In comparison, virtually all children and young adults with effusion have a prolonged period of convalescence. It would seem that efforts should be made to secure adequate convalescence for all cases of effusion, irrespective of age.

Summary

An investigation is presented in which an attempt has been made to elucidate problems relating to the frequency and prognosis of primary tuberculous pleural effusion in the older age groups.

In a series of cases in adults over 40 years of age presenting with a serous pleural effusion, approximately one-third proved to have a primary tuberculous effusion; in the remainder the effusion proved to be secondary to some other condition.

Approximately 10% of all primary tuberculous pleural effusions occur in adults over 40.

The aetiology of primary tuberculous pleural effusion in older age groups is discussed in relation to delayed primary infection, reactivation of an old primary infection, and a "second" primary infection. No definite conclusion is reached, but delayed primary infection seems an unlikely aetiological factor.

Difficulties in assessing the prognosis of primary tuberculous pleural effusion in the older age groups are discussed. The present investigation suggests that subsequent tuberculous morbidity is greater in them than in children and young adults.

The early part of this investigation was carried out with the help of a grant from the Royal Victoria Hospital Tuberculosis Trust. I am greatly indebted to the physicians of the Royal Infirmary of Edinburgh who allowed me access to their cases and case records. I wish to thank Professor Charles Cameron for his kindly criticism.

REFERENCES

British Medical Journal (1946). **2**, 333.
Farber, J. E. (1943). *New Engl. J. Med.*, **228**, 784.
Fauvet, J. (1945). *Bull. Acad. Méd., Paris*, **129**, 96.
Fingerman, D. L., and Andrus, F. C. (1943). *Ann. rheum. Dis.*, **3**, 168.
Gaarde, F. W. (1930). *J. Amer. med. Ass.*, **95**, 249.
Graham, S. (1925). *Glasg. med. J.*, **104**, 1.
Hadfield, G., and Garrod, L. P. (1947). *Recent Advances in Pathology*, 5th ed., p. 47. London.
Jonsen, J., and Ustvedt, H. J. (1950). *Tubercle*, **31**, 261.
Kayne, G. G (1934). *Lancet*, **2**, 1333.
—— Pagel, W., and O'Shaugnessy, L. (1948). *Pulmonary Tuberculosis*, 2nd ed., p. 347. London.
Landau, N. (1949). *Tubercle*, **30**, 26.
Maclean, K. S. (1948). *Guy's Hosp. Rep.*, **97**, 133.
Pagel, W. (1948). In Kayne, Pagel, and O'Shaugnessy's *Pulmonary Tuberculosis*, 2nd ed., p. 120. London.
Robertson, R. F. (1951). *Brit. Heart J.*, **13**, 112.
Rosenberg, E. F., Baggenstoss, A. H., and Hench, P. S. (1944). *Ann. intern. Med.*, **20**, 903.
Smithers, D. W. (1934). *Arch. Dis. Childh.*, **9**, 245.
Terplan, K. (1940). *Amer. Rev. Tuberc.*, **42**, Suppl. p. 58
Thompson, B. C. (1946). Ibid., **54**, 349.
—— (1947). *Tubercle*, **28**, 229.
Vaizey, J. M., and Perry, K. M. A. (1940). *Lancet*, **1**, 1120.

The use of blood has increased more than twofold since the beginning of 1946. Part of this increase may well be fully justified, but there is probably also avoidable waste. Continuous supervision of blood banks is essential: an average blood bank may be said to be running economically and efficiently if not more than 10 to 15% of the blood issued to it by the Regional Transfusion Centre is returned unused, and if this is fit for conversion to plasma. The Ministry of Health has issued suggestions on how this can be achieved.

RADIOLOGICAL CHANGES IN THE SKULL IN DYSTROPHIA MYOTONICA

BY

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In a previous endocrine study of dystrophia myotonica Caughey and Brown (1951) made reference to certain radiological abnormalities of the skull in dystrophia myotonica, and suggested that these changes should be regarded as variable features of the disorder. Since that time I have had the opportunity of studying further cases which have presented with similar radiological findings. No mention of these findings has been discovered in the standard textbooks, and this additional account is recorded in the hope that it may stimulate interest and establish the clinical significance of these changes by radiological study of many more cases than one observer can hope to collect.

Historical

Myotonia was first described by Leyden in 1874. In 1876 Thomsen, who himself suffered from myotonia, recorded his own symptoms and signs. The combination of myotonia and muscle atrophy was described by Dana in 1888, but it is Déléage (1890) who is usually credited with the first account of dystrophia myotonica. In 1909 Steinert wrote a full description of the disease, and first described changes in the mental state and some of the associated dystrophic features such as premature frontal baldness and gonadal atrophy. At the time, these latter findings were regarded as being merely coincidental. In 1911 Greenfield recorded the constant association of cataract in the disorder, and thereafter the other dystrophic manifestations of the disorder came to be recognized as an essential part of the clinical picture in the fully developed disorder of the "dystrophic" generation.

Few authors have made reference to radiological changes in the skull in these patients. Scharnke and Full (1920) described a large frontal sinus in the presence of a normal pituitary fossa. Rouquès (1931) reported the radiological findings of the skull in four patients. The calvarium was distinctly thickened in three and less so in the fourth. Large frontal sinuses occurred in two, in two the pituitary fossa was small, and in two it was bridged over by an area of calcification. Fagin (1946) reported the occurrence of hyperostosis frontalis in two patients.

Clinical Reports

This study is based on 13 patients with dystrophia myotonica—all members of the so-called "dystrophic generation" and all presenting myotonia, characteristic muscle-wasting, and various dystrophic lesions such as cataract, gonadal atrophy, and frontal baldness. It is considered that in none of these cases can there be any reasonable doubt about the diagnosis. Most of them have been reported in detail elsewhere, and are here recorded in brief but with full radiological reports.

Case 1.—A farmer aged 45, single, developed weakness and wasting of the arms and legs and myotonia at the age of 27. The weakness progressed until he became almost bedridden. Soon after the onset of the disease he developed bilateral cataract, premature frontal baldness, and gonadal atrophy. Post-mortem findings confirmed the diagnosis of dystrophia myotonica, with the disorder fully developed. *Radiological findings:*—Skull (Fig. 1): the vault shape was normal; the calvarium was thickened; hyperostosis interna frontalis et parietalis was present; the sinuses were within normal limits; the mandible was normal; the pituitary fossa was small, with a pneumatized dorsum sella; the pineal body was calcified.

Case 2.—A single panel-beater aged 26 presented with auricular flutter in 1945. Myotonia had been noted two years prior to this. He had the fully developed disease, with myotonia, wasting of the face, arms, legs, and sterno-mastoid muscles. There was no gonadal atrophy and no cataract. *Radiological findings:*—Skull: the vault shape was normal and the calvarium thickened, especially in the posterior parietal region; there was a hyperostosis interna frontalis; the frontal sinuses were deep; the sphenoidal sinus was large and the pituitary fossa very small.

Case 3.—A married woman aged 33 developed myotonia at 21. Wasting and weakness of legs, arms, face, and neck

FIG. 1.—Case 1. Calvarium thickened; hyperostosis frontalis; pituitary fossa small.

muscles were apparent at 28, and bilateral cataract developed at 30. *Radiological findings:*—Skull: the vault shape was normal and the calvarium thickened throughout, with moderate hyperostosis interna frontalis et parietalis; the sphenoidal sinus was large and other sinuses were within normal limits; there was pneumatization of the dorsum sella; the pituitary fossa was small, and the pineal body was calcified.

Case 4.—A male factory-hand aged 27 had for two years noted myotonia, weakness of the neck muscles, wasting of the forearms and legs, and frontal baldness. He presented with myotonia and characteristic muscle-wasting. There were no lenticular opacities, and no gonadal atrophy was noted. *Radiological findings:*—Skull: the calvarium was thickened and there was hyperostosis interna frontalis; the sinuses were normal in size; the pituitary fossa was small.

Case 5.—A military pensioner aged 32 first noted myotonia while a prisoner of war in Germany in 1942. In 1946 he presented with myotonia, wasting of sterno-mastoids, forearms, and legs. There was cataract and frontal baldness, but gonadal atrophy was not noted. *Radiological findings:*—Skull: the calvarium was normal; there was a very grossly calcified falx cerebri, which was responsible in part for the appearance of a nebula frontalis; no definite hyperostosis was present; the pituitary fossa was normal to small; all sinuses were large.

Case 6.—A carpenter aged 41 developed failure of potentia at 34. Myotonia was noticed four years later, and wasting

of face, neck, forearms, and legs became apparent. He presented a characteristic picture, with myotonia, muscle-wasting, and gonadal atrophy. *Radiological findings:*—Skull: there was no thickening of the calvarium; the frontal and sphenoidal sinuses were extensive and deep; the pituitary fossa was small; the dorsum sella was completely pneumatized; the jaw was prognathous.

Case 7.—A housewife aged 51 had noticed weakness of her neck muscles since she was 30. The sterno-mastoid muscles had wasted, there was progressive wasting and weakness of her forearms and legs, and she had bilateral cataract. Mechanical myotonia was present. The ankle-jerks were absent. *Radiological findings:*—Skull: there was thickening of the whole calvarium with loss of differentiation of the cortex and the diploe and extensive hyperostosis interna frontalis. The sinuses were normal and the pituitary fossa was very small, with calcification near the floor. There was no pneumatization of the dorsum sella.

Case 8.—A labourer aged 28, who had been backward at school, at 17 noticed difficulty in relaxing his grasp, and his arms and legs became progressively weaker and wasted. Visual deterioration had been apparent for five years. He presented with myotonia, muscle-wasting, bilateral lenticular opacities, and frontal baldness. The gonads were not obviously atrophic. *Radiological findings:*—Skull: the vault was normal in size and the calvarium was thickened; there was extensive hyperostosis interna frontalis et parietalis; the vertical component of the frontal sinus was normal, but the horizontal component extended almost to the anterior clinoids; the pituitary fossa was very small, and the dorsum sella was thick and partially pneumatized.

Case 9.—A grocer aged 33, who was backward at school, first noticed myotonia at 13 years. Wasting of face, arms, and legs developed two years later. He presented with marked myotonia, wasting of sterno-mastoid muscles, and face, forearms, and legs. There was marked gonadal atrophy, but there were no cataracts. *Radiological findings:*—Skull (Fig. 2): the vault was small, globoid, and microcephalic; the calvarium was thickened but of normal density; the sinuses were extensive and deep, especially the sphenoids, which extended into the posterior clinoid processes; the pituitary fossa was very small and the jaw markedly prognathous.

FIG. 2.—Case 9. Calvarium thickened; pituitary fossa very small; jaw prognathous; sinuses extensive.

Case 10.—A spinster aged 45 had been admitted to a mental hospital nine years previously. Six years later she developed myotonia, and in 1950 presented with bilateral cataract, myotonia, and wasting of the face, sterno-mastoid muscles, forearms, and legs. *Radiological findings:*—Skull: there was marked hyperostosis interna frontalis; the floor of the anterior fossa was more vertical than usual and the pituitary fossa was small; the frontal sinus showed a large horizontal component and a very large vertical component; the sphenoidal sinus was large and the antra were normal; the jaw was prognathous.

Case 11.—A housewife aged 47 developed bilateral cataract nine years previously. When examined she presented myotonia of grasp and some weakness of the sterno-mastoid muscles. *Radiological findings:*—Skull: the calvarium was thickened; there was hyperostosis interna frontalis; the pituitary fossa was small and the sinuses were all normal.

Case 12.—A farmer aged 42 first noticed myotonia in 1941, and weakness and wasting of his arms and legs developed a year later. He presented with myotonia and wasting of the sterno-mastoid muscles, forearms, and legs. There was bilateral cataract, with frontal baldness, gonadal atrophy, and areflexia. *Radiological findings:*—Skull: the calvarium was normal; there was no hyperostosis; the pituitary fossa was small; the frontal sinuses were extensive and the sphenoidal sinus was large.

Case 13.—A spinster aged 42 had for 15 years noticed an inability to relax her grasp. For 15 months her legs had been weak and wasting had developed. On examination there was wasting of the face, forearms, and legs, and the sterno-mastoid muscles had wasted completely. There was myotonia of grasp. *Radiological findings:*—Skull: there was marked thickening of the calvarium, the average thickening being approximately 1·5 cm. This thickness was evenly distributed and involved all the bones of the vault. There was also evidence of some hyperostosis interna frontalis. The pituitary fossa was also abnormally small. Both anterior and posterior clinoid processes and the dorsum sella were well developed.

Discussion

These 13 patients all suffered from dystrophia myotonica and all were members of the so-called "dystrophic generation." It is realized that in assessing the size of the pituitary fossa and the size of the sinuses in the standard views the radiologist bases his opinion largely on subjective impression, as strictly accurate measurement is not always possible.

In the above reports the size of the pituitary fossa is classified as normal, small, or very small—"small" indicating a sagittal diameter below 9 mm. and/or a vertical diameter below 6 mm.; "very small" indicating measurements below 6 mm. and/or 4 mm. respectively for the same diameters. With two exceptions the magnification distortion was known to be the same in all cases.

The pituitary fossa was small in seven cases, normal to small in one, and very small in five. Thickening of the calvarium occurred in nine cases. The next most constant finding was the presence of hyperostosis interna frontalis et parietalis, which was noted in nine and was pronounced in three of these. It is notable that five of these cases were males aged from 26 to 45 years. Enlargement of the sinuses was noted in eight, and in two the mandible was elongated.

In view of these findings it seems evident that these radiological abnormalities of the skull must come to be accepted as one of the variable dystrophic features of dystrophia myotonica.

Summary

Thirteen cases of dystrophia myotonica are reported in brief. All presented some radiological abnormalities of the skull. The most constant changes were a small to very small pituitary fossa, thickening of the calvarium, and hyperostosis interna. There was enlargement of the sinuses in some and in two the mandible was elongated. We believe the high incidence of these changes cannot be coincidental, and it is held they should now come to be accepted as some of the variable features of dystrophia myotonica.

It is a pleasure to thank various physicians who have given me access to their cases, and Dr. Alexander and Dr. Rolleston for reviewing the radiological reports.

REFERENCES

Caughey, J. E., and Brown (1951). *Quart. J. Med.* In press.
Dana, C. L. (1888). *Med. Rec.*, **33**, 433.
Déléage, F. (1890). Etude clinique sur la maladie de Thomsen. *Thèse de Paris*, Lejay édit., Paris.
Fagin, I. D. (1946). *J. Mich. med. Soc.*, **45**, 500.
Greenfield, J. G. (1911). *Rev. Neurol. Psych.*, **9**, 169.
Leyden, E. (1874). *Klinik der Rückenmarkskrankheiten.*
Rouquès, Lucien (1931). *La Myotonie atrophique*, p. 39. Amédée Legrand, Paris.
Scharnke and Full (1920). Quoted by L. Rouquès, *Z. ges. Neurol. Psychiat.*, **61**, 146
Steinert, H. (1909) *Dtsch. Z. Nervenheilk.*, **37**, 38.
Thomsen, J., *Arch. Psychiat.*, 1876, **6**, 706; 1892, **24**, 918.

BULLOUS LESIONS IN LEUKAEMIA

BY

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The skin manifestations of leukaemia are many and varied: Arzt and Fuhs (1929) have mentioned eczematous, erythema-multiforme-like, purpuric, zosteriform, urticarial, bullous, and rupial lesions, in addition to exfoliative erythrodermia and the specific leukaemic deposits occurring in the form of small papules, nodules, or large tumours.

Wiener (1947) states that bullous eruptions may precede generalized exfoliative erythrodermia in lymphatic leukaemia, and that they are often encountered in the early stages of monocytic leukaemia. It would seem that remarkably few cases of leukaemia with bullous lesions have, in fact, been recorded. In an analysis of a series of 445 cases of the reticuloses (including 160 cases of leukaemia) at the Los Angeles County Hospital, Epstein and MacEachern (1937) reported cutaneous involvement in 194 (43.5%). Bullous or vesicular lesions were seen in six cases, of which three were Hodgkin's disease, two myeloid leukaemia, and one lymphosarcoma. No bullous eruption was seen in any cases of lymphatic, monocytic, or acute leukaemia.

Margarot, Rimbaud, and Roche (1935) reported the case of a boy of 12 years, who was first seen with a purulent bullous eruption on the lower limbs, associated with pyrexial attacks. It was only when, five months later, he developed a generalized erythrodermia associated with palpable lymph nodes that a blood count revealed a leucocytosis of 34,000 per c.mm., of which 91% were primitive cells of the lymphatic series. The diagnosis of acute leukaemia was confirmed by the subsequent course of the disease, with the development of ulcerative stomatitis and a severe bleeding tendency, and death within four months of establishment of the diagnosis.

Remenovsky (1935) described the case of a 51-year-old patient with an acute leukaemia (leucocytes 83,600 per c.mm., 91.7% immature lymphocytes). After systemic arsenic the blood picture changed dramatically, the total leucocyte count falling to 6,000 per c.mm., 40% being lymphocytes. At the same time bullous eruptions developed on the wrists and forearms.

It would seem that the few recorded cases of bullous dermatoses have been associated with acute leukaemia. The following case of chronic lymphatic leukaemia is therefore of particular interest because of several unusual features: the manner of presentation as a bullous eruption on the palms and soles; the remarkable bluish infiltrated erythematous eruption on the face; and the presence of four other skin manifestations—namely, purpura, erythema-multiforme-like lesions, cellulitis, and the specific papular infiltrate.

Case Report

The patient, a married woman aged 65, first reported to the skin clinic at the Norfolk and Norwich Hospital on July 26, 1950. She gave a history of a bullous eruption which started one month previously on the right sole, later involving the left sole and the left palm. She had had a sore throat at the onset. There was no relevant previous history.

On examination bullae up to 1 cm. or more in diameter were scattered over the soles of both feet. The dorsa of the feet and webs of the toes were quite normal. There were a few confluent bullae on the left thenar eminence. All lesions contained clear fluid at this stage. General examination revealed no abnormalities. Scrapings taken from the feet showed no evidence of fungus infection.

In the absence of a history of possible contact irritants, it was thought that the eruption was in the nature of a bullous pompholyx, and treatment was given in the form of baths of potassium permanganate, and phenobarbitone, ½ gr. (32 mg.) thrice daily. The local treatment was changed after a week to Castellani's paint, and later to 0.5% gentian violet. No progress was made, and after a month both palms were severely involved.

In view of the discomfort and the lack of response to treatment, the patient was admitted on October 4. By this time bullae had begun to appear on the dorsa of both feet, and some haemorrhagic elements were present (Figs. 1 and 2). Glands were palpable in both axillae and groins, but the spleen was not felt.

A blood examination on October 11 showed a total leucocyte count of 79,800 per c.mm., of which 91% were lymphocytes. On November 3 her leucocytes had gone up to 123,200 per c.mm., of which 90% were lymphocytes, 4% monocytes, and 6% polymorphs. (Her haemoglobin at this stage was 98%.) No primitive cells were seen. Large numbers of smear cells were present in stained films. The platelets were not accurately estimated at the time, but the impression was that they were reduced. A sternal marrow examination on November 15 confirmed the picture of chronic lymphatic leukaemia.

A course of superficial *x* rays (to a total of 450 r) produced a dramatic effect on the bullae. After four weeks the hands were completely normal again and there were only a few small lesions on the dorsa of the feet.

During the period in hospital she developed cellulitis of the legs; this responded rapidly to penicillin.

One week before discharge on November 24 a few scattered pinhead-sized erythematous papules had developed on the anterior surfaces of the knees and thighs. When she was seen in the out-patient department on December 7 the hands were still normal but new purulent bullae had appeared on the soles. Both feet showed a diffuse erythema

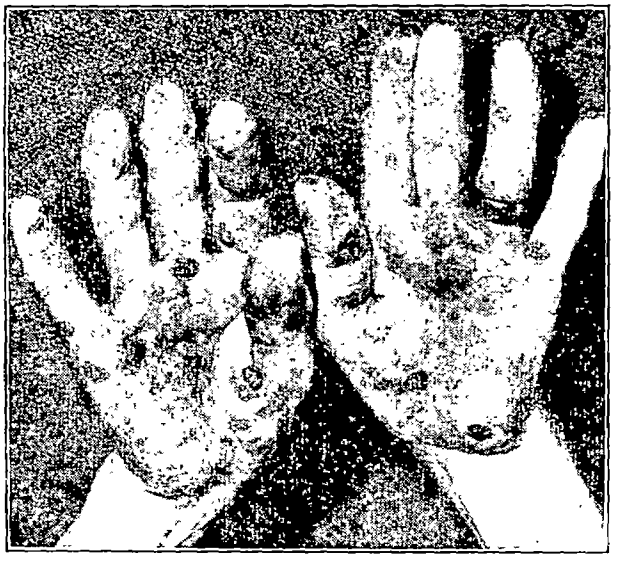

FIG. 1.—The dark pigment is not due to haemorrhage but is gentian violet.

FIG. 2.—Showing the bullous lesions that developed later on the dorsa of the feet in addition to the soles.

and both legs were oedematous and very tender as far up as the knees. Large glands were palpable in both groins. It was considered that the oedema was partly inflammatory and partly due to pressure by glands on the deep veins. A few bluish infiltrated nodules were present around the right nipple, and some pinhead-sized erythematous papules over the upper part of the sternum; there was also a diffuse erythema of the forehead. The spleen was palpable 3 in. (7.5 cm.) and the liver 1 in. (2.5 cm.) below the costal margin. A radiograph of the chest revealed the presence of mediastinal glands.

A blood count on December 7 showed: haemoglobin, 82%; leucocytes, 169,000 per c.mm. (lymphocytes 95%, monocytes 1%, polymorphs 4%).

It was decided to irradiate the glands in the axillae, groins, and mediastinum.

Progress

December 20.—The oedema of the legs had increased, and many punctate purpuric lesions were seen, especially over the shins. The most striking feature was the indurated erythema of the face, which had now spread on to the cheeks; *x*-ray treatment was prescribed for this. The leucocytes numbered 160,000 per c.mm.

January 16, 1951.—Bullae reappeared on the hands and feet. Purpuric lesions were seen on the inner aspects of the right thigh and over the shins. Subconjunctival haemorrhages occurred. The general condition had clearly deteriorated, and there was evidence of much loss of weight.

February 20.—The patient was readmitted to hospital. The facial appearance was most remarkable: a livid purplish erythema involved the whole face except for the orbit. Ringed macules, not unlike the target lesions of erythema multiforme, were seen on the trunk. Many infiltrated bluish papules were scattered over the front of the chest and abdomen. These were almost certainly specific leukaemic infiltrations, but in view of the patient's general condition a biopsy was not carried out. All superficial lymph nodes were enlarged. The spleen extended to below the umbilicus. A blood count showed: haemoglobin, 60%; total leucocytes, 265,000 (lymphocytes 97%, polymorphs 3%). The bleeding-time was 5 minutes 45 seconds; the coagulation time 3 minutes 32 seconds. The platelet count was 60,000 per c.mm.

February 23.—Pharyngitis, with systemic upset, and copious vomiting were present. The mouth was painful, with multiple ulcers. A swab from the throat showed a few haemolytic streptococci.

March 12.—She now had a gastro-intestinal upset, with haematemesis and diarrhoea. Pathogenic organisms were not isolated from the faeces.

March 20.—Her general condition was deteriorating rapidly. The skin lesions, however, were fading noticeably. The bullae on the palms and soles had practically disappeared.

March 26.—The patient collapsed with abdominal pain and died a few hours later. This was thought to be probably due to a severe internal haemorrhage. A post-mortem examination was not made.

I wish to thank Dr. A. G. Smith for permission to report this case, and Drs. A. Christie and Morgan Hall for their co-operation in the pathological investigations.

REFERENCES

Arzt, L., and Fuhs, H. (1929). In J. Jadassohn's *Handbuch der Haut- und Geschlectskrankheiten*, 8, 1. Berlin.
Epstein, E., and MacEachern, K. (1937). *Arch. intern. Med.*, **60**, 867.
Margarot, J., Rimbaud, P., and Roche, J. (1935). *Bull. Soc. franç. Derm. Syph.*, **42**, 1503.
Remenovsky (1935). *Zbl. Haut- u. GeschlKr.*, **51**, 85.
Wiener, K. (1947). *Skin Manifestations of Internal Disorders*, p. 519. Kimpton, London.

Last year the New York State Legislature adopted an amendment excusing every pupil from "such study of health and hygiene as conflicts with the religion of his parents" (*New York Times*, January 6). This amendment, sponsored by the Christian Science Church, did not attract much attention until recently, when the New York Academy of Medicine and various teaching groups in the State demanded its repeal. They maintain that it would set back the cause of medicine and health; on the other hand the Christian Scientists state that the exemption of such children from health courses should not affect the examination questions which other children are required to answer. Their officials say that their only concern was that children of their faith whose parents request it should be permitted not to study disease symptomatology and the germ theory of disease causation. Every phase of "positive" health and hygiene is being studied by the children of Christian Scientists.

OVARIAN DENERVATION FOR OVARIAN DYSMENORRHOEA

A REVIEW OF 70 CASES

BY

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AND

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Cotte (1925a, 1925b) first drew attention to the ovary as a source of pain in some cases of dysmenorrhoea. L'Hermitte and Dupont, in 1929, and O'Donel Browne (1939a, 1939b) suggested that a painful ovary could be rendered insensitive by denervation—an operation much less severe than presacral neurectomy. O'Donel Browne has shown a cure rate of 80.9% in his series of cases.

We here present 70 cases of ovarian dysmenorrhoea treated by bilateral ovarian denervation. Resection of the ovary was undertaken if the ovary was cystic, and Gilliam's suspension if the uterus was retroverted; appendicectomy was performed in most of the cases. Histological examination of the appendix was made in cases of right-sided pain. We do not consider these additional procedures to have influenced the results.

The ages of the patients were as follows:

Age	No.	Age	No.
Under 20	2 (2·8%)	30–34	11 (15·7%)
20–24	22 (31·4%)	35–39	8 (11·4%)
25–29	26 (37·2%)	40–45	1 (1·4%)

Thirteen of the patients were unmarried. Of the 57 who were married, 33 (58%) were nulliparous and 24 (42%) parous.

Nerve Supply of Ovary.—Sympathetic fibres from the tenth, eleventh, and twelfth dorsal and the first and second lumbar segments reach the ovary via the renal intermesenteric and coeliac plexuses by way of the infundibulo-pelvic ligaments. These are vasoconstrictor. Little is known of the parasympathetic supply except that its action is vasodilator. The sympathetic supply is bilateral. Sympathetic nerve fibres may reach the ovary also by way of the ovarian branch of the uterine artery—these emanating from the presacral trunk.

Diagnosis

Site of the Pain.—In 42 cases (60%) the pain was on the right side, in 22 (31%) on the left side, and in 6 (9%) it was bilateral. It was located in the iliac fossa.

Relation to Menses.—In 28 cases (40%) the pain was premenstrual, in 21 (30%) it was intramenstrual, and in 21 (30%) it was not related. Thus in 70% of the cases pain was related to the periods.

Type of Menstrual Loss.—Menorrhagia occurred in 16 cases (23%), oligomenorrhoea in 9 (13%), and the loss was normal in 45 (64%).

Type of Menstrual Cycle.—The cycle was regular in 61 cases (87%) and irregular in 9 (13%).

The deep sensibility reflex was first described by O'Donel Browne. Bimanual compression of the ovary accurately reproduces the pain of which the patient complains. Only where this test was positive did we consider the case to be one of true ovarian dysmenorrhoea.

Operative Procedure

A midline subumbilical paramedian incision was used. The infundibulo-pelvic ligaments were divided between clamps as near to the ovary as possible so that all the nerve fibres might be included in the clamps. The divided ends were ligated with catgut and care was taken when ligating the medial pedicle that the Fallopian tube was not kinked. If the ovary tended to fall into the pouch of Douglas the ovarian ligament was shortened by a catgut stitch.

The following additional procedures were carried out: Gilliam's suspension in 12 cases (17%), cyst resection in 34 (49%), appendicectomy in 19 (27%), and myomectomy in 3 (4%). All cases in which cyst resection was done had either follicular or corpus luteum cysts.

Results

The cases were examined six weeks after operation. In the follow-up carried out the interval of time elapsing after operation varied between three years and six months. Sixty-five out of 70 replied to the questionary.

Six weeks after operation 56 cases (80%) were cured, 12 (17%) were improved, and 2 (3%) were unchanged. At a follow-up of 65 cases undertaken over a period of from six months to three years, 32 (49%) were found to be cured, 29 (44.5%) were improved, and 4 (6.5%) were unchanged.

Comment

It is shown that bilateral ovarian denervation—a simple operative procedure and one not associated with a mortality or morbidity higher than those of laparotomy—cures or greatly diminishes the pain in ovarian dysmenorrhoea.

No case was considered to have any uterine dysmenorrhoea, and in every case the infundibulo-pelvic ligaments were completely divided; yet the pain was still present to some extent after a period of three years in 33 cases (51%) of those followed up. However, in only four cases (6.5%) was there no improvement.

We believe the explanation to be that the sympathetic supply in a percentage of women reaches the ovary along the ovarian branch of the uterine artery. The fibres are therefore a part of the presacral nerve. The following case history seems to confirm this explanation.

A 1-para aged 28 complained of severe right-sided intramenstrual pain of four years' duration. Plication of the right ovary and appendicectomy had been carried out three years previously without relief. The menses were regular and the loss was normal. She was seen on August 24, 1948, and bimanual compression of the ovaries accurately reproduced the pain of which she complained. On April 22, 1949, bilateral ovarian denervation and Gilliam's suspension were carried out. She reported again 16 months later, as her symptoms were unchanged. Bimanual compression of the ovary again accurately reproduced the pain. As the ovaries were still acutely sensitive we considered that possibly the painful stimuli were reaching them via the presacral nerve along the ovarian branch of the uterine artery. Presacral sympathectomy was therefore performed on September 30, 1950. The pelvic organs at operation were normal. She reported on February 28, 1951—that is, five months after operation—having experienced no pain whatever with her periods. The ovaries were now insensitive on bimanual compression.

Right-sided Pain in Relation to Appendicitis.—Pain was right-sided in 42 cases and bore no definite relation to the menstrual cycle in 21. The condition may there-

fore sometimes be diagnosed as appendicitis. In all cases in which we performed appendicectomy, histological examination of the appendix showed no pathology. In 13 cases previous appendicectomy had produced no change in the symptoms. It therefore seems reasonable to suggest that when appendicectomy is carried out in a young woman, unless the appendix shows definite signs of acute inflammation, bilateral ovarian denervation should also be performed. This necessitates using a paramedian or Battle's incision, but does not add to the operative risk.

Resection of Cysts.—Retention cysts were removed routinely because of the difficulty in deciding which were physiological and which were pathological. Although resection of corpus luteum or follicular cysts was undertaken in 34 cases (48%) we do not consider this to have influenced the results, as every gynaecologist has seen many such cysts in insensitive ovaries.

Effect on Ovulation.—In 10 (14%) the menstrual loss was diminished after operation; in 20 (29%) it was increased, and in 40 (57%) unchanged. It will be noted that the tendency is for the loss to be increased as a result of the operation. Of the 57 married women 9 (16%) later became pregnant. We therefore assume that ovulation is not affected by division of the ovarian arteries.

Summary

Seventy cases of ovarian dysmenorrhoea treated by ovarian denervation are surveyed.

This operative treatment is undertaken only when bimanual compression of the ovaries accurately reproduces the pain.

Ovarian denervation should be practised in young women in whom definite appendicitis is not found at operation.

Relief was obtained in 93.5% of cases.

Eighteen of the cases were under the care of Mr. R. M. Corbet, and we wish to thank him for permission to include them in this series.

BIBLIOGRAPHY

Browne, O'Donel T. D. (1939a). *Irish J. med. Sci.*, p. 73.
—— (1939b). *J. Obstet. Gynaec. Brit. Emp.*, **46**, 962.
—— (1949). *Amer. J. Obstet. Gynec.*, **57**, 1053.
—— and Torrens, D. S. (1941). *Irish J. med. Sci.*, p. 7.
Cotte, G (1925a). *Lyon méd.*, **135**, 153.
—— (1925b). *Pr. méd.*, **33**, 98.

Malaria has always been the greatest single medical problem for the Army in Malaya, but the War Office states that the disease rate is now under 2% in a year. New methods are being sought—for instance, "paludrine" has in the main supplanted mepacrine as a suppressive, and anti-mosquito measures are augmented by a steady flow of ingenious devices. There has been some speculation about paludrine-resistant strains, although there is no evidence as yet. Nevertheless, there was a recrudescence of malaria last summer. Dysentery and diarrhoea are present throughout the year, with a monthly incidence of between two and three cases per 1,000 troops, the early summer providing the higher figures. Skin complaints are at about three times the rate encountered in England. This may be due to jungle conditions, though in some respects the jungle shields the soldier from infective hazards met with in cantonments. What is more certainly a result of deployment in the jungle is scrub typhus, a few cases of which still occur regularly in spite of the use of clothing impregnated with a mite-killer (or more probably because of a lapse in its use). Finally, as might be expected in a country stretching almost to the equator, cases do occur of heat exhaustion, but there are not many of them. Other than the diseases mentioned and venereal disease, the sickness experience in Malaya is perhaps 15% higher than at home.

EPIDEMIOLOGY OF A HUMAN CASE OF BACILLARY DYSENTERY DUE TO INFECTION BY SHIGELLA FLEXNERI 103 Z

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It is often extremely difficult to trace the source of infection of a sporadic case of bacillary dysentery, and since phage-typing, which has proved so valuable in the epidemiology of salmonella and staphylococcal infections, is not in general use for shigella infections, knowledge of the precise biochemical and serological type of the strain concerned may provide the only guide to the possible source of infection. The point is well illustrated in the following case, in which the source of infection was traced beyond reasonable doubt to contact with an infected monkey.

On February 8, 1951, a specimen of faeces from a girl of 2 years 5 months stated to have dysentery was sent for bacteriological examination to a public health laboratory, and from it an organism giving the biochemical reactions of *Shigella flexneri* was isolated. It was agglutinated by the Standards Laboratory's *Sh. flexneri* Z and *Sh. flexneri* 103 sera, and was subsequently confirmed by the Dysentery Reference Laboratory as a typical *Sh. flexneri* 103 Z, as described in this country by Rewell and Bridges (1948). Though this organism has only once been reported from a human case of dysentery in this country (and the infection may in that case have been acquired in the Middle East), it is a frequent cause of bacillary dysentery in primates imported into Great Britain. In view of this, further investigation into the history of the case was undertaken to try to establish any possible contact with monkeys, and an interesting story was unfolded.

On February 1, 1951, the child was taken by her mother to the Pets' Corner of a large general store where there were several cages of monkeys. While watching them the child was eating an ice-cream cornet, and one of the monkeys put its paw through the cage to grab the cornet. Though the child held on to it, the ice-cream was touched by the animal, and she licked the cornet before the mother could throw it away.

Two days later the child appeared off colour, refused her lunch, and by evening had frequent motions. By February 5 the faeces contained blood and mucus, and medical advice was sought on February 7, when the child was having five or six motions a day, which was stated to be less than when she originally became ill. Apart from diarrhoea, the child had few constitutional symptoms, and difficulty was experienced in keeping her in bed. She was treated with a six-day course of succinyl-sulphathiazole, and, though two faecal specimens received on February 21 and 23 yielded no pathogenic organisms, *Sh. flexneri* 103 Z was again isolated from a specimen received on March 1. A further six-day course of succinyl-sulphathiazole was then given, and the organism was not found in subsequent specimens.

When questioned, the mother admitted to some diarrhoea herself during the child's illness, but she was

symptomless when two samples were taken, and the organism was not isolated from either.

After the positive history of contact with monkeys had been obtained the Pets' Corner was investigated with the full co-operation of the store management. The Corner was clean and well looked after, and no faeces were seen in the cages. The monkeys had all been in the store for nearly two years without any recent imports. Both the manager and the visiting veterinary surgeon stated that the animals had been healthy and had had no diarrhoea during this time.

The monkeys were arranged in the room in three main groups. In the centre of the room was a cage containing 13 monkeys, some being the common rhesus monkey, *Macaca mulatta*, and others the West African green guenon, *Cercopithecus sabaeus*. This was apparently the most popular cage. On one side was a small cage containing a mother and baby of the rhesus type, and on the other side was a row of three cages containing the same type and also the mona guenon, *Cercopithecus mona*. This row of cages was separated from the public by a breast-high iron bar with wire netting between the bar and the floor. Because of the bar, the manager thought it very unlikely that the monkey concerned could be in these cages, and, as the mother was vague regarding which cage they had been watching when the incident happened, attention was concentrated at first on the centre cage and the small side cage.

By chasing the monkeys round to startle them a number of freshly passed faeces were obtained, but no intestinal pathogens were isolated from these. It was arranged that specimens of faeces found in each cage in the morning would be sent to the laboratory. Between February 21 and March 15, 69 such specimens were examined, but no shigellae were isolated, though one sample from the centre cage yielded *Salmonella typhimurium*. All the faeces examined were formed and none contained blood or mucus. It was then decided to take rectal swabs, and on February 16 the mother and baby rhesus monkeys and the occupants of the centre cage were swabbed, but no pathogens were subsequently isolated. However, a sample taken from a cage floor on March 15, the day it was decided to abandon this method, yielded an organism confirmed as *Sh. flexneri* 103 Z. This specimen was found with surprise to have come from the middle cage of the side row of three. Unfortunately, between the time of sampling and the isolation of the organism the five monkeys in this cage had been sent to different parts of the country, so that rectal swabs could not be obtained from them.

A further interview with the mother then elicited the fact that she was probably holding the child in her arms at the time of the incident, and subsequent examination of the protective barrier showed that, if this were so and the child had been held forward over the bar, the monkey could have touched the ice-cream cornet.

Discussion

In spite of the fact that it was too late to trace the actual monkey concerned, there seems little doubt that the child was infected by eating the ice-cream freshly contaminated by the monkey's paw; and the habits of monkeys doubtless indicate the source of contamination of the paw. As there was no time for multiplication of the organism in the ice-cream the infecting dose was presumably confined to that directly transferred from the animal's paw.

Though it has been recognized for many years that primates are naturally susceptible to infection by certain organisms of the *Shigella* genus, seldom have such animals been shown to be directly responsible for human infection. Rewell (1949) reported possible infection of a monkey-house keeper in this country with *Sh. schmitzii* from a lar gibbon, and refers to a family outbreak of bacillary dysentery in Hamburg, probably arising from pet monkeys, reported by Bach, Fulscher, and Harnack (1931). Rewell and Bridges (1949) have drawn attention to the potential danger to personnel handling monkeys during their rapid air transport to this country from abroad.

It is apparent from experience at the Dysentery Reference Laboratory and from personal communications from those in charge of monkey-houses in this country that primates can be infected with almost every type of *Shigella*; but undoubtedly the most common infecting types are *Sh. flexneri* 103 and *Sh. flexneri* 103 Z. The clinical picture of the animals varies from a rapidly fatal dysentery to a symptomless carrier state. On the other hand, infection due to *Sh. flexneri* 103 Z is rare in man. In all probability, if the child had been infected with one of the more common human *Shigella* types, such as *Sh. sonnei* or *Sh. flexneri* Z, the story of the monkey's paw might never have been obtained.

It is surprising to find that, although at least two of the monkeys in the Pets' Corner were at one time or another excreting such pathogens as *Salm. typhimurium* and *Sh. flexneri* 103 Z, both highly infective to the species, no outbreak occurred amongst the animals. Possibly the fact that it was an established colony with no recent imports may have been responsible.

Admittedly, monkeys in this country are generally in relatively closed communities, but many such colonies are open to the public, and the measures to prevent contact between the monkeys and their visitors may not always be completely adequate to protect the one from the other. As a large proportion of such visitors are children, who are highly susceptible to both shigella and salmonella infections and who frequently on such occasions are eating titbits equally enjoyed by monkeys, a real danger would seem to exist. This could be prevented by the provision of foolproof barriers.

Summary

A case of bacillary dysentery in a child due to the rare human pathogen *Sh. flexneri* 103 Z is described, and an account is given of the investigations to trace the source of infection to monkeys, which was indicated by the fact that the organism is a common cause of dysentery in these animals. In addition to the isolation of *Sh. flexneri* 103 Z from monkey faeces in one cage of the Pets' Corner concerned, *Salm. typhi-murium* was obtained from a specimen taken from another cage.

Warning is given of the potential danger, in animal-houses open to the public, of the transmission of shigella infection from monkeys to their visitors.

Our thanks are due to Mr. B. Spencer, F.I.M.L.T., for his technical assistance; the manager of the Pets' Corner for his willing co-operation; to Mr E. Copeland, M.R.C.V.S., for his assistance in obtaining specimens from the monkeys; and to Dr. Gedye for the specimens and clinical data from the patient.

REFERENCES

Bach, F. W., Fulscher, J., and Harnack (1931). *Veröff. Med-Verw.*, 34, 61 (quoted by Rewell, 1949).
Rewell, R. E. (1949). *Lancet*, 1, 220.
—— and Bridges, R. F. (1948). *Mon. Bull. Minist. Hlth, Lond.*, 7, 25.
—— —— (1949). *British Medical Journal*, 2, 876.

Medical Memorandum

Congenital Indifference to Pain

Congenital indifference to pain is a rare condition. A survey of the English and American literature since 1900 has revealed only 10 previous cases (Dearborn, 1932; Ford and Wilkins, 3 cases, 1938; Kunkle and Chapman, 1943; Arbuse, Cantor, and Barenberg, 1949; Boyd and Nie, 1949; Duncan Leys, 1950; McMurray, 1950; Farquhar and Sutton, 1951), with brief references to eight others (Critchley, 2 cases, 1934; Grain, 1949; Nielsen, 2 cases, 1949; Keizer, 3 cases, 1951).

Case Report

A girl aged 6 was admitted to Poole General Hospital in November, 1949, with a provisional diagnosis of "rheumatoid arthritis." In May, 1949, she had had a febrile illness with cough and haemoptysis which rapidly responded to a course of sulphonamide. Two weeks after recovery the right knee had become swollen, gradually subsiding over a period of three weeks. In July the left ankle became swollen and remained so; shortly before admission the right ankle had also swollen a little. Despite a limp, she remained lively and active and had never complained of pain in the affected joints. The past medical history was otherwise not relevant.

She was a shy, carrot-haired girl of normal height and weight for her age and of average intelligence. The teeth were very carious. There were extensive areas of scarring, superficial ulceration, and keloid formation on the outer side of the thighs and multiple scars on both knees. The cardiovascular system was normal; blood pressure 105/50. Her chest was clear and the liver and spleen were not palpable. There was a brawny, diffuse, non-tender swelling of the left heel and instep and a similar smaller swelling of the right ankle. There was no limitation of movement at any joint. Fundi and pupils were normal. All deep reflexes were present and equal, with flexor plantars. It was noted that she watched attempted venepuncture with amused interest, and further examination revealed that she was completely indifferent to pain over the entire body surface: pinching, pricking with pins, and firm pressure on the tendo Achilles were all tolerated without flinching or apparent discomfort. She was, however, able to distinguish between "sharp" and "blunt" without error. There was normal appreciation of light touch, heat, cold, vibration, and joint sense. There was no dysphasia, agnosia, apraxia, or astereognosis. She was right-handed.

A radiograph of the feet showed fragmentation and displacement of the epiphysis of the left calcaneum, erosion and fragmentation of the right talus, and erosion of the proximal articular facet of the right cuboid. There was a right-sided coxa vara and a congenital unfused neural arch of T 12 vertebra. Biopsy of the left calcaneum showed no abnormality. A Mantoux test to 1:100 and blood Wassermann reaction were negative. Bone structure was normal radiologically apart from prominent Harris's lines at the lower end of the fibula, tibia, and femur.

Further inquiries elicited that she had never at any time complained of or appeared to feel pain: she had often fallen flat on her face on concrete and got up laughing; while playing with other children handfuls of hair had been pulled out without her showing any concern. She had never complained of toothache, headache, or abdominal pain. Since infancy she had been a hyperactive restless child, spending her time running, climbing trees, and jumping off walls. The bony lesions of the feet were considered to be a sequel to multiple minor injuries, and with a period of strict rest in bed partial recalcification occurred. In July, 1950, she was again referred to hospital complaining of inability to "jump over a tennis net as well as usual." She was found to have a subtrochanteric fracture of the right femur with marked callus formation. The actual circumstances of the fracture could not be elicited, but again there was no complaint of pain.

Comment

In 1932 Dearborn recorded, under the title of "A Case of Congenital Pure Analgesia," the history of a man of 54 who had never experienced any pain throughout his life. He had sustained, among other injuries, a blow in the face with a pickaxe, a bullet through a finger, a broken nose, severe laceration of the knee, and a burned hand—all without apparent pain. In later life he appeared in American vaudeville as "Edward H. Gibson, the Human Pincushion," allowing the audience to stick up to 50–60 pins into his body at a time, and on one occasion to hammer a nail through his hand. Subsequent reports have all emphasized the frequency with which multiple painless fractures, dislocations, lacerations, burns, and their sequelae in the form of scarring, deformities, keloid formation, and painless osteomyelitis occur in these subjects.

Acquired indifference to pain has been described in lesions of the posterior parietal area of the dominant hemisphere, especially those involving the supramarginal and angular gyri, and is usually associated with other gross neurological defects. The possibility that congenital indifference to pain is due to a similar structural lesion of the parietal cortex must, however, remain speculative in the absence of necropsy material. Ford and Wilkins suggested that the condition was due to a "congenital dysplasia involving the neural mechanisms concerned in the perception of pain"—similar in nature to congenital word-deafness, word-blindness, and colour-blindness, in which structural lesions are known to be absent. The presence of a mild congenital word-blindness in one of their cases supports this contention.

I wish to thank Dr. J. R. Hindmarsh for permission to publish this case; and Dr. F. Parkes Weber for his advice.

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REFERENCES

Arbuse, D. I., Cantor, M. B., and Barenberg, P. A. (1949). *J. Pediat.*, **35**, 221.
Boyd, D. A., and Nie, L. W. (1949). *Arch. Neurol. Psychiat., Chicago*, **61**, 402
Critchley, M. (1934). *British Medical Journal*, **2**, 891.
Dearborn, G. V. (1932). *J. nerv. ment. Dis.*, **75**, 612.
Farquhar, H. G., and Sutton, T. (1951). *Lancet*, **1**, 827.
Ford, F. R., and Wilkins, L. (1938). *Bull. Johns Hopk. Hosp.*, **62**, 448.
Grain, G. O. (1949). *Arch. Neurol. Psychiat., Chicago*, **61**, 412.
Keizer, D. P. R. (1951). *Lancet*, **1**, 1020.
Kunkle, E. C., and Chapman, W. P. (1943). Ass. Res. Nerv. and Ment. Dis. Proc., **23**, 100.
Leys, D. G. (1950). *Proc. roy. Soc. Med.*, **43**, 250.
McMurray, G. A. (1950). *Arch. Neurol. Psychiat., Chicago*, **64**, 650.
Nielsen (1949). Ibid., **61**, 412.

La Presse Médicale (January 12) reports that an international foundation has been created to commemorate the work of the bacteriologist Charles Nicolle (1866–1936). Among his studies were investigations on the spread of typhus by insects, on subclinical infection and carriers, and on the prophylaxis of measles by convalescent serum. The foundation has its headquarters in Paris, and it has been decided to erect a fountain in Tunis, where much of Nicolle's medico-social work was accomplished, and to establish—probably also in Tunis—a clinic and laboratories specializing in the fight against infectious diseases and those due to parasites, but especially syphilis and trachoma.

Reviews

TOO MANY PEOPLE

Human Fertility: The Modern Dilemma. By Robert C. Cook. With an introduction by Julian Huxley. (Pp. 351. £1 1s.) London: Victor Gollancz. 1951.

This book should be of particular interest to members of the medical profession, since the author discusses two problems in the creation and development of which medicine has played an outstanding part. Medical intervention in the affairs of a human population is followed by a fall in the death rate, by an uprising in the survival rate, and by a magnification of the natural increase. Indeed, it is by this fall, this uprising, and this magnification that the quality of the service that medicine renders to a population is partly assessed.

In the history of a population in which the kind of medicine that we know has found a place, a growing disharmony between the total population numbers and the total resources of the habitat develops. This disharmony is expressed in various ways, such as poverty, insecurity, and the mounting threat of starvation. Attempts to check or to reverse this process usually take the form of the eager encouragement of increased food production and of a planned industrialization of the society. But for these a great deal of time is required, and it therefore becomes necessary for the population to control its fertility and for the State to facilitate the provision of the means for so doing. The remote repercussion of medical intervention undertaken without due regard for its effects is the creation of the need for a planned population policy.

The author argues, and supports his argument by particular reference to Puerto Rico, that unbalanced and unchecked fertility is ravaging many lands like a hurricane. Nearly four-fifths of the people of the world to-day subsist near the verge of starvation. No matter what may be done to increase food production, the rate of the increase cannot equal the rate at which the human population of the world itself is multiplying. The only possible method of checking this growing disharmony is by the production of a simple, foolproof contraceptive tablet, no more expensive than an aspirin, that will produce temporary sterility when taken by the mouth. This, in the author's opinion, would offer mankind a good deal more promise of security than any world-wide agreement to outlaw war.

The author then discusses the even more debatable and complex problem of population quality. He states the argument that the innate quality of the human stock of a country such as Britain tends to degenerate progressively generation by generation With admirable fairness he reproduces the argument that the relaxation of natural selection brought about by the intervention of the medical and social sciences in the affairs of a population must be causing slow degeneration of the stock through the accumulation of harmful mutations. He then puts forward proposals whose object is to encourage reproduction by the more intelligent and the more highly endowed. It is most desirable that members of the medical profession shall be well informed about both these matters and shall have reached, through examining the available evidence, a conclusion on their importance and on the ways in which the problems shall be tackled and solved.

F. A. E. CREW.

THE NUTRITIONAL REVOLUTION

The Nutritional Improvement of Life. By Henry C. Sherman. (Pp. 270. £1 4s.) New York: Columbia University Press. 1950. London: Geoffrey Cumberlege. 1950.

Nutrition Work in Greece. By Andromache G. Tsongas. (Pp. 67. U.S. $0.50.) Rome: Food and Agriculture Organization of the United Nations. 1951.

Teaching Better Nutrition. By Jean R. S. Ritchie. (Pp. 148; illustrated. $1.50.) Washington: Food and Agriculture Organization of the United Nations. 1951.

H. C. Sherman has spent the best years of his life in nutritional research and teaching, and in his latest book he tells the story of the development of our knowledge and its possibilities for the betterment of mankind. In the first chapter he discusses the gradual appreciation in Britain and the U.S.A. of the importance of sound nutrition for the welfare of every man, woman, and child. He then goes back to the beginnings of nutrition as a science, and describes the pioneer work of Atwater in the 'nineties on food tables and calorie requirements. There follow chapters on the progress made in each of the first four decades of the present century; energy requirements, Chittenden's protein minimum, the importance of mineral elements, and the dawn of the vitamin era are all discussed. In the chapter covering the first world war he describes the development of the idea that proteins might differ in their nutritional value according to their constituent amino-acids, and discusses the discovery and investigation of the three primary vitamins A, B, and C, but says little about the impact of the first world war on national food supplies and all that this involved. Multiplication of the vitamins and the extensive study of their biological functions in the 1920's led to the concept of optimum nutrition; the author traces the expansion of this idea throughout the 1930's. The scientific classification of rickets as a deficiency disease and its eradication from the big cities receives surprisingly little attention, however, and Sir Edward Mellanby's name does not appear at all in a bibliography which must include about 400 references.

The importance of ensuring good national nutrition was appreciated during the opening phases of the second world war, and the handling of the situation in Canada, the U.S.A., and Britain is briefly described. The latter part of the book is on rather more theoretical subjects. The nutritional aspects of the internal environment, for instance, and the relationship of nutrition to the expectation and length of life are discussed, and the implications of all this growing body of knowledge, not only for national nutrition but in the general service of man. The book closes with an appreciation of the National Research Council's recommended dietary allowances.

Nutrition Work in Greece describes the work carried out in that country by F.A.O. after the period of emergency tided over by the Unrra organization had come to an end, and shows, as it were, the practical outcome of the developments outlined by Sherman.

The author of *Teaching Better Nutrition* describes how the newer knowledge of nutrition can be got across to backward peoples, where it can do so much good. It is a pity that Hopkins's experiments in 1912 should have been given the misleading and erroneous caption, "Hopkins' discovery of vitamin A," but in general the information given seems to be correct.

These books form an interesting set of three, but to most people they will not have an equal appeal.

Sherman's is a book for the student, the F.A.O. publications for teachers and workers in the field. The triumphs they describe are impressive, but were they so difficult to win? The hard task lies ahead. Country after country is outgrowing the food it can produce, and behind the successes of the scientists stands the spectre of world famine. Technical experts in nutrition may shrug their shoulders and turn away to their pleasant jobs with the feeling that it is not their business. They may be right; in the narrow sense they *are* right. But let us hope that future historians will not look back upon the nutritional revolution and condemn those who brought it about as little men who failed to grapple, while there was still time, with the greatest crisis in world history.

R. A. McCANCE.

FOR STUDENTS OF ORTHOPAEDICS

Regional Orthopedic Surgery. By Paul C. Colonna, M.D. (Pp. 706; 474 figures. £2 17s. 6d.) Philadelphia and London: W. B. Saunders Company. 1950.

The author is to be congratulated on producing a book which should prove of real value to orthopaedic students, both undergraduate and postgraduate. After two introductory chapters on the physiology and general pathology of bones and joints the remainder of the work is arranged regionally. For the purpose of teaching this arrangement has much to recommend it. Each chapter opens with a short section on applied anatomy followed by a description of the soft-tissue injuries, fractures, tuberculous lesions, and orthopaedic conditions of the region concerned.

By concentrating on the features which are of importance to students the author has been able to cover the whole field of orthopaedics and fractures. The illustrations, which consist of line drawings, photographs, and reproductions of radiographs, are excellent. Some of the recommendations on treatment have an American flavour which may not be entirely acceptable to students in Britain. The book concludes with two excellent chapters on orthopaedic apparatus and physiotherapy. There are few orthopaedic textbooks which satisfy the needs of the student in such a masterly manner.

J. S. BATCHELOR.

FICTION AS FACT

My Dear Holmes. A Study in Sherlock. By Gavin Brend. (Pp. 183. 10s. 6d.) London: George Allen and Unwin. 1951.

It may be a dangerous procedure to create a character in fiction. If Conan Doyle could have anticipated the great popularity which his detective hero would evoke from the English-speaking public, he might have hesitated before creating him. As it was, he appeared to get tired of his hero and killed him off, to the bitter disappointment of his public. Popular demand and perhaps economic reasons induced him to bring Sherlock Holmes into action again. It was inevitable, however, that many inconsistencies of fact would appear in a series of disconnected tales written at the publisher's urgent request.

In this attractive little book the author has attempted to reconcile many of the inconsistencies, a task which assumes that there was a factual basis behind the fiction. Those who almost believe that Sherlock Holmes was a real person will be delighted to learn the year of his birth and the approximate dates of most of his adventures; they will be interested to probe the secrets of Watson's two marriages and of his quarrel and reconciliation with Holmes. This is indeed a book which all Sherlock Holmes's fans will be eager to read. It is also a book for the philosopher to study, for here he will behold fiction treated as fact, and a myth in process of becoming a belief.

ZACHARY COPE.

BOOKS RECEIVED

Review is not precluded by notice here of books recently received

A Textbook of General Physiology. By H. Davson, D.Sc. (Pp. 659. 45s.) London: J. and A. Churchill. 1951.

Anaesthetics for Medical Students. By G. Ostlere, M.A., M.B., B.Chir., D.A. 2nd ed. (Pp. 108. 8s. 6d.) London: J. and A. Churchill. 1951

Massage and Medical Gymnastics. Revised by E. M. Tod, M.C.S.P., T.M.M.G. 4th ed. (Pp. 224. 16s.) London: J. and A. Churchill. 1951.

The Essentials of Virus Diseases. By P. N. Meenan, M.D., D.C.P. (Pp. 260. 20s.) London: J. and A. Churchill. 1951.

Chance and Design in Physiological Research. By G. L. Brown. (Pp. 14. 3s.) London: H. K. Lewis. 1951.

The Biochemical Approach to Biological Organization. By Professor E. Baldwin. (Pp. 20. 3s. 6d.) London: H. K. Lewis. 1951.

Studies in the Social Psychology of Adolescence. By J. E. Richardson and others. (Pp 266. 21s) London: Routledge and Kegan Paul. 1951.

Teach Yourself Management. By M. G. Frost, A.C.C.S., M.I.W.M., M.I.P.M., A.M I.I.A., A.C.W.A. (Pp. 197. 6s.) London: English Universities Press. 1951

The Unknown Self. By G. Groddeck, M.D. (Pp. 207. 12s. 6d.) London: Vision Press 1951.

The Bridge of Life. By A. P. Suñer, M.D. (Pp. 270. 28s. 6d.) London: Macmillan. 1951.

Medical Disorders During Pregnancy. Edited by S. Clayton, M.D., M.S., F.R.C.S., F.R.C.O.G., and S. Oram, M.D., F.R.C.P. (Pp. 341 25s.) London: J. and A. Churchill. 1951.

Liver Disease. Edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch. Consulting Editor S. Sherlock, M.D., F.R.C.P. (Pp. 249. 25s.) London: J. and A. Churchill. 1951.

The Postnatal Development of the Human Cerebral Cortex. By Professor J. LeRoy Conel Vol. 4: The Cortex of the Six-month Infant. (Pp. 190; 108 plates. 82s. 6d.) London: Geoffrey Cumberlege. 1951

The World of Man. By G. Groddeck, M.D. (Pp. 271 18s.) London: Vision Press. 1951.

Handbook of Diseases of the Blood. By A. Piney, M.D., M.R.C.P. (Pp. 213. 21s.) London: Harvey and Blythe. 1951.

Proceedings of the Third International Congress of the International Society of Hematology. Edited by C. V. Moore. (Pp. 593. $10.) New York: Grune and Stratton. 1951.

The Enzymes. Edited by J. B Sumner and K. Myrbäck. Vol. 2, part 1: Chemistry and Mechanism of Action. (Pp. 790. $14.80.) New York: Academic Press Inc. 1951.

Leibesübungen mit Körperbeschädigten. By H. Lorenzen. (Pp. 218. M. 7.50.) Stuttgart: Georg Thieme. 1951.

Die Nervenkrankheiten. By Professor G. Schaltenbrand. (Pp. 880. M. 87.) Stuttgart: Georg Thieme. 1951.

Die Trübungsformen der Menschlichen Linse. By Dr. H. Sautter. (Pp. 139. M. 49.80.) Stuttgart: Georg Thieme. 1951.

Leitfaden der Laparoskopie und Gastroskopie. By Professor H. Kalk and Dr. W. Brühl. (Pp. 158. M. 27.) Stuttgart: Georg Thieme. 1951.

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THE EFFICACY OF B.C.G. VACCINATION

Research done as an afterthought has its pitfalls. Data which were not originally collected for a specific investigation may need to be analysed in retrospect. If, say, patients were treated with drug A in one hospital in 1946, and in 1948 the records of another hospital show that patients with the same disease were treated with drug B, can a fair comparison of the results be made? Useful information may be gained, but such investigations are full of traps for the unwary. A recent report[1] on "The Efficacy of B.C.G. Vaccination" is a retrospective comparison of this kind on a big scale. The authors, Dahlström and Difs, have studied the incidence of tuberculosis in conscripts who entered the Swedish Army between 1941 and 1944. Most conscripts were tuberculin tested. B.C.G. inoculation was offered to the 61,474 who were negative, and 36,235 (59%) accepted. Dahlström and Difs turned back to the records to study the morbidity from tuberculosis during Army service of the inoculated and of the 25,239 men who refused inoculation. This was possible because every case of tuberculosis or suspected tuberculosis in the Swedish Army is reported to the National Insurance Office. To ensure uniform assessment of the radiological findings the authors borrowed and reviewed the *x*-ray films of the reported cases (but they do not say in how many cases they were not able to see the films).

For the analysis of morbidity they have tried to distinguish those early tuberculous manifestations which could have resulted from a primary infection contracted shortly before or shortly after the date of vaccination (which developed, that is, before any protection conferred by B.C.G. could begin to operate). Under this heading come cases of primary tuberculosis arising within two months of inoculation, and pleurisy and other post-primary signs of disease arising within six months. Aware of one main weakness of the trial—namely, that the control group were those who refused inoculation and may therefore have been different in character—the authors offer evidence that the inoculated and control groups were in fact comparable at the start by recording the "early" morbidity for the two groups. During the first 60 days the incidence of primary tuberculosis in the vaccinated soldiers was 0.75 per 1,000; in the non-vaccinated it was 1.35 per 1,000. The difference being "not statistically significant," Dahlström and Difs conclude that the risk of acquiring primary tuberculosis was equal in the two groups prior to the onset of any protection that B.C.G. might afford. A similar analysis is applied to cases of post-primary tuberculosis: during the first six months the incidence was 1.52 per 1.000 in the vaccinated group, and 1.47 in the controls. It must be noted that the conclusion on equality of risk might apply to equal risk of infection in the first weeks of service, or to equal susceptibility, or to both combined: the analysis does not, nor could it, distinguish between the two. However, an investigation of the incidence of non-specific pneumonia in the follow-up period showed similar figures for the two groups.

Having found that the groups were comparable at the beginning of the study, the authors then analysed the subsequent morbidity—that is, all the cases other than the early ones. The difference between the two groups is impressive. After the first two months signs of primary tuberculosis were seen in 31 of the vaccinated (0.86 per 1,000) and 106 of the controls (4.20 per 1,000). After the first six months 46 cases of pleural effusion were noted in the vaccinated (1.27 per 1,000) and 145 in the control group (5.75 per 1,000). Post-primary pulmonary tuberculosis was seen in 15 of the vaccinated (0.41 per 1,000) and 37 of the controls (1.46 per 1,000). These differences are statistically significant, and the evidence in favour of B.C.G. appears to be very strong.

But the authors, while trying to be objective in retrospect, are not entirely so. Early in their analysis they write: "Generally speaking, the diagnosis was somewhat easier to establish in the (originally) tuberculin-negative than in the vaccinated group, being helped by the conversion from the non-reactive to the reactive state." Does this mean that a lesion in a person becoming tuberculin-positive without the aid of B.C.G. was presumed tuberculous unless the contrary was proved, but in a vaccinated person was presumed non-tuberculous unless definite proof was forthcoming? Doubtful cases amounted to 16 in the vaccinated group and seven in the controls, and the authors remark that "the smaller number in the latter group is understandable because the tuberculin reaction provided better help in making the diagnosis." This surely means that in the control group a number of cases which would have been considered doubtful had they been vaccinated were considered certain. How many there were in this

[1] *Acta tuberc. scand.*, 1951, 25, Suppl. 27.

category is not known, but the question seriously affects the data on primary morbidity. If the authors' own objectivity were alone in question there might be little cause for concern. But the diagnosis was not dependent on them alone; they could consult only the records of cases notified as tuberculous or suspected to have tuberculosis. If a case was considered non-tuberculous by the medical officer of the unit, then presumably it did not appear in the insurance records which the authors consulted. It is conceivable that in doubtful cases a medical officer might reject a diagnosis of tuberculosis when he knew that the man concerned had received B.C.G.: such enthusiasm is not unheard of.

The authors' use of statistical analysis also tends to be misleading. When, in analysing early morbidity, they find that a difference between the two groups (as in the figures already quoted of 0.75 per 1,000 in one group and 1.35 in the other) is not statistically significant, they conclude that the two groups are *therefore* comparable or similar. This type of reasoning occurs at several points and is quite unjustifiable. If one death occurs among four patients treated with drug X and three deaths in four patients treated with drug Y, the difference is not statistically significant because the totals are small, but this does not warrant the conclusion that the effect of the two drugs is the same. The fact that other figures in the analysis provide more valid evidence of equal risk at the start does not justify the false logic in the first place.

The main defect of the analysis, however, is that, while the authors offer evidence that the two groups were comparable at the beginning of their Army service, they are not able to show that conditions were comparable during the service—that is, during the time when the men were developing signs of disease. The reader might assume at first that the proportions of inoculated men and controls were about the same in each Army unit, but on page 22 the authors write: "The incidence of vaccination probably depended more on the initiative and propaganda of the Army surgeon than on the initiative of the individual." This is understandable, and later there is evidence that in some units acceptance of B.C.G. was probably very high and in others low. In chapter 10 of their monograph the authors list "agglomerations" of tuberculosis in Army units in which at least five cases occurred among the men conscripted in the revelant year. Each of the agglomerations was in a different unit. In 16 units cases occurred only in controls; in one there were cases in both control and vaccinated groups, and in six units all the cases occurred in vaccinated men. The total of vaccinated and unvaccinated men in each unit is not given. There were three "epidemics" which occurred in vaccinated men before protection had developed, with a total of 36 cases: in the units where these occurred there were no cases among the unvaccinated men, and the assumption is that all, or nearly all, men in these units were vaccinated. Three agglomerations of cases occurred in vaccinated men alone after the date of expected development of protection. Here two explanations are possible: either nearly all men in these units were vaccinated or the vaccinated were more susceptible to tuberculosis than the controls. If the latter explanation is rejected the reader is led to form a picture, presented by the authors' own statistics, of vaccinated and unvaccinated units rather than of vaccinated and unvaccinated individuals—a different kettle of fish entirely.

With this picture of a contrast between units rather than between individuals within the units, it would be reasonable to imagine that the same medical officers who persuaded their men to accept the vaccine might also make better arrangements for medical supervision, including routine *x*-ray examinations, and, on the other hand, that in units with unenthusiastic medical officers, or inefficient medical control, few men might be vaccinated and cases of tuberculosis remain for a long time undiagnosed, with consequent infection of other men in the same units. All this is not to say that such was the case; the point is that it may have been. The authors stress that in both groups the rate of incidence of primary infections fell after the first months, and conclude, no doubt rightly, that the fall was due to effective elimination of sources of infection at the beginning. But the fall was much less in the controls than in the vaccinated, and this might be due to less effective measures in the control units. The authors state that "there is not the slightest evidence . . . that the marked fall of the risk in the B.C.G. group could have been due to more effective weeding out of sources of infection in that group," but they offer no valid support for this statement.

That these objections have to be raised is a pity, for this Swedish study is a praiseworthy attempt to extract information from past records, a complex task at the best of times. In spite of the difficulties the analysis has produced much information of great interest, and there is no doubt that the evidence, with all its defects, is strongly suggestive. Similar studies in the past have been preoccupied with the manifestations of primary disease; here post-primary morbidity has been analysed in detail, and on this the authors are especially to be congratulated. They announce their intention of analysing later results in

the two groups, and we can hope that they may then be able to consider some of the points missed in their first report. In England there is now under way a large-scale controlled trial of B.C.G. and vole vaccines under the Medical Research Council: the groups are randomly selected, and this will avoid certain errors of the Swedish investigation. It is to be hoped that those in charge of the investigation will also be well aware of the many other errors that may creep in. No investigation dealing with human beings can be perfect, but, if the success of recent well-organized clinical trials of new drugs and vaccines can be taken as a guide, it should now be possible to reach on B.C.G. a verdict much more decisive than the "strongly suggestive" which applies to this excellent report.

THE BOTTLE OF MEDICINE

In the *Supplement* this week (p. 18) we publish a summary of a memorandum prepared for the Birmingham Executive Council on conditions of general practice. The authors of this document, after drawing attention to the cost of providing free medicine for the population, suggest that "the best cure for the bottle-of-medicine habit would be a different psychological approach, such as health education and the practice of preventive medicine." Many doctors are, of course, ready to educate their patients if given half a chance, and we recently reported a meeting[1] of the General Practice Section of the Royal Society of Medicine, at which Dr. R. J. F. H. Pinsent gave an account of a year's practice, during which he had classified all the forms of treatment that he had given. At approximately half his consultations during the year he had prescribed either specific or symptomatic treatment. In 40% of cases he had given treatment by health education, by argument, and by explanation of the patient's symptoms, and in the remaining 10% he had given a placebo. Many of the doctors who spoke in a subsequent discussion, while praising Dr. Pinsent's strength of mind in refusing to prescribe a bottle of medicine so often, were for their part not inclined to do the same for a number of reasons, of which the most important appeared to be that many of their patients who expected to receive a bottle of medicine would not come at all if this were denied them. If it is true, as one was led at this meeting to believe, that over general practice as a whole health education is given to about 10% of patients and a bottle of medicine as a placebo to about 40%—that is, the reverse of Dr. Pinsent's practice—it is possible to make a rough estimate of the cost of placebos. In 1949 188 million prescriptions were dispensed in England. If 40% of these prescriptions were for a placebo, and if mist. alb. (the cost of 4 oz. of which is 1s. 7d., including the bottle and dispensing charge) is taken as typical, the annual cost of dispensing placebos would amount to £5¾ million. To a certain extent the unreasonable demands of patients who expect attention for trivial complaints may be encouraged by lack of proportion in treatment, but against the cost of unnecessary bottles of medicine has to be put the cost of the time which doctors would have to spend in bringing their patients round to a more sensible attitude towards treatment.

Although a strong case can now be made on economic grounds for limiting the bottles of medicine prescribed in both hospitals and general practice, there is no question about the usefulness of placebos in therapeutics, nor about the fact that they have in some cases a more powerful effect than known pharmaceutical agents. Wolf,[2] for instance, studying the effect of placebos on the responses of the stomach, was able to show that the circumstances in which a drug was given could alter and even reverse the expected response. For example, he was able to alleviate nausea and restore normal gastric tone with a dose of ipecacuanha in a patient suffering from sickness of pregnancy by convincing her beforehand that such would be the effect of the medicine. Another interesting example of the psychological effect of a remedy was quoted by Best and his colleagues,[3] who treated 42 patients with a complicated and alarming machine for irradiating the pituitary gland. With 18 of these patients the current was never switched on, and it was this group, receiving the same psychological treatment but no irradiation, which showed, if anything, the greater symptomatic improvement.

Individual cases in which a placebo has brought about a dramatic cure are familiar to all medical men: such cases, in fact, have formed the stock-in-trade of quacks for centuries. But are doctors justified in adopting similar methods and purposely deceiving their patients, however successful the results may be? A placebo can have the effect on a patient either of removing real symptoms and persuading him back to health or of persuading him that his imagined symptoms are caused by a real illness that can be treated with medicine. If this type of patient is treated with a bottle of medicine his symptoms, which are usually caused by anxiety and introspection, may become established and his demand for more medicine ensured.

Although the alternatives to treating a patient with a placebo cannot usefully be discussed without

[1] *British Medical Journal*, 1951, 2, 1335.
[2] *J. clin. Invest.*, 1950, 29, 100.
[3] *Amer. J. med. Sci.*, 1950, 219, 276.

reference to the mentality and circumstances of the individual, there are some general rules to be observed. The intelligence of the patient is not a satisfactory guide, for reason loses its power when we think of our own health and the possibility of dying in the immediate future. In such circumstances a highly critical person may become quite gullible and, if he is enough afraid of illness and death, will trust anyone whom he believes to have the power to keep him alive. In considering the pros and cons of prescribing a placebo it is as well to bear in mind that, in spite of the great trust and esteem in which the medical profession is generally held, there is much mistrust in the minds of many people about the efficacy of its medication. Many patients are too polite to protest in the surgery, but consign the contents of their bottle to the kitchen sink, and it is certain that many packets of the iron tablets so liberally dispensed at antenatal clinics are stored out of sight in cupboards, and sometimes left in places where they may be a danger to children. Placebos should not be used for treating neurotic patients whose complaints are based on anxiety and fear of disease or for retaining the confidence of those expecting but not requiring treatment; but there are many real symptoms and diseases for which no specific treatment is offered by the *Pharmacopoeia*, and in these a placebo is often justified and can work wonders. The persuasion will be all the greater if the mixture contains a substance that will produce a subjective effect which the patient will notice. Such are the virtues of aspirin for deadening pain, of alcohol for producing internal warmth and well-being, and of turpentine for reddening the skin that it is easy to persuade patients of their efficacy in other ways undreamed of by pharmacologists. But it is a fallacy to suppose that an inactive medicine can do no harm. If prescribed in a perfunctory way for a patient needing explanation and reassurance it may increase faith in his disease rather than in the remedy, and a doctor who gives placebos in the wrong spirit may harm the patient.

THE SELECTION OF BUS DRIVERS

A good deal of evidence has accumulated in recent years to show that careful selection of bus drivers results in a reduction of the accident rate. Thus, for example, the application of selection techniques to Paris omnibus drivers is said to have reduced the number of accidents by 66% between 1929 and 1933. The Yellow Cab Company, Chicago, tested their drivers and found those classed as "unsatisfactory" on the selection tests had twice as many accidents as the "satisfactory" group.[1] In this country an inquiry was conducted by Farmer and Chambers,[2] who examined the accident records of several groups of drivers and found that accident-proneness was an important factor. They gave psychological tests to the men and found that those who failed in the tests had a higher average accident rate than those who passed; the difference, however, was not great. Bus drivers have a high reputation for safety and courtesy—the connexion between these two qualities was recognized in a recent series of posters. How are they selected?

Generally speaking, many men have the "driving" personality, and there is no serious shortage of applicants, which makes possible a reasonable degree of selection. After a careful interview by specially trained and experienced staff who review the applicant's driving history, he is given a driving test on the road. He is then required by law to undergo a medical examination before he may obtain a licence to drive public service vehicles. It is here that the examining practitioner is required to exercise not only his private conscience towards his patient but also his public conscience towards the community. Men with defective eyesight or hearing, physical deformities likely to affect driving, and those with any condition likely to cause sudden collapse—to make a list of these is a good "practitioner's quiz"—should obviously be excluded; fortunately it is rare for an epileptic to apply. Those with anxiety conditions and other psychological disturbances are also best rejected. Doctors generally drive cars themselves, but it is necessary to remember that the continuous driving of a heavy vehicle is a different proposition. The highest degree of clinical acumen is needed for these examinations, not only in obtaining a sufficiently accurate history but also in the use of that despised instrument the stethoscope.

Having emerged triumphant from his interview, test drive, and careful clinical examination, the would-be driver enters upon a period of training—and the thoroughness of this is also a vital safety factor. Once drivers are in service it is the practice to follow up their records and performance on the roads, a particularly valuable indication during the initial months of service. Many undertakings take advantage of the scheme under which the Royal Society for the Prevention of Accidents gives "safety first" awards for years of freedom from blameworthy accidents; these awards are the pride of the drivers and provide an incentive for safety.

Methods of psychological testing for accident-proneness have been developed in the United States and some Continental countries. These tests are numerous and include reaction-time, mechanical aptitude, co-ordination, vigilance, and speed judgment tests; intelligence tests are sometimes given, but good drivers are not necessarily good with paper and pencil. Their value has yet to be proved, and they are not at present in general use in this country. If, however, it could be shown that by means of the tests the exclusion of, say, 10% of applicants would result in a 20%—or greater—reduction in the number of accidents there would be

[1] Vernon, H. M., *Accidents and their Prevention*, 1936, Cambridge.
[2] *Industrial Health Research Board, Report No.* 84, 1939, H.M. Stationery Office.
[3] *Industr. Med. & Surg.*, 1950, 19, 231.

a good case for their introduction. A recent contribution to the subject is that of Brandaleone and Daily,[3] who describe the methods of selection used by the Third Avenue Transit Company of New York—personnel tests, medical, "motorability," and psychophysical examinations. These tests were introduced about three years ago, and in the case of 40 drivers they are reported as having reduced the accident rate by 40% over a 24-month period. Unfortunately, it is not stated what tests were in use before the new procedures were introduced, and clearly the more detailed assessment of a larger number of men over a longer period is required before a final assessment can be made. The present methods of selection of bus drivers used in this country appears to be giving satisfactory results, and in all this the drivers themselves deserve a measure of congratulation. They are a fine body of men.

CLOSER LINK

Of the many reports and memoranda on the association between general practitioners and hospitals published since the Health Service began, all emphasize the need for this relationship to be much closer than it is. Administratively it includes access to hospital beds where the family doctor may treat his patients, and the use of certain services obtainable only at hospitals, such as those for having radiographic examinations and pathological tests done. A less tangible feature of the relationship is that general practitioners should be welcomed in hospital wards and out-patient departments instead of, as they sometimes are, regarded as interlopers. While no dissentient voices have been raised against the principle, in individual instances reasons have been found time and again for filching a particular group of hospital beds from the care of general practitioners or for so altering hospital staffs that there is no place for general practitioners on them. Though some of these changes may have been for the good of the medical services, by no means all have been.

The Scottish Health Services Council[1] has now joined with the rest in pointing out that "there is an obvious need for a closer link between the general practitioner and the hospital and specialist services." And the committee that prepared the report had evidence of a prevalent feeling that hospital work is becoming almost exclusively the sphere of the specialist and the hospitals themselves a preserve where the general practitioner is neither needed nor welcomed. The creation of this "antiseptic barrier" dividing clinical doctors into two isolated groups is deplored by those who work on either side of it. Yet few would doubt that much needs to be done if hospital and family doctors are to be united in their efforts to treat not merely the same diseases but the same patients. Doctors abroad often look askance at how the general practitioner in Britain is, as they see it, cut off from the hospitals in his area, and are astonished to find that often enough he does not work in any hospital.

One of the main reasons why a much closer association is needed than at present exists is given towards the end of the Scottish report: it states that the general hospital ought to be a centre of medical endeavour where general practitioners have the acknowledged right of entry and where they can meet their hospital colleagues on terms of equality. All would agree that such close association would broaden the outlook of doctors in both branches of the profession. Clinical assistantships already exist in a number of hospitals, but the Scottish report rightly goes further in advocating that the hospital structure should include a certain number of doctors engaged partly in general and partly in specialist practice. An incidental benefit of this arrangement would be that medical students could receive some of their training from general practitioners.

Once again the need for putting beds in the care of general practitioners is emphasized. Many patients admitted to hospital are suffering from conditions which their own family doctor can treat—and often does treat in the patients' homes. It is a waste of money for these patients to be treated by specialists, and admission to hospital is a break in the continuity of medical care which, however necessary sometimes, must always to a certain extent be regrettable. Again, Avery Jones has pointed out[2] that "much of the present work of hospital out-patient departments properly belongs to general practitioners."

It is to be hoped that this report will not merely be welcomed (as it deserves to be) and then left to gather dust until covered with other reports saying the same thing. The frustration to which many general practitioners bear witness is largely due to their finding it difficult to practise clinical medicine in its fullest sense. Doctors whose work lies entirely or mainly in hospitals agree on the value of consultation with the family doctor. The report indicates how these problems might be solved, but it was nearly two years ago that the Council of the B.M.A. did likewise.[3] That report also drew attention to the fact that closer contact with hospitals would enable the general practitioner to give better service to his patients, and "the knowledge of the personal and human aspect of patients in which the general practitioner is so well versed can be of enormous value in hospital treatment." If the medical services are allowed to continue to fall apart, as they will do if these warnings are not heeded, they will soon deteriorate.

STREPTOMYCIN IN OPHTHALMOLOGY

Since 1944, when streptomycin was first isolated, there has been considerable research on its use against the tubercle bacillus and against Gram-negative bacilli, neither of which are inhibited by penicillin. In ophthalmic work certain diseases are considered clinically to be tuberculous, but often without pathological or bacteriological proof, so that treatment by streptomycin in such cases may be said to be experimental. There are disadvantages in its use: bacteria quickly become resistant to it, and patients develop toxic symp-

[1] See *Supplement*, p. 17.
[2] *British Medical Journal Supplement*, July 14, 1951, p. 9.
[3] *British Medical Journal Supplement*, April 22, 1950, p. 165.

toms (nausea, skin rashes, and sometimes an affection of the eighth nerve, causing deafness and vertigo). The paper by Professor Sorsby and his colleagues (p. 119) is an interesting and instructive account of cases treated over the last three years, considered in four groups—those with definite bacteriological or histological findings, those presumed tuberculous on clinical grounds, those so presumed on indefinite grounds, and cases of tuberculous allergy. As the authors point out, most eye diseases supposed to be tuberculous are considered to be part of a general infection, so that local treatment alone could hardly be expected to be effective. On the other hand, in diseases due to Gram-negative bacilli local therapy alone should be successful.

In fact Sorsby's results show that acute conjunctivitis, and that type of corneal ulcer which is associated with Gram-negative bacilli, respond remarkably well to local treatment. In acute conjunctivitis it is sufficient to use drops (0.5 g. per ml.). But in cases with corneal involvement subconjunctival injection is the method of choice. The authors stress the point that the injection is more effective if given in adrenaline, which must be fresh. They found that subconjunctival injection is very well tolerated, and the dose recommended is 0.5 g. in 1 ml. fluid. (Each 10 minims of fluid has 5 minims 1/1,000 adrenaline added to it.) In tuberculous keratitis results were good in the three cases quoted. Streptomycin was given intramuscularly (2 g. to 5 g. daily for one or two months). In Eales's disease and in iridocyclitis clinically suggestive of a tuberculous origin results were not so good. In phlyctenular disease there are possibilities of improving cases which relapse often or do not respond to the sanatorium regime. An important fact that emerges is that only cases of proved tuberculosis can be expected to respond to streptomycin.

It is clear that success can be guaranteed in infective keratitis due to Gram-negative bacilli, but early treatment is essential to avoid corneal scars. If the diagnosis cannot be made clinically a culture should be taken at the outset of the treatment—otherwise the patient may waste valuable days using penicillin, which will do no good.

The results obtained and quoted in this paper bear out the statement made by Duke Elder and Goldsmith[1] that in ophthalmology the efficacy of streptomycin is restricted to superficial infections with Gram-negative bacilli, proved tuberculosis, and tularaemia.

B.M.A. FILM CATALOGUE

For several years the B.M.A. Film Library has been collecting a wide variety of films; it is now the largest in Britain, and contains over 200. The publication of a catalogue listing these films is therefore timely and should be of great use to B.M.A. Branches and Divisions for their meetings, to medical schools, and to other organizations. The films are clearly indexed under subjects and alphabetically, and the notes on each include a synopsis of what is shown, the author of the material, and such technical details as size, running time, and whether silent or with spoken commentary.

The value of films in medical education is beyond dispute, provided they are well chosen and presented with a suitable introduction or commentary when necessary. Experiment on how to get the most out of films has still to be carried further. Steinberg and Lewis[2] have indicated how to extend this research and have given some experimental results on teaching medical students. But there is no doubt that the present use of instructional films should be greater than it is, and anyone perusing this catalogue will be surprised at the variety of medical and surgical techniques now illustrated by acknowledged authorities. In order to maintain a high standard, the library has had every film appraised by experts for its educational value before listing it in the catalogue, and the same care has been exercised before obtaining a film for the library. The Film Committee has performed a useful service in setting out its wares so attractively in the catalogue, which may be obtained for 5s. from B.M.A. House, Tavistock Square, London, W.C.1.

"WEST INDIAN MEDICAL JOURNAL"

In spite of all kinds of difficulties, such as the explosion which recently wrecked laboratories at Makerere College and the hurricane which earlier swept across Jamaica, the new medical schools in the Colonies are making important progress. This is particularly true of the new University College of the West Indies, which has just produced the first issue of the *West Indian Medical Journal*[3] under the guiding hand of the Professor of Pathology. The journal is the offspring of the short-lived *Jamaica Medical Review*, and contains contributions from members of the Government medical services in the Caribbean as well as from the various departments of the Faculty of Medicine. Some of the articles are useful reviews (e.g., "What is Kwashiorkor?"), while others discuss the peculiarities of disease in the region, or describe scientific research in progress.

The Caribbean is a vast area, about 2,000 miles across from east to west and half as much from north to south, with about 3,000,000 inhabitants mostly scattered on small islands separated by immense stretches of sea. The aeroplane is the standard method of travel. Recently the Caribbean Council of the B.M.A., representing 425 doctors in the area, was meeting in Kingston to discuss the unification of medical services. The time is thus ripe for collaborative studies on the spread of epidemics, and the comparison of pathological processes on different islands and among the different races. The West Indies may prove to be an important natural laboratory for medical study, and with the new Faculty of Medicine at St. Andrew to lead the way results of international importance are likely to be obtained. The new journal will be there to carry them across the world.

[1] *Recent Advances in Ophthalmology*, 4th ed., pp. 262–9, London, 1951.

[2] *British Medical Journal*, August 25, 1951 p. 465.

[3] *West Indian Medical Journal*, September, 1951, 1, 1–96. Price 5s. 3d. Jamaica, B.W.I.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

PARKINSONISM

BY

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As is true of morbidity in general, we know little of the incidence of Parkinsonism in Great Britain, but with the kind co-operation of a group of practitioners in the Leeds area it has been possible to gain an approximate idea of it.

Incidence of Parkinsonism in Leeds and District

Population surveyed	485,903
Parkinsonism (all forms)	288
Approximate incidence	1 in 1,700
Approximate total in Great Britain	27,000

These figures may not be strictly accurate, but they probably represent the minimal incidence of Parkinsonism in the population. In the same survey the incidence of disseminated sclerosis was almost precisely the same—282 patients.

Aetiology

The aetiology of Parkinsonism is probably always complex. Paralysis agitans, originally described by Parkinson in 1817, is a degenerative disorder or abiotrophy of the extrapyramidal system, particularly of the corpus striatum and substantia nigra. Recent Scandinavian work suggests that there is a genetic factor in its production, but other factors have to be considered. Parkinsonism not infrequently first appears after a single head injury or following the multiple injuries of a boxer, and all neurologists are familiar with the sudden appearance of Parkinsonism after some form of emotional stress, such as is occasioned by accidents in which there was no serious physical trauma These factors, difficult to assess, are of considerable importance in medico-legal work, but unfortunately it is rarely possible to be quite certain whether the Parkinsonism was already present before the accident or other incident. Most neurologists will have had the experience of discovering the earliest evidence of Parkinsonism in a patient being examined for some unrelated condition, who at the time of examination has no symptoms referable to his signs. As with so many other chronic, progressive, and degenerative disorders, there is an increasing tendency to take the view that paralysis agitans may be essentially a psychosomatic disorder : there are those who claim that a disordered personality precedes the physical disease, suggesting that people of drive and ambition, contained within a rigid moral framework, may develop paralysis agitans as a result of frustration. Age is certainly an important factor, and paralysis agitans is essentially a disorder of middle and later life, the sexes being affected equally.

An approximate aetiological classification is shown in the following Table, which is an analysis of 90 personal examples.

Aetiological Classification

Paralysis agitans	57%
Post-encephalitic	32%
Arteriosclerotic	4%
Syphilitic	2%
Doubtful	5%

The commonest variety of Parkinsonism is the "idiopathic" degeneration, paralysis agitans. The second commonest is that which follows encephalitis lethargica. This curious infection, thought, though not proved, to be a virus disease, spread rapidly over the world in epidemic waves from 1917 to 1925. There is some controversy concerning its existence before or after these dates, but there is no argument that it was only during this period that the disease existed on a massive scale. A considerable number of those who did not succumb to the acute phase developed Parkinsonism immediately, but in others the syndrome appeared many years later ; the longest interval in my experience is 27 years, and presumably this is not the maximum figure. Much less commonly is Parkinsonism attributed to cerebral arteriosclerosis, with or without hypertension. Examples have also been reported as the result of carbon monoxide and of manganese poisoning. Very occasionally the syndrome arises in a patient with serological evidence of neurosyphilis.

It is by no means always easy to assign any one patient to a particular aetiological group, and indeed there are some who believe this always to be impossible : but certain features discussed below seem to be the prerogative of the post-encephalitic state, and when these appear the diagnosis of post-encephalitic Parkinsonism can be made with confidence, even though there is no history of the acute illness ; indeed, such a history is now a rarity.

Signs and Symptoms

All practitioners and many laymen are familiar with the picture of advanced Parkinsonism : the monotonous and failing voice, the expressionless face with lack of blinking, the general attitude of flexion, the tremor, which is usually asymmetrical, and the general absence of the small and repeated movements of the normal person. In its earliest stages, however, the diagnosis is difficult, particularly in the absence of tremor. The attention of the patient may be first attracted by an alteration in the handwriting, which becomes smaller and less legible. At this stage he will also notice difficulty in carrying out the finer and more skilled movements of the fingers, such as those in playing the piano. It is only rarely that disability is first noticed in the legs. On questioning, at any stage, the patient will realize in retrospect that there has been a general slowing down of all physical activity over the previous months. The tremor is familiar and characteristic, and it is rarely mistaken for anything else, but in the absence of tremor the disability, which is often limited to one arm, may be attributed to a wide variety of neurological disorders. It is only for the latter reason that early diagnosis is important so as to prevent the patient from being subjected to lumbar puncture and even more unpleasant investigations.

Among the earliest physical signs are those involving the eyes. These consist of blepharoclonus on lightly closing the lids, weakness or paralysis of convergence,

and infrequent or absent blinking except on tapping the glabella. This latter is perhaps the most constant and certainly the most characteristic sign: On tapping the glabella both eyelids blink in time with the tapping, whether this be slow or fast, and this blinking will continue indefinitely; the normal person will only blink after the first few taps. For all practical purposes this physical sign is diagnostic of the Parkinsonian state.

Oculogyric crises are highly characteristic and are pathognomonic of the post-encephalitic state. They are becoming increasingly rare. During the crisis the two eyes are suddenly turned, usually upwards, though occasionally to one side. They may turn so far up that the patient cannot see at all, and they may maintain this position for minutes or hours, and in the latter case the eyes may become painful. The attacks occur with varying frequency, but at the worst may appear every day and last for several hours. They are frequently precipitated by psychological factors. These crises are often the presenting symptom of Parkinsonism, but there are always associated eye signs and frequently other evidence of Parkinsonism, though occasionally there may be no involvement of the limbs.

Rigidity is often first detectable in the neck, a place in which it is rarely sought. After the neck the most common site for rigidity is at the wrist, and here the characteristic "cog-wheel" element is elicited by frequent passive flexion and extension of the joint. This is a most important physical sign, and it varies considerably, even from minute to minute in the earlier stages of the disease. Later, similar rigidity is constantly present at all joints, though it is always more obvious at the periphery. A tendency to propulsion or retropulsion is usually a late sign, only demonstrable when the diagnosis is all too obvious. It is important to remember that Parkinsonism, though often bilateral, is usually asymmetrical, and in many patients it is strictly unilateral for very long periods. In a considerable number tremor never appears, nor is it ever seen in the absence of the characteristic rigidity. Though often asymmetrical in the limbs, involvement of the eyes and facial muscles is always bilateral and symmetrical.

In the well-established case, but probably never as a presenting symptom, excessive salivation is frequent, particularly in the post-encephalitic patient, in whom the skin is often very greasy. To the Parkinsonian every movement is an effort, and it is usually easier for him to sit quite still than to move about; some, however, have a feeling of restlessness and an anxiety to move about, which is a practical impossibility. Not infrequently there is a complaint of pain or discomfort in the joints of the affected limbs, and stiffness or ankylosis is apt to appear in the shoulder-joints.

Apart from any question of psychogenesis, there are very important psychological aspects of the established disease. The patient finds himself living in a continuously contracting environment, in which he becomes more and more dependent on other members of the family, and small worries and problems assume unduly large proportions. Immediate emotional factors adversely affect all the signs and symptoms of the disorder—an observation usually made by every sufferer.

Prognosis

Parkinsonism is an irreversible process, and no patient has ever been cured. A small proportion of post-encephalitic cases become stationary for very long periods, and perhaps indefinitely, but all other forms of Parkinsonism are inevitably progressive sooner or later, though often with stationary phases. The rate of progress is extremely variable, but it is usually many years before the patient becomes bedridden.

Medical Treatment

Drugs of the solanaceous group have been used for over 80 years. It was pointed out about 1929, mainly by the late Sir Arthur Hall, that these drugs are most effective when given in increasing dosage up to the point at which toxic symptoms appear. This dosage is sometimes enormous; for example, the normal dose of tincture of stramonium (5 to 15 min.—0.3 to 0.9 ml.) can be increased to 100 min. (6 ml.) three times a day or even more. Tolerance has to be acquired slowly, but is lost very rapidly. If for any reason a patient who has been taking maximal doses suddenly omits his treatment it is essential that tolerance shall again be acquired slowly, otherwise serious toxic symptoms make their appearance. Occasionally when a patient omits to take his treatment a Parkinsonian crisis is precipitated, and he becomes totally rigid and immobile. This rare but alarming state of affairs soon responds to a renewal of drug treatment.

When large doses of the belladonna group are being taken there is always complaint of difficulty in reading, owing to paralysis of accommodation, and of dryness of the mouth; these can respectively be relieved by eserine drops and by adding pilocarpine nitrate to the mixture. At this point, however, medicinal treatment has become complicated, and in my experience very few patients acquire tolerance for such very large doses and then maintain them. This may well be because in the course of time drugs which at first help later become ineffective. A group of chronic Parkinsonian patients have recently been discovered, in a hospital for the chronic sick, who had been taking large doses of these drugs for many years; treatment was suddenly withdrawn, apparently with no detrimental effect. The drugs of the solanaceous group, in the approximate order of popularity, are stramonium, hyoscine, belladonna, and hyoscyamus.

About 1935 "Bulgarian belladonna" had a phase of popularity, though there was no evidence that it was, in fact, any more effective than other members of the group. The effect of these drugs is usually to give the patient a feeling of increased activity and of lessening stiffness. It is doubtful whether any of them really affect the tremor, although it has been temporarily abolished by intravenous hyoscine and other drugs. Little is really known about the mechanisms of tremor, and it has been suggested that rigidity may in some way hold tremor in check; at the same time it is only very rarely that a patient will claim that his rigidity has lessened and his tremor increased. The prolonged use of any of these drugs over a number of years carries with it the risk of chronic glaucoma.

Curare was tried about 1927, but was soon abandoned. Mephanesin ("myanesin") has been in use since 1947; it is usually given in the form of an elixir, the initial dose being 1 dr. (3.5 ml.) three times a day, which can be increased up to 4 dr. (14 ml.) taken four or five times a day. The larger doses should be well diluted with water. As with most other drugs, mephanesin may reduce the rigidity but is not likely to affect the tremor and on the whole it has not been very popular.

Numerous synthetic drugs have been introduced for the treatment of Parkinsonism in the past few years, and the list is steadily increasing. As with the solanaceous group, all these drugs are preferably given by mouth in increasing dosage until toxic symptoms appear, and it is still important that the dosage should be increased or decreased slowly. Any of these drugs may be combined with one of the solanaceous group. The general feeling is that the new drugs are perhaps more effective than the old, and they certainly seem to produce effects more quickly.

Perhaps the most popular at the time of writing is trihexyphenidyl ("artane"), which has a pharmacological action similar to that of atropine. The initial dose is 1 mg. on the first day, increased by 1 or 2 mg. daily up to a total of about 12 mg. divided into three or four doses. Toxic symptoms may appear at or before this level, though some patients will take as much as 15 mg. and very rarely 20 mg. daily. The toxic symptoms include dryness of the mouth, nausea, dizziness, and, less commonly, blurring of vision. This drug again may produce apparent relief of rigidity and sometimes reduces salivation, though it does not appear to relieve the salivation of the post-encephalitic; its effect on tremor is very questionable.

Ethopropazine hydrochloride ("lysivane") is supplied in orange-coloured tablets containing 50 mg. of the drug, the initial dose being 50 to 200 mg., which can be steadily increased up to 500 mg. over a period of three to four weeks. Side-effects include drowsiness and dizziness, nausea, paraesthesiae, and cramp in the limbs.

"Parpanit" is supplied in tablets of two strengths, the smaller containing 6.25 mg. and the larger (parpanit forte) containing 50 mg. It is usual to start with six small tablets daily (two tablets three times a day), increasing up to a maximum of about 24 tablets a day (one large tablet is the equivalent of eight small ones). Toxic symptoms again include dizziness as well as palpitation and tinnitus.

Diethazine hydrochloride ("diparcol") has now been largely abandoned, because toxic symptoms have included mental confusion and agranulocytosis.

As with the older drugs, it is unusual to find a patient who is prepared to take the trouble to acquire tolerance for a high dosage and to maintain it. The more usual state of affairs is to find that the patient has of his own accord made a considerable reduction in the total dosage. It would often seem likely that the finally accepted dosage is not much more than a placebo. It has also been found that the antihistamine drugs sometimes benefit the rigidity and general slowness. The usual practice is to combine these drugs with one of the previously named preparations. When large doses of these new drugs are given in combination over a long period it is possible, and indeed highly likely, that toxic symptoms will appear which have not yet been described. The antihistamine drugs tend to produce drowsiness and are sometimes better limited to an evening dose only.

Oculogyric crises never respond to any of the above-mentioned drugs, though their frequency is sometimes lessened under the continuous action of amphetamine. If attacks are very frequent and prolonged, electric convulsion therapy is worthy of trial and in my experience has often proved effective. In the very rare Parkinsonian who has serological evidence of neurosyphilis antisyphilitic treatment must be instituted, but it will not be found to reverse the Parkinsonian syndrome.

Physiotherapy is probably as important as medicinal treatment. The essential part of physiotherapy is vigorous active exercises employing all four limbs, and in the very advanced Parkinsonian daily passive movements of all joints are essential. Hot baths will often relieve the disability in the joints and to some extent the general stiffness. Massage, all forms of electricity, and all emanations have no particular therapeutic value in this disease.

The psychological aspects of treatment have to be left largely in the hands of the family. There is a natural tendency to pay too much attention to the Parkinsonian, who should in fact be given every encouragement to remain at work as long as possible and to fend for himself in the house. At the other end of the scale, and particularly in the early stages before the diagnosis has been established, the patient is sometimes accused of idleness, and I have seen a case in which a nagging wife was murdered by the infuriated patient.

Surgery in Parkinsonism

The position of surgery is at present unsettled, and publicity in the lay press has often been quite irresponsible. Surgical procedures aim at abolishing tremor and replacing it by weakness or paralysis, and operations may be performed either on the cerebral cortex or on the spinal cord. Since most cases of Parkinsonism are progressive careful selection of patients for surgery is vital. Surgery should probably be limited to patients under 50 who are suffering from gross tremor which is stationary or only slightly progressive and is restricted to one arm. Such rules will exclude about 95% of all patients. It has been claimed that in the ideal case tremor can be abolished, and that the resulting paralysis is not complete, but no such guarantee can be made. I have seen a patient with a post-encephalitic tremor limited to the left hand and stationary for many years who was still able to work and to play golf and tennis; after an operation on the cerebral cortex the tremor disappeared, only to be replaced by a total left hemiplegia and Jacksonian epilepsy, with very serious and permanent disability. Operative mortality figures seem never to be lower than 17%, rising to 35% in those above the age of 50.

In assessing the value of any form of treatment in Parkinsonism it must be remembered that it has always been known that a new remedy is likely to achieve results at first, but that such benefit rarely lasts. This is not surprising, because the patient who claims to feel much better as a result of medicinal treatment rarely shows any striking objective change. It is not suggested that large doses of powerful drugs have, in fact, no beneficial pharmacological action, but there seems little doubt that much of the alleged benefit is the result of suggestion. The optimism caused by early improvement is soon replaced by dejection following relapse, and this is reflected in an attitude of hostility and resentment to the doctor—often very obvious in the patient's face. Because of the factor of suggestion, and the natural tendency of the disease to have stationary phases, the assessment of treatment is as difficult as it is with such diseases as peptic ulcer, rheumatoid arthritis, or ulcerative colitis, although, unlike these, Parkinsonism never shows phases of remission.

Finally, the Parkinsonian must be encouraged to maintain his physical and mental activities and to take an interest in the nature and dosage of the large variety of drugs available to relieve his symptoms.

RECENT HISTORY OF PNEUMONIA

OSLER CLUB SYMPOSIUM

The 99th meeting of the Osler Club, held in London on January 11, with Mr. ZACHARY COPE in the chair, was devoted to a symposium on pneumonia in Osler's time and since.

Osler's Fatal Illness

LORD HORDER began by giving an intimate and moving account of Osler's fatal illness. He said that when Harvey Cushing's *Life of Osler* appeared in 1925 he was disappointed to find that in the last few poignant pages the drama of the final stage of Osler's illness had been telescoped into a few apparently casual references. It was on December 12, 1919, that Osler, who was suffering from a prolonged and obscure disease in his chest, sent for him to come to Oxford. It was a shock to see him very ill and emaciated, in a state of extreme toxaemia, and speaking little because speech brought on a bout of paroxysmal coughing. Osler himself had jotted down for his information, in that terse fashion of his, some pencilled comments on his own condition. Seven days previously the chest had been punctured and a little serous fluid drawn off without any relief of symptoms. Lord Horder postulated the presence of an interlobar empyema, and the puncture was repeated, using the longest needle procurable at the time. The same sort of fluid was forthcoming and that only in small amount. The condition remained relatively unchanged for another week, so that he made up his mind that something further should be done by way of exploration. A couple of extra long needles were made, Osler readily agreeing to the exploratory "séance." The first puncture was negative, but the second was successful, and when the stylet was withdrawn Osler himself said, "You've got it, my boy." Between 4 and 5 ml. of stinking pus was withdrawn. On the following day Charles Gordon-Watson drained an abscess cavity. The drainage, never very copious, ceased three days later. No further collection of pus was revealed by a second operation. Four days later the end came in dramatic fashion. He (Lord Horder) had talked with Osler in the morning, and had then gone to lunch downstairs, when the nurse called him quickly, and on going upstairs he found that the dressings and the bed were soaked in blood. The sepsis had opened up the wall of a small vessel in the upper lobe of the lung, and Osler died a few hours later that day.

A study of Osler's last illness threw little if any light on the subject of pneumonia in general. The fact that the pus contained Pfeiffer's bacillus was no more proof that the original disease was an "influenzal pneumonia" than the fact that the onset of the disease occurred during a period of fairly high influenzal incidence. All that could be said was that the disease might well have come into the category of what was to-day called "atypical or virus pneumonia," an unfortunate introduction into the nomenclature. Nor did he much favour the term "pneumonitis," though there was more to be said for it. Even in a severe epidemic of influenza it was more helpful to label the condition "influenza with pneumonia" than to call it "influenzal pneumonia." The critic might ask what a name mattered, but it did matter how words were used, because words determined subsequent thinking. The tendency to stress the lung condition so as to give it a predominant place in the nomenclature was probably due to the fact that, both clinically and histologically, the lung lesions declared themselves while yet the search went on for causative agents in the great majority of virus infections. This tendency should be resisted. With more research and some forbearance the answer would be unfolded.

As long ago as 1887, in an editorial summary of a report on pneumonia in the hospitals of New York and Boston, Osler said that the disease had come to be known as a specifically self-limited disease, and the only rational treatment was the expectant one. He added, however, that to the next generation the symptomatic and expectant plan of treatment then in vogue would appear crude and unscientific. Osler's prophecy had been fulfilled, and so no doubt would be a further prophecy that the generation next to ours would regard as crude and unscientific the nosology at present used with respect to pneumonias in the textbooks to-day.

The Advent of the Sulphonamides

Sir LIONEL WHITBY followed with a succinct account of the discovery by Domagk and his assistants at Elberfeld of the anti-streptococcal activity of an azo dye containing a sulphonamide group. Domagk's compound, known as "prontosil," was patented in 1932, but the experimental results were not published until 1935, and these were followed by clinical reports in German literature concerning work which had been going on in the trial period. Prontosil was a water-insoluble basic azo dye (sulphamido-chrysoidin) suitable for oral administration, from which an acid dye known as prontosil soluble was developed. It was early suggested and later proved that this complex molecule of sulphamido-chrysoidin owed most of its virtue to the fact that it was reduced in the body to *p*-aminobenzene-sulphonamide, now known as sulphanilamide.

As a result of a great deal of research there eventually emerged so far as pneumonia was concerned, and in historical order, sulphapyridine (at first known as M. & B. 693), sulphathiazole, sulphadiazine, sulphamezathine, and sulphamerazine. The first of these was synthesized by Ewins and Phillips, of May and Baker, Ltd., and was proved to have great therapeutic value against pneumococcal infections in mice. Clinical confirmation in the human subject soon followed, first in a few cases reported by Telling and Oliver 13 years ago, and then by Evans and Gaisford, who in a Birmingham municipal hospital in that year treated 100 cases of lobar pneumonia with a mortality of no more than 8%, whereas the control series had a death rate as high as 27%. From even this small experiment it was clear that the disease which in the days of Osler could be treated by no more than palliatives, stimulants, sedatives, and careful nursing, and later by a laborious and expensive serum routine, could now be easily and cheaply controlled.

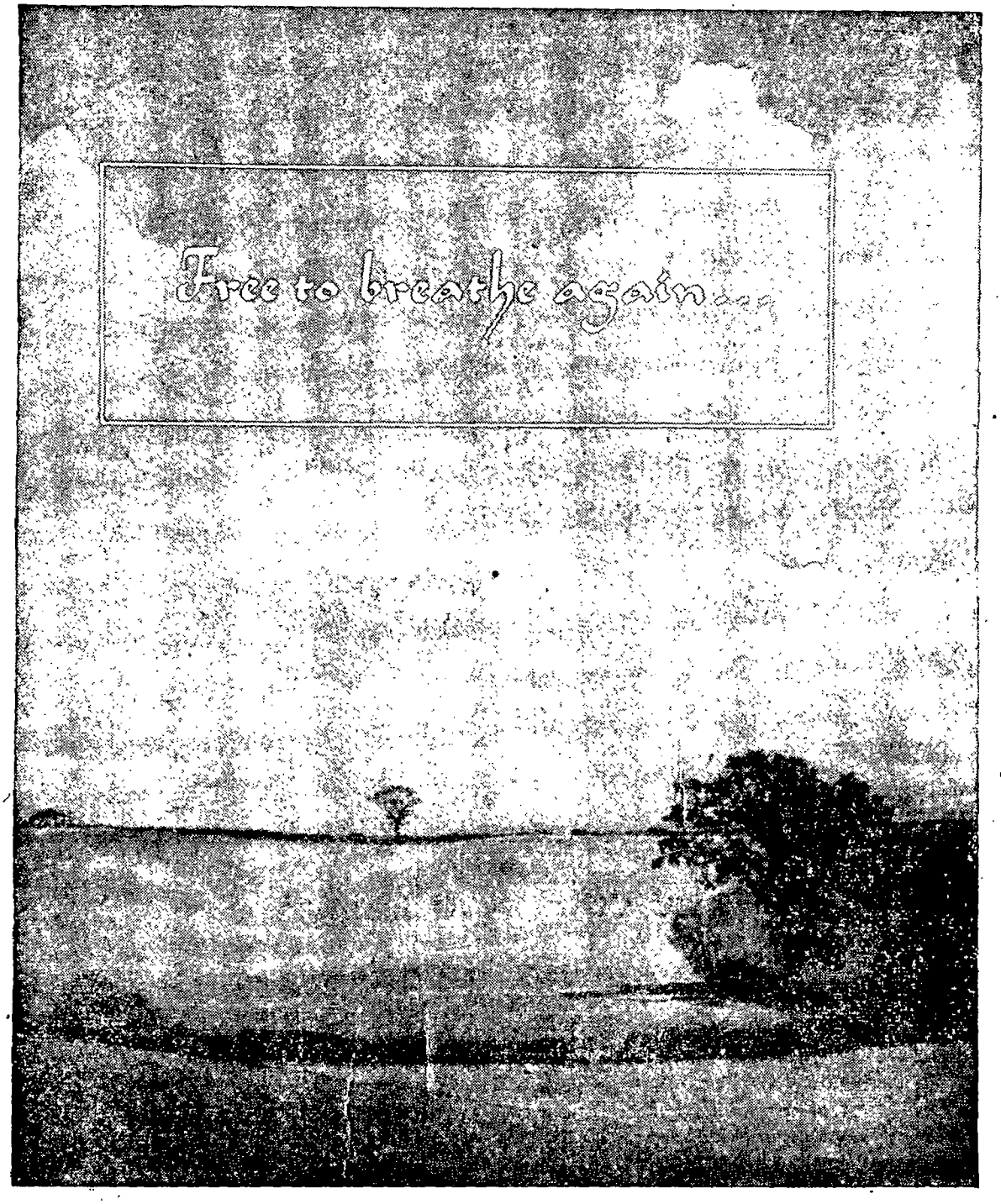
Sir Lionel Whitby gave one or two personal anecdotal recollections of those wonderful years. It was the intrusion of a good dinner which led to the feeding of a batch of mice with sulphapyridine at a rather late and unpopular hour—indeed, well after midnight. This batch was the first to exhibit a survival rate of 100%. Thereafter in all assays the technique was so altered as to contain a night dose, and all who recalled the time when the "sulpha" drugs were used widely for the treatment of pneumonia would remember that this rule was carried out at the bedside with dosage four-hourly day and night.

Sulphapyridine was handicapped by the intense vomiting it caused, which led some who owed their lives to the drug to declare that they would prefer to die rather than endure the treatment again. Thus sulphathiazole, not much more active but far less toxic than sulphapyridine, came to replace the latter as soon as it had been rediscovered. Sulphathiazole was in actual fact found at the same time as sulphapyridine when mouse tests were being carried out, but there was a tendency to pass it over, since in the animal it seemed to have little or no advantage over sulphapyridine—a finding which was due to rapid excretion and therefore low blood concentration.

It might be said as a historical fact that the sulphonamides, from sulphapyridine to sulphamerazine, held the field for the specific treatment of pneumococcal pneumonia until penicillin came to be sufficiently plentiful for everyday use. Even to this day one or other of the potent and relatively non-toxic sulphonamides could still be regarded as an indispensable drug.

Changing Clinical Aspects

Sir ADOLPHE ABRAHAMS said that he was told that the modern medical student rarely saw a case of typical lobar pneumonia. Unhappily a "superannuated physician" had had ample opportunity for such clinical observations. But



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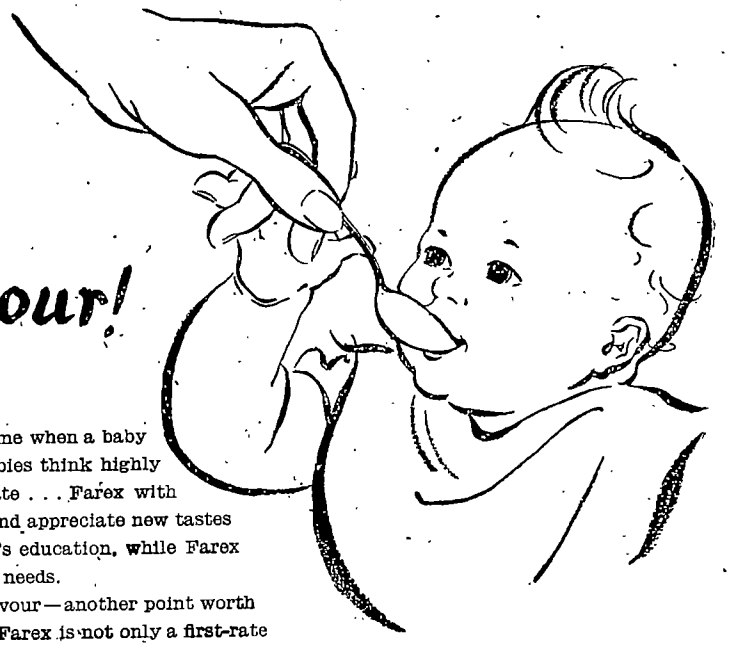

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was there in fact a remarkable reduction in the present-day incidence of lobar pneumonia? Had the type of case changed, and had the treatment by sulphonamides been responsible for the change? Then what about all this business of virus pneumonia or pneumonitis? He was not in a position to judge. "Old dogs do not learn new tricks." In his view lobar pneumonia received in many circles an entirely wrong nomenclature. He was taught—not by Lord Horder—that pneumonia was a disease of the lungs, a misconception which he had never been able to dispel. Osler rightly put pneumonia in his section of diseases due to bacterial infection; yet modern textbooks of medicine put it among the diseases of the respiratory organs. Pneumonia was no more a disease of the lungs, although respiratory symptoms predominated, than typhoid fever was a disease of the intestines.

During 2½ years in the first world war he (Sir Adolphe Abrahams) saw 558 cases of lobar pneumonia from onset to termination. In nearly every case the disease began with a rigor. Temperature was generally of the order of 102–3° F., rarely higher. The pulse–respiration ratio, upon which clinicians were very emphatic, was raised. Physical signs in 80 or 90% of the cases occurred within the first four days. Physicians with exceptional experience developed a flair for the recognition of early physical signs; they did not wait for such features as dullness at the base or even bronchial breathing, but there was a queer little catch in the breath which they recognized. In only 12 of his cases were physical signs entirely absent throughout the illness. The sputum was generally of the so-called rusty type. In something over 10% of the cases sputum was entirely absent. Other features worth mentioning were herpes, which Hippocrates had observed, and which denoted a good prognosis, abdominal pain (severe in 31 of the 558 cases), and thoracic pain (almost invariable, and not always on the same side as the physical signs, and more frequently on the right than on the left). The mortality had been 10.9%. The only complication of any real significance was empyema, the incidence of which was over 20%. Other complications were pericarditis, meningitis, arthritis occasionally, and, he supposed, infective endocarditis, but these were very few indeed.

As for prognosis, one of the features of lobar pneumonia was that some who were almost moribund recovered and sometimes a comparatively benign case running a good course suddenly collapsed and the patient died. The fact that the only treatment in those days was expectant and symptomatic did not prevent people from trying all sorts of remedies. It was a commonplace for practitioners to write to the medical journals stating that they had been in practice for 20 years and had seen 15 cases of lobar pneumonia all of which had recovered in consequence of a particular treatment. People who used vaccines produced figures which to a certain extent were convincing. In his own series he had at one time 70 consecutive cases without a death. Had he adopted some form of special treatment, the more fantastic the better, the conclusion would have been irresistible that his treatment had had something to do with it. At one time brandy was regarded as a sort of specific. On the other hand, the London Temperance Hospital then gave alcohol only to patients practically moribund, with the result, of course, that their statistics worked out very much to the detriment of alcohol. Oxygen was used, but more for the benefit of relatives than of the patient. But the treatment in those days boiled down to good nursing, fresh air (if he himself had any choice in the matter he had his patients in the open air), and, above all, sedatives to induce sleep. In his experience 70%, he thought, would have recovered whatever was done; between 20 and 30% would have died whatever was done. There remained 5 or 10% in which skilled treatment and nursing might just have turned the scale. He was always impressed by Leonard Williams's dictum that pneumonia was best treated by faith, hope, and charity—faith in *vis medicatrix naturae*, hope for the absence of complications, and charity towards those who differed from you.

Various Experiences

Sir ALEXANDER FLEMING recalled a senior physician to whom he was once clerk whose chief treatment for pneumonia was ice packs. Unfortunately, he had a junior who did not believe in ice packs and put on poultices—a confusing situation. Sir Alexander was told that they did not see pneumococcal pneumonia in hospital now. Sulphonamides and antibiotics were given outside, and the hospital got only the cases where these agents failed. The cases that came to hospital were sometimes amenable to "aureomycin" or "chloromycetin," and then they were called virus pneumonia. "I do not know what virus pneumonia is, but it is quite a nice name, anyway." Dr. W. R. THROWER, who was associated with the work in the laboratories of May and Baker, gave an account of his first case treated with "693." On May 16, 1938, he was presented with a box of the tablets and forgot about them, but two days later a case of lobar pneumonia in a man aged 45 was presented, and he decided to see what these tablets could do. It was not known how much to give, nor how often, nor how the drug acted. A very tentative start was made by giving 0.5 g. four-hourly. The dose was repeated throughout the night. The next morning the patient was no worse, perhaps better, but by the afternoon there was undoubted improvement. The following morning, which should have been the morning of crisis, the patient was sitting up and asking for food. Mr. G. H. COLT described his own experience as a patient with double pneumonia at the time of the first world war. The great help was nursing. The V.A.D. service, which produced hot meals at all hours of the day and night, helped tremendously.

Dr. ALEXANDER CAWADIAS spoke in appreciation of Lord Horder's insistence on careful nosology and upon the natural history of disease, to borrow a term from Sydenham. The natural history of pneumonia was, of course, first described by Hippocrates. One of the best descriptions in modern times was by the French nosologist Grisolle. Dr. Cawadias agreed with Lord Horder in his objection to the term "influenzal pneumonia." Influenza was in one morbid category and pneumonia in another. Concerning the history of treatment, he mentioned that meted out to an early Empress of Austria in the eighteenth century. It was reported that she had cough, sputum, and pain. The physicians were called in and bled her 3 or 4 pints. She was no better, and they bled again, 5 or 6 pints, and, as there was no improvement, they came next day and bled her again, and it was reported that "notwithstanding the active bleeding, the patient died."

Mr. DICKSON WRIGHT mentioned post-operative pneumonia, of which, he said, there were two kinds, one occurring immediately after operation and the other later. The second was the more serious in its effects. The respiration rate was high, the patient became very toxaemic, and there were mental changes.

The CHAIRMAN (Mr. Zachary Cope) mentioned that he started his career as house-physician to David Needham, who was one of the advocates of ice packs for pneumonia. Needham was a most conscientious physician, and thought there was scientific proof that the pneumococcus did not thrive so well if the temperature was a little lower than that of the body, so that the external application of an ice pack would reduce the temperature inside the chest to the required degree. It was extraordinary that so conscientious and scientific a man should adopt so pseudo-scientific an attitude. Post-operative pneumonia used to be attributed to the anaesthesia, but that was a misplaced judgment, because it had been proved again and again that pneumonia developed even after a local analgesic, when there was no infiltration of any substance into the lungs and the operation did not interfere in any way with the diaphragm.

Mr. Cope added that there were two or three medical evenings which were indelibly imprinted on his memory, and to these would be added the meeting of that evening, with the three brilliant opening addresses, the first of them, full of clinical wisdom, by a man who had just celebrated his 81st birthday. He wondered what Osler himself would

have said had he listened to Lord Horder in view of his own comment on the "usefulness of men above 60 years of age."

It was announced that Dr. Carlyle Lyon had presented the Club with certain books, including a volume of the *British Medical Journal* for 1886 which contained some of Osler's earliest writings, his Cartwright lectures on the blood corpuscles.

MEDICINE IN UGANDA

[FROM A SPECIAL CORRESPONDENT]

The annual clinical conference of the Uganda Branch of the B.M.A., held from December 7 to 9, 1951, in the Makerere Medical School at Mulago Hospital, by courtesy of the dean, was attended by many Uganda members, by representatives from Kenya and Tanganyika, and by visitors from the United Kingdom. The president of the branch, Dr. A. W. WILLIAMS, opened the proceedings with an account of the history of Mulago Hospital and the growth of the medical school.

History of the Hospital and Medical School

The Government hospital at Mulago, founded in 1913 as a venereal diseases treatment centre, had grown from a collection of mud-and-wattle grass-roofed wards to a 650-bed general hospital, accommodated in pavilion-type wards spreading down the slope of the hill. Proposals for new buildings had twice come to nothing, in 1939 and in 1946, but within the last few months a site had been cleared on which it was hoped a new hospital would be built.

The medical school, which had begun as a departmental training school of the Uganda Government, had admitted its first four students in 1924 under the first medical tutor, H. B. Owen, later principal of the school and medical superintendent of Mulago Hospital. Students from outside Uganda had been admitted in 1930. The course, at first lasting only four years, including premedical studies, without anatomical dissection, midwifery, preventive medicine, or more than the most rudimentary pathology, had developed by stages to a seven-year course with a content similar in all respects to those given in the medical schools of Great Britain. It catered now for students from Kenya, Uganda, Tanganyika, Zanzibar, and Nyasaland, who, on qualifying as holders of the Diploma of Medicine of Makerere College, became medical practitioners licensed to practise in East Africa. Well-equipped preclinical departments and a fine medical library had grown up, and there were now vigorous clinical and pathological departments at Mulago Hospital staffed jointly by members of the Colonial Medical Service and of the Makerere College clinical departments.

In tracing the growth of the hospital and school, Dr. Williams paid tribute to Uganda's voluntary hospital at Mengo and its staff, who under the late Sir Albert Cook had pioneered Western medicine in East Africa; and emphasized the indebtedness of the school to the many Colonial Service medical officers, pathologists, and specialists who had served at Mulago in the last 35 years.

Sir HENEAGE OGILVIE then spoke on the surgeon's part in the fight against cancer, and discussed the place of radiotherapy and chemotherapy in the treatment of malignant disease. In answer to a question whether East Africa should press for a radiotherapy centre, he said that the cost would be high and that he felt that the money could be more usefully spent in other ways.

The president of the Uganda Branch then opened an exhibition prepared by the major pharmaceutical and medical supply firms, the first seen in Uganda, and one which was very much appreciated by those present.

Indolence or Illness?

A discussion took place on "What are the economically important diseases of Uganda?" Dr. J. M. CALDWELL gave some figures compiled from the returns made by the larger employing concerns in Uganda, and dealt especially with malaria, respiratory disease, tropical ulcer, and injuries as causes of loss of working hours. Tropical ulcer was a disease of the agriculturist, and in such folk correlated closely with the figures for total injuries, but this was not seen in factory workers. It was regrettable that the largest employer in Uganda, the Government, made no returns. Dr. Caldwell stressed the great importance of respiratory diseases and malaria as causes of morbidity, and Dr. R. G. LADKIN supported this by an analysis of the causes of morbidity in persons attending rural dispensaries in the regions round Kampala. The analysis covered over 250,000 out-patients. He pointed out that attendance at rural dispensaries was the nearest thing to a general-practitioner service available to Africans in Uganda. Although malaria (165/647) was the most frequent cause of admission to beds, in dispensaries it was closely followed by pneumonia (159/647), and as a cause of attendance respiratory diseases far out-topped malaria. Injuries, local infections, and surgical emergencies were the next most frequent conditions, followed by diarrhoea and dysentery, burns, pyomyositis, and gonorrhoea (all in the region of 15–45/647). Arthritis, whooping-cough, and tropical ulcer were the remaining major causes of invalidism. Dr. Ladkin then analysed the factors contributing to the high incidence of pneumonia, and concluded that the incidence was low in sparsely populated rural areas, increased considerably in areas of higher population density, and occurred in epidemic forms in overcrowded areas. It was one of the most important diseases of Uganda.

Mr. PAKENHAM-WALSH, of the Uganda Company, speaking as an employer of African labour, expressed the view that all this information hardly concerned an employer of unskilled African labour. Disease was not a cause of low production. Too much emphasis was now placed on the need to raise the standard of health and living in order to obtain a greater output per day. Since the war, conditions of health, housing, and food had improved and absenteeism had been reduced, but work output had actually fallen. By custom, agricultural work ceased at noon or when the task appropriate to such working hours was completed, and, while disease might make a man slow in completing his task, the healthy man did no more. In a labour force of 850 men in the last 12 months absenteeism from sickness was only 0.9% and absenteeism from other causes was only 1.9% as against 30% before the war, when no food was issued. The more serious diseases of Uganda were indolence, established custom, and lack of economic pressure.

An animated discussion followed these papers. The question of incentives was raised, and one suggestion for reducing invalidism was the supply of cheap waterproof clothing. Mr. Pakenham-Walsh's experience was supported by many present.

The Absence of "Stress" Diseases

On the following morning a clinic was held by the staff of the medical division of the hospital. Cases were shown by Dr. A. W. Williams, Dr. P. W. Hutton, Dr. A. B. Raper, and Dr. H. C. Trowell.

Dr. J. H. SHELDON then described his experiences with A.C.T.H. and cortisone in clinical medicine, and went on to discuss their relevance to local conditions. He was fascinated by the fact that all the diseases for which they were frequently used in temperate regions, rheumatoid arthritis particularly, were absent or very rare in Uganda. He hoped that research would be directed to the elucidation of the problems presented by this disparity. It seemed that the African response to stress was abnormal; or was it normal and the European reaction abnormal? Did diet play a part? It seemed possible that a deficient diet might not provide the necessary materials for the elaboration of steroid hormones and that the frequency of enlarged adrenal glands in Africans was an indication of an attempt to make good this failure.

Epidemiology of Schistosomiasis in the West Nile District

Dr. G. NELSON then described his survey of schistosomiasis (Mansoni) in the West Nile district, where the

Nile leaves Lake Albert and meanders on its way to the Sudan. The results of large surveys suggested that the infestation was spreading downstream from the lake. The incidence in children in the upper reaches was extraordinarily high, but the effects seemed minimal, and he considered that increasing malnutrition due to extended use of the protein-poor cassava was a much more important source of ill-health. He had found evidence of periodicity: in regions where there had been a high incidence in previous years the incidence was now much less. The infestation caused little apparent effect, save perhaps in children; the incidence of anaemia, splenomegaly, and abdominal symptoms was no greater in infested patients than in those uninfested. He presented in many maps and tables the results of this survey.

In the subsequent discussion Dr. LADKIN suggested that poor rainfall, resulting in unflushed pools, might account for the spread of the disease rather than the dispersal of infected snails on floating vegetation in the Nile. He described the failure of the rains in 1942–3 with consequent famine in the area, which, he thought, might have upset the ecological balance and led to spread of infestation. He agreed that cassava was a greater menace than the schistosome. Dr. Ladkin's views were supported by several speakers, but no one could explain how pools teeming with snails one week could be so free of snails one week later and in the absence of flushing. Dr. Nelson's comments on the absence of signs and symptoms due to *Schistosoma mansoni* infestation received wide support.

Uterine Tone and Pregnancy Anaemia

Professor W. C. W. NIXON then discussed the problem of abnormal uterine activity in labour, illustrating his points with records of the uterine contractions, including some taken during his visit to Uganda. He dwelt on the relevance of this work to local conditions where difficult labours and rupture of the uterus were frequently seen, and he speculated on the cause of the hypertonicity he had found in the African uterus.

Dr. J. M. VAIZEY then discussed some 66 cases of anaemia in pregnancy studied in Eastern Uganda. By European standards all the 2,020 pregnant women studied were anaemic, but he had made a special study of a group with haemoglobin levels of less than 6 g./100 ml. Most of these showed a macrocytic hypochromic anaemia which responded to good food and iron, with deworming if there was ankylostomiasis. But neither helminthic infestation nor malaria accounted for more than a small proportion of cases. Some had developed their anaemia very suddenly and had not responded even to intravenous iron. There were no cases resembling tropical macrocytic anaemia. He felt that malnutrition played an important part, most of the cases coming from an infertile area where cattle could not be raised. In the discussion which followed, the question of mineral deficiencies in the soil was raised, but analysis had not demonstrated any particular deficiency or excess.

Preventable Blindness

The following morning a clinical demonstration was given by the staff of the surgical division of the hospital. Cases were shown by Mr. I. W. J. McAdam and Mr. H. J. Croot, and Mr. D. P. Burkitt demonstrated artificial legs in various stages of construction, made locally from plasticized asbestos sheet. The legs were very light, unaffected by moisture, ant-proof and fire-proof, and cost £1 each.

The problem of blindness in Uganda was the subject of a paper by Dr. A. J. BOASE, who discussed some of the commoner causes. There were no reliable statistics, some putting the incidence of blindness as high as 1% of the population (5,000,000). Corneal blindness from keratoconjunctivitis and from trachoma accounted for some 80% of the blind seen at Mulago Hospital; these cases were avoidable. Contrary to the general belief, senile cataract was much the same in incidence as elsewhere, but the common occurrence of symmetrical cataract in young adults, probably hormonal or metabolic (not diabetic), called for elucidation, as did also a not uncommon primary optic atrophy assumed to be of viral origin. "Hetrazan" promised much in onchocercal disease of the eye: a cited case, blind from bilateral papillitis, with the aqueous of each eye teeming with microfilariae, had made a dramatic recovery. The possibilities of surgery were shown in the case of a man who had been blind from trachoma: bilateral tarsectomy followed by bilateral penetrating keratoplasty had removed all signs of trachoma and restored vision.

African Children

Dr. R. F. A. DEAN then described his observations on African children. At the outset of his work he had been struck by several details which suggested a lack of masculinity in the physique of the boys, particularly in those from the wealthier strata of African society. He found that the older schoolboys (16 to 22 years old) had very little facial or bodily hair, and an unexpected smoothness of outline; 6 out of 180 had gynaecomastia. Investigations of a group of boys 6 to 15 years old confirmed the findings of an intersexual type of physique; measurement of hand bones showed development proceeding in advance of a U.S. standard (although height and weight were below U.S. standards) and bodily proportions that were more nearly feminine than masculine.

Examinations of younger children (6 months to 3 years old) showed that they were developing poorly. It was from this age group that the majority of cases of kwashiorkor were derived. There seemed no doubt that protein deficiencies in the diet were responsible for the onset of this disease, and high-protein diets had been used successfully at Mulago Hospital. Up to 125 g. milk protein had been given daily. In the serum of 45 relatively uncomplicated cases the treatment had brought about rises in the concentration of total protein, albumin and globulin, and in the levels of many enzymes. All this was consistent with the relief of protein deficiency. There had also been a big rise in serum cholesterol. Attempts at increasing the amount of dried skimmed milk in the diet had disclosed an unexpected intolerance of carbohydrate. This extended to lactose, sucrose, glucose, and maltose, and was a severe handicap in therapy. One of the principal items in the local diet was the cooked banana or plantain, which contained very little protein. When this was given alone to experimental animals they developed fatty livers and changes in the pancreas. The youngest animals seemed most affected. In some experiments methionine added to the banana diet had seemed to prevent the development of the fatty livers, but there might be other deficiencies. Success in treatment of kwashiorkor might have been due partly to methionine, and a further trial of this amino-acid was in progress.

Many children probably passed through a period in which they suffered from kwashiorkor in an unrecognized mild form. They might, however, sustain liver damage which did not completely clear up, and which might underlie the high incidence of various liver diseases known to afflict Africans. It seemed possible that biochemical changes due to the disease might be responsible for many unexplained differences between Africans and Europeans. An upset cholesterol metabolism might, for instance, lead to the abnormal production of steroid substances and therefore to the development of intersexual characteristics and to unusual response to "stress." It was emphasized that the connexions between the pathological states found in the various age groups were so far tenuous and theoretical, but the speaker believed that a single pathology, having its origins in dietary insufficiency in infancy, was an economical and acceptable hypothesis.

The meeting was closed by the president, who thanked the speakers. He hoped many would return to the next annual clinical conference. This was the second held by the Uganda Branch, and there was an average attendance of over 50 members at each session, and over 70 members and guests had been present at the dinner. The Uganda Branch had a widely scattered membership, although the largest body of members was in Kampala; the purpose of

the annual clinical conferences was to give the up-country members a chance to attend meetings, and the council of the Branch were gratified by the large number who had attended.

ADDENDUM

BY

Professor W. C. W. NIXON

For the first time in the history of Makerere Medical School external examiners from the United Kingdom took part in the examinations in the final-year subjects. Sir Heneage Ogilvie (Guy's Hospital) examined in surgery and anatomy, Dr. J. H. Sheldon (Wolverhampton) in medicine, and Professor W. C. W. Nixon (University College Hospital) in obstetrics and gynaecology. Professor Esther Killick (London School of Medicine for Women) travelled with the group and examined in physiology.

The Uganda Branch of the British Medical Association arranged to hold its annual general meeting after the examinations so that the above visitors could participate. The organizers of the meeting are to be congratulated on the choice of subjects and the number of members attending. Ample opportunity was given to the visitors from home to examine patients in the wards of Mulago Hospital. Mengo Hospital, founded in 1844 by the late Sir Albert Cook, was also visited. There we were pleased to meet Miss Margaret Basden, who is working temporarily at "Mengo," having recently retired from the staff of hospitals in London.

The visitors from Britain made new friends, exchanged ideas, and acquired fresh knowledge. By the meeting being held at Makerere College members were given the chance of seeing the way this medical school is developing and how it was achieving its aim to train Africans as doctors. Its staff is to be congratulated on the way it is handling this task and deserves all the support possible from colleagues at home.

There can be no doubt that the Uganda Branch of the B.M.A. is one of the most active and thriving overseas.

ORDER OF ST. JOHN OF JERUSALEM

The *London Gazette* has announced the following promotions in, and appointments to, the Venerable Order of the Hospital of St. John of Jerusalem:

As Knights: Major-General P. H. Mitchiner, C.B., C.B.E., T.D., Lieutenant-Colonel C. G. Booker, M.D., Major E. S. B. Hamilton, *M.C.*, M.B., F.R.C.S., Captain R. V. Steele, M.B., Drs. K. S. Maurice-Smith, F. L. Newton, N. Manson, C.B.E., and F. L. Richard. *As Commanders (Brothers):* Sir William Coates, K.C.B., C.B.E., D.L., V.D., T.D., F.R.C.S., Surgeon Captain A. McCallum, O.B.E., M.D., Brigadiers W. H. du Plessis, O.B.E., M.R.C.S., L.R.C.P., and T. W. Davidson, M.B., Colonels C. H. S. Redmond, T.D., M.B., and O. L. Shearer, C.B.E., M.B., Lieutenant-Colonel G. G. L. Stening, M.B., Drs. J. T. Whitley, O.B.E., M. C. Lavin, K. E. Dowd, F. C. Middleton, M.B.E., C. R. de C. Sadler, and W. R. Russell, and Mr. F. W. Law, F.R.C.S. *As Officers (Brothers):* Major-General F. K. Norris, C.B.E., D.S.O., M.D., Lieutenant-Colonel F. K. Mugford, M.B., Captains G. R. H. Wrangham, M.R.C.S., L.R.C.P., and J. C. Mead, M.B., F.R.C.S., Drs. F. MacLagan, A. D. D. Broughton, M.P., E. M. Dearn, G. E. Sawdon, W. J. Griffiths, F. C. O'Mara, T.D., G. W. Gale, R. P. Myers, W. P. Warner, C.B.E., D.S.C., W. W. King-Brown, J. G. F. Hosken, R. W. Harte, D. A. Bathgate, N. C. Speight, C.B.E., T. H. Pettit, E. C. Brewis, and E. A. Daley, Messrs. H. B. Stallard, M.B.E., M.D., F.R.C.S., S. L. A. Manuwa, O.B.E., M.D., F.R.C.S., and G. W. A. Keddy, M.D., F.R.C.S. *As Associate Officer (Brother):* Dr. J. Cohen. *As Serving Brothers:* Lieutenant-Colonel H. B. Porteous, M.B.E., M.D., Majors M. S. Harvey, M.B., S. Newsom, M.B., F.R.C.S., H. C. Stewart, M.D., M.R.C.P., and T. MacF. Wilks, M.B.E., T.D., M.R.C.S., L.R.C.P., Captain J. N. L. Thoseby, M.B., Drs. S. S. Datta, M. Y. Paget, A. Armit, E. E. Kath, J. Gregoire, J. Howie, F. F. P. Malcolm, F. A. Brown, G. E. J. Porter, W. E. Hadden, C. Wilson, A. Russell, J. A. Lees, O. H. D. Oliver, R. G. Eastwood, J. Walker, C. W. Walker, E. I. Puddy, H. V. Crabtree, V. G. Best, W. McLaren, J. K. A. Beverley, D.S.C., J. H. D. Edwards, and W. A. Fleming. *As Associate Serving Brothers:* Drs. A. Rabinowitz and M. Franks. *As Serving Sisters:* Drs. Roberta B. Nichols, Dorothea F. Coles, Florence E. Stewart, and Hilda Carmichael.

Reports of Societies

VITAMIN B_{12}

A conference on vitamin B_{12} was held by the Nutrition Society on January 5 at the London School of Hygiene and Tropical Medicine. Professor L. J. WITTS, who presided, explained how knowledge of this recently discovered vitamin, which is remarkable for containing cobalt and for its potency in minute doses, had developed through two distinct channels. First, it had long been recognized that human pernicious anaemia could be cured by the administration of liver extracts. The active principle had been described by Castle as the "extrinsic" factor; in the absence of therapy it could not be absorbed in adequate amounts from the intestinal contents when the stomach wall failed to elaborate the "intrinsic" factor. Secondly, it had been noticed by workers interested in promoting rapid growth in farm animals, particularly poultry, that diets of entirely vegetable origin were unsatisfactory. The presence of an "animal protein factor" had been demonstrated, and its distribution studied in various foodstuffs of animal origin. Eventually it was realized that the human "anti-anaemic" factor could be identified with the "animal protein factor," and that the substance concerned could be classed as a water-soluble vitamin.

In spite of intense research our knowledge of vitamin B_{12} was still incomplete, particularly about its chemistry, the mechanism by which its absorption is assisted by the unidentified "intrinsic" factor, and its method of action in the tissues. The important interrelationship with folic acid had attracted much attention: while folic acid could cause a temporary improvement in the blood picture in pernicious anaemia it could not replace vitamin B_{12} in protecting the nervous system. Many other interrelationships, such as that involving folic acid, ascorbic acid, and tyrosine, required further investigation.

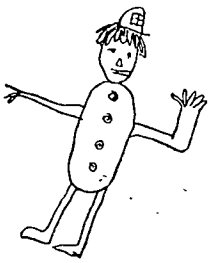
Isolation and Chemistry

Dr. E. LESTER SMITH described how vitamin B_{12} was first isolated from liver extracts by processes depending mainly on adsorption on charcoal followed by elution and chromatography on alumina. The numerous intricate operations had been facilitated when it was realized that the vitamin was highly coloured, and that its position on the adsorption column could be clearly observed as a bright pink region. Before the importance of this clue was realized progress towards the isolation of the crystalline vitamin had been retarded by the absence of a suitable animal test, which meant that all fractions had to be tested directly upon patients with pernicious anaemia.

Vitamin B_{12} was present in animal tissues, with liver and kidney as the richest sources, but absent from all plant tissues except small roots. It was synthesized by *Streptomyces griseus* and various other micro-organisms, and these had replaced liver as industrial sources. Presumably the accumulations of the vitamin in animal tissues were derived ultimately from micro-organisms.

Attempts to elucidate the chemical structure of vitamin B_{12} by hydrolysis had indicated the presence of a cyclized form of ribose and a benziminazole ring, and a small part of the molecule therefore appeared to resemble the vitamin riboflavin. The rest of the large molecule contained cobalt, a cyanide group, phosphoric acid, two 1-amino-2-propanol groups, and a large unresolved residue with the composition $C_{42}H_{55}N_9O_4$. Other active substances, differing slightly from vitamin B_{12}, had been detected in natural sources and prepared artificially. Numerous biological and microbiological tests were now available.

for antihistamine therapy in children



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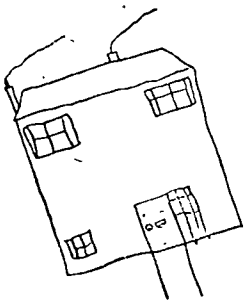

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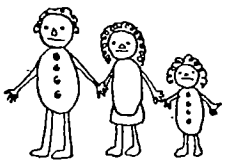

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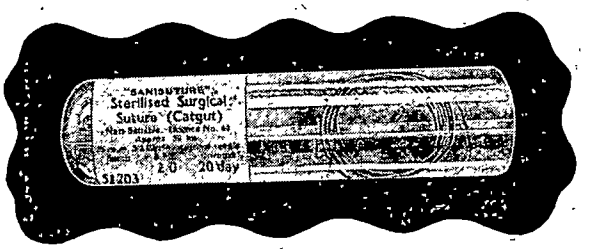

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Therapeutic Value

Dr. C. C. UNGLEY discussed the value of vitamin B_{12} in the treatment of various forms of anaemia, and explained that it was only effective when the bone marrow was megaloblastic. Not all forms of megaloblastic anaemia, however, responded to therapy. Thus the anaemias of pregnancy and the puerperium, as observed in temperate climates, failed to respond to vitamin B_{12} but were corrected by folic acid. The so-called "tropical sprue" sometimes responded to vitamin B_{12}. Anaemia associated with cirrhosis of the liver was seldom megaloblastic, but, when it was, vitamin B_{12} might be effective. Anaemia after total gastrectomy had been corrected by folic acid, but not by vitamin B_{12}. Anaemia produced by a fish tapeworm had been cured either by vitamin B_{12} or by the expulsion of the worm; the parasite had been found to be rich in vitamin B_{12}, and presumably caused anaemia by absorbing supplies otherwise available to its host.

Dr. Ungley emphasized that, while vitamin B_{12} could correct not only the blood picture in pernicious anaemia but also the glossitis and nervous lesions, folic acid could only temporarily correct the blood picture. Doses of 1 μg. often produced definite improvement, but when patients had nervous lesions or suffered from intercurrent disease 100 μg. monthly should be allowed.

Dr. R. H. GIRDWOOD dealt with the complicated interrelationships between vitamin B_{12}, folic acid, and folinic acid both in the nutrition of micro-organisms and in the cure of anaemia. He concluded that both vitamin B_{12} and folic acid were necessary for normoblastic blood, and that folic acid was probably converted in the body to folinic acid. Other factors, such as ascorbic acid and the anti-anaemic factor of Wills, were also important, and the picture might be further complicated by the presence of inhibitory factors.

Dr. J. E. FORD described microbiological methods for the estimation of vitamin B_{12} based on the growth of *Euglena gracilis*, *Lactobacillus leichmannii*, and *Bact. coli*, and stressed the effect of the method chosen upon the comparative potencies of different sources of the vitamin.

Vitamin B_{12} and Other Growth Stimulants

Dr. W. F J. CUTHBERTSON gave an interesting account of the effect of supplements of vitamin B_{12} and certain antibiotics in promoting growth, mainly with reference to poultry. Widely different results had been obtained in different laboratories according to the diet given and to the condition of the poultry house. Poor growth was usually obtained when an exclusively vegetable diet was given without supplements, and vitamin B_{12} and other substances associated with it in its bacterial sources might then have dramatic effects in improving growth. When diets containing fish meal, however, or some other source of animal protein were supplemented by further supplies of vitamin B_{12}, or of an antibiotic such as "aureomycin," the findings of different workers might be very inconsistent. Thus with the same basal diet supplements of an antibiotic improved the growth of chicks in one locality but not in another. The cause of these disparities was presumably to be found in differences in the bacterial flora of the poultry houses. According to the nature of the bacteria they might either assist the chicks by synthesizing vitamin B_{12} and yielding it up on digestion in the alimentary tract or merely compete with the chick by absorbing such supplies of vitamin as were available in the food.

Miss M. E. COATES supported this view. Of two poultry houses in the same institute, one was new, while the other had been used for several years. Chicks grew equally well in the new house with or without antibiotics, but in the old house supplements of antibiotics caused a considerable increase in the growth rate. The restriction of hens to a diet deficient in vitamin B_{12} greatly reduced the hatchability of their eggs.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Homes for Incurable Children

SIR,—The Invalid Children's Aid Association is occassionally confronted with a small but very urgent need affecting a special class of child. Every doctor and midwife will have had experience of cases of babies with meningoceles who are paralysed and incurable, of babies with hydrocephalus at birth, with multiple congenital deformities, absence of limbs, osteogenesis imperfecta, and other rarer conditions. These babies are sometimes so deformed and so difficult to manage that they need special care, which they may not be able to get in their own homes or in ordinary nurseries.

This association would never wish to encourage parents to evade their proper responsibilities for their children, whether normal or abnormal, and many babies of the kind mentioned can be, and are, dealt with in their own homes. Our social workers are sometimes able to help parents and to put them in touch with available community services. But humanity and common sense sometimes dictate that other arrangements must be made for these babies if home accommodation is unsuitable, if there are older children who are still needing a good deal of care from the mother, or if the parents by temperament and character are unable to face the anxiety and heavy responsibilities entailed. At present, parents, almoners, children's officers, and others are sometimes faced with an emergency which leads to a frantic search for accommodation, and often the resulting arrangement is wholly unsatisfactory and inflicts considerable hardship.

Our association knows that, legally, public authorities should provide accommodation for children of this kind, but all too often the bed for the long-term case is just not there. We now propose to start and maintain a register of hospitals, nursing-homes, and suitably qualified private persons who are prepared to take on an especially difficult baby. Particulars of accommodation offered should be sent to the General Secretary, I.C.A.A., 4, Palace Gate, London, W.8. The number of cases involved is small, so that even a short list of suitable homes would be a real blessing in desperate need.—We are, etc.,

A. WHITE FRANKLIN,
Chairman, Executive Committee.
LETITIA FAIRFIELD,
Chairman, Homes Administration Committee.
G. RATTENBURY,
General Secretary.

Invalid Children's Aid Association,
London, W.8.

Death on the Roads

SIR,—During the last few years, acting as police surgeon, I have examined over 200 motor-car drivers arrested and brought to various police stations in the West End of London charged with being "under the influence."

Urine or blood tests are not usually employed. If the accused states that he has had no alcohol at all, a blood test for alcohol is asked for. In every case so far this request has been refused. Metropolitan magistrates have told me that they are not greatly impressed on being told that the blood contains a certain percentage of alcohol. They prefer to base their decision on the evidence of the police officers and surgeon. These magistrates have great experience, and they ought to know. The principal of a very well known London pathological laboratory tells me that these tests present certain technical difficulties, and that, as he is called upon only very seldom to perform them, he would prefer not to have that responsibility. If such tests are to be employed regularly it seems that it would be well to have each sample analysed at more than one laboratory.

The fate of the 200-odd cases examined may be of some interest. The following figures are approximate, but fairly accurate:

40% of them were dismissed by me. Half an hour or more elapses between the time of arrest and the time of examination. Arrest has a sobering effect. All these dismissed cases showed evidence of having had a considerable amount of alcohol, with the exception of three, all of whom were diabetics suffering from overdosage of insulin. This is the only condition I have come across which simulates drunkenness closely. Of the 60% certified by me about one-third plead guilty, of the remainder about one half elect to be tried by the magistrate; the others ask for trial by jury at the County of London sessions.

The magistrates find about 75% guilty. The court of sessions finds about 75% not guilty.

Even when the accused wins his case at sessions it is expensive; when he loses, it is very expensive, and the penalty is severe. Even so the gamble is well worth while. This 75% acquittal is a curious phenomenon. Cases which appear to be guilty beyond any possible doubt are frequently thrown out by the jury. It may be that the reason for this is to be found in the wording of the charge: "Being so much under the influence of alcohol as to be incapable of having proper control of a motor vehicle." Many cases are arrested as they are about to start their cars; others are able to show that they have in fact driven their cars some distance without mishap. In the first case there is no absolute proof that they were incapable; in the second it would seem that they were capable. Magistrates recognize the flaw in this sort of reasoning: juries apparently do not.

I have no legal training, and my opinion is of little value; but I believe that there would be more convictions and justice would be better served if the charge were amended to something like this: "Being in charge of a motor vehicle while so much under the influence of alcohol as to have one or more faculties noticeably deranged thereby."—I am, etc.,

London, W.9. JAMES GOSSIP.

Anticoagulants in Leukaemia

SIR,—Sir Lionel Whitby in Part II of his Refresher Course on leukaemia (December 29, 1951, p. 1573) has painted a picture of this disease which is easy to see and understand, and for which I am grateful.

In the treatment of chronic leukaemia there is, I suggest, one omission. He does not mention the use of anticoagulants in those cases where the thrombotic manifestations are prominent. In two of the three cases of chronic leukaemia which have come under my care mesenteric thromboses occurred, in one case agonizing in the intensity of pain. These were completely relieved of thrombotic signs and symptoms by keeping the prothrombin level around 65% of normal by the use of dicoumarol.

Sir Lionel mentions the distressing symptom of priapism and the possibility of surgical treatment. One of my patients developed this symptom and was relieved by anticoagulant treatment. I thought these observations might be of use to others.—I am, etc.,

Leeds, 8. R. A. MURRAY SCOTT.

Naevi in Pregnancy

SIR,—The letter of Mr. John Stallworthy (December 1, p. 1341) referring to the occasional appearance and growth of naevi associated with pregnancy prompts me to record a case I saw a few years ago.

The patient, a married woman with one child, noticed shortly after parturition the appearance of a small red papule in front of and just above the tragus of the right ear. There had been neither naevus nor telangiectasis on this site before or during pregnancy. The papule, which gradually increased in size, was itchy and bled when scratched. A few months later similar but smaller papules appeared on the tip of the helix of the same ear. Over the next two and a half years further lesions made their appearance while those that had appeared originally continued to increase in size. The new lesions were situated behind the right ear and on the skin of the face in front of the tragus.

There were no other naevi on her body, but she stated that at the age of 9 a red mark, unrelated to trauma, had appeared on the skin of her face in front of the right ear. This area, which was approximately 1½ in. (3.7 cm.) long by ¼ in. (0.6 cm.) broad, was telangiectatic and was noticed at the time of the examination.

On examination it was seen that the tragus and upper part of the helix of the right ear had been replaced by tumour tissue, and there were two lesions on the skin of the face near the ear. A similar lesion was present over the mastoid area behind the ear. The growths were not large, had a port-wine colour, were firm but rather spongy in texture, and blanched on pressure. General examination revealed no abnormality and a blood picture was normal apart from a slight degree of hypochromic anaemia. The W.R. was negative. A biopsy report stated that the lesion was a simple tumour of either lymph or haemangiomatous type, or both, with a heavy chronic inflammatory type of perivascular exudate in which eosinophils were outstanding.

The patient was treated with *x*-ray therapy with considerable regression of the tumour, but because of my National Service duties I was unable to follow the case further.

Although there are few references in the literature to the spontaneous appearance or growth of naevi in association with pregnancy the condition has been described by Whitfield (*British Encyclopaedia of Medical Practice*, 1937, **5**, 149) under the title "Progressive Angiomas of Pregnancy." He records a case of his own and quotes Gans as having figured a section of one from the cheek of a girl two months pregnant. Along the same lines Enticknap (*British Medical Journal*, 1946, **2**, 51) recorded a fatal case of angioblastoma occurring in the breast of a woman three months pregnant, which he considered to have arisen from a pre-existing simple haemangioma.

I would like to thank my former chief, Dr. A. D. McLachlan, physician, Diseases of the Skin, Western Infirmary, Glasgow, for permission to record the above case.

—I am, etc.,

Glasgow. W. O. THOMSON.

Cough Fracture in Late Pregnancy

SIR,—Dr. N. Wynn-Williams in his article on cough fracture (December 22, 1951, p. 1494) refers to a paper by myself and others on this condition in late pregnancy (*British Medical Journal*, 1949, **1**, 135). We described four cases and were able to find six others in the literature. The notable feature was that, in all, the left lower ribs were involved. It was our opinion that this fracture was relatively common in late pregnancy, and probably largely unrecognized. Dr. Wynn-Williams suggests that this fracture and pregnancy are a "fortuitous association" and not a clinical entity.

In the last two years I have seen four more examples in pregnant women, all left sided and affecting the lower ribs. No special effort was made to find them, other than a casual request to one or two of the assistants in the antenatal clinic to keep a look-out. Two were discovered in this way. The third came to light after I had overheard a conversation between a doctor and his wife about a patient requesting a visit. The fourth came to me because of chest pain of two years' duration.

I agree with Dr. Wynn-Williams that cough fracture unassociated with tuberculosis is common enough, and have seen six other such patients in the last four years; however, in these there is no such clear-cut tendency for the left side to be affected as there seems to be in our series. We discussed some of the possible causes of this left-sided predominance in our paper. The fact that all cases so far reported have occurred in the last three months of pregnancy cannot easily be dismissed as due to chance.—I am, etc.,

Ipswich. J. W. PAULLEY.

Skin Resistance to Ultra-violet Light

SIR,—Dr. Klaus A. J. Järvinen, of Helsinki (December 8, 1951, p. 1377), has reported some interesting observations on the effect of systemic cortisone therapy on the reaction

of the skin to ultra-violet light. He has found that it doubles the minimal erythematous dose, and he also states that when the same patients were submitted to six minutes' exposure before, during, and after cortisone therapy the effect of cortisone was to promote pigmentation and, as one might therefore expect, to diminish the harmful erythematous and vesicular reaction.

From these simple and precise observations Dr. Järvinen draws the somewhat surprising conclusion that in this respect cortisone is not increasing the resistance of the skin to the injurious effect of ultra-violet light, but rather suppressing the normal protective mechanism by which this resistance is augmented and maintained. This can be true only if we regard erythema and vesiculation as a protective mechanism and pigmentation as an injurious effect. Since the opposite is a more prevalent teleological interpretation of the phenomena of photosensitivity, I would like to submit that his experiments indicate a true increase in the resistance of the skin to ultra-violet light as exemplified by the doubling of the minimal erythematous dose and that they also suggest a stimulation of the protective mechanism if we are entitled to regard pigmentation in this light.—I am, etc.,

Merck and Co., Ltd., Montreal. J. H. LAURIE, Medical Director.

Night Pain with Fractured Clavicle

SIR,—Within the last 10 weeks I have had two cases in children under 5 of fracture of the outer third of the clavicle. Clinically they have been misleading in that there is no deformity; there is practically no loss of function—the child has been able to dress and undress itself apparently without pain, including pushing the affected arm into a jersey, etc.; there is no apparent general disturbance. There has, however, been one feature common to both cases, and that is pain at night in bed. I suppose the anatomical structure maintains position while erect, but on lying down and turning over in bed pressure is brought on the fracture, or is it relaxation of muscles while asleep? Both cases were found on *x*-ray examination.

I wonder if any other people have found this pain-in-bed story connected with fracture of the outer third of the clavicle in young children.—I am, etc.,

Hadlow, Kent. J. B. MARSHALL.

Treatment of Anthisan Poisoning

SIR,—Your report of a further two cases of "anthisan" poisoning in children (December 22, 1951, p. 1530) prompts me to take out of their context some of the results of an investigation into the cerebral effects of histamine. This investigation, which will be published eventually, necessitated the administration of anthisan in toxic doses to a large number of animals. The findings were so uniform in all the species examined (mouse, rat, guinea-pig, and rabbit) as to favour the view that they might also apply to human beings, especially as the clinical features of anthisan poisoning are very similar in man and animals.

Anthisan is a central convulsant—i.e., the convulsions seen in poisoning are not a secondary effect of interference with respiration, as is sometimes suggested, but depend on a direct action of the drug upon nervous centres. The average convulsive dose is very near the average lethal dose, and the gravest view must therefore be taken of any case presenting convulsions. Death is the result of respiratory depression, which occurs after the animal has passed through the convulsive stage. With slow absorption of the drug the central nervous system shows successively depression, excitement and increased reflex activity, tonic-clonic convulsions, coma, and respiratory depression. These stages correspond to the severity of the intoxication, and all four stages are therefore only seen with fatal or near fatal doses. Anthisan may be classified with atropine as a "deliriant narcotic," and their similarity of action is not fortuitous.

Orthodox anticonvulsant drug therapy is likely to prove disastrous in anthisan poisoning. The administration of ether, chloroform, soluble barbitone, or "nembutal" to experimental animals, while leading to a prompt cessation of the convulsions, greatly diminishes the survival rate by hastening and deepening the stage of respiratory depression. It should be remembered that convulsions, unless of great severity and long duration, are not a life-threatening symptom in themselves. Their abolition is therefore not usually a legitimate therapeutic aim unless it is achieved by means which relieve rather than deepen the underlying intoxication of the central nervous system.

The effect of histamine on anthisan poisoning is markedly diphasic. In relatively small doses it has an important anticonvulsant and life-saving action, while in larger doses it increases mortality. With simultaneous administration the greatest life-saving effect is produced by an anthisan : histamine acid phosphate ratio (weight for weight) of 4 : 1 in the guinea-pig and 1 : 1 in the mouse, using average lethal doses of anthisan. To translate this finding into terms of human therapy is extremely difficult, not only because of species difference but also because poisoning in human cases is usually by mouth and the amount swallowed is rarely known. Moreover, animal experiments suggest that it is very difficult to dislodge anthisan from its central receptors, and histamine therapy becomes successively less effective as the interval between anthisan and histamine administration grows. In spite of this, a cautious trial of histamine in these desperate cases can be recommended, especially as absorption of anthisan is often still proceeding when they are first seen by a physician. If histamine is tried as an antidote, steps must be taken to protect the patient from the acute and severe hyperchlorhydria which will ensue.

Morphine occupies theoretically an ambivalent position in the treatment of anthisan poisoning. As a respiratory depressant it would seem to be contraindicated, as a histamine-releasing drug it might be an ideal therapeutic agent. Preliminary trials in mice have not yet given an unequivocal answer, but I think that a clinical trial of its efficacy as an antidote would be justifiable. Judging from animal experiments, it is certainly preferable as a sedative to barbiturates in these cases.

Adrenaline and atropine hasten death from anthisan poisoning in experimental animals.

On these imperfect data we may base the following scheme of treatment:

1. Wash out the stomach.
2. Treat the patient in a darkened room and avoid all unnecessary stimulation.
3. *Do not administer inhalation anaesthetics or barbiturates.*
4. If drug therapy seems desirable, try morphine or histamine, the latter in doses no greater than the amount (weight for weight of histamine acid phosphate) thought to have been absorbed by the patient.
5. Watch for respiratory depression, and give respiratory stimulants if it supervenes.
6. Take any supportive and eliminative measures which are not in conflict with the above.

An improved outlook in anthisan poisoning will result from the conscientious reporting of all cases with full notes on the treatment, even if unsuccessful. Meanwhile a certain number of lives may be saved by attention to these (largely negative) injunctions.

These observations probably apply to a greater or lesser extent to all antihistamine drugs. They are all central convulsants in toxic doses, and it is to be assumed that the mechanism of production of toxic manifestations is the same. I cannot conclude these remarks without making reference to the great help which I have received from Dr. Roy Maxwell, of May and Baker, Ltd., both in the supply of drugs and in the giving of expert advice.—I am, etc.,

Edinburgh. ERICH GEIRINGER.

Discovery of the Formol Gel Reaction

SIR,—I am very much indebted indeed to Colonel W. C. Spackman for his letter (October 13, p. 911) about the discovery of the formol gel reaction, as it provides a very good opportunity for me to give a short account of the history of this discovery in the light of real facts, and not as presented in some publications.

In September, 1920, while I was a medical student and assistant at the Diagnostic Laboratory of Dr. Gaté, of the Bacteriological Institute of Lyons (France), there was a violent explosion that destroyed part of the Institute, including the refrigerator in which I used to keep the mixture of positive and the mixture of negative

serums of the previous week's Wassermann tests. Being at that time responsible for these tests and wondering where to keep the serum-controls each time used, I thought of adding to them a few drops of formol.

When I next wanted to use these serum-controls I observed that the positive mixture had jellified and was stuck to the bottom of the test-tube, while the negative mixture remained fluid, with no change whatsoever. This phenomenon seemed strange to me, and made me wonder whether, if repeated, it could not be used as a specific reaction for the diagnosis of syphilis. I tested immediately with formol some serum specimens, syphilitic or not, that I had available, and next day I observed that the former became jellified while the latter remained unchanged. I communicated this to Dr. Gaté, who during the succeeding days sent me from the Antiquaille Hospital of Venereal Diseases, in which he was assistant, a great number of syphilitic blood specimens for testing them comparatively with formol and at the same time by the Wassermann reaction.

The experiment was simple: To 1 ml. serum in an ordinary test-tube I added two drops of formol. Within 24–30 hours most of these sera jellified, and the results corresponded with Wassermann results in 85% of cases. The findings of this research were presented to the Société de Biologie at its meeting of November 15, 1920, and the relevant communication, entitled "Une nouvelle réaction des sérums syphilitiques: Formol-Gélification," appeared in the *Comptes rendus de la Société de Biologie*, 1920, **83**, 1432.

The reaction being easy to carry out, there followed a great number of publications, from which, as well as from our own, it was proved that the formol gel test is not a specific syphilis reaction, but occurs in various diseases and is due to some abnormality of one or more constituents of the blood serum. The reaction was naturally tested both by us and many other research workers in connexion with various diseases. It was also tested, for the first time, in kala-azar by Colonel Spackman,[1] who observed that its occurrence in that disease was very quick, and that besides getting jellified the serum also became turbid. He therefore suggested that the formol gel reaction might also be strongly positive in trypanosomiasis.

A month later[2] it was reported that Napier "has *discovered* a test which promises to be of great value in the diagnosis of kala-azar . . ." and that "the test is a *modification* of that described by Gaté and Papacostas, who found that the serum of syphilitic patients becomes jellified in 24 to 30 hours when to 1 ml. clear serum two drops of commercial formalin solution are added. When this test is applied to the serum of kala-azar patients an immediate white opacity develops and the serum jellifies within half an hour."

There followed almost immediately[3] a communication by Fox and Mackie, stating that they were studying the Gaté–Papacostas reaction in kala-azar from July 21, 1921, and reporting the results of their research.

The findings of Napier's study were published by him seven months later.[4] In addition to kala-azar, he reports a number of cases of other diseases in which he tested the reaction. In his study he states that in carrying out the test he used the technique described by Gaté[4] and Papacostas. Owing, however, to the quickness with which kala-azar patients' sera become jellified and turbid, he deemed it advisable to redesignate the formol gel test of Gaté and Papacostas as the "aldehyde test" or "Napier test,"[5] and has since used this reference for the formol gel reaction in all his papers, as well as in his book *The Principles and Practice of Tropical Medicine* (1946).

Let us now see how far this redesignation of the reaction can be justified.

As is known, when speaking of any chemical reaction whatsoever we mean "the action set up by one substance on another" (*Concise Oxford Dictionary*). Therefore for any chemical reaction two things are necessary—the reagent and the substance on which it reacts. In the case of the formol gel reaction, the two interacting substances are formol and blood serum.

Both Spackman and Napier used the same reagent as we did—*i.e.*, formol—and on the same substance—the serum. In addition, they used the same technique—namely, 1 ml. serum, two drops of formol, and the ordinary laboratory temperature. The test, therefore, used both by Spackman and Napier is exactly the same as we first described and is as now universally used. And if in some diseases the reaction somewhat varies in regard to time and turbidity, this, we believe, can by no means justify a special redesignation of the reaction in each particular case. Furthermore, according to Napier the two specific features of the formol gel reaction whereby he justifies its redesignation to "Napier test" are not encountered exclusively in kala-azar cases. Numerous writers have noted that the quickness of reaction and turbidity do not constitute a rule in kala-azar, nor do they represent exclusive characteristics of this disease. In this connexion we would refer, among others, to the relevant study of Froilano de Mello and Baretto,[5] who observed the same opalescence in sera of malaria patients, lepers, and dysenteric and syphilitic persons. Napier himself,[4] in his first study, reports kala-azar cases in which solidification occurred without complete opacity. I also, having studied kala-azar reactions for years in Greece, observed a great number of cases where reaction developed many hours later, and in others there was no turbidity. I sometimes noted these phenomena in the same patient at different times.

We now know some more morbid conditions in which the formol gel test appears as in kala-azar. This especially applies to Kahler disease (multiple myeloma), which was thoroughly studied by Bing,[6] E. Delbarre,[7] and others. In that disease jellification of serum occurs within a few minutes, and is followed by an intensive turbidity. According to Delbarre, in the above disease formol gel reaction is a fundamental symptom. But neither Bing nor Delbarre ever thought of changing the name of the reaction.

In one of our later studies, in 1922,[8] on the formol gel reaction in various diseases we drew the conclusion that "the reaction is not specific for syphilis, and that it seems to act as a control of unknown humoral changes, possibly caused by general chronic morbid conditions," and in another communication[9] we stated: "Like so many other humoral reactions or blood tests, such as eosinophilia, which no one claims to be specific for a certain disease, but the theoretical and practical diagnostic value of which in many diseases no one questions, the formol gel reaction—a new blood serum test—though not specific for one disease, maintains its value for many morbid conditions. . . ."

At present, from numerous researches made by various workers, it appears that the formol gel reaction is due to the disequilibrium of serum proteins and particularly to the reversal of the albumin-globulin ratio. According to many writers, this is due to an increase in the globulin fraction, but several others think that, for its occurrence, some other secondary, but necessary, unknown factors are required.

Regarding the use of formol gel reaction in surra (trypanosome disease of camels), to which Colonel Spackman refers in his letter, priority in its application pertains to the French Plantureux,[10] who published his relevant study eight months before Colonel Spackman's publication.[11]

I have thought it necessary to set forth the foregoing details in order to put an end, once for all, to the confusion appearing in some publications, especially English and American, about the history and origin of formol gel reaction.

I wish to thank Colonel Spackman again for the opportunity he offered me by his communication, as well as the Editor of the *British Medical Journal* for his courtesy in publishing this long letter.—I am, etc.,

School of Hygiene, Athens. GEORGE PAPACOSTAS, Professor of Public Health and Social Medicine

REFERENCES

1 *British Medical Journal*, 1921, **2**, 266.
2 *Indian med. Gaz.*, 1921, **56**, 338.
3 Ibid., 1921, **56** 374.
4 *Indian J. med. Res.*, 1922, **9**, 830.
5 *Bull. Soc. Path. exot.*, 1926, **19**, 127.
6 *Acta med. scand.*, 1937, **91**, 336; 1940, **103**, 547.
7 *Congrès Français de Médecine, 18e session, Genève*, 1949, Paris, Masson, 1951, p. 145.
8 *C.R. Soc. Biol., Paris*, 1922, **87**, 543.
9 *Clinique, Paris*, 1923, p. 73.
10 *C.R. Soc. Biol., Paris*, 1923, **88**, 1189.
11 *British Medical Journal*, 1923, **2**, 1257.

Gastric Carcinoma and Acute Perforation

SIR,—I read with great interest the article on acute perforation of gastric carcinoma by Mr. T. L. Kennedy (December 22, 1951, p. 1489), and it recalled to my mind a case which I operated upon about two years ago which showed some unusual features.

On October 28 a man aged 41 was admitted with a very severe epigastric pain of three hours' duration. There was a five-year history of epigastric pain which came on about two hours after meals and showed periods of remissions and exacerbations. In the last month before admission the pain had become very severe, but it was still related to meals. His appetite was good except in the week previous to admission, when he had taken very little

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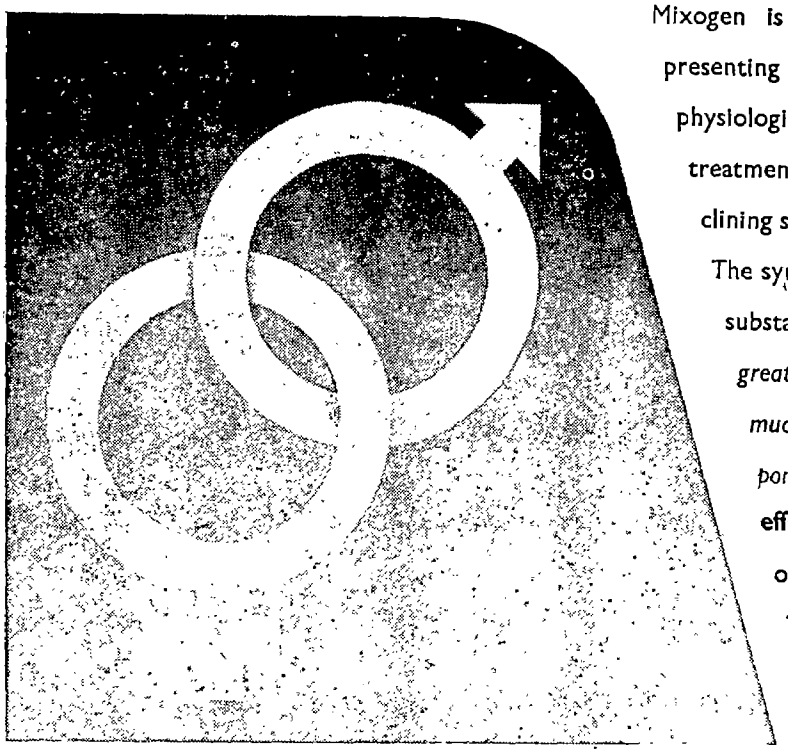

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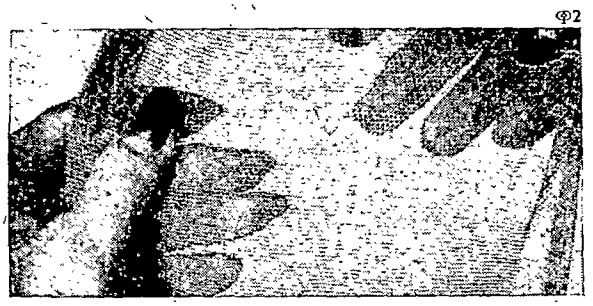

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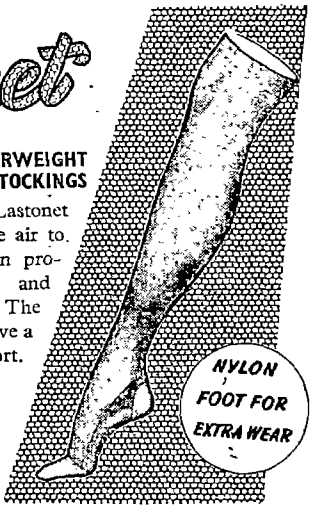

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solid food because he was afraid to eat. When he was admitted he had typical symptoms and signs of a perforation, and from the history it was reasonable to assume it to be a perforated duodenal ulcer.

At operation there was a perforation in the anterior wall of either the first part of the duodenum or of the pyloric antrum of the stomach. As there was so much oedema it was difficult to say with certainty the exact site of the perforation. The perforation was dealt with and the patient made a rapid recovery. On the 14th day he was transferred to a medical ward, as was the usual practice in that hospital.

A fractional test meal on November 29 showed a normal free acid curve, but a trace of blood was found during the second and third hour. A chest radiograph taken about the same time was normal. On December 9 a barium meal showed a suspicious persistent filling defect in the pyloric antrum. Three days afterwards a gastroscope was passed, but for no obvious reason would not pass beyond the cardiac sphincter.

It was noted on December 16 that his appetite was very good, but on December 19 he developed a slight pyrexia which persisted. His general condition from now on began to deteriorate. His haemoglobin was found to be only 53%, but despite repeated blood transfusions there was little improvement in the anaemia. It was thought to be an aplastic type, possibly due to secondary growths in the bone marrow. Blood culture had been found to be negative. On December 20 a chest radiograph revealed an opacity in the left upper zone, and on January 6 early ascites was noted and this became worse in the next few days. His general condition deteriorated and he died on January 28—exactly three months after the operation.

At necropsy he was found to have a carcinoma of the pyloric antrum, with an unusual pattern of secondary growths in the lungs, left suprarenal, and in several ribs.

The interesting features about this case were the history, suggestive of a perforated duodenal ulcer; the fractional test meal —no achlorhydria; that his appetite was good, even up to six weeks after operation; and that the condition deteriorated so rapidly after operation that one would infer that secondaries were present at the time of the perforation, and a gastrectomy would not have prolonged life. This finding agrees well with the general poor ultimate prognosis in these cases.

—I am, etc.,

Swansea. W. O. WILLIAMS.

POINTS FROM LETTERS

Inflation of Lungs During Bronchoscopy

Dr. R. A. C. HERRON (Zürich) writes: I was most interested to read the article by Dr. R. Bryce-Smith (December 22, 1951, p. 1517) on inflation of the lungs during bronchoscopy. I was also gratified that this method should receive the wide publicity it deserves, as I have been using it for three years and know the obvious advantages, especially in safety for the patient (*Anaesthesia*, 1950, 5, 40).

Invite Russian Doctors

Dr. JOHN PEMBERTON (Sheffield) writes: I would like to support Dr. R. L. Kitching's suggestion (December 1, 1951, p. 1331) that the British Medical Association should invite a group of Russian doctors to this country. In addition to leading to a valuable exchange of medical knowledge and experience, such a visit might contribute a little towards a better understanding between our two countries, especially if our Russian colleagues were willing to stay with us in our homes.

Tissue Reactions to Protein Sensitization

Dr. J. T. SHIRLAW (Wigan) writes: "The eosinophil cell is worthy of greater attention," says Professor J. R. Squire in his lecture (January 5, p. 1). So far, the following facts have been established: Allergy is accompanied by an eosinophilia; the administration of cortisone brings about an eosinopenia together with a dramatic improvement in allergic diseases; cortisone lessens cell growth activity. Surely these are points of great significance. I do not agree that the "eosinophil may be regarded as being concerned with 'mopping up' the products of tissue damage"; the eosinophil only appears on the scene when the mopping-up process has been finished by other leucocytes and should therefore be regarded more as a repair cell. . . .

Correction

In the paper on "Tuberculous Meningitis," by Dr. S. Russell Jamieson (January 12, p. 83), in Case 29 (p. 84, column 2) the dosage of vitamin B_{12} employed was given as 10 mg. This was a thousand times too high, and should read 10 μg.

Obituary

H. S. RAPER, C.B.E., D.Sc., M.B., F.R.C.P., F.R.S.

The death of Professor H. S. Raper on December 12 was recorded in the *Journal* of December 22 (p. 1527). We are indebted to Professor A. Wormall for the following appreciation.

The passing of Henry Stanley Raper removes from the ranks of British biochemists one of its most distinguished and revered leaders. His approach to medicine was basically scientific, for he was a member of that small but remarkable group of chemists who qualified in Leeds in the early 1900's and subsequently branched out and helped to develop the new chemical offspring, biochemistry. This group included Dakin, Dudley, Hartley, Raistrick, and Raper, and all have made contributions which will for ever keep their own names, and indirectly the name of their chemistry mentor, the late Professor J. B. Cohen, permanently recorded in the annals of biochemistry.

Raper's main interest was undoubtedly in medical science, but he was above all a magnificent chemist. His whole approach to physiology and medicine was through chemistry and biochemistry, and, although for the greater part of his career he was professor of physiology at Leeds or Manchester or Dean of the Faculty of Medicine at Manchester, he never lost his keen interest in all branches of biochemistry. His ability to keep up to date, and indeed to anticipate many new developments, made him the ideal adviser-in-chief. Chemists, biochemists, physiologists, bacteriologists, pathologists, and clinicians came to him with their problems, and rarely, if ever, did they go away without at least one and usually several valuable constructive ideas.

His biochemical interests were wide. With Leathes he wrote an excellent classical monograph on fats, and during the 1914–18 war he made valuable contributions in the field of chemical warfare defence. He was one of the first in this country to use (in 1936) deuterium in the study of the absorption and metabolism of fats, and in recent years, in collaboration with Harper, he made important advances in our knowledge of the hormone pancreozymin. It is probable, however, that he will best be remembered in biochemistry for his classical work on tyrosinase, an oxidizing enzyme responsible for producing much of the dark-brown and black pigmentation of many animals. It is to Raper and his colleagues that we owe our knowledge of the precise chemical changes involved in the enzymic conversion of the amino-acid tyrosine into the red pigment hallachrome which is the precursor of melanin.

His happiest working hours were spent in his laboratory. "How delightful it is," he wrote to me early in January, 1945, "to be able to use one's hands and do a few experiments. But alas, term begins on Tuesday with its lectures, committees, interviews, and what not, so it will only be in odd hours that I can escape to the laboratory bench." Many biochemists will regret that with his almost unrivalled skill as a biochemist he was given so little opportunity to develop the work he loved, but we may be happy in the knowledge of the major contribution he made in the wider field of medical education and in the organization of medical research. His friends, and they were truly legion, will treasure the memory of "a verray parfit, gentil knyght," in stature and in deed.

R. FOSTER KENNEDY, M.D., F.R.S.ED.

Dr. Robert Foster Kennedy, professor of neurology at Cornell University Medical College, and formerly president of the American Neurological Society, died in New York on January 7, aged 67.

Robert Foster Kennedy was born in Belfast. His grandfather was Professor R. F. Dill, and one of his cousins was the late Field-Marshal Sir John Dill. He

studied medicine at Queen's University, Belfast, graduating in 1906. Shortly afterwards he came to London as resident medical officer at the National Hospital for Nervous Diseases, Queen Square. In 1910, the year he was elected a Fellow of the Royal Society of Edinburgh, he accepted a post in the New York Neurological Institute. From then his reputation grew steadily, not only as a neurologist, but as a scholar, wit, and outstandingly good orator.

During the first world war he served with the British and French Armies and made a special study of shell-shock. He was mentioned in dispatches and created a Chevalier of the Legion of Honour. He received many honours during the course of his distinguished career: last year Queen's University conferred on him the honorary degree of D.Sc.

Dr. Macdonald Critchley writes: Dr. Foster Kennedy was "in the house" at the National Hospital, Queen Square, at the same time as the late Kinnier Wilson. This apprenticeship brought him in touch with such masters as Bastian, Horsley, Ferrier, Gowers, and Hughlings Jackson. When Foster Kennedy elected to leave this country and settle in New York he took with him the tradition of clinical brilliance which, added to his own great powers, rapidly and surely achieved success.

It was not long before Foster Kennedy acquired a considerable consulting practice, as well as a reputation as a teacher and a clinician of outstanding merit. Slowly his distinction throughout North America increased, until in the last few years he found himself the leading exponent of medical organic neurology in the United States. His numerous contributions included the "Foster Kennedy syndrome" of subfrontal tumours and considerations upon aphasia, especially loss of artistic ability after local brain disease. He was interested in the difficult problem of the relationship between the loss of speech and the level of general intelligence. Latterly his attention was turned to the neurological complications of spinal anaesthesia and to the nervous manifestations of allergy.

But if Foster Kennedy's place as a neurologist is well assured, he will surely be best remembered as a generous, cultured, courteous, and kindly friend. His patients, pupils, and colleagues held him in such esteem as is rarely found nowadays. He kept in close touch with neurologists in Europe, and his friends in Great Britain and his native Ulster were very numerous indeed. Mr. St. John Ervine has recently dedicated his latest volume to Dr. and Mrs. Foster Kennedy.

It is a commonplace observation—though not often expressed openly—that doctors make the best diplomats: certainly Great Britain never had a better ambassador in the New World than Foster Kennedy.

For the last year or two Foster Kennedy had borne with supreme patience the vicissitudes of an insidious but fluctuating illness which ironically enough entailed alarming neurological manifestations. Throughout this illness the patient's charm and courage were inextinguishable. Neurologists throughout the world—and particularly in this country—will mourn the passing of a great colleague and a great man.

F. J. H. writes: American medicine has lost a unique and distinguished personality by the death of Dr. Foster Kennedy. More than 40 years of practice in the United States did nothing to change his essentially British characteristics. He loved the country of his birth and its way of life, and he loved the sea. To pass from the hectic din of New York into the quiet garden of his charming old-world house on the East River was an unforgettable experience. Here he loved to sit and talk in his soft and gentle voice; for he was an entrancing conversationalist and a truly cultured man. His nature was kind and lovable, but he could yet display the fire of the reformer and determination of the pioneer, fiercely attacking what he considered wrong or specious. Foster Kennedy understood well the meaning of real friendship, and his passing is a deep personal loss to those who were privileged to know him.

DALLAS B. PHEMISTER, M.D., F.A.C.S., F.R.C.S. (Hon.)

We announce with regret the death of Professor Dallas B. Phemister, of Chicago. He was 69 years of age. We are indebted to Sir Harry Platt for the following appreciation:

Phemister graduated in medicine from the old Rush Medical College in 1904, and after holding a number of resident posts began to prepare himself for his chosen career in academic and practical surgery by a training in physiological research. To this end he came to England and worked for a time with Starling at University College. His ambition was early realized in his appointment, soon after the first world war, to the full-time chair of surgery in the University of Chicago, with charge of the surgical division of the new Billings Memorial Hospital. Phemister soon became a force in American surgery, and, by the example of his outstanding integrity and single-minded devotion to the pursuit of truth, he set a standard both for himself and for his pupils which was always a challenge to the notion of material success as the hallmark of surgical leadership. Although he remained to the end a general surgeon—whatever that term may convey—Phemister's chief interests lay in the field of orthopaedics—bone growth, bone grafting, the arrest of longitudinal growth in young bones, the healing of fractures, and tumours of bone. His notable contributions to these subjects were always founded on a combination of experimental and clinical observations. He was elected a member of the American Orthopaedic Association in 1923, and many of his earlier papers were read before meetings of this body. He also played an influential part in the affairs of the American College of Surgeons, both as Regent and as Chairman of the Committee on Postgraduate Training. In 1949 he occupied the distinguished office of President, and in his presidential address expounded the virtues of the American version of the full-time professorial system in university departments of surgery, whereby the professor and his senior staff were remunerated by a composite salary to cover the three activities of teaching and research, the treatment of public patients, and the treatment of private patients within the university hospital.

On first acquaintance Phemister gave the impression of austerity, but behind a quiet and dignified exterior was a man capable of warm friendships. He was also in the best sense a "good European," and he valued highly the distinctions which came to him outside his own country—the Honorary Fellowship of the Royal College of Surgeons of England (1947), and the Vice-Presidency of the International Society of Surgery at the Congress in Paris in September, 1951, during which he received the Legion of Honour. As Emeritus Professor of Surgery in the University of Chicago he had just begun to look forward to further years of fruitful surgical research. During the meeting in Paris, his many British and Continental friends perceived no signs of decline in his mental and physical vigour. His death following an operation for appendicitis has removed from the world of surgery a man with unique personal and intellectual qualities who still had a message to deliver.

HENRI HARTMANN, M.D., F.R.C.S. (Hon.)

Dr. Henri Hartmann, who was appointed professor of clinical surgery in the University of Paris in 1909, died in Paris on January 2, aged 91. We are indebted to Mr. V. Zachary Cope for the following appreciation.

Probably no French surgeon has been, in his day, better known or more widely respected than Henri Hartmann, who as long ago as 1913 was thought worthy to be elected an Honorary Fellow of the Royal College of Surgeons. Anatomists still describe the "pouch" which bears his name, and surgeons still, in selected cases, practise the operation he devised for some cases of carcinoma of the rectum.

Henri Hartmann was born in Paris in 1860. He was a successful medical student, and gained the Prix d'Argenteuil in 1887. He became successively hospital surgeon, *agrégé*, and professor at the faculty of medicine, and in 1918 was elected a member of the Academy of Medicine, of which he became president in 1936. In 1929 he had the distinction of presiding at the meeting of the International Society of Surgery held in Warsaw. In 1932 his friends and pupils presented him with a jubilee book to celebrate his 50 years of professional life.

Hartmann succeeded in 1909 to the chair of surgery at the Hôtel Dieu, where he performed about a thousand operations yearly for 20 years or more. He kept personal notes of all his cases, and had a wealth of experience that he drew upon in his many published works. He was a general surgeon in the best sense of the word. He wrote on tumours of the breast and on the treatment of war wounds, but his main work was within the abdomen. He wrote books on the surgery of the stomach, of the biliary passages, and of cancer in general; he also published a good book on operative gynaecology which was translated into English, and was for several years editor of *Gynécologie et Obstétrique*. He was one of the founders of the French League against cancer, and for his public work and distinction he was made a Grand Officer of the Legion of Honour.

Hartmann's clinic in Paris drew men from all parts of the world, and English surgeons regarded him as a man of outstanding surgical worth. The present generation furnishes few, if any, examples of such all-round surgical proficiency. In spite of the great activity of his life he reached a ripe old age.

The death occurred at St. Andrews on December 29 of Dr. JOSHUA FERGUSON in his 82nd year. He was the son of the Rev. Dr. Fergus Ferguson, a leading minister in Glasgow in his day. From Glasgow High School Joshua Ferguson went on to Glasgow University. He was a brilliant scholar, being prosector in anatomy from 1892 to 1894, taking his M.B., C.M. degrees with honours in 1895, and winning the coveted Brunton Memorial Prize awarded to the most distinguished medical graduate of the year. This reputation remained with him in after-years, and many of his fellow graduates continued to speak of him as "The Master." After a period in the Glasgow Western Infirmary he came to Paisley as an assistant to another notable doctor, the late Dr. Donald Fraser, and later he started on his own account. He practised in the town for over 40 years and was soon recognized as the leading physician in Paisley and district. Among his appointments were those of visiting physician to the Royal Alexandra Infirmary and the Royal Victoria Eye Infirmary, medical adviser to the firm of J. & B. Coats Limited, physician to the Coats Sanatorium, and medical referee in Renfrewshire under the Workmen's Compensation Acts. He was a Fellow of the Royal Faculty of Physicians and Surgeons in Glasgow and for a term he was president of the Royal Medico-Chirurgical Society of Glasgow. Apart from the practice of medicine he had many other interests. A man of wide culture and learning, he had studied and absorbed all that was best in Greek, Latin, and English literature. As evidence of the extent and quality of his interests he was a president of the Paisley Philosophical Institution and for a term president of the Scottish Photographic Salon. Dr. Ferguson was a brilliant public speaker, his speeches being models of perfect phrasing and brightened by flashes of wit. He was a devoted churchman and for many years an elder in Paisley Abbey. It is not possible in a short appreciation to give a true picture of his qualities. One of his younger colleagues spoke of him as the ablest and most versatile man he had known intimately. His many patients remember him above all as the perfect doctor: he had remained a student all his life and kept himself in touch with all modern developments in the practice and art of medicine, so that he could proffer all that was best for their benefit. He had a way of inspiring confidence both in young and old, and his presence at a bedside was in itself a comfort and a cure. Dr. Ferguson retired in 1939 to St. Andrews. He is survived by his widow, a sister of the late Viscount Horne, who was Chancellor of the Exchequer after the first world war.—T. H.

Dr. W H. MILLER, formerly senior surgeon at Bedford General Hospital, died suddenly at home on December 31, 1951, aged 70. Born in Newcastle-upon-Tyne, the eldest of a large family, William Henry Miller went with his parents to Canada, from whence he returned in 1893. He was educated at the William Ellis School in London, and went on from there to Guy's Hospital, where he won the Durham and Hilton Exhibitions. He qualified in 1906, graduated M.B., B.S. with honours in 1907, and proceeded M.D. with first-class honours and gold medal in gynaecology in 1911, the same year in which he became a Fellow of the Royal College of Surgeons. After acting as house-surgeon at Guy's Hospital, he became surgical registrar at the Samaritan Hospital. He went into practice first in Enfield, and then joined the late Dr. Hartley in Bedford. In the 1914–18 war he served as a surgical specialist in the R.A.M.C. Returning to Bedford after the war, he took over Dr. Hartley's practice, and eventually became the head of a large partnership. Always interested in surgery, he was appointed assistant surgeon to the Bedford County Hospital in 1924, and in 1932 he succeeded Mr. W. G. Nash as senior surgeon and chairman of the medical staff committee. When the National Health Service came into being in 1948 he was appointed consultant, and continued to do surgical work at the hospital until March, 1951. During this time many changes took place in the work of the hospital, and it was largely due to his inspiration and untiring enthusiasm that the hospital was brought so thoroughly up to date before the Ministry took over. At first interested in gynaecology, he became later expert in gastric surgery, which he raised to a very high standard in Bedford. He was particularly keen on giving his registrars and house-men a really practical training, and many will be grateful to him for his help and encouragement. This, too, can be said for his partners in general practice, where again he led the way by a very high standard and example. He was a most valuable member of the Bedford Group Hospital Management Committee, on which he served from its inception till the time of his death. He acted, too, as medical adviser to the Bedfordshire Hospital Services Association, where his sound judgment was greatly prized. During the second world war he was chairman of the local medical war committee. His life was saddened by the loss of his eldest son in 1940. He leaves a widow, a son, and a daughter.

A colleague writes: It is sad to contemplate practice in Bedford without the help of our great friend Dr. W. H. Miller. He was a strong man, and many of us learned to rely on his judgment not only in medical matters but in other directions as well. His opinions were decided, and never indefinite: they were mellowed by a very real humanity. Many of his friends and patients were delighted by the twinkle in his eye and by his charm and friendliness.

He was a man who never spared himself, and he inspired others to work with him. One felt that he really cared for the welfare of those for whom and with whom he worked, and he would take endless trouble to promote their interest both by sound advice and by practical help. He was a great fighter for things he thought right, and we all admired him for it. I know I express the feelings of all his old colleagues, patients, and friends when I say that his sudden death leaves a sense of great personal loss and that he will be sadly missed by everyone who knew him in Bedford.

Medico-Legal

EXPLOSION DURING ANAESTHETIC

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

On October 23, 1951, Mrs. Bessie Freeman, aged 55, who had been admitted to the Royal National Throat, Nose, and Ear Hospital, London, on the previous day for radical mastoidectomy on the right side, was found fit for operation, and about an hour and a half before the scheduled time was given premedication with "omnopon" ¼ gr. (22 mg.) and scopolamine 1/150 gr. (0.43 mg.). This was followed by "flaxedil" and thiopentone, and oxygen was then administered in the anaesthetic room. The anaesthetist was controlling the valve of the oxygen cylinder on the anaesthetic trolley and giving her the oxygen through an insulated rubber breathing-bag and facepiece, when there was an explosion. It appeared to be in the face-piece where he was holding it on the patient's face. He was thrown to the floor, and there was a fire on the trolley.

The patient was brought out of the room and aided respiration was maintained and an intratracheal tube passed. Her eyelashes were singed, her eyelids were bruised, and her nose was bleeding. In the theatre some blood was removed from her nose and pharynx, and bruising of the palate and post-pharyngeal wall was noticeable, but there was no active bleeding. As her pulse was good, and as her general condition seemed to warrant it, the surgeon decided to perform the operation. One hour and ten minutes after the explosion the patient collapsed. The operation had proceeded normally until then and was nearly finished. In spite of continuous restorative procedure the patient died in the ward about an hour and ten minutes later.

At the inquest, held before the North London coroner, the explosion was ascribed to static electricity, possibly sparking from the breathing-bag, where it might be generated by the movement of the bag itself, or from the movement of the anaesthetic tube against the patient's blanket. The bag was burst in the explosion. The anaesthetist's shoes were satisfactory and within the limits prescribed by the Ministry of Health, but atmospheric conditions in the anaesthetic room had been very favourable for the generation of static electricity. There was, however, no conclusive evidence of the cause of the explosion.

At necropsy the pathologist, Dr. F. E. Camps, found bruising of both upper and lower eyelids. There was bruising of the gullet right down to the stomach, of the larynx, and at the back of the throat. The force of the explosion was such that the stomach had been over-distended and had burst into the abdominal cavity. There was bruising round the heart and of the intestines, and rupture of the spleen and of the right lobe of the liver. There were some areas of bruising in the lungs, but the main force of the explosion had gone into the stomach. He said that nothing could have been done to save the patient's life after the explosion, and an exploratory operation of the abdomen would only have hastened her death. In spite of the extent of her injuries she might well have shown no symptoms except for a drop in blood pressure, and before the operation she had been suffering from high blood pressure. The cause of death was shock and haemorrhage due to rupture of the spleen and stomach.

A verdict of accidental death was returned.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Mr. Oliver Louis Zangwill has been appointed Professor of Experimental Psychology in the University from October 1, in succession to Sir Frederic Bartlett, F.R.S. Mr. Zangwill was educated at King's College, Cambridge, graduating B.A. in 1935 and proceeding M.A. in 1939. He has been Senior Lecturer in General Psychology in the University of Oxford since 1948. During the war he was research psychologist to the Brain Injuries Unit at Edinburgh, under the direction of Professor Norman Dott and Sir David Henderson. In 1946 the University of Oxford conferred on him the degree of M.A. The Chair of Experimental Psychology was established in 1931, when Sir Frederic Bartlett became the first occupant. His work has been concerned principally with problems of perception and remembering, and later with the development of the experimental studies of human skill and the problem of work in old age. He was elected F.R.S. in 1932.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At a meeting of the Council of the College, held on January 10, with Sir Cecil Wakeley, President, in the chair, Mr. Gilbert Causey, who at present is Lecturer in Anatomy and Supervisor of the Museum, University College, London, was appointed as Sir William Collins Professor of Human and Comparative Anatomy at the College.

The Council passed resolutions of condolence on the deaths of Professor Henri Hartmann and Professor D. B. Phemister, both Honorary Fellows of the College.

The following were elected to the Fellowship of the Faculty of Anaesthetists: Dr. S. N. Albert (Beirut), Dr. A. F. Alsop (Oxford), Dr. G. Cousineau (Montreal), Dr. Phyllis M. Edwards (London), Dr. A. C. Forrester (Glasgow), Dr. A. P. Gorham (Bristol), Dr. N. R. James (Melbourne), Dr. J. R. Ritchie (Dunedin).

Diplomas were awarded, jointly with the Royal College of Physicians of London, as follows:

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—C. E. Bagg, J. Cowie, E. T. Downham, R. E. Glennie, Mei-Chen Liu, B. M. Mandelbrote, R. H. Martlew, Marion E. F. Woollaston.

DIPLOMA IN LARYNGOLOGY AND OTOLOGY.—K. D. N. Agrawal, A. Aziz, R. H. Cowling, Than Dok, H. Forer, J. D. Glanville, Beatrice A. J. Gregory, D. F. N. Harrison, W. A. Hopkins, H. M. Jones, Z. A. Khan, P. J. McNicholas, D. V. Maytham, J. R. Page, A. B. N. Rao, M. S. M. Refai, J. Vella, A. L. Wells, G. T. Woods.

DIPLOMA IN MEDICAL RADIODIAGNOSIS.—A. K. Banerji, S. M. Bingurnah, V. H. Bowles, J. Brown, T. Crisp, H. Ferguson, A. M. H. Fisher, H. L. Francis, K. D. Hatfield, H. W. Holland, D. T. Irwin, H. Jacobs, J. B. Jameson, Sheila Kenny, N. A. Lewtas, G. B. Mohanty, P. K. Mookherjee, J. J. Q. Peiris, K. M. Pillai, P. Purcell, Margaret P. Sheridan, G. P. G. Sim, A. G. G. Toomey, D. Urquhart, G. H. Waddington, D. R. Wallace-Jones, J. M. Winn.

DIPLOMA IN MEDICAL RADIOTHERAPY.—Diana M. Brinkley, G. E. Catton, J. H. O. Chance, P. M. C. Corlette, T. J. Deeley, F. M. Hall, P. Haslam, G. A. Hendry, G. Jarratt, G. Lynch, Dorothy Pearson.

DIPLOMA IN ANAESTHETICS.—Janie U. Blacker, A. K. Bose, Margaret L. M. Bridges, Margaret W. Brown, I. S. Bruce, R. W. Buckley, Cicely I. Butterworth, R. G. Cole, J. G. Cranmer, Patricia R. Ford, Elizabeth M. France, I. C. A. D. P. Graham, Edith H. Grundy, Mary J. Hartley, H. B. Houldsworth, J. S. Inkster, M. Junod, P. D. Kelsall, P. Koenig, C. J. Levy, Pauline McArthur, J. Mamak, W. K. Pallister, Edith J. L. Pearce, D. J. Power, J. E. Riding, R. J. Rutherford, A. K. Sen Gupta, Frances Sorrell, Heather Stockdale, J. C. Sumption, G. C. Tandan, M. Tappura, Hildegard H. M. Weisz, Margaret M. Whitaker, P. B. Wolfers.

DIPLOMA IN INDUSTRIAL HEALTH.—H. D. Conway, J. J. du Plessis.

DIPLOMA IN PATHOLOGY.—C. A. K. Bird, N. L. Modi.

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY.—D. K. de B. Macdonald.

DIPLOMA OF OPHTHALMOLOGY.—K. D. N. Agrawal.

The following hospitals were recognized under paragraph 23 of the Fellowship regulations: Queen Alexandra Hospital, Army, six house officers (all for 12 months). Queen's Park Hospital, Blackburn, house-surgeon and senior house officer (both for six

months). St. Luke's Hospital, Guildford, surgical registrar for one year, second house-surgeon for six months (additional recognition). Royal East Sussex Hospital, Hastings, two house-surgeons for six months. Buchanan Hospital, St. Leonards-on-Sea, one house-surgeon (urological) for six months. General Hospital, Merton, senior house-surgeon for six months. General Hospital, Middlesbrough, orthopaedic house officer (senior) for six months (additional recognition). Shotley Bridge Hospital, surgical registrar for one year; two house-surgeons for six months. Royal South Hants Hospital, Southampton, registrar and house-surgeon for ear, nose, and throat department (decennial revision). Kent and Sussex Hospital, Tunbridge Wells, confirmation of recognition of post of senior house officer (ear, nose, and throat) previously recognized as registrar.

Vital Statistics

Infectious Diseases During 1951

The incidence of infectious diseases during 1951 was in several ways unusual. Their fluctuations are illustrated in the graphs shown overleaf, where a comparison is made with the highest and lowest weekly figures for 1942–50.

The number of notifications of scarlet fever was the lowest for recent years, while whooping-cough and measles were at the highest level since these diseases were made notifiable. The notifications of whooping-cough exceeded 5,000 cases a week six times during the first quarter of the year. In two weeks during the first quarter over 30,000 cases of measles were notified.

The fall in the incidence of diphtheria was continued during the year. The smallest weekly total of diphtheria during 1951 was 19, compared with 31, 52, 100, and 138 for the minima of the four preceding years. Examination of the trend of diphtheria during the last quarter suggests that the downward trend is being checked and the disease will become stabilized around the present level.

The number of notifications of dysentery reached a very high level, the largest weekly total being 1,672 cases. From the information available it seems that Sonne dysentery accounts for about 95% of the total notifications.

Acute poliomyelitis was much below the level of the two preceding years, but the incidence remains at 3 to 5 times the endemic level before 1947.

The enteric fevers (typhoid and paratyphoid) were more prevalent than in recent years, but the notifications were only about one-third of those during the outbreaks of 1941. The number of deaths from influenza in the great towns was the largest since 1937. The sudden rise in the curve for notifications of puerperal pyrexia and puerperal fever is due to the introduction on August 1, 1951, of a new definition of the disease.

A small feature of the graphs is that, with the exception of those for measles and influenza, they all show a decline in the number of notifications in the last week of the year, which includes the Christmas holiday, from the figure for the previous week; those for measles and influenza show only very small rises.

The number of notifications from the principal epidemic diseases for the past five years is:

England and Wales	1947	1948	1949	1950	1951
Scarlet fever ..	60,524	75,460	71,753	66,852	49,431
Whooping-cough ..	94,241	145,878	102,516	157,714	169,394
Diphtheria ..	10,528	7,903	4,929	2,858	1,969
Measles ..	399,461	396,841	384,361	366,116	615,332
Acute pneumonia	34,348	31,096	34,624	30,714	43,181
Meningococcal infections	3,147	1,971	1,586	1,745	1,956
Acute poliomyelitis	9,251	2,175	6,850	8,699	3,093
Dysentery	4,179	5,587	4,819	18,135	29,488
Enteric (typhoid and paratyphoid) fevers	880	873	1,138	654	1,438
Great Towns					
Influenza deaths ..	1,774	610	3,091	1,859	7,555

Record Low Infant Mortality Rate

Provisional figures published in the Registrar-General's *Quarterly Return* for the September quarter, 1951, show that the infant mortality and the stillbirth rates are the lowest ever recorded in England and Wales. Deaths of children under 1 year of age numbered 3,998, giving a rate of 23.5 per 1,000 related live births. The previous lowest rate recorded was 24.2 in the same period of last year. Stillbirths registered during the quarter numbered 3,727, giving a rate of 21.7 per 1,000 live and still births, compared with 22.5 in the September quarter of 1950. The previous lowest rate was 22.0 in the September quarter of 1949.

There were 168,028 live births registered during the quarter—a rate of 15.2 per 1,000 population. This is the lowest rate for a September quarter since 1941, when it was 14.0, and continues the decline recorded since the post-war peak of 20.0 in 1947.

Deaths at all ages registered during the quarter numbered 100,090, a rate of 9.1 per 1,000 population. This rate is average for the same quarter over the last five years. The births exceeded the deaths by 67,938. The corresponding increase for the same period of the preceding year was 67,220.

Week Ending January 5

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,102, whooping-cough 2,154, diphtheria 45, measles 3,491, acute pneumonia 973, acute poliomyelitis 25, dysentery 295, paratyphoid fever 6, and typhoid fever 2.

Infectious Diseases

In England and Wales during the week ending December 29, 1951, the incidence of infectious diseases decreased. The largest falls in the number of notifications were scarlet fever 457, whooping-cough 417, and dysentery 129.

A fall in the incidence of scarlet fever occurred in every region of the country; the largest declines were Lancashire 46 and London 40. Whooping-cough declined more in the northern section of the country than in the southern. The largest falls were Warwickshire 78 and Yorkshire West Riding 77.

The notifications of diphtheria were 11 fewer than in the preceding week. The chief variations in the local returns were an increase of 4 in Lincolnshire and in Lancashire, and a decrease of 8 in Staffordshire. The largest returns of diphtheria for administrative areas were Grimsby C.B. 5 and Liverpool C.B. 4.

The notifications of measles were 10 more than in the preceding week; the largest of the local variations were a rise of 57 in Staffordshire and a fall of 99 in Cardiganshire.

The number of notifications of acute poliomyelitis was 5 fewer for paralytic and 3 fewer for non-paralytic cases than in the preceding week. The largest returns were Kent 3 and Cheshire 3.

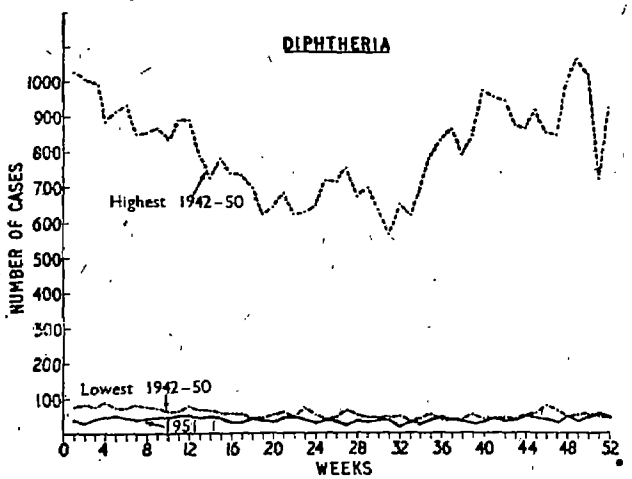
A further 61 cases of dysentery were notified from the outbreak in Norfolk, Norwich C.B. The other large returns were Middlesex 37; Yorkshire West Riding 19; London 17; Bedfordshire 13 (Luton M.B. 12); Leicestershire 13 (Leicester C.B. 10).

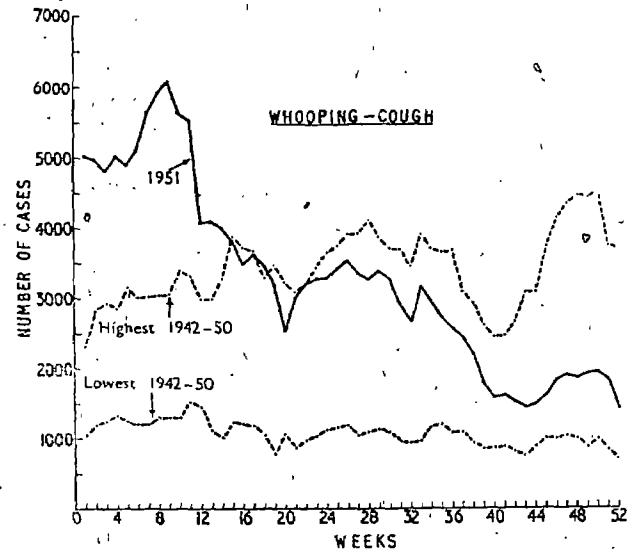
Two large centres of food-poisoning occurred during the week, Buckinghamshire, Wolverton U.D. 133, and Northamptonshire 177 (Towcester R.D. 73, Northampton C.B. 52).

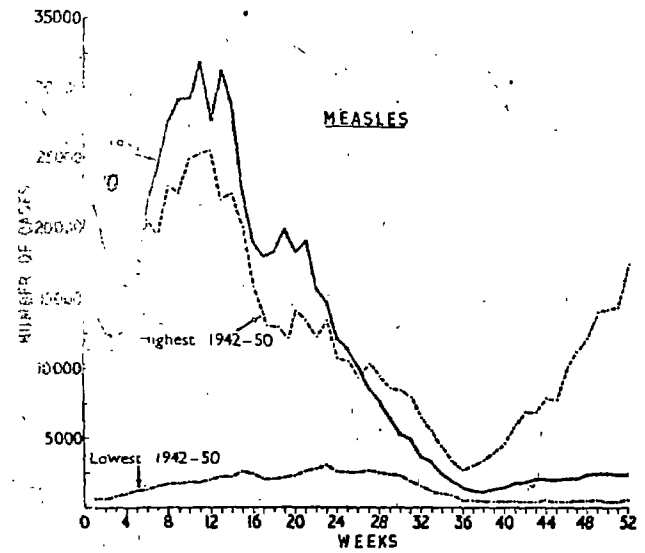
In Scotland a further 38 cases of dysentery were notified in Lanark county, where 101 cases occurred in the preceding week. The other large return in Scotland was 28 notifications in the city of Glasgow.

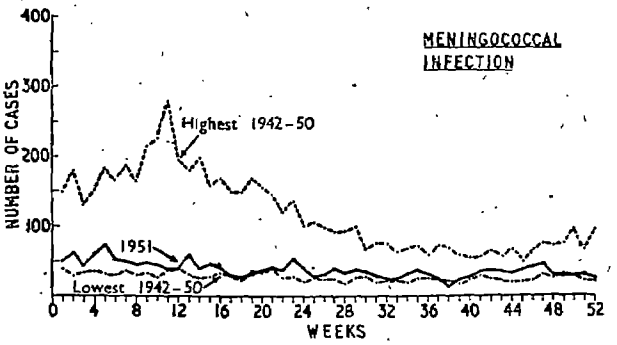
Graphs of Infectious Diseases

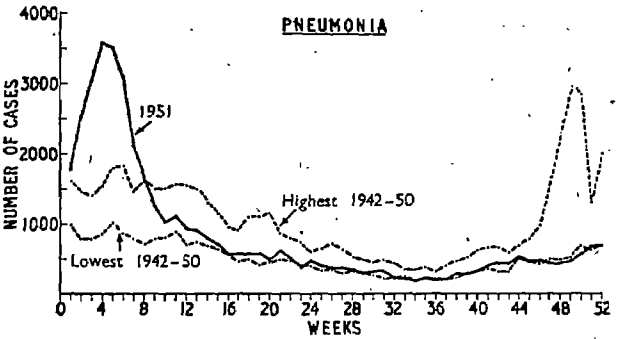
The graphs below show the uncorrected numbers of cases (deaths from influenza) of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1942–50 are shown thus - - - - - - - -, the figures for 1951 thus ———. Except for the curves showing notifications in 1951, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.

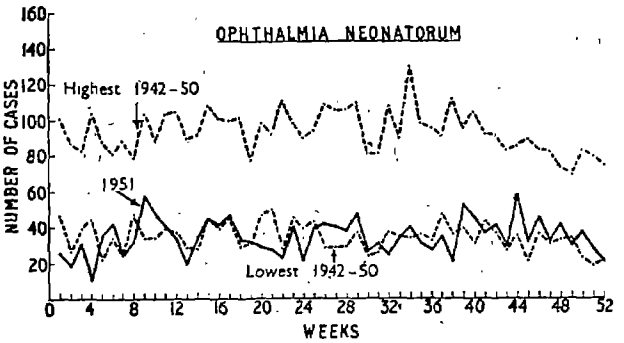


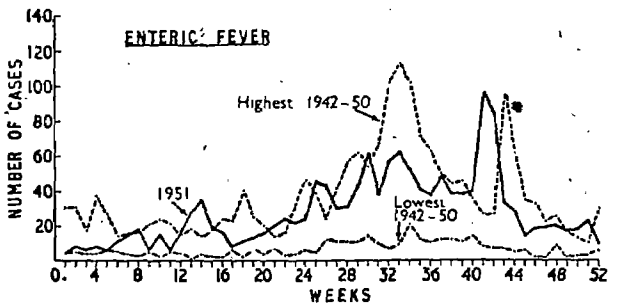


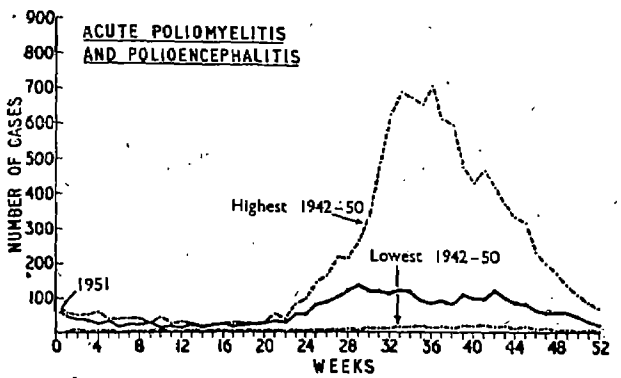


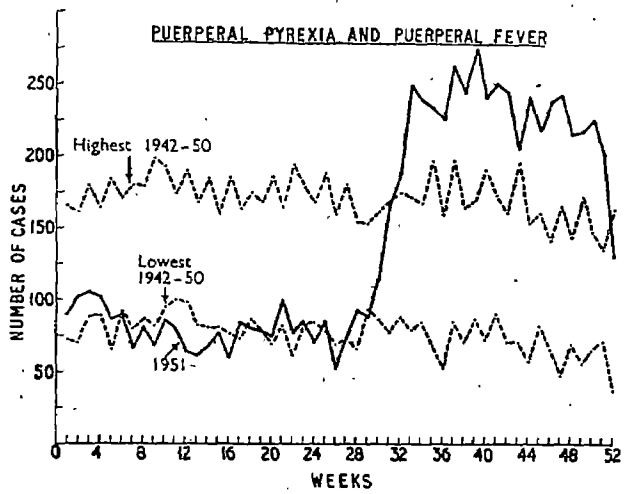


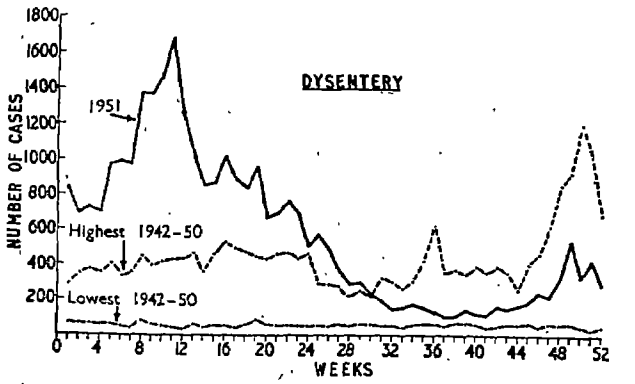


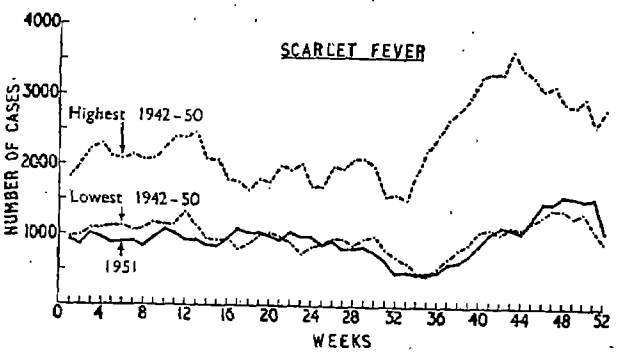


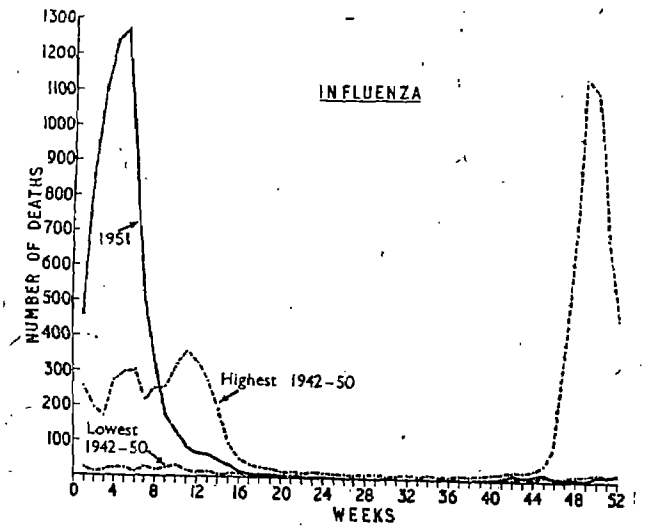












INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **December 29** (No. 52) and corresponding week 1950.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 126 great towns in England and Wales (London included), London administrative county, the 16 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 13 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1951 Eng. & Wales	1951 Lond.	1951 Scot.	1951 N. Ire.	1951 Eire	1950 Eng. & Wales	1950 Lond.	1950 Scot.	1950 N. Ire.	1950 Eire
Diphtheria	43	3	13	0	2	41	3	13	5	1
Dysentery	293	17	84	0		691	44	104	5	1
Encephalitis, acute	0	0	0	0		7	0	0	0	
Enteric fever:										
Typhoid	3	2	1	0	0	0	0	0	1	0
Paratyphoid	7	0	1 (B)	1		6	1	0	0	
Food-poisoning	449	7		0		147	26		0	
Infective enteritis or diarrhoea under 2 years				14	9				7	10
Measles*	2,331	19	84	106	42	17,468	1922	102	80	81
Meningococcal infection	26	4	15	1	1	34	2	13	2	3
Ophthalmia neonatorum	20	0	9	0		21	3	10	0	
Pneumonia†	678	30	245	4		962	64	292	6	
Poliomyelitis, acute:										
Paralytic	17	2	} 3	} 0	}	} 53	} 3	} 4	} 0	} 4
Non-paralytic	3	0								
Puerperal fever§	131	21	13	1		38	4	8	4	
Scarlet fever	1,095	72	281	12	41	1,026	62	181	42	52
Tuberculosis:										
Respiratory			142	18				134	26	
Non-respiratory			29	8				28	9	
Whooping-cough	1,402	73	230	60	22	3,690	325	442	25	35

DEATHS in Great Towns	1951 Eng. & Wales	1951 Lond.	1951 Scot.	1951 N. Ire.	1951 Eire	1950 Eng. & Wales	1950 Lond.	1950 Scot.	1950 N. Ire.	1950 Eire
Diphtheria	1	0	1	0	0	1	0	0	0	0
Dysentery		0		0			0		0	
Encephalitis, acute		0			0		0			0
Enteric fever	0	0	0	0		0	0	0	0	
Infective enteritis or diarrhoea under 2 years	12		3	0	2	26		0	2	1
Influenza	22	5	0	0	0	102	8	5	0	1
Measles		0	0	0	0		1	0	0	0
Meningococcal infection		0	1				0	1		
Pneumonia	250	44		7	6	383	48		17	10
Poliomyelitis, acute	0	0			0	5	0			0
Scarlet fever		0	0	0	0		0	0	0	0
Tuberculosis:										
Respiratory	} 131	{ 11	28	10	5	} 199	{ 27	37	8	15
Non-respiratory		{ 0	2	0	0		{ 2	4	1	2
Whooping-cough	0	0	2	1	0	7	4	2	0	1
Deaths 0–1 year	217	30	35	4	9	277	29	50	14	20
Deaths (excluding stillbirths)	5,033	816	612	115	104	7,322	1061	882	138	196
LIVE BIRTHS	5,082	707	804	138	91	5,326	873	841	179	274
STILLBIRTHS	159	25	34			177	25	30		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.

Medical News

Dinner for Lord Horder.—On Monday, January 7, a dinner was given in honour of Lord Horder's 81st birthday by his ex-house-physicians, at the Royal Automobile Club, Pall Mall. Dr. A. F. S. Sladden, as senior house-physician, was in the chair, and the toast of "our teacher," chosen because Lord Horder dedicated his medical notes to his teacher, Samuel Gee, was proposed by Dr. C. A. Hinds Howell, and supported by Sir Hugh Griffiths.

Travelling Fellowships in Ophthalmology and Otology, 1952–3.—The Medical Research Council invite applications for travelling fellowships in ophthalmology and otology for the academic year 1952–3, for which special provision has been made by the Alexander Pigott Wernher Memorial Trustees. Under the terms of the bequest from which these awards are made, the funds are to be applied "towards the prevention and cure of blindness and deafness in the United Kingdom and British Empire and in particular research in connexion therewith by financing medical men and students within the Empire to study methods and practices in all countries of the world." These fellowships are intended for suitably qualified medical graduates who are likely to profit by a period of work in ophthalmology or otology at a centre abroad before taking up positions for higher teaching and research in these branches of medical science. Candidates will be required to submit an outline of their proposals for study or research and to indicate their preference about place of work. The awards will, as a rule, be tenable for one year. The fellowships provide for the payment of stipend, together with an allowance for travelling and incidental expenses. The stipend will ordinarily be at the rate of £650 per annum for a single fellow, and of £900 per annum for a married fellow, subject to appropriate adjustment in the case of fellowships tenable at centres outside the sterling area. Forms of application for these fellowships may be obtained from the Secretary, Medical Research Council, 38, Old Queen Street, London, S.W.1, with whom applications must be lodged by March 31.

Hospital Renamed.—On January 1 the Sheffield Street Hospital, Kingsway, London, W.C.2, became part of the group of teaching hospitals known as St. Peter's and St. Paul's. To mark the change-over the hospital has been renamed St. Philip's. St. Philip's, which has 57 beds, will treat chronic urological cases.

Experimental Parasitology.—The first number of *Experimental Parasitology* appeared recently. This new quarterly journal intends to publish original contributions on experimental physiological, metabolic, biochemical, nutritional, and chemotherapeutic problems of parasites and host–parasite relationships. In addition, a section of the journal will be devoted to reviews covering all aspects of parasitology. *Experimental Parasitology* is published by the Academic Press, Inc., New York, at an annual subscription of $8.00.

American Orthoptic Journal.—The American Academy of Ophthalmology and Otolaryngology has commenced publication of the *American Orthoptic Journal*, which will be issued as an annual supplement to the Academy's *Transactions*, and will contain papers read at its annual meetings.

Emergency Bed Service: Applications and Admissions.—During the seven days ending January 14 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,188, of whom 83.16% were admitted.

Wills.—Dr. William Arnott left £24,000. Bequests included £25 each to the West Riding Medical Charitable Society and the Royal Medical Benevolent Fund. Dr. Frank Constable Porter left £76,398, of which he gave £100 to the Benevolent Fund of the British Dental Association.

COMING EVENTS

Renal Association.—The eighth general meeting of the association will be held at the Ciba Foundation on Wednesday, January 30, at 4.30 p.m. Following the election to honorary membership of Dr. Donald van Slyke and Professor Dérot, papers will be read on the disorders of cellular hydration and experimental pyelonephritis, and Professor Dérot will describe 100 cases of anuria personally treated.

Memorial Service for Lord Addison.—A memorial service for the late Viscount Addison will be held in Westminster Abbey on Wednesday, January 30, at 12.30 p.m. No tickets will be needed by the general public, but seats will be reserved for relatives, Parliamentary colleagues, the Diplomatic Corps, and representatives of public bodies. Inquiries regarding arrangements should be made to Mr. Carol Johnson, Parliamentary Labour Party, Palace of Westminster, London, S.W.1.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Friday

UNIVERSITY COLLEGE, LONDON: FACULTY OF MEDICAL SCIENCES.—At Anatomy Theatre, Gower Street, London, W.C., January 18, 4.30 p.m., "*The Hypothalamus and the Neuro-hypophysis*," public lecture by Professor W. Bargmann (Kiel University).

Monday

ROYAL EYE HOSPITAL, St. George's Circus, Southwark, London, S.E.—January 21, 5 p.m., "*Refraction Work in the Aged. Prescription and Fitting of Glasses*," by Dr. T. H. Whittington.

Tuesday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., January 22, 5.30 p.m., "*Involuntary Nervous System*," by Professor G. L. Brown, F.R.S.

EUGENICS SOCIETY.—At Royal Society, Burlington House, Piccadilly, London, W., January 22, 5.30 p.m., "*Recording Human Constitution*," by Dr. R. W. Parnell.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 22, 5.30 p.m., "*Hysteria Cutis*," by Dr. W. J. O'Donovan.

LONDON COUNTY MEDICAL SOCIETY.—At Talbot Restaurant, London Wall, E.C., January 22, 7 for 7.30 p.m., annual general meeting and dinner.

ST. ANDREWS UNIVERSITY.—At Physics Lecture Theatre, Materia Medica Department, Medical School, Small's Wynd, Dundee, January 22, 5 p.m., "*Some Recent Developments in the Study of the Biological Actions of Ionizing Radiations*," by Dr. L. H. Gray, Ph.D.

Wednesday

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 23, 5.30 p.m., "*Mycology—Moniliasis: Torulosis*," by Dr. R. W. Riddell.

INSTITUTE OF UROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., January 23, 4.30 for 5 p.m., "*Tuberculosis of the Renal Tract*," by Mr. F. R. Kilpatrick.

NORTH-EAST METROPOLITAN REGIONAL TUBERCULOSIS SOCIETY.—At London Chest Hospital, Victoria Park, E., January 23, 3 p.m., "*Congenital Abnormalities of the Chest*," by Mr. T. Holmes Sellors. Pathological demonstration by Dr. K. F. W. Hinson.

SOCIETY OF CHEMICAL INDUSTRY.—At Burlington House, Piccadilly, London, W., January 23, 6.30 p.m., joint meeting of Nutrition Panel—Food Group and Oils and Fats Group. "*The Digestibility of Fat*," by Dr. H. Wilkinson, Ph.D., F.R.I.C.

Thursday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., January 24, 5.30 p.m., "*Involuntary Nervous System*," by Professor G. L. Brown, F.R.S.

●INSTITUTE OF CHILD HEALTH, Hospital for Sick Children, Great Ormond Street, London, W.C.—January 24, 5 p.m., "*Surgery of the Brain in Childhood*," by Professor H. Cairns.

LIVERPOOL MEDICAL INSTITUTION, 114, Mount Pleasant, Liverpool.—January 24, 8 p.m., pathological meeting.

MEDICO-LEGAL SOCIETY.—At 26, Portland Place, London, W., January 24, 8.15 p.m., "*Testamentary Capacity*," by Mr. W. Latey, K.C.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—January 24, 4.30 p.m., lecture-demonstration in neurology.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY, Lisle Street, Leicester Square, London, W.C.—January 24, 4.15 p.m., demonstration and discussion of clinical cases.

Friday

CAMBRIDGE MEDICAL SOCIETY.—January 25, "*Newer Developments in Radiotherapy,*" by Professor J. S. Mitchell.

EDINBURGH UNIVERSITY: FACULTY OF MEDICINE.—At Anatomy Lecture Theatre, University New Buildings, Teviot Place, Edinburgh, January 25, 5 p.m., "*Serum Cholesterol, 'Giant Molecules,' and Atherosclerosis,*" Macarthur Postgraduate Lecture by Professor Ancel Keys, M.A., Ph.D. (University of Minnesota).

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 25, 5.30 p.m., "*Xanthoma and Necrobiosis Lipoidica,*" by Dr. P. D. Samman. Clinical demonstration.

●INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., January 25, 5.30 p.m., "*Anaesthesia for Cardiac Surgery,*" by Dr. B. G. B. Lucas.

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES, 11, Chandos Street, London, W.—January 25, 7.30 p.m., general meeting "*Possible Applications of A.C.T.H. and Cortisone in Syphilis,*" discussion to be opened by Dr. Gordon Horne.

OXFORD UNIVERSITY.—At Magdalen College, Oxford, January 25, 5 p.m., "*The Neurophysiological Basis of Mind,*" Wayneflete Lecture by Professor J. C. Eccles, F.R.S.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—January 25, 8 p.m., "*Human Faces,*" by Mr. A. R. Isaac.

ROYAL SANITARY INSTITUTE.—At Public Hall, Lune Street, Preston, January 25, 10 a.m., papers: "*Tuberculosis Control, with Some Comments on Lung Cancer,*" by Dr W. Griffel; "*The Changing Role of the Health Visitor,*" by Miss E. W. Sowerby, S.R.N., S.C.M.; "*The Influence of Lighting Developments on Health and Safety,*" by Dr. J. N. Aldington, Ph.D.; 2 p.m., visits will be made.

Saturday

SOCIETY OF PUBLIC ANALYSTS: NORTH OF ENGLAND SECTION.—At Engineers' Club, Albert Square, Manchester, January 26, 2 p.m., 27th annual general meeting. An ordinary meeting will follow. "*The Use of Laboratory Animals as Analytical Reagents,*" by Mr. A. L. Bacharach, M.A., F.R.I.C.

APPOINTMENTS

BRANNEN, IAN CAMERON, M.B., Ch.B., Registrar, Royal Northern Infirmary, Inverness.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, London, W.C.—*Senior Surgical Registrar (Senior Registrar Grade)*, Ambrose Jolleys, M.B., Ch.B., F.R.C.S. *Resident Anaesthetic Registrar (Registrar Grade)*, W. A. D. Combe, M.R.C.S., L.R.C.P. *Assistant Resident Medical Officer (Senior House Officer Grade) at Tadworth*, Elizabeth M. C. Dyke, B.M., B.Ch., D.C.H. *House-physicians (Senior House Officer Grade)*, Kenneth Simpson, M.B., B.S., M.R.C.P., and M. J. Simpkiss, M.B., Ch.B., M.R.C.P. *House-surgeon (Senior House Officer Grade)*, M. R. Kliman, M.D., F.R.C.S.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Beynon.—On November 28, 1951, at Hong Kong, to Dr. Peggy Beynon (formerly Thomas), wife of Major Glanley Beynon, S.C.F., a daughter.

Hatcher.—On November 13, 1951, to Joan (formerly Tanner), M.B., B.S., wife of Mr. Edmund Hatcher, a daughter—Susan Elizabeth Jane.

Judson.—On January 4, 1952, at Hull, to Helen (formerly Atwell), wife of Dr. David Judson, a daughter.

Kelsall.—On January 6, 1952, in London, to Margaret (formerly Miller), wife of Dr. A. R. Kelsall, a daughter.

MARRIAGES

Slattery—Kelly.—On January 10, 1952, at St. Saviour's Church, Totland, Isle of Wight, John Anthony Slattery, M.B., B.S., of Canonbury, London, N., to Zoë Taschereau Kelly, M.B., B.S., D.C.H., of Freshwater, Isle of Wight.

DEATHS

Cargill.—On December 9, 1951, at South Elmsall, Yorks, Diana Pamela Mary Sylvester Cargill, L.R.C.P. & S. Ed., L.R.F.P.S.

Clark.—On January 5, 1952, at The Vinery, Wellington, Hereford, Henry Colbatch Clark, M.R.C.S., L.R.C.P.

Cockburn.—On January 12, 1952, at Southcliffe, Chalfont St. Peter, Bucks, Robert Pitcairn Cockburn, M.D., aged 86.

Dobson.—On January 9, 1952, at Craiglands Hydro Hotel, Ilkley, Yorks, Maurice Rowland Dobson, O.B.E., M.B., B.S., aged 73.

Dodson.—On January 2, 1952, Eleanor Isabel Dodson, M.D., of London, S.E., formerly of Multan, India.

Greene.—On January 7, 1952, in a nursing-home, Jersey, George Watters Greene, M.D., D.P.M., aged 74.

Gregory.—On January 12, 1952, in London, Hazel Haward Chodak Gregory (formerly Cuthbert), M.D., F.R.C.P.

Greig.—On January 6, 1952, at 23, Townsend Place, Kirkcaldy, John Isdale Greig, M.B.E., M.B., Ch.B.

Grunhut.—On January 10, 1952, Jozef Grunhut, M.D., aged 51.

Maddock.—On January 6, 1952, Edward Cecil Gordon Maddock, C.I.E., M.D., F.R.C.S.Ed., D.P.H., D.T.M., Lieutenant-Colonel, I.M.S., retired, of Wardon Lodge, Sunningdale, Berks.

Moiser.—On January 6, 1952, at 15, Watercall Avenue, Coventry, Lionel Henry Moiser, M.B.

Nicklin.—On January 8, 1952, at Luanshya, Northern Rhodesia, Reginald Nicklin, M.B., Ch.B.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Stains on Doctors' Clothes

Q.—*What is the best way of removing stains on clothes due to (a) flavine, (b) iodine, and (c) blood?*

A.—*Flavine Stains.*—Treat the stain with dilute hydrochloric acid or with dilute sulphurous acid, and then wash.

Iodine Stains.—These can readily be removed by sponging with a solution of sodium thiosulphate (photographic hypo). Dilute ammonia can also be used.

Blood Stains.—Fresh stains may be removed by sponging with cold or slightly warm (*not* hot) water, followed, if necessary, by the application of solution of hydrogen peroxide. The following methods are suggested in *Pharmaceutical Formulas*, published by the *Chemist & Druggist*—"In the case of delicate materials the following procedure is often successful: Prepare a paste of rice starch and water which is applied to the stain and allowed to dry on. Other methods consist in the application of a solution of borax, dilute solution of ammonia, tincture of quillaia, soap spirit, or solution of hydrogen peroxide followed by dilute solution of ammonia. A solution of tribasic sodium phosphate is also recommended for removing blood stains, and in some instances glacial acetic acid may be successful. In the case of old stains, these should first be thoroughly moistened with warm water, preferably with a slight addition of glycerin. In these cases the stains often yield to treatment with a concentrated solution of chloral hydrate (75%), after moistening the stain with dilute acetic acid. In recalcitrant cases of old blood stains a solution of pepsin, 4 gr. (0.25 g.); dilute hydrochloric acid, 20 min. (1.2 ml.); distilled water, 3 oz. (85 ml.) may prove successful in removing the albumin, followed by the application of one of the above-mentioned agents to remove the discoloration."

Hypnosis and Asthma

Q.—*Is there any evidence that hypnotic treatment can benefit sufferers from chronic asthma? What might be its dangers, particularly with children?*

A.—There is no doubt that very small factors, some of them psychological, can precipitate or inhibit attacks in a chronic asthmatic. At the end of a period of frequent attacks the patient may have acquired a faulty respiratory rhythm and posture which, through fear of future attacks, do not return at once to normal in a negative phase. At this stage, in children, education in relaxation of the respiratory muscles and in expansion of the bases can be aided by a method of suggestion such as hypnosis, which may for the time being eliminate this fear. This use of hypnosis is comparable with its use in stammering, where enduring improvement can be expected only if the child learns to relax apart from the hypnotic session. Even where a pre-existing asthma is used by the child as a purposive "functional" dyspnoea, a dramatic result should not prevent a search for causes of the underlying maladjustment, allergic, infective, or psychological.

A successful frontal attack on the asthma by means of hypnosis has often been reported, but usually where attacks are occasional. Many chronic asthmatics will report improvement because they cannot always tell the difference between an actual attack and wheeziness. They can easily be induced to feel that no attack is present and that none is pending.

The risks are those of any hypnotic treatment in children: that unless the children are carefully handled they may

develop a habit of going into unnecessarily deep hypnosis and of having anaesthesia, disturbance of memory, or tetany which may continue in the waking state.

Scrotal Retention Cysts

Q.—*A male infant of 7 months has three or four white spots in the skin of the median raphe of the penis at its junction with the scrotum. The spots are about 2 mm. in diameter and are just under the cuticle; they appear to cause some irritation. What are they? What treatment is advised?*

A.—It would appear from the description given that these spots are small retention cysts similar to the "epithelial pearls" or "Bohn's nodules" seen in the midline of the hard palate in most newborn infants and due to overgrowth of the epidermis covering over the mouths of the glands. The spots will disappear spontaneously. No treatment is necessary except regular cleansing of the parts.

Salt and Boils

Q.—*Could an excessive intake of salt have any bearing on the development of recurrent axillary boils? A patient with this complaint takes a good deal of salt with his food, and also during his work. His job is to service water softeners and recharge them with salt; during the process he has to taste for brine until it is no longer noticeable in the water.*

A.—There is no evidence that an excessive intake of salt could have any bearing upon the development of recurrent axillary boils.

Enuresis

Q.—*Where can I find information on the investigation and treatment of enuresis?*

A.—On p. 185 of the book "*Any Questions?*" The book can be obtained for 7s. 6d. (postage 6d.) from the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1.

Hazards of Ethyl Acetate and Toluene

Q.—*Until recently ethyl acetate has been the solvent for lacquers in a factory where I am the doctor. Now 10% toluene is being added to the ethyl acetate to diminish the risk of fire, and there is a likelihood that the concentration of toluene in the solvent will soon be raised to 40%. Until the toluene was added, there had been no complaints of skin irritation from those handling either the solvent or the lacquer; now the men are complaining of burning and irritation when their hands and arms are exposed to the ethyl acetate–toluene mixture. (1) What are the known occupational hazards from ethyl acetate and toluene? (2) What can be done to reduce any such hazard? Are barrier creams, for instance, effective?*

A.—(1) Ethyl acetate is an irritant and is mildly narcotic. In acute poisoning the irritant effects—e.g., acute pulmonary oedema—predominate. No definite chronic effects have been described. The maximum permissible concentration is 400 parts per million.

Toluene is a narcotic, and the general consensus of opinion is that it is free from the undesirable chronic effects of benzene—namely, the liability to produce agranulocytosis and aplastic anaemia. But it must be remembered that toluene may contain benzene as an impurity. The permissible concentration is 200 p.p.m. Clinical accounts of workers exposed to toluene will be found in *J. Amer. med. Ass.*, 1942, **118**, 573 and 579; 1943, **123**, 1106. They suggest that in concentrations as high as 200 p.p.m. some incoordination of fine movements may develop.

(2) The value of barrier creams in protecting the skin from mineral oil has been examined, and in general they were without effect (*Brit. J. industr. Med.*, 1948, **5**, 204). They are probably even less effective against substances such as toluene. It will obviously be necessary, therefore, to arrange for physical protection of the skin in the factory described.

NOTES AND COMMENTS

Paroxysmal Tachycardia in Pregnancy.—Dr. E. D. KERR (High Wycombe, Bucks) writes: The "Any Questions?" section of the *Journal* (December 15, 1951, p. 1473) advises the administration of digitalis for the treatment of paroxysmal tachycardia occurring in pregnant women. There are theoretical and statistical reasons for believing that digitalis may cause foetal death. Digitalis, being a glucoside, could easily pass the placental barrier in a concentration sufficient to poison the heart of a foetus. The effect of digitalis on the foetal heart would presumably be the same as the effect on an adult heart, and a large dose would cause heart block and ventricular fibrillation. The foetal mortality rate when heart disease of the mother is present in pregnancy bears a direct relationship to the onset in the mother of cardiac decompensation and auricular fibrillation, especially the latter. The attendant impairment of circulation, with the coexisting anoxaemia, is generally considered to be the cause of foetal death, but anoxaemia is often not present to any marked extent, and other factors must be involved. One of these could be the effect of digitalis, since the drug is nearly always administered to these cases. In pregnancy the administration of digitalis is on many occasions a life-saving therapeutic measure for the mother, but it is not justifiable to employ digitalis in the treatment of paroxysmal tachycardia, since its beneficial effect on the mother may be minimal, but its detrimental effect on the foetus may be lethal.

OUR EXPERT writes: While it is possible on theoretical grounds for digitalis to have toxic effects on the foetal heart, there is no doubt of its great value in treating heart failure of pregnancy. The beneficial effect on the mother increases the chances of a live birth, and digitalis should invariably be used in the presence of heart failure, whether or not this is associated with paroxysmal tachycardia.

Dr. A. B. UNWIN (London, S.W.1) writes: In my experience attacks of paroxysmal tachycardia in persons with clinically normal hearts have been associated with excessive gaseous distension of the stomach or large intestine, cessation of an attack often being associated with the bringing up of wind. Presumably the heart is irritated by displacement upwards due to pressure from below the diaphragm. During pregnancy two possible factors could be involved. First, transmitted pressure due to the enlarging uterus, and, secondly, the effects of pregnancy hormones on the intestinal muscle tone, which tend to allow dilatation with retention of gas. An attack is usually begun as a result of a sudden movement or effort and the patient can feel it as it starts. A simple measure often effective in cutting short an attack is to take a deep breath and hold it in full inspiration; the pressure in the chest is then raised by making an effort to expel the air with the glottis closed. Other methods sometimes recommended, such as pressure over the carotid sinus or pressing the eyeballs, do not appear very effective in practice. All tight belts and corsets should be removed from the abdomen and a hot drink sipped to assist in the relief of gas from the stomach. The general treatment should be directed towards the dyspepsia. The most important single factor in the causation of abdominal distension with gas is anxiety and emotional stress, and a good general practitioner should be of help in this respect. Phenobarbitone, gr. ½ (32 mg.) three times a day before meals, should be prescribed. Attention to diet and a warning against overeating should be given, and a glass of early-morning salts taken to prevent constipation and to assist in the general tone of the intestine and gall-bladder. Should a severe case fail to respond to these simple measures, then "prostigmin" may presumably be worthy of trial.

OUR EXPERT writes: The simple measures outlined above may be beneficial, but prostigmin is not likely to be effective unless given in near toxic doses, and should only be used after a trial of quinidine and procaine amide. Anxiety is more likely to be secondary to the attacks of paroxysmal tachycardia than the cause of them. Aerophagy and subsequent eructation are also secondary to the attacks of arrhythmia rather than the cause of them: the same symptoms may be present in patients with precordial or epigastric discomfort from other causes.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499. TELEGRAMS: *Aitiology, Westcent, London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

SUPPLEMENT TO THE

BRITISH MEDICAL JOURNAL

LONDON, SATURDAY JANUARY 19 1952

CONTENTS

Conditions in Family Practice - - - - - - 17
The Closer Link - - - - - - - - 17
Doctor and Patient - - - - - - - - 18
What is Wrong with the N.H.S.? - - - - 19
N.O.T.B. Association - - - - - - - 20
Supplementary Ophthalmic Service - - - - 20
Occupational Health Committee - - - - - 21
Partnership in N.H.S. - - - - - - - 21
Medical Superintendents' Arbitration - - - 21
Correspondence - - - - - - - - 22
B.M.A. Library - - - - - - - - 25
Association Notices - - - - - - - - 26

CONDITIONS IN FAMILY PRACTICE

INTRODUCTION

Three reports summarized below discuss different aspects of a theme that has been the subject of much debate recently. In brief, it is how to enable the family doctor to give of his best. As Dr. S. Wand has put it recently (*Supplement*, January 12, p. 9), the doctor is frustrated because he is "so often prevented from doing the best and most useful work of which he is capable."

First, a report from the Scottish Health Services Council concentrates on methods for bringing hospitals and general practitioners into closer communication. In other words, it is concerned to remove that isolation which many general practitioners have drawn attention to and attributed partly to the increase of specialization in medicine and partly to the National Health Service. Among the recommendations made is that the hospital structure should include doctors engaged partly in general and partly in specialist practice. It finds a strong case for the provision of hospital beds in which general practitioners can treat their own patients, and it emphasizes that they should have the fullest possible access to *x*-ray and laboratory services.

A memorandum from Birmingham Executive Council, a summary of which follows the Scottish report, agrees on the importance of a close link between hospital and general practice; it also makes suggestions for reducing prescribing costs and for introducing rules for N.H.S. patients, similar to those which existed for N.H.I. patients.

The third report is from the Leeds Division of the B.M.A. It emphasizes the lack of financial balance between the general-practitioner and hospital services and agrees that general practitioners must have hospital beds in their charge as well as free access to diagnostic services.

THE CLOSER LINK

GENERAL PRACTITIONERS AND THE HOSPITAL SERVICE

Another contribution concerned with the best ways of bringing together general practitioners and hospitals comes in a report issued by the Scottish Health Services Council.[1] The report begins by acknowledging that there is an obvious need for a closer link between the general practitioner and the hospital and specialist services. A joint subcommittee was appointed to see what could be done in this direction. The basic requirement is considered to be improved organization of general practice itself so that the doctors have more time and better facilities for the prevention of disease and its diagnosis and treatment in the early stages. The essential basis of a comprehensive medical service is the general practice of the family doctor; therefore the general practitioner must be much more than an agent selecting patients for the nearest out-patient department.

The committee had evidence of a prevalent feeling that hospital work is becoming almost exclusively the sphere of the specialist and the hospitals themselves a preserve where the general practitioner is neither needed nor welcome. The main points of dissatisfaction are summarized as follows:

(*a*) The system at present adopted for the appointment of specialists, under which it is difficult, if not impossible, for the general practitioner with the requisite qualifications and experience to undertake work in a specialist capacity.

(*b*) The restriction of the general practitioner's part in institutional midwifery.

(*c*) The absence of full facilities for the general practitioner to follow his patients into hospital.

(*d*) The general practitioner's difficulty in gaining access to the ancillary services provided in hospitals.

Effects of Increasing Specialization

Between the two world wars hospitals increasingly looked to specialist staff for the treatment of their patients. Again, the tendency to increased specialization meant that a further line was drawn between the doctor in general practice and the doctor doing consultant and specialist work. General practice came increasingly to be regarded as inconsistent with specialist work. The committee thinks that the National Health Service has accentuated these tendencies.

Though reorganization of the hospital and specialist services was necessary, it has tended to reinforce the view that all hospital work is the province of the specialist. A closer link between the two branches of medicine would stimulate the interest of the general practitioner and keep him on his toes. The young doctor entering general practice should not find himself suddenly cut off from hospitals, where many medical advances are made and where he can obtain valuable aids to diagnosis and treatment. He must be able to feel that when he enters a hospital he is exercising a natural and acknowledged right.

Close association will also bring benefit to the patient, who will not look upon his doctor as a mere agent referring

[1] Report of Scottish Health Services Council Joint Subcommittee on the General Practitioner and the Hospital Service. Membership of the Joint Subcommittee was as follows: Sir Humphrey Broun Lindsay (chairman), Professor Dugald Baird, Professor D. F. Cappell, Lieutenant-Colonel J. C. Dundas, Dr. Mary Esslemont, Dr. I. D. Grant, Dr. G. W. Ireland, Mr. A. B. Kerr, Dr. A. F. Wilkie Millar, Dr. E. Neil Reid, Dr. W. D. D. Small, Miss Eleanor Stewart, with, as secretaries, Dr. E. R. C. Walker and Mr. R. P. Fraser.

him to hospital and leaving him in the hands of specialists, but rather still as his family doctor, even though medical decisions may for a time be in other hands.

The committee reports that many doctors find themselves with a greater volume of work than they can satisfactorily tackle with justice to their patients and themselves. This was considered to be the most important factor limiting the possibilities of closer relationship with hospitals. It suggests that there is considerable scope for improvement, not least by wider provision for secretarial and other assistance. Again, the committee considers that there should be means whereby a doctor can limit his list in such a way as to have time for hospital work without loss in total remuneration.

As to administrative arrangements, it emphasizes that appointments to hospital boards should be such as to enable the interests of general practitioners to be fully and effectively voiced.

Staffing Hospitals

Reduction in number of registrar posts means that some other way must be found of carrying on the necessary hospital services. Though part-time clinical assistantships for general practitioners are welcomed, these posts should not be conceived merely to enable the less interesting work of the hospitals to be thus carried out. The committee believes that the hospital structure should include doctors wholly in specialist practice, doctors training for specialist practice, doctors engaged partly in general and partly in specialist practice, and house-officers. It points out that staffing of this kind would help to do away with the present system of training undergraduates exclusively by specialists.

There should be no barrier to part-time employment in a specialist capacity of suitably experienced and qualified general practitioners, and they should be able to apply for posts on the same terms as their hospital colleagues, the qualifications and experience being assessed by the appointing body. A general practitioner giving part-time specialist services need not necessarily be aiming at full-time specialist work, but there would be a field for him in, for example, general medicine, paediatrics, geriatrics, dermatology, anaesthetics, and ophthalmology. There is also a case for more employment of general practitioners as clinical assistants carrying out duties similar to those of registrars.

Midwifery

Many general practitioners are disquieted at the restriction of the part they may take in institutional midwifery. The committee considers that, unless there are compelling technical reasons for excluding child-bearing from the field of general practice in this central event of family life, the family doctor is the natural source of medical advice.

The distinction should be drawn not between domiciliary confinement as the province of the general practitioner and hospital confinement as that of the specialist, but between uncomplicated pregnancy as normally the province of the family doctor and abnormal as generally that of the specialist. If general practitioners are capable of supervising home confinements, it can hardly be contended that they are incapable of conducting normal confinements in hospital.

Hospital Beds

Reorganization of the hospital services under the Health Service has curtailed the facilities previously enjoyed by general practitioners, but the committee finds a strong case for the provision of beds in which general practitioners can treat their own patients. Evidence on this point submitted to the committee was on the following lines:

(*a*) These facilities enable the practitioner to take an active part in hospital work. He is brought into close contact with the specialist services, his range of experience is increased, and he is given a new and stimulating interest in his own work.

(*b*) Many of the patients admitted to hospital are suffering from conditions well within the scope of their practitioner to treat. Large numbers of those admitted do not in fact need specialist attention, and it is uneconomic that on admission to hospital they should come under the charge of specialists.

(*c*) It is of inestimable value to the patient that, so far as possible, his treatment should be the responsibility at all stages of one doctor. Most patients would prefer, on admission to hospital, to continue under the care of their own doctors, who know their background and history, with whose ways they are familiar, and in whom they have confidence.

The committee acknowledges that there are certain practical difficulties, such as the time and distance involved sometimes, but it is emphatic that cottage hospitals ought to be maintained as general-practitioner hospitals. Where general practitioners have been denied access to them the policy underlying the change should be urgently reviewed. The most satisfactory scheme is to have all the doctors in the area on the staff of the hospital free to treat their patients at any time. Arrangements for admission of patients and use of beds should be left to the good sense of the doctors in association with the hospital authorities. The fullest opportunity should be taken of regular visits by specialists for consultation.

As regards other types of hospitals, the committee does not see at present anything more than a limited possibility of making beds available to general practitioners. But hospital policy should envisage the establishment of special general-practitioner wards or blocks in association with general hospitals.

X Rays and Laboratories

General practitioners should have the fullest possible access to ancillary services, especially *x*-ray and laboratory services. The development of radiological services ought to be related not solely to the requirements of hospital and specialist services but also to the needs of general practitioners. Though this may be a long-term policy it should be fully accepted as the basis of planning. The laboratory service for which the regional hospital boards are responsible must be conceived as an integrated service available to all branches of the profession, and every effort should be made to cater for the needs of general practitioners. The advice of consultants should be available on request. In the smaller district hospitals the general practitioner should be able on occasions to make use himself of equipment in the laboratory side-room.

As regards admitting and discharging patients, the family doctor should be kept fully informed of what is happening, and the hospital staff should give him the fullest information about his patient's condition as quickly as possible.

Finally, the general hospital ought to be a centre of medical endeavour where general practitioners have the acknowledged right of entry and where they can meet their hospital colleagues on terms of equality. Such close association would broaden the outlook of doctors in both branches of the profession. To help in bringing about this association, general practitioners should be allowed to take part in ward rounds and attend out-patient departments. Regular clinical meetings could be held, and a possibility to be considered is the organization in main general hospitals of refresher courses. Locum assistance might be provided for general practitioners from the registrar ranks of the hospital staff.

DOCTOR AND PATIENT

EVIDENCE FROM BIRMINGHAM

A memorandum from Birmingham Executive Council[1] begins by emphasizing that an important part of a general practitioner's duties should be the practice of preventive medicine and health education. This personal advice is considered likely to be more effective than

[1]Prepared for consideration by the Executive Councils Association (England) in connexion with the submission of evidence to the Central Health Services Council's Committee on General Practice.

leaflets, posters, press announcements, and similar official propaganda, and in the long run it should lead to considerable financial saving.

While health centres remain a long-term policy, it is suggested that the first measure to help the family doctor should be to reduce the prescribed maximum list of 4,000 patients to the lowest possible figure commensurate with expediency and efficiency; this proposal is closely related to the problem of doctors' remuneration. The memorandum also advocates greater employment of general practitioners by local authorities in maternity and child-welfare centres.

Cost of Medicines

The memorandum draws attention to diversity of costs for prescribing between various areas of the country, and considers that it is too great. "It is apparent that in those areas where prior to July 5, 1948, the greater proportion of the population were panel patients the prescription cost is considerably lower than in the better residential areas where the majority of persons were formerly private patients." This is attributed to the fact that doctors in the more densely populated areas who were formerly prescribing *National Formulary* preparations continue to do so, and the remedy is to encourage doctors in the other areas to prescribe these preparations more. In this connexion a direct appeal to doctors by the chairman of the local medical committee could have a beneficial effect.

Consultants and hospital medical officers should be persuaded not to advise or prescribe expensive proprietary medicines, "as this is a constant source of embarrassment to general practitioners and makes it very difficult for them to resist demands."

The memorandum suggests that doctors should be notified of their average prescription costs compared with the average for the area, as they were under the N.H.I., and the public should be encouraged to buy at their own expense a reasonable supply of the common household remedies. "Finally, executive councils should always be prepared to give their official support to doctors who have resisted unreasonable demands from patients."

Bottle-of-Medicine Habit

Most doctors would agree, says the memorandum, that a considerable proportion of the mixtures prescribed for minor and trivial complaints have little intrinsic therapeutic value but often may have a beneficial psychological effect. The best cure for the bottle-of-medicine habit would be a different psychological approach, such as health education and the practice of preventive medicine. The Ministry of Health could help in this matter by disseminating suitable propaganda.

An alternative would be to impose charges for pharmaceutical services, but it is considered that this would be extremely difficult to administer in view of the numerous exceptions which would have to be made to avoid hardship.

Responsibility for Certification

"Certification has indeed become a problem for general practitioners." While it is hoped that a Ministry committee considering how to reduce the number of certificates will eliminate some, it is clear that doctors will be required to be responsible for a considerable number. The only suggestion that can be put forward at present is for adequate secretarial assistance.

Frivolous Calls

While a very small proportion of the public do make frivolous calls on doctors, it is thought that the main abuse is by people requesting doctors to visit them at home when they could attend at surgeries. "The introduction of certain basic rules for N.H.S. patients similar to those which existed for former N.H.I. patients might help to solve this problem."

Frequent Change of Doctor

The introduction of the waiting period of 14 days before people can change their doctors does not seem to have had as much deterrent effect as expected. The memorandum points out that many patients have objected to this restriction, as have a considerable number of doctors, particularly those who have started new practices. Birmingham Executive Council was opposed to the introduction of the restriction, and considers that, in view of its very limited effect, reversion to freedom to change at any time should be considered.

"It is interesting to note that the restriction on change of doctor does not appear to have resulted in any general diminution in prescribing costs or in the volume of certification, and these were the main advantages cited by the advocates of the proposal prior to its introduction."

Liaison with Hospitals and Local Health Authorities

The importance of this liaison is emphasized, and the memorandum recommends that more local medical committees should co-opt senior administrative medical officers of hospital boards. More general-practitioner beds in hospitals should be provided as a matter of urgency, particularly for obstetrics, and the memorandum draws attention to the importance of providing for general practitioners diagnostic facilities in hospitals. It suggests also that general practitioners should make more use of the out-patient clinics of mental hospitals.

Maternity Medical Services

The memorandum reports that standards for admitting general practitioners to obstetric lists vary considerably between areas. It suggests that certain national minimum standards should be formulated by a joint committee appointed by the Ministry of Health, the B.M.A., and the Executive Councils Association.

An arrangement found successful in Birmingham, which it is suggested should be extended, is for general practitioners to hold antenatal clinics out of normal surgery hours, and midwives and health visitors attend these clinics with the expectant mothers.

No Difference to Doctor–Patient Relationship

Most doctors and patients would agree, says the memorandum, that the N.H.S. has not made any material difference to the doctor–patient relationship. Extremely few complaints have been received by executive councils, but unfortunately when they are investigated by medical service committees the publicity they receive has tended to magnify them out of all proportion to the general satisfaction which the vast majority of the public receive from their doctors.

It is believed that only a negligible number of N.H.S. patients have decided to become private patients, and that many of the small percentage of people who started by being private patients are registering with doctors under the N.H.S.

WHAT IS WRONG WITH THE N.H.S.?

FAULTS ANALYSED BY LEEDS DIVISION

The Health Service shows a lack of balance between preventive and curative medicine.

Preventive medicine and research are relatively neglected in comparison with curative services.

Too much money is being spent on the hospital services and too little on the general-practitioner services.

These are some of the conclusions that the executive committee of the Leeds Division of the B.M.A. came to after a series of meetings held last winter to discuss the Health Service. Invited speakers at the meeting included distinguished laymen as well as medical men in the main branches of the profession.

Discussing the lack of a preventive outlook in the N.H.S., the committee points out in a summarized report that there is only one medical officer of health on any of the 14 regional hospital boards.

High Administrative Costs

The committee condemns the excessive centralization of power in the Health Service and also the present powers of the Minister to issue regulations. Much money is wasted because hospital management committees have no incentive to save, administrative costs are high, and there is often failure to take advice from doctors in close touch with hospital and patient.

The committee says that many doctors regard the disappearance of medical officers from large hospitals as a retrograde and expensive step. And it is not in the national interest that restriction of the general practitioner's work, the lowering of his status, and the excessive work he has to do should continue. The public attitude to "free doctoring" needs changing by education, and private practice should not be allowed to die out lest the orthodox treatment of disease should rest in the hands of a medical State monopoly.

The N.H.S. as seen by patients and doctors was discussed by the committee, and some of its conclusions are given below.

The Patient's View of the Service

State patients find the Service a great financial relief, but fear that medical overwork may lead to an impersonal Service. Most of them would prefer to have minor operations performed at home or in their own doctor's surgeries. While still wishing the general practitioner to be a "real family friend," they have a somewhat exaggerated idea of the value of hospital services and investigations.

Private patients feel that it is wrong they should have to pay for medicines and prescribed appliances when they contribute to the scheme, and strongly resent having to pay the whole cost of upkeep of a private bed in hospital.

The General Practitioner's View of the Service

Most general practitioners in the Service work harder with less financial reward than formerly. Private practice, which had always subsidized panel practice to a variable extent, has now virtually disappeared.

The status of the G.P. has fallen, and the scope of his work is increasingly restricted. The progressive exclusion of G.P.s from cottage hospitals and the virtual abolition of general-practitioner consultants are bitterly resented. Apparently there is to be *no* place in the hospital for him, although his right to treat suitable cases there has always been conceded in theory. General practitioners should have the right to treat their own patients in specially provided hospital beds.

An immediate need is the provision of a good pathological service; all speakers agreed that free access to diagnostic facilities was vitally necessary. This would enable general practitioners to treat many cases now admitted to hospital for expensive investigations.

The committee members were unanimously in favour of such changes in remuneration as would allow general practitioners to give a high standard of service, and yet allow them reasonable leisure. In practice this would mean a progressive diminution in the maximum permissible number of patients on a doctor's list accompanied by a simultaneous rise in the capitation fee.

Doctors employed by hospital boards and coming under the National Health Service superannuation scheme can remain under this scheme if, within twelve months of ending their hospital board appointment, they become employed by a medical school or the Medical Research Council (except the Public Health Laboratory Service). An explanatory circular (R.H.B. (52) 1) has been issued by the Ministry of Health explaining doctors' superannuation rights under these arrangements.

N.O.T.B. ASSOCIATION

The N.O.T.B. Association held its nineteenth meeting on December 14, 1951, when reports from all the subcommittees were adopted. It was noted that the Ophthalmic Group Committee viewed sympathetically the resolution

> That the D.O.M.S. should not be required for posts below the grade of registrar and that the British Medical Association should be asked to exclude such advertisements from the *British Medical Journal*;

and that the matter had subsequently been approved by the Consultants and Specialists Committee and the Council of the British Medical Association.

Future Eye Services.—The special *ad hoc* committee reported its general views, and a special meeting of the committee has been called early in January to formulate practical proposals.

Memorandum and Articles of Association.—After making various recommendations the draft memorandum and Articles of Association have been approved and will be circulated to all members with the annual general meeting agenda. It was decided to invite the legal representative to attend the meeting to deal with any specific inquiries which might be raised.

Locumtenents.—The Committee took the view that the appointment by an ophthalmic medical practitioner of a locum to attend N.O.T.B. medical eye centres for a longer period than three months, which covered normal difficulties, was undesirable, and that the Committee should be advised where it was necessary to extend this period.

"Small Corrections."—Proposals regarding the method by which ophthalmic services committees should deal with queries on "small corrections" were considered. It was decided to pass these recommendations to the Ophthalmic Group Committee as a fair and practical solution of the problem.

"Non-tolerance" Cases.—The Committee had two cases before it in which medical members had been asked to agree to a reduction of their fees to reimburse the cost of reglazing frames and, in the one case, the second examination fee. It was decided that as so important a principle was involved, and that as the Ophthalmic Group Committee was also considering this problem, further discussion should be held over pending the views of the Ophthalmic Group Committee being available.

Storage Problem for Supplementary Ophthalmic Service Records.—The problem of storing old supplementary ophthalmic service records by executive councils was mentioned, and the Committee came to the conclusion that a practical solution would be to retain records for three years, which was considered a reasonable period for the life of a frame and lenses.

SUPPLEMENTARY OPHTHALMIC SERVICE

CENTRAL OPHTHALMIC LIST

Under section (*b*) of the revised criteria for admission to the Central Ophthalmic List (see *Supplement*, October 6, 1951, p. 130) it is laid down that "six months shall have been spent in a resident appointment." This has been mistakenly interpreted to mean that appointments in hospitals where no resident facilities are available cannot be counted.

Therefore the approval of the Ministry of Health has been sought to the addition of a suitable phrase on the application form to include such appointments. The Ministry has now agreed that, for the purpose of satisfying the qualifications for the Central Ophthalmic List, six months spent in a resident hospital or in a *whole-time non-resident appointment of equivalent status* shall be taken into consideration by the Ophthalmic Qualifications Committee.

An appropriate amendment of the National Health Service (Executive Councils) Amendment Regulations, 1951, will be made as soon as possible.

OCCUPATIONAL HEALTH COMMITTEE

NATIONAL COAL BOARD AGREEMENT

A fully attended meeting of the Occupational Health Committee was held at Headquarters on January 9, with Dr. J. A. L. VAUGHAN JONES in the chair. It was reported that Professor R. C. Browne had accepted an invitation to join the Committee in place of Dr. Donald Stewart, resigned, that Dr H. F. Hollis had been appointed as representative of the General Medical Services Committee, and that Dr. J. M. Rogan had agreed to serve as a co-opted member. The new members were welcomed by the Chairman. The Committee devoted some time to the reminder from the Council of the need for economy in the summoning of meetings and in the circulation of documents. It was decided that wherever possible the subcommittees should meet on the same day as the meeting of the main Committee.

The CHAIRMAN reported that he and two other members of the Committee had met representatives of the National Coal Board to discuss the Association's claim concerning remuneration of whole-time medical officers employed by the Board. The meeting was a very agreeable one, and the results were good. The proposals as now agreed were published in the *Supplement* of December 15, 1951, p. 263.

The remuneration of part-time medical officers employed by the Coal Board was reported to be still under consideration. In addition discussions would begin in the near future regarding compensation payments for death or disablement by medical practitioners undertaking duties for the Board.

Negotiations on Salary Scales

Dr. J. B. WRATHALL ROWE moved that in view of the favourable outcome of the negotiations with the National Coal Board the Committee should give further consideration to negotiating salary scales with other employers on a nation-wide basis. He was aware that about a year ago the Committee decided that it could negotiate only if it were approached by the medical officers of the industries concerned. He thought the Committee should now reconsider the situation.

Several members expressed opposition to the proposal on such grounds as that some industrial medical officers might not wish to have their salaries negotiated by the Association, that such negotiations might place them in an invidious position, that negotiations would take a long time and might delay normal increases, and also that there was no single body which represented all the nationalized industries. The Confederation of Employers was not a negotiating body; negotiations were undertaken by groups of employers in single industries After further discussion Dr. Rowe withdrew his resolution.

Occupational Dermatitis

Dr. H. ALEXANDER, chairman of the subcommittee, reported on the matters which have been under consideration. The subcommittee recommended the revival of the practice of referring cases of occupational dermatitis to an examining medical practitioner appointed for the area in which the claimant was employed (not necessarily the one in which he was resident), and an arrangement for automatic reference to a dermatologist of all cases of occupational dermatitis persisting after 21 days, a copy of the dermatologist's report to be sent to the examining practitioner.

The CHAIRMAN complimented Dr. Alexander on the way in which his subcommittee had handled a long-standing and somewhat confusing problem. It seemed to have arrived at a clear decision. It was agreed that, subject to an answer to certain questions from the Ministry of National Insurance, the representations proposed should be made to the Ministry and that it be recommended that every effort be made to secure a closer liaison between the Factory Department of the Ministry of Labour and the Ministry of National Insurance.

A brief discussion took place on the method of appointing the examining medical practitioners. It was the general feeling that a man who had shown himself to be an able practitioner should be selected, not necessarily a man with special dermatological knowledge. It was also suggested that the Dermatologists Group might consider the suggestion that appointed factory doctors might act as clinical assistants to dermatologists.

Other Business

A proposal which had been made to summon a Conference of Joint Councils of Industrial Health, to be held in London in 1952 under the auspices of the B.M.A., was deferred for another 12 months.

The Committee supported a recommendation of the Science Committee that the Mackenzie Industrial Health Lecture be given as part of the provincial meeting of the Association of Industrial Medical Officers in Liverpool in July, 1952, and that Dr. Donald Stewart be invited to lecture on "The Future Development of Industrial Medicine."

A question raised by a member of the Association that senior industrial medical officers should be considered particularly suitable for admission to Medical Appeal Tribunal panels was referred for an opinion to the Central Consultants and Specialists Committee.

Various matters, including the question of car allowances for industrial medical officers, were left over to the next meeting.

PARTNERSHIP IN N.H.S.

SCOTTISH GUIDANCE

Advice on partnership problems for doctors practising in Scotland is given in a memorandum prepared by the General Medical Services Subcommittee (Scotland) and issued by the B.M.A. Scottish Office. It is published as a pamphlet called *Medical Partnerships Under the National Health Service (Scotland)*.

The Subcommittee emphasizes that its advice should not be regarded as replacing legal advice on the actual drawing up of a partnership agreement. The memorandum covers many of those intricate problems that beset partnerships. These include various types of financial arrangement, what should be included under expenses, the effect of partnership on superannuation, termination of partnership, and restrictive covenants. Doctors thinking of going into partnership in Scotland are advised to consult the memorandum, copies of which may be obtained from the Scottish Secretary, B.M.A. Scottish Office, 7, Drumsheugh Gardens, Edinburgh.

MEDICAL SUPERINTENDENTS' ARBITRATION

The medical superintendents' claim for higher remuneration was heard by the Industrial Court on January 8 and 9. It was presented by Mr. K. Diplock, K.C., and Mr. S. B. R. Cooke.

According to a statement from the Association of Optical Practitioners, there is a "marked revival of the fraudulent activities of unqualified eyesight quacks who canvass from door to door in country districts." Some people are also said to be buying ready-made spectacles at chain stores. These two dangerous practices had been almost eliminated by the introduction of the Health Service, "but since the changes which took place last May there appears to be a misunderstanding of the present position by some people, who as a result fall prey to the wiles of the itinerant quack." The statement then points out that no charge is made for sight-testing, no doctor's certificate is necessary except for the first sight test, and, while only children and persons ill in hospital can now get spectacles completely free, the new charges usually do not exceed 30s.

Correspondence

Standards of General Practice

SIR,—I have followed the correspondence in full concerning a proposed College or Faculty of General Practice with interest. The diagnostic unit described by Dr. John H. Hunt (December 29, 1951, p. 1575) can of course provide only for private patients, and while these still exist in good supply in London they are a very diminishing quantity with present taxation and redistribution of the national income. Such a high standard of medical care is ideal, but is not what is envisaged or required by the Ministry of Health.

Three and a half years ago it was decided to spend the major portion of the money available for the National Health Service on hospital and consultant services, dentists, opticians, and chemists. Remuneration of doctors was to remain low, so that the work undertaken by a general practitioner was consequently to be of the lowest possible order. Everything was to be sent to hospital, and in consequence those of us who see both worlds observe "letters" requiring the provision of a D-amphetamine course for supposed obesity, or the patient's name put on an E.C.10 form, with the words "Cough, please see," underneath. This is the standard of care that is apparently required, and it is sad to those of us who would, and could, do so much more for our patients if we were paid a little more money.

Three and a half years have gone by, and the Ministry has spent it in evasive procrastination concerning remuneration, and even has the face to decide to inquire what doctors' incomes are, having itself, through executive councils, paid over the Treasury moneys of their incomes and virtually eliminated private practice in most parts of the country. On top of this we are offered arbitration, the outcome of which in the dim, far future will be that doctors will probably receive even less than at present. The recent figures in the *Journal* showed that the average gross income of the doctor in London and Glasgow was £1,300 to £1,400, while the dentists received an average of £4,000 gross. The decision has been made, and general practice is to be for generations the lowest-paid branch of the profession.

The present enormous number of students are heavily subsidized in their studies by local-authority and Government grants. Most, who will enter general practice, will have to endure life on a housing estate and a gross income of £1,300 a year. They will, of course, be exceedingly lucky to get themselves established at all, either in general practice or elsewhere, considering the large numbers of applicants for any practice vacancies or hospital appointments.

Much as I applaud the efforts of Dr. Hunt to raise the standard of general practice, I feel he and others ought to know that he is trying to achieve the impossible in face of the policy of the Ministry of Health. Should there ever be any serious effort to improve the lot of the general practitioner, the scheme proposed by the Medical Practitioners' Union is the only possible solution. By this, the capitation fee would be uniform, but most of the expenses, as agreed by the Tax Commissioners, would be met out of a separate fund. This would eliminate the anomaly that at present expenses vary from practice to practice throughout the country, and even account for 80% or more of the gross income.

While we discuss whether private patients can have a grant-in-aid for private hospital accommodation or free medicines we shall get nowhere. If such a proposal was granted it would be logical for those of us who wish to send our sons to Eton to demand a grant-in-aid, so that we need only pay the difference between the cost of a public school and the cost to the State of the village school, or the difference between a senior university and the local polytechnic. Such a proposal will obviously never be countenanced by the Treasury.—I am, etc.,

London, W.2. P. F. KENNISH.

Payment by Capitation Fee

SIR,—Payment by capitation fee may not be as stupid as Dr. J. Richardson (*Supplement*, December 22, 1951, p. 284) tries to make out. More than half the illnesses that come to a general practitioner are avoidable and are mainly due to the shortcomings of the patient. If it is made clear that the person primarily responsible for his health is himself—that most tuberculosis, pneumonias, colds, etc., are due to a lowered resistance of the body, that this is mostly built up by adequate hours in bed (which few get), that most neurosis and diseases such as gastric and duodenal ulcers are made worse, if not caused by, a failure to have a satisfactory philosophy of life—then folk will begin to realize that it is up to themselves, rather than the doctor, to keep themselves fit and well.

There is no space here to enlarge on the manner of dealing with each complaint; but to those who for years have taught health education, rather than allowing the patient to think that it is the doctor who gives them health or makes them well, payment by capitation fee brings a just reward.

Those who have brought up patients to believe that a course of injections, or frequent visits, will cure them will rightly be expected to continue giving courses of injections—and frequent visits.—I am, etc.,

Pettswood, Kent. G. C. MILNER.

Two Grindstones

SIR,—At the moment two separate working parties are considering the conditions of general medical practice. It seems to me that the general practice side of the profession is afflicted with its usual muddleheadedness. Part 1 Sect. 1 (1) of the 1946 Health Act requires that "it shall be the duty of the Minister of Health . . . to promote the establishment . . . of a comprehensive health service. . . ." Presumably the Ministry knows what sort of service it wants. Would it not be much wiser for the general practitioners to elect to be paid on a part-time sessional basis as in para. 5 of the terms and conditions of service for hospitals? They could then provide the public with the sort of medical care the Ministry requires at such hours and times as they would undertake, all necessary accommodation and ancillary services to be provided by the Ministry, preferably at some distance from the doctors' official place of employment. They could then provide the public on a fee-paying basis with the sort of service it wants. Only in some such way can they escape from a position between two grindstones.—I am, etc.,

Nelson, Lancs. OWEN WILSON.

Pirating of Practice Premises

SIR,—In the *Supplement* of December 22, 1951 (p. 285), it is stated by a correspondent that in the days of free market of practices a practice was never bought without the house or surgery from which it was carried on, and that it was understood that there attached to the house part of the goodwill which the doctor paid for. Then follows the astounding statement, "Nowadays the outgoing doctor gets compensation at the same rate as would attach itself to an ordinary sale of a practice." Another correspondent (p. 286) declares that "the owner of the premises . . . should be obliged to sell or rent them to the successor to the goodwill" (which incidentally was, one understood, one of the evils that Socialism had abolished).

When I bought my share of a partnership in 1919, paying for it out of my earnings, there was no house attached, and this I had to arrange for independently. In due course by careful thrift I was able to buy the house, regarding this and my practice as capital assets against the time, now not far off, when my working days must cease. Up to 1948 I had frequent offers to purchase my practice at two years' purchase and my house at the current valuation.

Now, when I retire I shall get some as yet unspecified compensation for my practice, which I understand is likely

to be less than one and a half years' purchase, while drawing from that undetermined sum the meagre interest of 2¾%, some of which may no doubt have to be repaid. And yet this forced and to me unprofitable confiscation of my practice, according to your correspondents, should oblige me to sell my house to some individual whom I do not know on the instruction of some committee whom I shall most certainly despise.

In my opinion all the ills that the profession is now suffering from, including the degradation of general practice, and all those matters which are now so hysterically under discussion for amendment, are directly due to the abject surrender of 1948. Then was the time to insist on amendment—when the B.M.A. had the swashbuckling Minister at its mercy, when, to paraphrase himself, this bladder of verbosity could have been drained by a timely sweep of the scalpel of unity. But suddenly and inexplicably the surgeon dropped his instruments, doffed his gloves and gown and mask, and in tremulous tones said, "Sorry, Right Honourable Sir, you win," and left the theatre. Hence the frequency and foulness of our profession's symptoms to-day.

As for my own house, I still regard it as my own property, and I do not consider that I stand under any obligation in regard to it in relation to the "State" or to my profession. Its value has appreciated not as much as the value of sterling has diminished.

I have paid material fees for the assessment of its development value, the compensation for which will be practically worthless. It has a definite value as business premises, and as such it shall be sold to the highest bidder. But under no circumstances, unless forced by further erosions upon our professional liberty, which we could if we would but have hitherto shown ourselves contemptibly unable to resist, will I suffer the humiliation of applying to one of these interminable committees, and risking all the possible pains and penalties written into the Act around such a transaction, and sell it to a medical practitioner, pirate or otherwise.—I am, etc.,

Minehead, Somerset. H. B. WALKER.

Representation of Doctors

SIR,—There is among general practitioners a growing sense of grievance about the slowness of negotiations with the Government over the settlement of our remuneration. Many sections of the community have had wage claims settled by the Government in a matter of weeks, and other professional bodies and business men have been able to adjust their expenses to meet the rise in the cost of living.

Every week letters are written to the *Journal* about matters vitally affecting our future. Apart from the question of remuneration, there have been recent letters about conditions of service under the N.H.S., assistants unable to find employment, overcrowding in the profession, and the control of the number of students entering medical schools.

There are at present only two methods of expressing our views. The first is by letters to the *Journal*. The second is by means of local B.M.A. meetings, through our representatives on numerous committees, and so to the notice of the Government.

I suggest that many of our present troubles spring from our present method of representation, which is slow in ascertaining the wishes of general practitioners and slower still in taking effective action. The alternative is paid whole-time representation. If every practitioner would be prepared to make an annual contribution of five pounds, then groups of 500 doctors could have a chosen representative, and 40 would cover the interests of all those at present in practice. Such a representative could maintain personal contact with every doctor in his group, be always available for consultation, and spend the necessary time representing our interests on committees. By such an arrangement the feelings of general practitioners could be ascertained on any issue and co-ordinated action taken in a few weeks. Not only would practitioners then feel that their interests were properly represented, but the Government would be much more inclined to take notice of a section of the profession which they would know was effectively co-ordinated and represented.—I am, etc.,

Sittingbourne, Kent. K. W. HARDY.

Car Sign

SIR,—Why in these enlightened times is it considered bad form for medical practitioners to have some method of warning in their cars to the effect that they are on an urgent visit, the delay of which may very possibly cost a life or, at any rate, considerable deterioration of a patient's condition? I do not mind admitting that on several occasions I have simply accepted the responsibility and broken through the red light traffic control, but in doing so there has been no indication to other drivers of the urgency or legitimacy of my purpose.

I realize that various arguments may be brought up against having a bell or other warning signal in doctors' cars, the chief of which may be that it could be used unnecessarily. However, it would be quite easy to attach as a condition to using one of these warning signals a police regulation prohibiting its unnecessary use. The argument may be put forward that the number of vitally urgent visits is not very high. My only rejoinder to this is that, living beside a busy traffic crossing, one very soon realizes what a comparatively large number there are throughout the normal working year, especially since one is often on duty for a week-end for a group of perhaps eight or more doctors—i.e., at risk for perhaps 20,000 patients.

The B.M.A. badge which was recently introduced is no doubt a help, but it is not visible at night and is very probably not yet recognized by the public at large. To make allowance for our hypersensitivity already mentioned, it might even be possible for an enterprising firm to produce an illuminated "doctor" sign which could be displayed behind the windscreen only when the urgency of the occasion demanded—i.e., working on the principle of all direction signals, only placed inside the car and suspended from the roof interiorly.—I am, etc.,

Wembley, Middlesex. M. E. ARNOLD.

Cost of Prescribing

SIR,—I, along with the majority of practitioners, am anxious to co-operate in cutting down costs in prescribing where this can be done without detriment to the treatment of individual patients.

Both the constant flow of circulars through the post and advertisements in the medical press virtually never mention the price of the preparations advertised but simply supply vague information such as "available on Form E.C.10." It may well happen that of two preparations which one knows to have equal clinical effect one is cheaper than the other.

I would suggest that it is thoroughly unsatisfactory, and against the interests of normal commercial competition, that prices are deliberately withheld. I believe that a majority of practitioners would agree to a proposal that you should accept no advertisement on which, where it can be readily done, prices are not clearly stated. I would suggest that this policy should be adopted.—I am, etc.,

Bath. A. DAUNT BATEMAN.

No Further On

SIR,—In the *Supplement* of December 15, 1951 (p. 263), I note that the National Coal Board after discussion and in agreement with the B.M.A. has agreed to raise the rates of pay for full-time medical employees of the Board from £1,250 to £1,900 per annum for area medical officers and from £1,700 to £2,300 for divisional medical officers. The method of negotiation must have been very different from that adopted in trying to get an adequate remuneration for G.P.s.

It seems that as soon as the G.P.s—also Government employees since July, 1948—ask for a rise in wages the Government in agreement with the B.M.A. requires all kinds of statistics about G.P.s and promises that G.P.s will do and not do many things. How comes it that the rise in the cost

of living is valid for increase of pay to everyone but G.P.s? Why is everyone else entitled to more pay for more work except G.P.s?

For nearly three and a half years we have been State employees, but for some inexplicable reason or reasons our rate of pay tends to go down instead of up. For many years we have been living and working in a state of negotiations which go on for ever and never produce anything but more duties for the G.P.s and more work. Surely there must be something fundamentally wrong somewhere which neither the B.M.A. nor the Fellowship for Freedom in Medicine nor the Medical Practitioners Union seems competent or able to deal with. What's wrong? Until we find out we shall always be underpaid and overworked.

For forty years our representatives have been negotiating for better pay, first under N.H.I. and now under N.H.S., and we are practically where we were in 1912 as regards remuneration.—I am, etc.,

St. Osyth, Essex. R. E. CLARKE.

Appointment of Consultants

SIR,—May I trespass on your space to reply to Mr. A. Eric Wilson's letter (*Supplement*, December 22, 1951, p. 285)? He appears to be under a misapprehension on two important matters.

I would not suggest that, as a rule, a clinical assistant should do the work of a consultant in an out-patient clinic. However, with the present need for economy in the Health Service and having regard to the fact that the great majority of out-patients at the hospital in question are old cases, I submit that for this hospital a consultant with a clinical assistant could adequately cover the whole of the work.

In an adjoining region an ophthalmic consultant sees all the new cases and looks after all in-patients, and a clinical assistant sees a proportion of the old cases. This arrangement apparently works smoothly, and the clinical assistant in question is provided with a hospital post suited to his ability. Without this, he would have no hospital work, much restricting his scope as an ophthalmologist.

With regard to his final point, Mr. Wilson says that the appointment was made on the recommendation of those who knew all the facts regarding the local situation and the needs of the area. In answer to this, I would remind him that the medical staff and management committees most closely concerned had supported the candidature of the now displaced ophthalmologist, who had actually done the work for two and a half years. Further, the three other ophthalmic consultants in the clinical area were never consulted about the advisability of introducing a new consultant into the area.

These two facts are hardly consistent with the last paragraph in his letter.—I am, etc., R. J. BUXTON.

Practice Compensation

SIR,—The news that general practitioners are to receive a compensation figure of approximately one and a half times the annual value of their pre-nationalization practices must surely be the final proof of the ineptitude of the B.M.A. as a negotiating body on their behalf. I have searched the pages of the *B.M.J.* for an editorial lead or at least some indication of protest against this grossly inadequate figure, but as yet in vain.

If my memory serves me correctly, one of the main baits held out to ensnare G.P.s into the Health Service was the fact that we were to receive £66m. by way of compensation. At the time it appeared that about 18,000 G.P.s would take part in the scheme, and it was calculated by several competent actuaries in our midst that we could expect to receive just over twice the annual value of our practices.

I take it that the B.M.A. is cognizant of the fact that a fair percentage of G.P.s purchased their practices before the world war at the rate of two years' gross takings, when the purchasing power of the pound was at least double its present-day counterpart. The majority of these unfortunate practitioners will never be able to afford to retire, and *ipso facto* they will die, before they are in receipt of their compensation.

It would appear, therefore, that another barefaced swindle is about to be perpetrated at the expense of the luckless G.P. When will we rouse ourselves from our apparent apathy and put down this tyranny of victimization which is grinding general practitioners into the dust and dregs of the medical profession? When will we cry, "Enough. A new deal for the G.P. or we resign"?—I am, etc.,

North Wingfield. H. FIRMAN.

POINTS FROM LETTERS

Large Lists

Dr. RALPH A. A. R. LAWRENCE (Leabrooks, Derby) writes: May I reply briefly to Dr. H. J. Pratap (*Supplement*, December 8, 1951, p. 259)? The area in which I am practising is not adequately served already by the six existing practices. It is a mixed urban and rural area and was advertised by the executive council as a vacancy and was also classified by the Medical Practices Committee under Schedule I at that time. It is worth pointing out that in the last M.P.C. survey this area is still under this classification (*Supplement*, October 27, 1951, p. 182). Moreover, if it were adequately served by existing practices, why are patients changing over to my list? This brings me to Dr. Pratap's question about where my patients are coming from. I maintain that patients change because: (1) They are dissatisfied with the treatment they have received hitherto. (2) Greatly inflated lists prevent them from being treated adequately. (3) Situation of the surgery is convenient. (4) They are "frequent changers." As I pointed out in my letter (*Supplement*, October 27, 1951, p. 186) No. 4 has not applied to my practice as yet. Obviously, therefore, the first three are the operative factors. As regards assistants, Dr. Pratap (*Supplement*, October 6, 1951, p. 140) makes saints and martyrs of the established practitioners and demons of the assistants. Dr. Pratap gives one the impression that the established practitioner wants to hold all the aces and all the trumps.

*** This correspondence is now closed.—ED., *B.M.J.*

Succinct Address

Dr. T. DAVID LAMBERT (Ruislip, Middlesex) writes: For some years now I have been seeking some sign that the B.M.A. hierarchy was remotely aware of the problems of the general practitioners. I was delighted to read the address by Dr. S. Wand (*Supplement*, January 12, p. 9). These are the things that all general practitioners are feeling so acutely. The whole address is a succinct distillation of the frustrations we are experiencing. It should be placed in a prominent position at every headquarters of executive councils and local medical committees. Dare we hope that Dr. Wand's words will be heeded? If they are not, then surely the rank and file must soon rebel and throw out their present leaders.

Tracing Patients

Dr. R. A. MOREA (Ilford, Essex) writes: Regarding the purge that is being carried out on doctors' lists, I would like to register some protest on two points. (1) Who gets the benefit of the capitation fee of patients who have left their addresses and not yet transferred to another doctor, say, in the same district? It seems most unfair that their names should be removed from the doctor's list. They might not need the services of a doctor for some years and yet be still on his list at a new address. (2) It seems an imposition on the doctor to carry out the work of the executive council without some recompense for time, labour, and extra mileage done. I have already visited some addresses three times without anybody being present at the address.

Dr. T. W. S. PATERSON (Haddenham, Bucks) writes: In the contract we signed I do not remember any clause that we were to do messenger work at the instance of the executive council. I received a notice to forward an M.R., as the man was dead. It so happened that, a few days before I received the notice, he came to me for authority for glasses. Previous to that I had not seen him for nine years. I returned the M.R. and rang the clerk and asked him upon what authority he informed me this patient was dead, pointing out how serious the consequences for the dependants might be when the man did actually die. He informed me that the information came from the food office. When I expressed surprise that a statement of that import was accepted from . . . that office, he replied that those were his instructions. It will be noted that if we do not do this messenger work we are mulcted of 16s. . . . A certain number on my list are removed because there is no reply. In at least two cases the patients deny ever having received the request. It is not extended time

we want, but the imposition of this indignity removed. Our bureaucrats must know that petrol is 3s. 7d. a gallon, and we have a good deal to do without useless journeys and knocking at doors which are not opened. It is quite a common thing to receive no answer from the council house and the ones on either side of the "dead" patient. The children are parked at school and the parents are working.

B.M.A. LIBRARY

The following books have been added to the Library:

American Medical Association: Primer on Fractures. Sixth edition. 1951.
Bamford, F.: Poisons. Third edition revised by C. P. Stewart. 1951.
Bentley and Driver's Textbook of Pharmaceutical Chemistry. Fifth edition revised by J. E. Driver. 1951.
Berry, H.: Law Relating to Mental Treatment and Health Service. 1951.
Brain, W. R.: Diseases of the Nervous System. Fourth edition. 1951.
Bramwell, C.: Approach to Cardiology. 1951.
Bray, W. E.: Clinical Laboratory Methods. Fourth edition. 1951.
British Medical Association: Book of Medical Scholarships. 1951.
Carlson, R. O.: Case Finding and Patient Management through an Understanding of Known Syphilitic Patients: A Study of Non-White Patients in Mississippi. Two volumes. 1950.
Chatton, M., Margen, S., and Brainerd, H. D.: Handbook of Medical Management. Second edition. 1951.
Clement, F. W.: Nitrous Oxide–Oxygen Anesthesia. Third edition. 1951.
Conway, E. J.: Microdiffusion Analysis and Volumetric Error. Third edition. 1950.
Cope, Z.: Early Diagnosis of the Acute Abdomen. Tenth edition. 1951.
Courville, C. B.: Pathology of the Central Nervous System. Third edition. 1950.
Craig, C. F., and Faust, E. C.: Clinical Parasitology. Fifth edition. 1951.
Davidoff, L. M., and Dyke, C. G.: The Normal Encephalogram. Third edition revised by L. M. Davidoff. 1951.
De Kruif, P.: Life Among the Doctors. 1950.
Dible, J. H. (Editor): Recent Advances in Bacteriology. Third edition by J. D. MacLennan. 1951.
Fisher, R. A.: Design of Experiments. Sixth edition. 1951.
Fletcher, E.: Medical Disorders of the Locomotor System including Rheumatic Diseases. Second edition. 1951.
Gibson, J. M.: Physician to the World: the Life of General William C. Gorgas. 1950.
Harries, E. H. R., and Mitman, M.: Clinical Practice in Infectious Diseases. Fourth edition. 1951.
Harris, P. L., and Kujawski, W.: Annotated Bibliography of Vitamin E, 1940 to 1950. 1950.
Harrison, R. J.: The Child Unborn. 1951.
Housden, L. G.: Teaching of Parentcraft. 1951.
Institute of Pharmacology and Toxicology in Zagreb: Extraordinary Editions, Vols. 1, 4, 5, and 6. 1941–51.
Johnstone, R. W.: Midwife's Textbook of the Principles and Practice of Midwifery. Fifth edition. 1951.
Joll's Diseases of the Thyroid Gland. By Francis F. Rundle. Second edition. 1951.
Kauffmann, F.: Enterobacteriaceae. 1951.
Kent, A. (Editor): An Eighteenth Century Lectureship in Chemistry. 1950.
Laurence, W. L.: The Hell Bomb. 1951.
Lincoln, M.: Woman: Her Change of Life. 1951.
Lipman, B. S., and Massie, E.: Clinical Unipolar Electrocardiography. 1951.
Lipschutz, A.: Steroid Hormones and Tumors. 1950.
"Medica": Any Wife or Any Husband: A Book for Couples who have Met Sexual Difficulties and for Doctors. 1950.
Mirouze, J.: Le Foie Diabétique: Aspects Hormonaux. 1951.
Muir's Textbook of Pathology. Sixth edition revised by D. F. Cappell. 1951.
Nixon, W. C. W., and Ransom, S. G.: Relief of Pain in Childbirth. 1951.
Ogilvie, R. F.: Pathological Histology. Fourth edition. 1951.
Piaget, J.: Psychology of Intelligence. 1950.
Practitioner, The: Practice of Endocrinology. Edited by Raymond Greene. Second edition. 1951.
Queen's University of Belfast: Centenary Celebrations held September 25–30, 1949. 1951.
Quick, A. J.: Physiology and Pathology of Hemostasis. 1951.
Rosenblueth, A.: Transmission of Nerve Impulses at Neuroeffector Junctions and Peripheral Synapses. 1950.
Russ, S.: Cancer: Where We Stand. 1950.
Scott, G. R.: History of Capital Punishment. 1950.
Strode, G. K. (Editor): Yellow Fever. 1951.
Stumpf, P.: Kymographische Röntgendiagnostik. 1951.
War Office: Field Surgery Pocket Book (Revised). 1950.
Whitby, Sir L., and Hynes, M.: Medical Bacteriology. Fifth edition. 1951.

H.M. Forces Appointments

ROYAL NAVY

Surgeon Rear-Admiral W. J. Colborne, C.B., K.H.S., has retired.

Surgeon Commanders E. W. Bingham, O.B.E., and W. R. S. Panckridge to be Surgeon Captains.

Acting Interim Surgeon Commanders W. Wilson, B. W. Walford, C. J. Roberts, M. F. Sheehan, C. D. Coode, P. O'Brien, R. T. May, and W. B. Teasey to be Surgeon Commanders.

Surgeon Lieutenant-Commander S. D. Moss has been placed on the Emergency List.

Acting Interim Surgeon Lieutenant-Commander P. A. H. Clements to be Surgeon Lieutenant-Commander.

Acting Interim Surgeon Lieutenant-Commander G. R. Wheldon has been placed on the Emergency List.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Commander R. Wear, V.R.D., to be Surgeon Captain.

Surgeon Lieutenant-Commanders A. D. Petro, W. E. Kershaw, R. I. Bence, D.S.C., and C. W. Levitt to be Surgeon Commanders.

ROYAL AUSTRALIAN NAVAL RESERVE

Surgeon Lieutenant-Commander C. K. Churches to be Surgeon Commander.

ROYAL AIR FORCE

Air Vice-Marshal J. MacC. Kilpatrick, O.B.E., K.H.P., has been granted the acting rank of Air Marshal.

Air Commodore (Acting Air Vice-Marshal) E. D. D. Dickson, C.B.E., K.H.S., to be Air Vice-Marshal.

Group Captains G. P. O'Connell and C. A. Rumball, O.B.E., K.H.P., to be Air Commodores.

Wing Commanders J. F. Sandow, O.B.E., and W. P. Stamm to be Group Captains.

Wing Commander J. I. M. Smith has reverted to the Reserve.

Squadron Leaders D. C. Light, W. C. Baird, R. McP. Cross, M. N. Phillips, H. W. Whittingham, J. W. Garraway, P. J. O'Connor, O.B.E., J. A. MacCarthy, O.B.E., G.M., and F. S. Krusin to be Wing Commanders.

The notification concerning Squadron Leader D. G. Jones in a *Supplement* to the *London Gazette* (July 17, 1951, p. 3868), and in the *Supplement* to the *Journal* (September 1, 1951, p. 104) should have read Flight Lieutenant.

Flight Lieutenant H. K. M. Dastur has relinquished his temporary commission, retaining the rank of Wing Commander.

ROYAL AIR FORCE VOLUNTEER RESERVE

Flight Lieutenants F. W. Ford and J. P. Huins, O.B.E., A.F.C., to be Squadron Leaders.

COLONIAL MEDICAL SERVICE

The following appointments have been announced: P. I. Boyd, M.D., M.P.H., Medical Officer Grade B, Health, Trinidad; E. F. B. Forster, M.B., Ch.B., Specialist (Psychiatrist), Gold Coast; W. T. M. Gilbert, L.R.C.P.&S.I., L.M., Assistant Director of Medical Services, Gold Coast; A. C. Howard, M.B., B.S., Senior Medical Officer in Charge, Zanzibar; W. G. Wolfe, M.D., and P. E. A. Blake-Knox, M.B., Ch.B., Medical Officers, Tanganyika; R. S. Jelliffe, M.B., B.S., and E. M. R. Stuart, M.B., B.Ch., Medical Officers, Nigeria; K. L. Batten, M.B., B.S., and H. A. Karrach, M.B., B.Ch., Medical Officers, Uganda; C. Cywinski, M.B., Ch.B., and B. V. Hassan, M.B., B.Ch., Medical Officers, Federation of Malaya; W. J. D. Eberlie, M.B., M.R.C.P., Special Grade Medical Officer, Nyasaland; J. C. Bryce, M.B., Ch.B., Medical Officer, Sierra Leone; H. S. Kinman, L.R.C.P., Medical Officer (temporary), Nigeria; J. S. B. Pogonowski, M.B., Ch.B., Assistant Medical Officer (temporary), General Hospital, Bahamas; L. R. Roberts, M.B., Medical Officer, Gold Coast; A. S. Szurkawski, M.B., Ch.B., Temporary Medical Officer, Nigeria.

The Secretary of State for Scotland has appointed the following five new members to the Scottish Health Services Council in place of those who retired on December 31, 1951: Bailie J. W. Hyslop, member of Dumfries County Council and Executive Council; Bailie J. McAslan, Convener of Glasgow Health and Welfare Committee; Dr. P. K. McCowan, Physician Superintendent, Crichton Royal, Dumfries; Mr. A. A. MacIver, C.A., F.H.A., Secretary and Treasurer, Board of Management for Glasgow Royal Infirmary and Associated Hospitals; and Mr. G. M. C. Stewart, Vice-chairman, Pharmaceutical General Council (Scotland). The following members have been reappointed: Professor Dugald Baird; Dr. W. G. Clark; Dr. Mary Esslemont; Miss E. G. Manners, R.G.N.; Dr. A. F. Wilkie Millar; Mr. T. Rankin, L.D.S.; and Professor Sir Sydney A. Smith.

Association Notices

PRIZE ESSAY COMPETITION FOR MEDICAL STUDENTS, 1952

The Council of the British Medical Association is prepared to consider the award, in 1952, of prizes to medical students for essays submitted in open competition. The subject of the essays shall be: "The Training of a Student in the Personal Relationship Between Doctor and Patient."

The purpose of this competition is to promote systematic observation among medical students. In awarding the prizes *due regard will be given to evidence of personal observation.* No study or essay that has previously appeared in the medical press or elsewhere will be considered eligible for a prize. A prizewinner in any year is not eligible for a second award of the prize.

Any medical student who is a registered member of a medical school in the United Kingdom or the Colonial Empire at the time of submission of the essay is eligible to compete for a prize. If any question arises in reference to the eligibility of a candidate or the admissibility of his or her essay, the decision of the Council of the British Medical Association shall be final. Should the Council decide that no essay entered is of sufficient merit, no award will be made. In determining the number and amount of prizes to be awarded, the Council will take into consideration the number of essays received. In 1951, 42 essays were received, and a first prize of £75 and two second prizes of £50 each were awarded.

It is suggested that essays should consist of from 2,000 to 5,000 words. Essays must be typewritten or legibly written in the English language on foolscap paper, on one side only, must be unsigned, and must be accompanied by a note of the name and medical school of the entrant. Notice of entry for this competition is necessary, and a form of application can be obtained from the Secretary of the British Medical Association.

Essays must be forwarded so as to reach the Secretary of the British Medical Association not later than January 31, 1952. Inquiries relative to the competition should be addressed to the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1.

PRIZES FOR NURSES

The Council of the British Medical Association is prepared to consider the award in 1952 of prizes of the value of 20 guineas for the best essay, and 10 guineas for the second best essay, submitted in open competition by each of the following categories of nurses: (1) student nurses; (2) State-registered nurses working in a hospital; (3) State-registered nurses not working in a hospital (i.e., district nurses, private nurses, etc.); (4) State-enrolled assistant nurses.

The subject of the essays for 1952 are:

Category 1.—"Why did you decide to take up nursing? Why do you think some nurses give it up?"

Category 2.—"What can be done to make the most efficient use of trained nursing staff in hospitals, with special reference to the avoidance of wastage?"

Category 3.—"Discuss the risks of conveying infection in the course of your work and the steps you would take to prevent it"

Category 4.—"The nursing care of the incontinent patient."

The purpose of these prizes is the promotion of systematic observation among nurses. In awarding the prizes *due regard will be given to evidence of personal observation.* No essay that has previously appeared in the medical press or elsewhere will be considered eligible for a prize.

Nurses who are undergoing a course of training at a hospital are eligible to compete under category (1); nurses registered by the General Nursing Council are eligible to compete under categories (2), (3), or (4), whichever is appropriate.

If any question arises in reference to the eligibility of a candidate or the admissibility of his or her essay, the decision of the Council of the British Medical Association shall be final. Should the Council decide that no essay entered is of sufficient merit, no award shall be made.

The essay should be typewritten if possible, but a legibly written manuscript will receive equal consideration. It must be written in the English language, unsigned, and have attached to it a note containing the name and address of the candidate and the category into which he or she falls. Essays, which it is suggested should consist of 2,000 to 5,000 words, must be forwarded so as to reach the Secretary of the British Medical Association not later than March 31, 1952.

Preliminary notice of entry for this competition is required, and a special form for this purpose is obtainable from the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1.

Diary of Central Meetings

JANUARY

22	Tues.	Staff Side of Committee C (at 1, Richmond Terrace, Whitehall, S.W.), 10 a.m.
22	Tues.	Whitley Committee C (at 1, Richmond Terrace, Whitehall, S.W.), 12 noon.
22	Tues.	"Dual Appointments" Conference (at 1, Richmond Terrace, Whitehall, S.W.), 3.30 p.m.
23	Wed.	**Council**, 10 a.m.
23	Wed.	Staffing Committee, 1.40 p.m.
24	Thurs.	Subcommittee *re* Arbitration on Remuneration of General Practitioners, General Medical Services Committee, 10.30 a.m.
24	Thurs.	Registrars Group Executive Committee, 2 p.m.
25	Fri.	Venereologists Group Committee, 2.30 p.m.
28	Mon.	Psychological Medicine Group Committee, 2 p.m.
31	Thurs.	Education Conference Subcommittee, International Relations Committee, 10.30 a.m.

FEBRUARY

1	Fri.	Committee *re* Fees for Part-time Work under Local Authorities, 2 p.m.
6	Wed.	General Practice Review Committee, 11 a.m.

Branch and Division Meetings to be Held

ENFIELD AND POTTERS BAR DIVISION.—At Firs Hall Ballroom, Green Lanes, Winchmore Hill, N., Wednesday, January 23, 7.30 for 8 p.m., annual dinner of Enfield Medico-Ethical Society and first annual dinner of Enfield and Potters Bar Division to be held jointly.

EXETER DIVISION.—At Royal Devon and Exeter Hospital, Thursday, January 24, 8.30 p.m., annual general meeting.

FURNESS DIVISION.—At Orthopaedic Out-patient Department, North Lonsdale Hospital, Tuesday, January 22, 8 p.m., meeting of Barrow and Furness Clinical Society. Mr. W. H. Graham: "Urinary Infections."

HERTFORDSHIRE BRANCH.—At Barnet General Hospital, Wellhouse Lane, Barnet, Friday, January 25, 8.15 p.m., meeting followed by three films. "The Birth of a Drug"; "Pseudo-Pregnancy and Labour"; "A Case of Scurvy."

ISLE OF WIGHT DIVISION.—At Whitecroft Hospital, Sunday, January 20, 3 p.m., lecture by Dr. J. H. L. Conway-Hughes: "The Medical Aspects of Atomic Warfare." All Island practitioners are invited.

NORTH MIDDLESEX DIVISION.—At North Middlesex Hospital, Silver Street, Edmonton, N., Tuesday, January 22, 8.45 p.m., two films will be shown: "The Human Cervix in Health and Disease"; "Studies in Human Fertility." A discussion on sterility and contraception will follow.

OLDHAM DIVISION.—At Oldham Hotel, Rhodes Bank, Monday, January 21, 9 p.m., talk and three films by Mr. O. M. Duthie: (1) "Corneal Transplantation"; (2) "Latest Operation for Retinal Detachment"; (3) "Cataract Surgery."

ROCHESTER, CHATHAM, AND GILLINGHAM DIVISION.—At St. Bartholomew's Hospital, Rochester, Thursday, January 24, 8 p.m., lecture by Dr. H. Yellowlees: "Hypnotism: Its Uses and Limitations in Medicine." All medical practitioners in the area of the Division are invited.

SALISBURY DIVISION.—At Hulse Clinic, Salisbury Infirmary, Tuesday, January 22, 8.15 p.m., clinical evening by Dr. J. H. Gubbin and Dr. R. G. M. Longridge.

TOWER HAMLETS DIVISION.—At St. Andrew's Hospital, Bow, E., January 25, 3 p.m., orthopaedic demonstration by Mr. E. T. Bailey.

WEMBLEY DIVISION.—At Sudbury Arms, Tuesday, January 22, 8.30 for 9 p.m., meeting. "A Medical Brains Trust."

WIGAN DIVISION.—At The Hollies, Wigan Lane, Wigan, Thursday, January 24, 8.15 p.m., clinical meeting. New medical film in sound and colour: "Peripheral Vascular Diseases."

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Hospitals are now using this new WRIGHTS liquid surgical soap in the operating theatres. It will prove invaluable in the surgery.

ANALYTICAL REPORT

ORGANISM	TYPE	TIME TO PRODUCE COMPLETE STERILITY AT 37°C	
		At a dilution of 1-100	At a dilution of 1-50
Streptococcus Haemolytica	Gram positive	less than ½ min.	less than ½ min.
Staphylococcus Aureus	Gram positive	less than 1 min.	less than ½ min.
Salmonella Typhi	Gram negative	less than ½ min.	less than ½ min.
Proteus Vulgaris	Gram negative	more than 2 mins.	less than ½ min.

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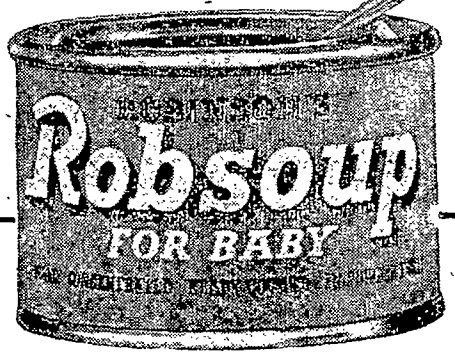

ROBSOUP is a concentrated bone and vegetable soup, ready cooked in powder form. The food constituents are different from and complementary to those of milk mixtures and cereals.

Robsoup mixes instantly with water at all temperatures to any consistency from a thin broth, suitable for adding to the baby's bottle, to a thick soup which may be fed from cup and spoon.

Robsoup is simple to use and economical—a 1/6d. tin gives ten helpings for a baby of five months. There is no waste with Robsoup. Only the amount required for the next meal is mixed at any one time. Being a dry powder, what is left in the tin will not go bad.

Therefore, provided the water used for mixing has been boiled and the cup and spoon are clean, Robsoup is safe from the danger of food infection and will not occasion gastro-enteritis.

Robsoup is made by a new process from peas, potatoes, carrots, yeast extract, cabbage, gelatin, ed ble bone phosphate, salt and onion. It is rich in iron (12 mg. per 100 gms.), calcium (400 mg. per 100 gms.) and vegetable protein (15.5%). Robsoup may therefore be given either as the first addition to milk or as the next step in weaning after the introduction of a cereal. Extensive tests have shown that babies thrive on Robsoup and like its flavour.

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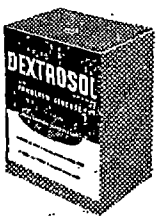

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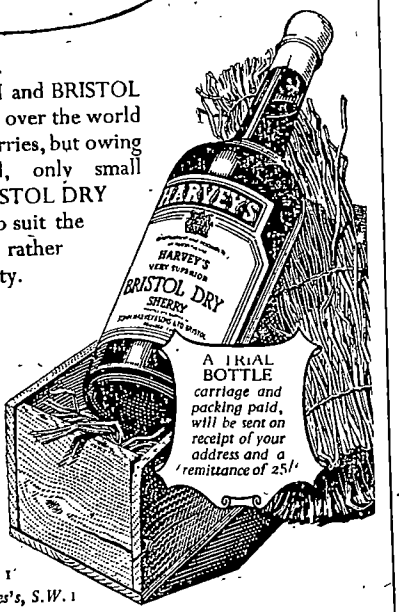

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When the Physician is called upon to prescribe a laxative for prolonged or occasional use, Andrews merits special consideration. Andrews is pleasant tasting. Its effervescence has a refreshing quality that makes it an acceptable draught. Andrews causes no griping or discomfort. Its laxative action is due to the presence of magnesium sulphate and other salts in balanced proportion, which, acting by osmosis, induce easy, painless evacuation. Andrews is particularly suitable for patients liable to digestive upsets. It allays gastric discomfort and nausea. It also improves the flow of bile, and helps to check biliousness and sick headaches. No costive reaction results when Andrews is discontinued.

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Tartaric Acid ..	24.600%
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Magnesium Sulphate (B.P.C. Exsicc.)	19.000%
Sugar	31.250%
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To keep the teeth and mouth clean without doing damage to either — that is the simple function of a good Tooth Paste. Macleans performs it. Macleans Peroxide Tooth Paste removes greasy film from the teeth. The polishing ingredients can then act easily and without abrasive action. They are ultimately soluble in saliva and leave no solid residues in the mouth.

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Sample tubes of Macleans Peroxide Tooth Paste are now available for distribution to your patients. A supply of these, and copies of a leaflet "The Care of the Mouth before and after the Extraction of Teeth," will gladly be sent to you free on request. This offer applies only to Great Britain and Northern Ireland.

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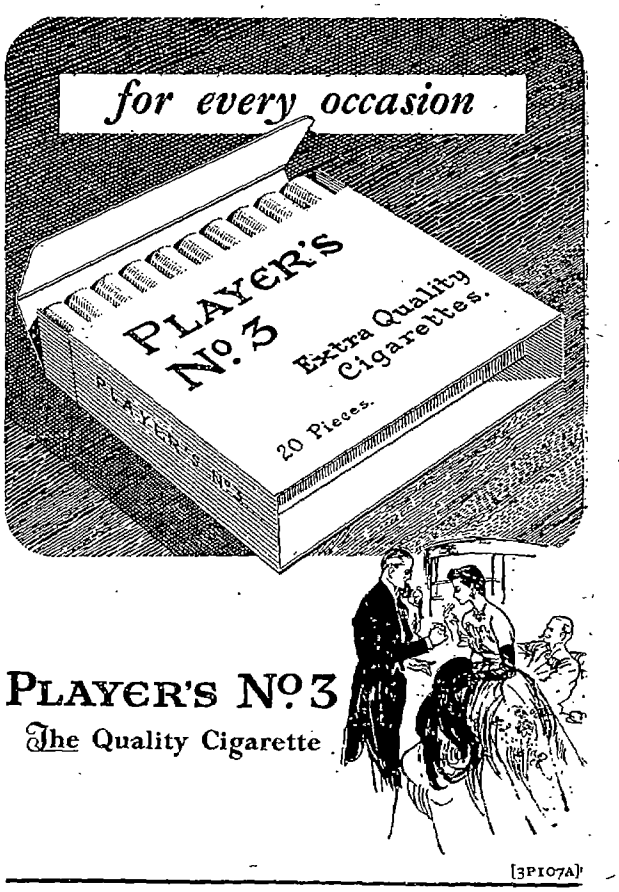

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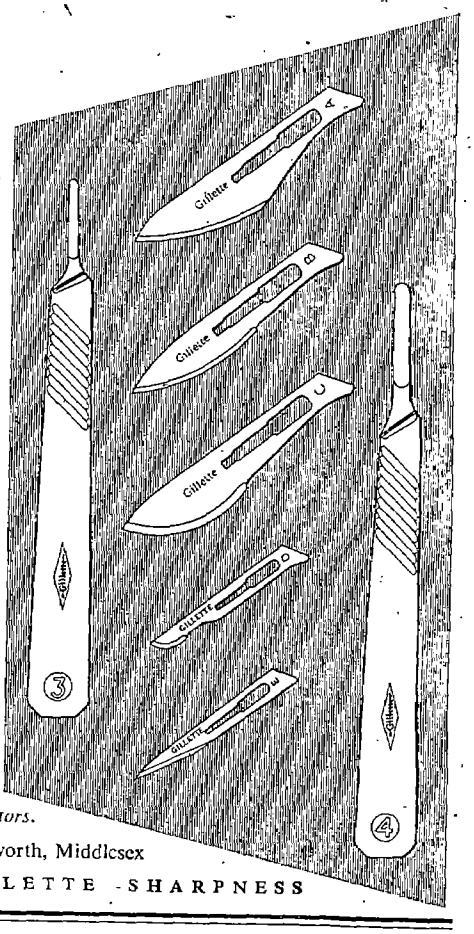

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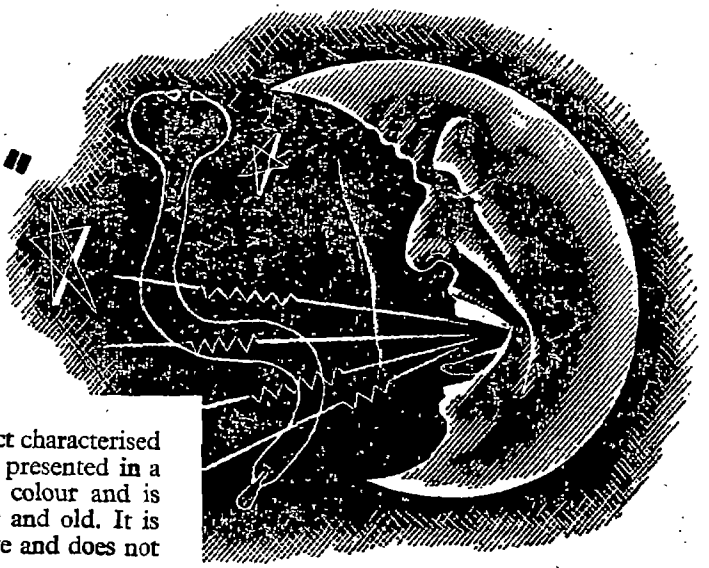

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APPOINTMENTS

Applicants should state name, address, age, nationality, qualifications, and enclose 3 copies (unless otherwise specified) of recent★ testimonials with short statement of experience and appointments held.

Applications should be sent at once if no closing date is given.

Canvassing in any form will disqualify.

★*SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

Deferment of call-up for "R" practitioners (i.e., practitioners liable for call-up under the National Service Acts) is granted at the discretion of the Central Medical War Committee and (in Scotland) the Scottish Central Medical War Committee. The Committees normally allow an "R" practitioner to hold a First House Officer post (N.H.S. salary £350 per annum) provided that he obtains it without delay. *Under present arrangements* the Committees also normally allow an "R" practitioner to hold a Second House Officer post (£400) and a Senior House Officer post (£670), provided in each case that the higher appointment is secured before the termination of the practitioner's current appointment.

"R" practitioners may not accept Third House Officer posts (£450 per annum) unless they have obtained the special permission of the C.M.W.C. or (in Scotland) the Scottish C.M.W.C.

SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

Registrar Grades, Whole-time

(*a*) *REGISTRAR:* Posts obtained normally not less than two years after registration as a medical or dental practitioner and held normally for two years: £775 per annum in the first year; £890 per annum in the second and any subsequent years.

(*b*) *SENIOR REGISTRAR:* Posts obtained normally not less than four years after registration as a medical or dental practitioner and held normally for three years, £1,000 per annum in the first year; £1,100 per annum in the second year; £1,200 per annum in the third year; £1,300 per annum in any subsequent years.

Other Grades, Whole-time

(*a*) *HOUSE OFFICER:* £350 per annum for the first post held, £400 per annum for the second post held; £450 per annum for the third and any subsequent post held; with, in each case, a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Each post shall be tenable for six months.

The Minister will be prepared to authorize, in exceptional circumstances, salaries up to £50 per annum higher than the standard rates specified above where a post cannot be filled otherwise.

(*b*) *SENIOR HOUSE OFFICER:* Posts obtained normally not less than one year after registration as a medical or dental practitioner and normally held for one year only: £670 per annum.

(*c*) *JUNIOR HOSPITAL MEDICAL OFFICER:* Officers who have held house appointments but who are not registrars and who have less responsibility than other hospital officers of non-consultant status: £700 (for an officer appointed not less than two years after registration as a medical practitioner) by £50 to £1,000 per annum.

ALL NATIONAL HEALTH SERVICE HOSPITAL APPOINTMENTS ARE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SERVICE OF HOSPITAL MEDICAL STAFF

Those intending to apply for resident appointments in the Registrar grades are recommended to make inquiries with regard to the deductions proposed for board and lodging at the time of submitting their applications, where this is not stated in the advertisement.

(19/12/51)

CLASSIFICATION

and order of appearance

Practices	Assistantships
Partnerships	Locums

HOSPITAL APPOINTMENTS

CONSULTANTS
S.H.M.O.s
REGISTRARS
J.H.M.O.s
SENIOR HOUSE OFFICERS
HOUSE OFFICERS
CLINICAL ASSISTANTS

under appropriate specialty headings, e.g. :—

Anaesthetics	Orthopaedics
Cardiology	Paediatrics
Chest and Tb.	Pathology
Dental	Psychiatry
E.N.T.	Radiology
Infectious Diseases	Rheumatology
Neurology	Urology
Neurosurgery	Medicine
Obstetrics and Gynaecology	Surgery
Ophthalmology	Casualty

PUBLIC HEALTH

in alphabetical order of names of employing authorities

Industrial	Receptionists, etc.
Eire	Accommodation
Overseas	Consulting Rooms, etc.
University	Hotels
Personal	Motor Cars, Hire, etc.
Notices	Miscellaneous
Educational	Nursing Homes
Lectures	Homes
Situations(Non-med.)	Agents

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

CARMARTHEN

Applications invited for vacancy, mixed urban and rural. List at present approximately 3,090. Housing accommodation not available. Furnished surgery on rent subject to agreement with owner. Apply, on E.C.16A, not later than February 1, 1952, to the undersigned.—I. H. Davies, Clerk to the Carmarthenshire Executive Council, 3-4, Hall Street, Carmarthen.

NUNEATON

Applications invited for vacancy (urban) due to resignation. List at present approximately 1,100. Residence with surgery available for sale. Apply, on Form E.C.16A, not later than January 31, 1952, to R. V. Nellthorp, Esq., Clerk of the Warwickshire Executive Council, 15, Waterloo Place, Leamington Spa.

SALE, Cheshire

Applications invited for vacancy, compact urban. List at present approximately 2,700. Residence and surgery probably available.—Apply, on Form E.C.16A, before January 30, 1952, to undersigned.—Frederick Hayter, Cheshire Executive Council, 28, Nicholas Street, Chester.

PRACTICES (Offered)

PRACTICE NUCLEUS FOR SALE, LOVELY part West Cork. Modernized Georgian house, surgery, fittings, some furniture, almost new Morris 14 saloon. Suit retired Services man.—Box P203, B.M.J.

PRIVATE PRACTICE, FREEHOLD CORNER house, residential suburb E. London.—Box P238, B.M.J.

PLEASANT LANCS TOWN. SMALL SELECT private practice capable of expansion, vendor specializing. Reasonable for quick sale. Excellent surgery accommodation, with flat if required. Experienced or higher degree man only.—Box P239, B.M.J.

PRACTICES (Wanted)

WANTED, PRACTICE OR PARTNERSHIP, London or within 100 miles, with or without exchange of practice in S.W.—Box P209, B.M.J.

PARTNERSHIPS (Offered)

Partnership. Commencing one-third share worth about £1,850 offered after short assistantship. Cathedral city East Midlands. Scotsman preferred. —Box P135, B.M.J.

PARTNERSHIPS (Wanted)

Experienced English practitioner seeks Partnership with Succession within two to three years. Home counties. Suit principal considering relinquishing major part of work immediately. Capital available for house purchase.—Box P249, B.M.J.

Partnership or early Succession by experienced practitioner. Capital available house purchase.—Box P210, B.M.J.

Partnership, with View to early Succession. Eleven years' experience as G.P., Cambridge, and The London Hospital. Capital for house. Car owner. —Box P222, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, Assistant with possible view, Bart's or Middlesex man preferred. Old-established mixed practice in East Midlands. House available.—Box 206, B.M.J.

Wanted, March 1, Trainee Assistant, British, Midlands, rural. Furnished flat available, with central heating. Partnership of three.—Box 261, B.M.J.

Wanted, young single outdoor male Assistant, with car. E. Yorks. £1,000.—Box 250, B.M.J.

Wanted, Assistant, single, male, with car. Semi-rural, W.R. Yorks. Total salary and allowance £1,200.—Box 242, B.M.J.

Wanted, Male Assistant, one minute Tottenham Court Road. Live in or out. Salary by arrangement. Write (not typewritten), stating age and experience.—Box 260, B.M.J.

Wanted, Trainee Assistant, British. Rural practice, car essential. Furnished flat supplied. Salary, etc., by arrangement.—Beck, Hindon, Wilts.

Wanted immediately, British, male, married Assistant, with car, with View to partnership. Unfurnished house (£78 per annum) available. Inclusive salary £1,100. Yorkshire.—Box 227, B.M.J.

Wanted, an Assistant for practice in Cheshire suburban area south of Manchester. Car essential. House available.—Box 224, B.M.J.

Assistant required (under 30), with definite View, large rural practice North-West, own car. Good house available.—Box 243, B.M.J.

Assistant required, married or single, February, Accrington. Accommodation available, work moderate.—Box 138, B.M.J.

Assistant wanted, North Midlands industrial town. Car owner. Live out. Salary £1,000, including car allowance. Commence February.—Box 225, B.M.J.

Assistant, male, required, general practice, pleasant seaside town, three months beginning February 4 1952. Car essential. £75 monthly.—Dr. J. Gordon, Commercial Row, Pembroke Dock, Pembrokeshire.

Assistantship with View offered young British Protestant, either sex, in South Yorkshire industrial practice. Car essential.—Box 226, B.M.J.

Female Assistant for general practice, Yorkshire, non-industrial. Interested midwifery. Furnished accommodation available. Car essential. Duty rota.—Box 205, B.M.J.

Ophthalmic Assistant or Partner wanted, near London.—Box 240, B.M.J.

Trainee Assistant, single, male. Accommodation provided. Work varied. Two-partner practice. Colchester. Full allowances. With or without car. —Box 137, B.M.J.

Assistantships Vacant—cont'd.

Trainee Assistant, British, essential practice Birkenhead. Ample scope. Car available.—Box 116, B.M.J.

Trainee Assistant, single, male, English, light work. Facilities postgraduate study. Car essential.—Box 241, B.M.J.

Trainee Assistant (male) wanted, married or single. Near London. Good opportunities. Car essential.—Box 252, B.M.J.

Trainee Assistant required March. Rural practice, South Midlands. Car owner. Live out.—Box 223, B.M.J.

ASSISTANTS AVAILABLE

Wanted, Assistantship with View, preferably Nottingham area, by M.B., Ch.B., married. Hospital, R.A.F., and obstetric experience. Available from March 1, 1952.—Box 244, B.M.J.

Wanted, Assistantship with view, non-industrial, by M.B., D.R.C.O.G., U.C.H., ex-R.N.V.R., aged 29. Capital available for house purchase.—Box 258, B.M.J.

Wanted, Assistantship with View, rural, by woman M.B., Ch.B., with hospital, G.P., midwifery experience. Capital available for house purchase. —Box 245, B.M.J.

Assistantship wanted in Northern England. Married, 35, car owner.—Box 254, B.M.J.

Assistantship with View Partnership or early Succession, capital available house purchase, etc.—Box 231, B.M.J.

Assistantship desired by experienced woman practitioner. London or suburbs. Car owner.—Box 232, B.M.J.

Cambridge and St. Thomas's man, 1935, bachelor, Protestant Christian, desires Assistantship, View Partnership, Southern England. Available one month's notice. Car. Capital for house purchase. —Box 228, B.M.J.

Experienced practitioner available for afternoon or evening surgeries, London N. or N.W.—Box 211, B.M.J.

Lady doctor, car owner, four years' G.P. experience, seeks Assistantship, Surgeries, etc., near Bristol.—Box 207, B.M.J.

Lady doctor available for general practice Trainee or Assistantship.—Box 212, B.M.J.

Married Irish M.B. seeks Assistantship with view, aged 30, R.A.M.C., hospital, G.P. experience. Car owner.—Box 208, B.M.J.

M.B., D.R.C.O.G., Jewish, 28, seeks Assistantship with view Partnership or Succession. Extensive G.P., hospital experience. Car owner.—Box 214, B.M.J.

M.B., single, male, 29, own car, seeks Assistantship with view, South preferred.—Box 213, B.M.J.

M.D., Vienna, army, private and N.H.S experience, own car, seeks opening.—Box 216, B.M.J.

Medical Registrar (car owner), desires Evening Surgeries, week-end duties.—Rlv. 6095.

Newly qualified doctor, ex-Serviceman, wishes post as Trainee Assistant. Own car.—Box 229, B.M.J.

Part-time Assistantship wanted in general practice, S.E. or Kent border. References.—Box 251, B.M.J.

Single woman doctor, four years' experience hospital, G.P., excellent testimonials, car owner, seeks Assistantship with or without View, London area.—Box 253, B.M.J.

Surgeries (visits, etc.) required by experienced woman G.P. London area preferred. Free January 25.—Box 256, B.M.J.

Woman doctor available Day-time Surgeries, Visits. In or around London.—Phone FLA 0848, Box 255, B.M.J.

LOCUMS (Vacant)

St. James' Hospital, Ouseley Road, Balham, S.W.12. Wandsworth Hospital Group.—Locum Senior Registrar (Gastro-Enterological Unit) required immediately. Applications, giving age, experience, qualifications, and the names of two referees, to the Secretary, 14, Atkins Road, Balham, S.W.12, by January 26, 1952. (6841)

Billericay, St. Andrews Hospital. South-East Essex Hospital Management Committee.—Applications are invited from registered medical practitioners for the post of **Locum Surgical Registrar** at the above hospital. Resident. Salary £775 per annum, less £130 residential emoluments. The post, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (5616)

Hitchin, Lister Hospital. Luton and Hitchin Group Hospital Management Committee.—Locum Pathologist (S.H.M.O.) (whole-time) required now for duties under supervision of Consultant Pathologist. Apply to Medical Director, Lister Hospital, Hitchin, Herts. (6655)

Hull Royal Infirmary. Hull (A) Group Hospital Management Committee.—Locums required (Senior House Officer grade) for the following posts: One in the Casualty Department, one in Orthopaedic Surgery. Applications to Admin. Officer. (6903)

Blackburn (near), Calderstones Hospital (for the treatment of Mental Defectives), Whalley. Calderstones Hospital Management Committee.—A vacancy occurs for a **Junior Assistant Medical Officer (locum tenens).** Salary (for an officer appointed not less than two years after registration as a practitioner) £700 per annum. A deduction of £150 per annum will be made for board, lodging, and other services provided by the hospital. The successful applicant would be required to commence duties as early as possible. Applications, stating age, qualifications and experience, together with the names of two referees, to be submitted to the Medical Superintendent of the hospital as soon as possible. (6756)

Grimsby Group of Hospitals. Sheffield Regional Hospital Board.—Whole-time Locum Registrar (£775 per annum) in Obstetrics and Gynaecology required for the above Group of hospitals, for a period of at least one month, to commence duty on February 1, 1952. Applications to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. (6614)

Grimsby Hospitals Management Committee. Grimsby General Hospital.—Locum House Officer required immediately for a few weeks for E.N.T. and Ophthalmic Departments and some general surgery beds. Apply to Administrative Officer, Grimsby General Hospital, Grimsby. (6601)

Margate, Royal Sea Bathing Hospital (Surgical Tuberculosis, 200 beds).—Applications are invited from registered medical practitioners for the post of **Locum Tenens Senior Registrar,** vacant immediately. Experience in surgical tuberculosis or orthopaedic surgery desirable. Salary, terms and conditions as approved for hospital medical staff. Applications, stating age, qualifications, and experience, to the Medical Superintendent of the hospital. (6712)

Shrewsbury Group 15 Hospital Management Committee.—Locum Medical Officer required for the **Cross Houses Hospital, Cross Houses, near Shrewsbury (183 beds).** Vacant immediately. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications should be made to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7039)

Winchester, Royal Hampshire County Hospital (311 beds) (Winchester Group Hospital Management Committee).—Locum Orthopaedic Registrar (Registrar grade) required for the period March 1 to April 30, 1952, inclusive. Applications to the Secretary. (6714)

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LOCUMS (Available)

Wanted immediately, Locum Assistantship for three months by Irish doctor, M.B., B.Ch., L.A.H., L.M., single, with English and Irish hospital experience. Driver, non car owner, London vicinity preferred.—Box 247, B.M.J.

Experienced G.P. available as Locum or Assistant, country town. Permanency preferred. Single, English, Cantab. Car required.—Box 246, B.M.J.

Experienced G.P., own car, free for Locums from February, Greater London.—Box 215, B.M.J.

APPOINTMENTS

ANAESTHETICS

WHITTINGTON HOSPITAL
London, N.19
North-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of
WHOLE-TIME ANAESTHETIST (Consultant)

Duties mainly at the above hospital but may include work at other hospitals in the Group. Candidates should possess the Diploma in Anaesthetics and have had wide experience in modern methods of anaesthesia. This hospital consists of three contiguous hospitals which are being developed as one unit containing approximately 1,600 beds and all the usual special departments. There is a large consultant staff. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 23, 1952. Candidates are welcome to visit the hospital by direct appointment with the Medical Superintendent. (6797)

BIRMINGHAM (SELLY OAK) GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of
PART-TIME CONSULTANT IN ANAESTHETICS
(One notional half-day weekly).

Duties at Royal Orthopaedic Hospital, Birmingham (340 beds). Wide experience in specialty essential. Candidates should possess D.A. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 4, 1952. Candidates may visit the hospital concerned. (6846)

HAREFIELD HOSPITAL
Harefield Middlesex
Thoracic Surgical Unit (78 beds)
North-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of
PART-TIME CONSULTANT ANAESTHETIST

for six half-days a week. Applications would also be considered from candidates who could give two or four half-days per week. Applicants should possess the D.A. and have had wide experience in modern methods of anaesthesia and special experience in anaesthesia for thoracic surgery. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 23, 1952. Candidates are welcome to visit the hospital by direct appointment with the Medical Director. (6798)

PERTH GENERAL HOSPITALS, COUNTY AND CITY OF
Eastern Regional Hospital Board (Scotland)

Applications are invited for the whole-time post of
ANAESTHETIST

at hospitals in the above group (including Bridge of Earn Hospital and Perth Royal Infirmary). The anaesthetic services are under the supervision of the Consultant Anaesthetist for the Perth area. Salary £1,300 by £50 to £1,750. Terms and conditions of service in accordance with national agreement. Further particulars and forms of application from the Secretary to the Board, 430, Blackness Road, Dundee, with whom applications must be lodged not later than February 12, 1952. (5932)

BIRMINGHAM REGIONAL HOSPITAL BOARD

Applications are invited for the following whole-time appointments:

SENIOR REGISTRAR IN ANAESTHETICS
Stoke-on-Trent Group

Duties at City General Hospital, Stoke-on-Trent (966 beds). Resident appointment.

REGISTRAR IN ANAESTHETICS
South Warwickshire Group

Duties mainly at Warwick Hospital (348 beds). Non-resident appointment.

REGISTRAR IN ANAESTHETICS
Birmingham (Selly Oak) Group

Duties at Selly Oak Hospital (1,098 beds). Appointment may be resident or non-resident.

REGISTRAR IN ANAESTHETICS
Coventry Group

Duties mainly at Manor Hospital, Nuneaton (139 beds), and George Eliot Hospital, Nuneaton (256 beds).

For all the above appointments experience in specialty is essential, and possession of D.A. an advantage. Appointments subject to National Health Service (Superannuation) Regulations. Ten copies of application, stating name, age, nationality, qualifications, present and previous appointments and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 4, 1952. Candidates for more than one appointment should forward seven copies of application in respect of each vacancy for which they wish to apply. Candidates may visit group hospitals. (6847)

BIRMINGHAM, UNITED HOSPITALS

Applications are invited for the post of
RESIDENT ANAESTHETIC REGISTRAR
(Registrar Grade)
for duties at the Birmingham Maternity Hospital and the adjacent General Hospital

The appointment is for one year in the first instance. Preference will be given to candidates who have passed Part I, D.A. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him not later than January 28, 1952. (5881)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Anaesthetics—contd.

AMENDED ADVERTISEMENT

DERBYSHIRE ROYAL INFIRMARY
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of

ANAESTHETIC REGISTRAR

to the above hospital, which is a recognized training hospital for the D.A. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 28, 1952. (5648)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

SENIOR REGISTRAR in Anaesthetics

for duties mainly in the Hull "A" Group of hospitals, with additional duties as required in the Hull "B" and East Riding Groups. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than February 2, 1952. (6602)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for two posts of

REGISTRAR IN ANAESTHETICS

as follows:

Blackburn and District Group of Hospitals, resident at Blackburn Royal Infirmary.

Bolton and District Group of Hospitals, with main duties at Bolton Royal Infirmary and Bolton and District General Hospital (resident or non-resident).

Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by January 28, 1952. (6859)

NEWMARKET GENERAL HOSPITAL
East Anglian Regional Hospital Board

Applications are invited for

ANAESTHETIC REGISTRAR

Single quarters are available. The appointment will be for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 28, 1952.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5649)

ROTHERHAM, MOORGATE GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of

REGISTRAR (Anaesthetics)

to the above hospital, which is a recognized training hospital for the D.A. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointment (with da es), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to reach him not later than February 4, 1952. (6615)

METROPOLITAN HOSPITAL
Kingsland Road, London, E.8
(General—147 beds)
Central Group Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

RESIDENT SENIOR HOUSE OFFICER
(Anaesthetist)

The appointment will be for six months only in the first instance. Salary will be at the rate of £670 per annum, less residential charges of £130 per annum. Applications, giving details of age, qualifications and experience, together with the names of three referees, should reach the House Governor by January 29, 1952. (5792)

BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

SENIOR HOUSE OFFICER (Anaesthetics)

The post is recognized for the D.A. examination and is tenable for one year. Salary £670 per annum, less an appropriate deduction in respect of board residence. Applications, stating age, qualifications, nationality and experience, etc., with names of two persons for reference, should be addressed to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (6656)

CHELMSFORD, ST. JOHN'S HOSPITAL

Applications are invited for the post of

RESIDENT ANAESTHETIST
(Senior House Officer)

to large surgical units, for a period of twelve months, commencing February 14, 1952. The appointment will include duties at the Chelmsford and Essex Hospital a short distance away. Applications, stating age, sex, qualifications and experience, with recent testimonials, should reach the Secretary, Hospital Management Committee, Chelmsford Group, Chelmsford and Essex Hospital, London Road, Chelmsford, not later than January 22, 1952. (5447)

FARNBOROUGH HOSPITAL
Farnborough, Kent (800 General beds)

Applications are invited for the resident post of

SENIOR HOUSE OFFICER in Anaesthetics

due to commence on February 28, 1952. The post is for a period of one year in the first instance, and recognized for candidates preparing for the D.A. Salary £670 a year, less £150 a year for residential emoluments. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be sent to Administrative Officer. (6784)

HITCHIN, LUTON AND HITCHIN GROUP HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

RESIDENT ANAESTHETIST
(Senior House Officer)

to work in the Hitchin area under the direction of the whole-time Consultant Anaesthetist. The appointment, which is vacant now, offers experience in general surgery, E.N.T., gynaecology and obstetrics, and orthopaedics, and is recognized for the D.A. examination. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent immediately to the Medical Director, The Lister Hospital, Hitchin. (5711)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding (Full Consultant Staffs)

Applications are invited for the appointment of

SENIOR HOUSE OFFICER IN ANAESTHETICS
(Either sex)

for duty at the above hospitals for the acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment. Vacant now. Salary £670 per annum. National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. Jonn's Hospital, Keighley. (5270)

LEICESTER GENERAL HOSPITAL (445 beds)

Applications are invited for the post of

SENIOR HOUSE OFFICER (Anaesthetics)

commencing April 1, 1952. Recognized for the D.A. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6621)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of

SENIOR HOUSE OFFICER (Anaesthetics)

commencing April 1, 1952. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to reach the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6622)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Luton and Hitchin Group Hospital Management Committee

Applications are invited for the post of

RESIDENT ANAESTHETIST
(Senior House Officer)

at the Luton and Dunstable Hospital. The appointment, which is vacant now, offers varied experience, and this post is recognized for the D.A. examination. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (5712)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
SENIOR HOUSE OFFICER (Anaesthetics)

Applications are invited from registered medical practitioners for the above post, which is vacant on January 31, 1952. The appointment will be for twelve months at a salary of £670 per annum, less £130 per annum for residential accommodation and services. The hospital is recognized by the Conjoint Board for training for the Diploma in Anaesthetics. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (5823)

ORMSKIRK COUNTY HOSPITAL
Wigan Road, Ormskirk, Lancs (406 beds)
SENIOR HOUSE OFFICER (Anaesthetics)

Applications are invited from suitably qualified medical practitioners for the above appointment, normally resident. The post is tenable for twelve months, but a temporary application would be considered. Salary £670 per annum, less £130 per annum for residential emoluments. Applications, with full details and names of two referees, to be forwarded to the undersigned immediately.—H. E. Beck, Secretary, County Hospital, Ormskirk. (6721)

MEDWAY AND GRAVESEND HOSPITAL MANAGEMENT COMMITTEE.

Applications are invited for the appointment of

RESIDENT ANAESTHETIST
(Senior House Officer grade)

Salary £670 per annum, in accordance with the national terms and conditions of service. The appointment is for twelve months, and preference will be given to those holding the diploma in anaesthetics. Residential accommodation will be available at All Saints' Hospital, Chatham. Applications, giving full particulars of age, nationality, qualifications, and experience, together with copies of recent testimonials, to be sent to the undersigned not later than February 1, 1952.—T. Rhodes, Secretary, Medway and Gravesend Hospital Management Committee, St. William's Hospital, Rochester. (6715)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer Grade)
(Recognized for D.A.)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5356)

STOURBRIDGE (near), WORDSLEY HOSPITAL
(450 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER
(Resident Anaesthetist)

Post now vacant. Applicants should have held house appointments and had previous experience in anaesthetics. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications, with dates, experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (6601)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(681 beds—11 Residents)
Taunton Hospital Management Committee

Applications are invited from registered medical practitioners for the following post:

SENIOR RESIDENT HOUSE OFFICER
(Anaesthetics)

Salary in accordance with the National Health Service scale. The post is for a period of one year, and the successful applicant will be required to take up duties on February 1, 1952. The post is recognized as a qualifying appointment for the Diploma of Anaesthetics. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (4805)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds—8 Residents)
West Cornwall Hospital Management Committee.

Applications are invited for the post of

RESIDENT ANAESTHETIST
(Senior House Officer status)

which falls vacant on February 4, 1952. The post is tenable for one year at a salary of £670, less £100 for emoluments, and subject to the regulations of the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5257)

ST. GILES' HOSPITAL, Camberwell, S.E.5
Camberwell Hospitals Management Committee

Applications are invited for appointment as

HOUSE OFFICER (Anaesthetist duties)

Salary £350, £400 or £450 a year, according to posts held, less charge for residence. Post vacant now. Applications, stating age, details of qualifications and experience, and enclosing copy testimonials, to the Secretary, Camberwell Hospitals Management Committee, Dulwich Hospitals, East Dulwich Grove, S.E.22, as soon as possible. (5601)

BRISTOL, UNITED, HOSPITALS

Applications are invited for two posts of

RESIDENT ANAESTHETIST
(Second or third post)

for the six months commencing March 1, 1952. The candidates appointed will be required to reside in the Royal Infirmary Branch or the General Hospital Branch, but the appointment will include duties in other branches of the Teaching Hospital Group. Salary £400 or £450 per annum, with a deduction of £100 per annum for residence. Applications, on forms to be obtained from the undersigned, should be returned on or before January 26, 1952.—Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (5794)

CARDIOLOGY

CALDY MANOR HOSPITAL
Caldy, Wirral (41 beds)
North Wirral Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for appointment of

RESIDENT HOUSE PHYSICIAN

for the above new hospital which specializes in the treatment of heart cases. The appointment will become vacant on February 1, 1952, and will be tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Secretary, North Wirral Hospital Management Committee, Leasowe Children's Hospital, Leasowe, Wirral, Cheshire. (6759)

CHEST AND TUBERCULOSIS

ST. THOMAS' HOSPITAL, London, S.E.1
CHEST SURGEON

With full consultant status and membership of the Medical Committee. Four half-day sessions a week. F.R.C.S. essential. Applications, twelve copies, including names and addresses of three referees, to Clerk of the Governors by February 16, 1952. (5364)

HARROW CHEST CLINIC
199, Station Road, Harrow
North-West Metropolitan Regional Hospital Board

Applications are invited for the post of

WHOLE-TIME ASSISTANT PHYSICIAN

Salary scale £1,300 to £1,750 per annum. Candidates should possess a higher medical qualification and have good general medical experience and special experience in the treatment of chest diseases and tuberculosis. The successful applicant will work under the general supervision of the consultant physician in charge, and duties will include the care of 10 beds at Hendon Isolation Hospital, Hendon, N.W.4, and 28 beds at Edgware General Hospital, Edgware, for the treatment of tuberculous patients. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 16, 1952. Candidates are welcome to visit the Clinic by direct appointment with the Consultant in Charge. (5884)

WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the whole-time appointment of

ASSISTANT CHEST PHYSICIAN
(S.H.M.O. grade)

to serve the Newport and East Monmouthshire Hospital Management Committee Group. He will be based on Newport. The main Chest Clinic is situated in the grounds of a general hospital (400 beds, 24 for tuberculosis) and, therefore, there is an opportunity for close association with all the other medical services. The Group served has a population of 270,000. There will be an apportionment of time spent between the Regional Board and the Local Authorities, but the salary will be in accordance with the terms and conditions of service of hospital medical and dental staffs. Fourteen copies of application, stating age, nationality, qualifications, experience, and present appointment, with the names of three referees, should be sent within twenty-one days from date of publication of this advertisement to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (6722)

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for a

SENIOR REGISTRARSHIP in Thoracic Surgery

for duty in the units dealing with both tubercular and non-tubercular thoracic surgery in the Region. Applications will be considered for one or more appointments within the total of eleven notional half-days. Candidates should preferably hold a Fellowship of a Royal College of Surgeons, and previous experience in thoracic surgery would be an advantage. The appointment will be in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales). Applications, giving particulars of age, qualifications and experience with relevant dates, together with the names and addresses of three referees and indicating the number of notional half-days available, to be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1, not later than February 1, 1952. (6657)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1,

or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
(Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

LANCASHIRE COUNTY COUNCIL
(Assistant Divisional Medical Officers)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,

A. MACRAE,
Secretary.

January 15, 1952.

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited to fill a vacancy for a **SENIOR REGISTRAR in Diseases of the Chest** This appointment, in accordance with the terms and conditions of service, will assure the successful candidate of two years' training, the first year being spent at Davos, Switzerland, in the Sanatorium to which British subjects are being sent under a special National Health Service scheme. Applicants must have had wide experience in general medicine and with particular interest in tuberculosis. The possession of a higher medical qualification is desired. Applications, giving the names and addresses of two referees, should be sent as early as possible and not later than February 1, 1952, to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, W.1. (6658)

COTTINGHAM, near HULL, CASTLE HILL HOSPITAL
Leeds Regional Hospital Board

Applications are invited for the appointment of

REGISTRAR in Thoracic Surgery

for duties at the Thoracic Surgical Unit. The unit has thirty-eight beds and provides full facilities for the surgical treatment of both tuberculous and non-tuberculous cases. The appointment will be resident for which the necessary deductions from salary will be made. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than January 25, 1952. (5618)

WORCESTER (near), KNIGHTWICK SANATORIUM (100 beds)

Applications are invited for the post of

JUNIOR HOSPITAL MEDICAL OFFICER

The appointment and salary will be in accordance with the terms and conditions of service laid down for hospital medical staff. Applications, with copies of testimonials, should be sent to the Secretary, Worcester Royal Infirmary. (5934)

MANSFIELD (near), NOTTS, NEWSTEAD SANATORIUM, Elkpool (236 beds)

Applications are invited for appointment as **RESIDENT SENIOR HOUSE OFFICER (Female)** The successful applicant may be required to undertake some work at neighbouring chest clinics, including B.C.G. vaccination. Apply, giving age, qualifications and two referees, to the Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood Hospital, near Mansfield, Notts. (5843)

NEWCASTLE, WALKER GATE HOSPITAL
Chest Department
Newcastle-upon-Tyne Hospital Management Committee
SENIOR HOUSE OFFICER

Applications are invited for the above post. The appointee will carry out duties at the above hospital assigned to him under the supervision of the Senior Chest Physician. The appointment is resident. Salary and conditions as defined under the terms and conditions of service of hospital medical and dental staff (England and Wales), paragraph 4, on the scale appropriate to Junior Registrars, at £670 per annum. Applications, with three testimonials, to be sent to the Secretary, Hospital Management Committee, Newcastle General Hospital, Westgate Road, Newcastle-upon-Tyne, 4, as soon as possible. (5776)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield No. 1 Hospital Management Committee

Applications are invited from suitably qualified medical practitioners for the resident post of

SENIOR HOUSE OFFICER
to the Thoracic Surgery Unit

Preference will be given to candidates with experience in chest diseases and holding a higher surgical qualification. Apply, giving full details of age, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (5602)

GROVE PARK HOSPITAL, London, S.E.12
(Tuberculosis—401 beds)
Lewisham Group Hospital Management Committee

Applications are invited for the post of

HOUSE SURGEON
to the Thoracic Surgery Department

The appointment is vacant immediately and is tenable for six months. Salary at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications and experience, with copies of three recent testimonials or names of referees, should be sent to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (6659)

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Paddington Hospital, Harrow Road, W.9

Applications are invited for the post of

HOUSE PHYSICIAN

for duty from March 1, 1952, in the T.B. wards of St. Charles' Hospital, Ladbroke Grove, W.10. This post provides good opportunity for studying for a higher degree. Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of two referees, to reach the Secretary to the Committee by February 11, 1952. (6736)

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Paddington Hospital, Harrow Road, W.9

Applications are invited for the post of

HOUSE SURGEON

for duty from March 1, 1952, in the Thoracic Department at St. Charles' Hospital, Ladbroke Grove, W.10. Previous experience an advantage. Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of two referees, to reach the Secretary to the Committee by February 11, 1952. (6737)

AYLESBURY, BUCKS, TINDAL GENERAL HOSPITAL (281 beds)
HOUSE PHYSICIAN (Male or female)

Vacant March 24, 1952. Work is generally connected with diseases of the chest (T.B. and non-T.B.) and care of some acute medical beds. Applications, with two testimonials, to the Administrative Officer by February 11. (6660)

BRAINTREE, ESSEX, BLACK NOTLEY HOSPITAL

Applications are invited for the post of

HOUSE PHYSICIAN (First, second or third post)

to the Pulmonary Tuberculosis Unit (204 beds) at the above hospital. Tenable six months from February 1, 1952. Salary in accordance with the terms of service issued by the Ministry of Health, plus £50 per annum. Applications, with copies of three recent testimonials, should be forwarded to the Secretary, Colchester Group H.M.C., 14, Pope's Lane, Colchester. (6738)

CARDIFF, GLAN ELY HOSPITAL
(236 beds Pulmonary and Non-pulmonary Tuberculosis)
Cardiff Hospital Management Committee

Applications are invited for the post of

RESIDENT HOUSE OFFICER

at the above, which is a hospital for the treatment of all forms of tuberculosis. Experience afforded in thoracic surgery and tuberculosis of bones and joints, genito-urinary tract and skin. Applications to the Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (5650)

DENTAL

IPSWICH, EAST ANGLIAN REGIONAL HOSPITAL BOARD
CONSULTANT DENTAL SURGEON

Required whole-time or maximum part-time in the Ipswich area. Main hospitals: East Suffolk and Ipswich Hospital (360 beds); Borough General Hospital, Ipswich (300 beds); Nayland Sanatorium (210 beds); Ipswich Sanatorium (120 beds); St. Audry's Hospital, Melton (1,075 beds); St. Clement's Hospital, Ipswich (445 beds). The main hospitals only are stated, but the duties may include work at other hospitals or clinics in the same area. Eight copies of applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 28, 1952.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5619)

AYLESBURY (near), STOKE MANDEVILLE HOSPITAL
Oxford Regional Hospital Board

Applications are invited from qualified dental practitioners for the post of

ASSISTANT DENTAL SURGEON
in the grade of Senior Hospital Dental Officer to the Plastic Surgery and Jaw Injury Centre

Applicants for this post should hold a higher dental qualification or a medical qualification and the successful candidate will be required to live in the area. Applications (nine copies), stating age, qualifications, experience and the names and addresses of three referees, should reach the Secretary of the Board, 43, Banbury Road, Oxford, from whom further details can be obtained, by Feb. 15. (5677)

ROYAL FREE HOSPITAL GROUP
Dental Department

Applications are invited for the appointment of

FULL-TIME DENTAL REGISTRAR

to work under the general supervision of the visiting Dental Surgeons. Duties would be of a varied general nature including opportunities for surgical theatre work. The appointment is for one year in the first instance, duties to commence on April 1, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Application forms may be obtained from the Secretary to the Board of Governors, The Royal Free Hospital, Gray's Inn Road, London, W.C.1, to whom they should be returned not later than February 11, 1952. (5796)

EAR, NOSE, AND THROAT, etc.

HOSPITALS FOR DISEASES OF THE CHEST

The Board of Governors invite applications for the appointment of

ASSISTANT LARYNGOLOGIST (Consultant)

to the London Chest Hospital, E.2. The duties involve attendance on one notional half-day per week at the hospital and one notional half-day in alternate weeks at the hospital's country branch at Arlesey, near Letchworth. Applications, stating date of birth, qualifications, and experience with the names of three referees, should reach the undersigned not later than Saturday, February 23, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (5885)

LICHFIELD, SUTTON COLDFIELD AND TAMWORTH GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of

PART-TIME CONSULTANT E.N.T. SURGEON
(Three notional half-days weekly)

Candidates should possess a higher qualification, and have had wide experience in specialty. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 4, 1952. Candidates may visit group hospitals. (6848)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
West Herts and St. Paul's Hospitals, Hemel Hempstead, Herts, and Leavesden Hospital, Abbots Langley, Herts

Applications are invited for the appointment of

PART-TIME CONSULTANT E.N.T. SURGEON

for four half days a week at West Herts Hospital, St. Paul's Hospital and Leavesden Hospital. The principal duties will be at the West Herts Hospital which is a general hospital of 169 beds including 10 for E.N.T. surgery. Applicants should hold a higher qualification and have wide experience in this specialty. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 23, 1952. Candidates are welcome to visit the hospitals by direct appointment. (6799)

BIRMINGHAM (DUDLEY ROAD) GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of

WHOLE-TIME REGISTRAR IN E.N.T. SURGERY

Duties mainly at Birmingham and Midland Ear and Throat Hospital (124 beds). Resident appointment. Experience in specialty essential. Higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Rd., Birmingham, 15, before Feb. 4, 1952. Candidates may visit hospital concerned. (6849)

BLACKBURN, ROYAL INFIRMARY
Blackburn and District Hospital Management Committee

Vacancy for

SENIOR HOUSE OFFICER

to E.N.T. and Ophthalmic Units, both units being under clinical direction of consultants. Salary £670 per annum, less £155 for board residence. Applications, giving age, experience and qualifications, and names of two referees, to Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (5651)

BLACKPOOL, VICTORIA HOSPITAL
SENIOR HOUSE OFFICER (E.N.T. Department)

Post recognized for D.L.O. and F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (5679)

FARNBOROUGH HOSPITAL
Farnborough, Kent

Applications are invited for the post of

SENIOR HOUSE OFFICER

in the E.N.T. Department at this hospital. The post is for a period of one year and is recognized for candidates preparing for the D.L.O. Salary £670 a year. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be forwarded to the Administrative Officer. (6785)

STOCKPORT AND BUXTON HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the non-resident post of

SENIOR HOUSE OFFICER

to the Ear, Nose and Throat Departments in the Group. Salary and conditions of service in accordwith Ministry of Health Circular. Applications, stating age, nationality, and qualifications, together with the names of two referees, or copies of two testimonials, to be addressed to the undersigned immediately.—H. G. Price, Secretary, 59b, Shaw Heath, Stockport, Cheshire. (6860)

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL
Aylesbury and District Hospital Management Committee
HOUSE SURGEON
for E.N.T. and Ophthalmic Departments

Recognized for D.L.O. and D.O. First or second post. Vacant now. Please apply, with two testimonials, to the Secretary Superintendent, as soon as possible. (6661)

BRIGHTON AND LEWES HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

HOUSE SURGEON

for duties in the E.N.T. Department of the Group Hospitals (recognized for F.R.C.S. and D.L.O.). Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer, Royal Sussex County Hospital, within seven days of the appearance of this advertisement. (5798)

CHELTENHAM GENERAL EYE AND CHILDREN'S HOSPITAL

Applications are invited for the appointment of

RESIDENT HOUSE SURGEON

to the Ear, Nose and Throat Department, vacant in February, 1952. Salary £350 to £450, according to experience. Applications, stating age, qualifications, with copy of two testimonials, to be sent to the Group Secretary, General Hospital, Cheltenham. (6716)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
HOUSE SURGEON

Required in the Ear, Nose and Throat Department at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. Recognized for D.L.O. National scales and conditions. Six-monthly appointment, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8468)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of

HOUSE SURGEON to the E.N.T. Department

for a period of six months from April 1, 1952. The post is recognized for the D.L.O. and the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to reach the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6623)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee

Applications are invited from registered medical practitioners, male and female, for the post of

E.N.T. AND OPHTHALMIC HOUSE SURGEON

at the above hospital. The appointment will be subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to the number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Folkard, Sec. to the Committee. (4740)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Ear, Nose and Throat)

Applications are invited from registered medical practitioners for the above post, which is now vacant. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience, £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (5824)

READING, ROYAL BERKSHIRE HOSPITAL
(493 beds)

Applications are invited for the post of

HOUSE SURGEON (E.N.T. Department)

Vacant March 1, 1952. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full consultant staff)
CITY HOSPITAL, York
(Modern general hospital of 265 beds, with full consultant staff)
E.N.T. HOUSE SURGEON

The E.N.T. Department (which is mainly at the County Hospital) has approximately 30 beds, is recognized for the D.L.O. and offers excellent opportunities for learning the specialty. The appointment is for six months initially and is vacant immediately. Previous experience preferable but not essential. Residence available at the County Hospital. Salary £400 for second post held, £450 for third post, less £100 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (6800)

INFECTIOUS DISEASES

WESTERN HOSPITAL
Seagrave Road, Fulham, S.W.6
South-West Metropolitan Regional Hospital Board
Fulham and Kensington Hospital Management Committee

Registered medical practitioners are invited to apply for the following appointment:

REGISTRAR (Infectious Diseases)

The hospital servies as a poliomyelitis centre, and medical students attend throughout the year for teaching in infectious diseases. Candidates may visit the hospital by arrangement with the Physician Superintendent. Requests for forms of application (five copies required to be completed) should be accompanied by a stamped addressed foolscap envelope and made to the Secretary (4 B.M.J.), Fulham and Kensington Hospital Management Committee, St. Mary Abbots Hospital, Marloes Road, Kensington, W.8, and returned to him not later than February 1, 1952. (6723)

ILFORD ISOLATION HOSPITAL
Grove Road, Chadwell Heath (near London)
Ilford and Barking Group Hospital Management Committee

There is a vacancy for a

SENIOR HOUSE OFFICER

Salary will be £670 per annum, less emoluments. Small furnished bungalow available. Applications, giving particulars of experience and qualifications, and accompanied by copies of testimonials, should be sent to the undersigned within seven days of this date.—G. Austin Hepworth, Secretary, King George Hospital, Ilford. (5680)

COTTINGHAM, EAST YORKS, CASTLE HILL HOSPITAL (200 beds)
(Modern Infectious Diseases Hospital with full laboratory facilities)
WHOLE-TIME HOUSE OFFICER
(Second or third post)

Required for duties under the supervision of the Consultant in Infectious diseases. Application forms obtainable from the Secretary, Hull (B) Group Hospital Management Committee, De la Pole Hospital, Willerby, East Yorks. (5241)

Infectious Diseases—contd.

PARKSTONE, DORSET, ALDERNEY INFECTIOUS DISEASES HOSPITAL (60 beds)
Bournemouth and East Dorset Hospital Management Committee
HOUSE PHYSICIAN
Required immediately. Applications to the Assistant Secretary of the hospital. (5052)

PRESTON INFECTIOUS DISEASES HOSPITAL
Preston and Chorley Hospital Management Committee
HOUSE OFFICER
Required at the end of March at the above hospital, pleasantly situated on bus route on northern fringe of Preston. The post includes visiting duties at a nearby Chest Sanatorium (30 beds). Altogether there are 125 beds—61 fevers (most in cubicle wards) and 64 chest. The post offers excellent facilities for experience in these specialties. Residence in Lodge, suitable for married couple. Applications, stating full particulars, with copy testimonials, to be forwarded as soon as possible to the Secretary, Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Sec. (6908)

NEUROLOGY

MAIDA VALE HOSPITAL FOR NERVOUS DISEASES, London, W.9
MEDICAL REGISTRAR (Non-resident)
Applications are invited for the above full-time appointment, falling vacant on March 10, 1952. Grading of the post will be that of Registrar or Senior Registrar, according to experience. Preference will be given to a candidate intending to specialize in neurology. Applications, with copies of three recent testimonials, should reach the Secretary not later than February 6, 1952. (6905)

NATIONAL HOSPITALS FOR NERVOUS DISEASES
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the National Hospital, Queen Square, W.C.1
This post carries the grade of Registrar. The appointment will be for one year in the first instance. Applications, with copies of testimonials, to be sent to the undersigned not later than January 31, 1952.—H. Ewart Mitchell, Secretary, The National Hospital, Queen Square, W.C.1 (5887)

BIRMINGHAM, UNITED HOSPITALS
Queen Elizabeth Hospital
Applications are invited for the temporary non-resident appointment of
SENIOR REGISTRAR
in the Department of Neurology
Post vacant February 9 and tenable until December 31, 1952. Previous neurological experience and possession of the M.R.C.P. are essential. Application forms may be obtained from the Secretary United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him not later than January 28, 1952. (5888)

MAIDA VALE HOSPITAL FOR NERVOUS DISEASES, London, W.9
RESIDENT HOUSE PHYSICIAN
Grading as House-Officer or Senior House Officer according to experience. Appointment for six months from February 25, 1952, renewable. Preference will be given to a candidate holding a higher degree who intends to specialize in neurology. Applications, with copies of three recent testimonials, should be addressed to Sec. by February 6. (6906)

NEUROSURGERY

HOVE, SUSSEX, ST. FRANCIS AND THE LADY CHICHESTER GROUP OF HOSPITALS
South-East Metropolitan Regional Hospital Board
NEURO PSYCHIATRIC REGISTRAR
Applications are invited for an appointment, for one year in the first instance as Registrar, for duty at Hurstwood Park, mainly in the neurosurgical/neurological unit. Candidates should have held a House Surgeon appointment in addition to general experience. The appointment will be in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales). Applications, giving particulars of age, qualifications and experience, with relevant dates, together with the names and addresses of three referees, to be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1, not later than February 1, 1952. (6662)

REGIONAL NEUROSURGICAL CENTRE
(50 beds)
Brook General Hospital, Shooters Hill Road, S.E.18
NEUROSURGICAL HOUSE SURGEON
The post provides excellent opportunity for training in neurology. Vacant now. Salary £350 to £450, less £100 per annum for residence. Apply to Sec., Memorial Hospital, Woolwich, S.E.18. (5734)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
HOUSE PHYSICIAN (Neurosurgical Unit)
Applications are invited from registered medical practitioners for the above appointment in the neurosurgical unit. Tenable for six months. This post would be suitable for candidate seeking a higher qualification as it offers excellent experience in neurology. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5634)

OBSTETRICS AND GYNAECOLOGY

FARNHAM (SURREY) GROUP OF HOSPITALS
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
PART-TIME CONSULTANT OBSTETRICIAN AND GYNAECOLOGIST
(two half-days per week). Duties mainly at Fleet and District and Yateley and District Hospitals. The consultant appointed will be required to live within a reasonable distance (approximately twenty miles) of the hospitals. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than February 16, 1952. Applicants may visit the hospitals by local arrangement. (6624)

QUEEN CHARLOTTE'S AND CHELSEA HOSPITALS
Applications are invited from candidates holding their M.R.C.O.G. for the post of
SENIOR REGISTRAR (Whole-time)
in the service of the Board of Governors of this Teaching Hospital Group, which will become vacant on April 1, 1952. The duties will be divided between Queen Charlotte's Maternity Hospital and Chelsea Hospital for Women and Hammersmith Hospital. Applications, stating age, medical school, qualifications, with dates, and previous appointments, together with the names of three referees, should be sent to the undersigned not later than February 16, 1952.—R. S. H. Thomas, Sec. to the Board of Governors, 339, Goldhawk Rd., W.6 (6717)

BRADFORD, ST. LUKE'S HOSPITAL
Leeds Regional Hospital Board
Applications are invited for the post of
REGISTRAR in Obstetrics and Gynaecology
Appointment to commence on April 1, 1952. The appointment will be resident and a charge of £150 per annum will be made in respect of residential accommodation. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than Feb 2. (6663)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the post of
REGISTRAR in Obstetrics and Gynaecology
for duties at hospitals in the Halifax Hospital Management Committee Group. Appointment to commence on April 1, 1952. The appointment will be resident and a charge of £150 per annum will be made in respect of residential accommodation. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than February 2, 1952. (6664)

SOUTH WORCESTERSHIRE AND BIRMINGHAM (SELLY OAK) GROUPS
Birmingham Regional Hospital Board
Applications invited for appointment of
WHOLE-TIME REGISTRAR IN OBSTETRICS AND GYNAECOLOGY
Duties at hospitals in South Worcestershire Group, and Ronkswood Hospital. Experience in specialty essential. Higher qualification an advantage. Appointment subject to National Health Service (Superannuation regulations. Ten copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 4, 1952. Candidates may visit group hospitals. (6850)

ROYAL NORTHERN HOSPITAL
Holloway, London, N.7
Northern Group Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)
Vacant February 19, 1952, for a period of one year. Salary £670 per annum, less £130 per annum for board residence. Applications, with copies of three recent testimonials, to be sent to the Assistant Secretary, not later than January 26, 1952. (5889)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
to the Obstetric and Gynaecological Department
commencing April 1, 1952. The post is recognized for M.R.C.O.G. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to reach the Secretary, No 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than Jan. 24. (6625)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Applications are invited from fully qualified medical practitioners for the post of
SENIOR HOUSE OFFICER (Obstetrics)
in the Obstetrical and Gynaecological Departments (48 obstetrical beds, 11 gynaecological beds, and a small block for puerperal pyrexia). This hospital is recognized for training for the D.R.C.O.G. The appointment is for a period of one year commencing February 1, 1952. Preference will be given to candidates who have experience in obstetrics and gynaecology. Salary will be as published by the Ministry. Applications, stating age, experience, qualifications and nationality, with copies of three recent testimonials, should be sent to H. M. Stanley, The Secretary, Nottingham No. 1 Hospital Management Committee, The General Hospital, Nottingham. (5276)

NOTTINGHAM HOSPITAL FOR WOMEN
(110 beds and annexe 26 beds)
Nottingham No. 2 Hospital Management Committee
Applications are invited from registered medical practitioners for a vacancy which will occur in early March for a
GYNAECOLOGICAL AND OBSTETRIC SENIOR HOUSE OFFICER
Previous experience in these subjects is required. Post recognized for M.R.C.O.G. examinations. Applications, stating age, experience, nationality, together with copies of three testimonials, should be sent as soon as possible to Miss Tweedie. (6742)

OLDHAM, BOUNDARY PARK GENERAL HOSPITAL
Oldham and District Hospital Management Committee
SENIOR OBSTETRICAL HOUSE OFFICER
Applications are invited for the above appointment. The obstetrical department contains 100 beds and there are 38 gynaecological beds. There are two Resident Obstetrical Officers and one House Officer. Applications, containing full particulars of qualifications and experience, together with the names of two persons to whom reference may be made, and quoting reference number A/788, should be forwarded immediately to the undersigned.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham (5799)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Department of Obstetrics and Gynaecology
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for appointment of
RESIDENT OBSTETRICAL OFFICER
(Senior House Officer grade)
vacant April 1, 1952. There will be additional duties at the Flete Maternity Home and the Alexandra Maternity Home, which are parts of the Department. Candidates should have had considerable experience in a Department of Obstetrics and Gynaecology. The appointment will be for a period of twelve months and is renewable. Salary £670 per annum. Terms and conditions are in accordance with the National Health Service terms. The post is recognized by the Royal College of Obstetricians and Gynaecologists for the membership examination of the College. Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees, should be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (6718)

YORK MATERNITY HOSPITAL (44 beds)
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR OBSTETRIC HOUSE SURGEON (Senior House Officer grade)
The post is vacant from March 1, 1952 for six months in the first instance and is recognized for the M.R.C.O.G. Salary £670 per annum, less £153 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (6802)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Obstetrics and Gynaecology—contd.

EAST HAM MEMORIAL HOSPITAL
Shrewsbury Road, London, E.7

Applications are invited from registered medical practitioners for the appointment of

RESIDENT OBSTETRIC OFFICER
(House Officer, Third post)

For six months commencing February 28, 1952. Candidates should send applications, together with copies of recent testimonials, to the undersigned by February 4, 1952.—M. J. Huntley, Secretary, West Ham Group Hospital Management Committee, Stratford, London, E.15. (5890)

HACKNEY HOSPITAL, E.9 (797 beds)

Applications are invited from registered medical practitioners for the appointment of

OBSTETRICAL AND GYNAECOLOGICAL HOUSE SURGEON
(Post recognized for M.R.C.O.G.)

Vacancy occurs on February 8, 1952. Preference will be given to applicants who have held resident surgical and medical posts in a general hospital and who have held an obstetric appointment. Appointment will be for a period of six months. Applications should be submitted not later than January 23, 1952, to the Secretary, Hospital Management Committee, Hackney Hospital, E.9. (5800)

NEW END HOSPITAL, N.W.3

Applications are invited for the post of

HOUSE SURGEON
(Obstetrics and Gynaecology. Second or third post held)

Applications, stating age, qualifications and previous experience, together with copies of two recent testimonials and the name of one referee, to the Surgeon Superintendent, New End Hospital, Hampstead, N.W.3, by January 28, 1952. (6665)

BILLERICAY, ST. ANDREWS HOSPITAL
(34 beds. New unit)
South-East Essex Hospital Management Committee
OBSTETRIC HOUSE SURGEON

Applications are invited for the above appointment from registered medical practitioners, male or female. Resident. Six months' appointment in the first instance. Post vacant immediately. Applications, stating age, qualifications and experience, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Sec., Thurrock Hospital, Grays, Essex. (4118)

BIRMINGHAM, MARSTON GREEN MATERNITY HOSPITAL
Berwicks Lane, Marston Green
Birmingham (Dudley Road) Group of Hospitals
HOUSE SURGEON (Obstetrics)

Required for the above hospital (100 beds). This post becomes vacant on March 1, and is recognized by the Royal College of Obstetricians and Gynaecologists for the Diploma and Membership examinations. Applications, stating age, nationality and experience, accompanied by copies of three recent testimonials, to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (6760)

BIRMINGHAM, SORRENTO AND LORDSWOOD MATERNITY HOSPITALS
Group 25 Birmingham (Selly Oak) Hospital Management Committee
OBSTETRIC HOUSE SURGEON

Six months' appointment, recognized for the D.Obst.R.C.O.G. Applications for this appointment, vacant March 1, to the Obstetrician, Sorrento Maternity Hospital, Moseley, Birmingham, 13, not later than January 30, 1952. (6856)

BURY ST. EDMUND'S, WEST SUFFOLK GENERAL HOSPITAL (289 beds)
West Suffolk Hospital Management Committee
HOUSE SURGEON (Second or third post)
for Obstetric and Gynaecological duties

National Health Service terms and conditions of service and salary apply. Appointment initially for six months. Post vacant mid-February. Applications, including the names of three referees, to the House Governor. (6666)

FARNBOROUGH HOSPITAL
Farnborough, Kent

Applications are invited for the post of

HOUSE OFFICER
in the Obstetric and Gynaecological Department (100 beds)

The post is for a period of six months and is recognized for candidates preparing for M.R.C.O.G. Duties to commence on April 1, 1952. Salary £350 to £450 a year, according to experience, less £100 a year residential emoluments. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be forwarded to the Administrative Officer. (6786)

HALIFAX, ROYAL INFIRMARY
(301 beds—44 maternity)
OBSTETRICAL HOUSE SURGEON (male)

Salary according to experience. The post is recognized for the D.R.C.O.G., and is vacant March 1, 1952. Applications, stating age, qualifications, and experience, together with three recent testimonials, to be forwarded to the Secretary. (6724)

LEICESTER GENERAL HOSPITAL (445 beds)

Applications are invited for the post of

GYNAECOLOGICAL AND OBSTETRICAL HOUSE SURGEON

commencing April 1, 1952. Recognized for the M.R.C.O.G. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6626)

LEICESTER ROYAL INFIRMARY MATERNITY HOSPITAL

Applications are invited for the post of

OBSTETRIC HOUSE SURGEON (House Officer)

commencing April 1, 1952. Recognized for D.R.C.O.G. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to reach the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6627)

NEWPORT, MON, ST. WOOLOS HOSPITAL (379 beds)

Applications are invited for the post of

HOUSE OFFICER
(Obstetrics and Gynaecology)

vacant February 1. The department consists of 43 obstetric and 22 gynaecological beds. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (5653)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
RESIDENT HOUSE OFFICER

Applications are invited from registered medical practitioners for the above post in the Obstetric and Gynaecological Unit consisting of 88 obstetric beds and 52 gynaecological beds. Post, tenable for six months, is recognized for D.R.C.O.G. and M.R.C.O.G. Applications, stating age, nationality, qualifications (with dates), present appointment and experience, and two recent testimonials or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6667)

ROMFORD, ESSEX, RUSH GREEN HOSPITAL (247 beds)

Applications are invited from registered medical practitioners for the post of

RESIDENT HOUSE SURGEON (Woman)

for duties in the Gynaecological Unit comprising 25 gynaecological and 6 maternity beds at the above hospital. Previous experience not necessary. Post tenable for six months from February 1, 1952. Applications, stating (in order) age, qualifications (with dates), present appointment and details of experience, accompanied by copies of two recent testimonials or names of referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. Applicants may see the hospital by arrangement with the Medical Superintendent. Telephone: Romford 7711. (5620)

ROTHERHAM, MOORGATE GENERAL HOSPITAL (366 beds, 38 cots)
RESIDENT OBSTETRICAL OFFICER (Junior) and HOUSE SURGEON

Tenable for a period of six months in the first instance. Salary £350 to £450 per annum, according to experience, from which a deduction of £100 per annum for residential emoluments will be made. Applications, stating age, qualifications, experience and nationality, with names of three referees, to be addressed to the Secretary to the Management Committee, Fern Bank, Doncaster Road, Rotherham, Yorks, as soon as possible. (6628)

SOUTHAMPTON GENERAL HOSPITAL
TWO HOUSE SURGEONS (Resident)

Required early in March in obstetric and gynaecological unit. Posts recognized for both Diploma and Membership examinations of the R.C.O.G. Tenable for six months. Applications, with copies of testimonials, to be forwarded as soon as possible to the Secretary, Southampton Group H.M.C., Bullar Street, Southampton. (5891)

SOUTHEND-ON-SEA, GENERAL HOSPITAL

Applications are invited for the post of

RESIDENT GYNAECOLOGICAL HOUSE SURGEON

vacant February 17, 1952. Post recognized for M.R.C.O.G. Applications, etc., should reach the undersigned not later than January 24, 1952.—J. C. Field, Secretary. (5873)

OPHTHALMOLOGY

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the following Senior Hospital Medical Officer positions:

PART-TIME ASSISTANT OPHTHALMOLOGISTS

to the Clinics listed below. Where Clinics are grouped together appointments will only be made on a group basis.

1. **Central School Clinic, Walthamstow,** Town Hall, Walthamstow (four sessions a week).
2. **Woodbury Down Health Centre,** Stoke Newington, N.16 (one session a week).
3. **Laindon Combined Treatment Centre,** Florence Road, Laindon, Essex (two sessions a month). **Billericay Combined Treatment Centre,** Laindon Road, Billericay, Essex (one session a month).
4. **Witham Combined Treatment Centre,** Witham, Essex (two sessions a month). **Burnham Combined Treatment Centre,** Crouch Road, Burnham, Essex (one session a month). **Maldon Combined Treatment Centre,** Wantz Chase, Maldon, Essex (three sessions a month).
5. **Public Health Offices Clinic,** Ilford, Essex (two sessions a week). **Mayesbrook School Clinic,** Goodmayes Lane, Ilford, Essex (two sessions a week).

Separate applications (six copies, or nine copies if for more than one post), indicating post concerned and stating private address, date of birth, full details of qualifications and experience, present appointment(s) (including number of sessions), grade and salary, together with names and addresses of three referees, should reach C. E. Nicol, Secretary, 11a, Portland Place, London, W.1, by Saturday, February 2, 1952. (6865)

EDINBURGH, ROYAL INFIRMARY OF

Applications are invited from registered medical practitioners for a

JUNIOR HOSPITAL MEDICAL OFFICER
for the Eye Department

Salary will be in accordance with National Health Service scales. Applications, with the names of two referees, should be sent to the Medical Superintendent, Royal Infirmary, Edinburgh, not later than fifteen days from date of advertisement. (6761)

BOURNEMOUTH, ROYAL VICTORIA HOSPITAL (485 beds)
Bournemouth and East Dorset Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER

Required for post vacant January 25, for Ophthalmic and E.N.T. duties at Westbourne Hospital (72 beds). The appointment is recognized for the D.O. and D.L.O. Diplomas, and is tenable for twelve months. Applications to the Assistant Secretary of the hospital. (5682)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee

Applications are invited for the appointment of

SENIOR HOUSE OFFICER

in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952. Salary £670 a year, less £150 a year for residential emoluments. Applications should be forwarded as soon as possible to Secretary, Mid Kent Hospital Management Committee, 103, Tonbridge Road, Maidstone. (5359)

NEWCASTLE-UPON-TYNE, UNITED HOSPITALS

Applications are invited from registered medical practitioners for the appointment of

SENIOR HOUSE OFFICER
to the Ophthalmic Department of the Royal Victoria Infirmary

This is the Teaching Hospital of the University of Durham, and the successful candidate will have opportunity for clinical experience in in-patient and out-patient work under the direction of the Head of the Department. He will also be responsible for clinical emergency duty as required. The appointment, which is now vacant, is residential: it will be for six months in the first instance and will be subject to National Health Service terms and conditions of service. The salary is at the rate of £670 per annum, subject to the appropriate deductions, including £100 per annum for residential emoluments. Applications, giving age, nationality, experience, and qualifications, with the names and addresses of three referees, should be sent to the undersigned within two weeks of the appearance of this advertisement.—A. W. Sanderson, House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne. (5856)

GLASGOW EYE INFIRMARY
THREE RESIDENT HOUSE SURGEONS

Required immediately. Salary £350 to £450 per annum, less £100 emoluments. Applications to Medical Superintendent, 174, Berkeley Street, Glasgow, C.3. (6725)

HALIFAX, ROYAL INFIRMARY

Applications are invited for the post of

HOUSE SURGEON (Male or female)

to the Ophthalmic and E.N.T. Departments at this busy acute general hospital. The post includes part-time casualty duty and is recognized for the D.O. Applications, stating age, qualifications and experience, together with three recent testimonials, to be forwarded to the Secretary. (5465)

MANCHESTER ROYAL EYE HOSPITAL
United Manchester Hospitals
HOUSE SURGEON

Salary £350 to £450 per annum, according to the number of positions previously held, less £100 per annum for residential emoluments. Appointment of a practitioner within three months of qualification and subject to National Service Acts would be limited to six months. Applications, stating age, details of qualifications and experience, and nationality, should be forwarded immediately to H. R. North, General Superintendent. (5149)

Ophthalmology—contd.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
HOUSE SURGEON
to the Senior Surgeon and Ophthalmological Department

Vacant February 1, 1952. Applications, with copies of two testimonials, should be sent to the Secretary. (6719)

YORK COUNTY HOSPITAL
(General hospital of 269 beds, with full consultant staff)

Applications are invited from registered medical practitioners for the post of
EYE HOUSE SURGEON
The post is recognized for the D.O. and is vacant from January 23, 1952. The appointment is for six months in the first instance and can be renewed thereafter. Salary £350 for first post, £400 for second post, £450 for third post and subsequent posts, less £100 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (6805)

ORTHOPAEDICS

DARLINGTON HOSPITAL MANAGEMENT COMMITTEE GROUP
Newcastle Regional Hospital Board
REGISTRAR ORTHOPAEDIC SURGEON
(Resident or non-resident)

Required up to August 31, 1952, in the first instance. Salary £775 per annum. Applications, together with names and addresses of one to three referees and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle, 2, within fourteen days. (6668)

GRIMSBY GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of
REGISTRAR (Orthopaedic Surgery)
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than January 28, 1952. (5621)

OSWESTRY, ROBERT JONES AND AGNES HUNT ORTHOPAEDIC HOSPITAL (451 beds)
Birmingham Regional Hospital Board

Applications invited for appointment of
TWO WHOLE-TIME ORTHOPAEDIC REGISTRARS
Resident appointments. Possession of higher surgical qualification an advantage. Posts become vacant in April and May, 1952. Appointments subject to National Health Service (Superannuation) Regulations. Ten copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 4, 1952. Candidates may visit the hospital concerned. (6851)

WETHERBY (near), YORKS, MARGUERITE HEPTON MEMORIAL ORTHOPAEDIC HOSPITAL
Thorp Arch (75 long-stay children's beds)
Leeds Regional Hospital Board

Applications are invited for the appointment of
REGISTRAR in Orthopaedic Surgery
A three-bedroomed, partly furnished house is available in the hospital grounds for which a charge of £60 per annum would be made. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than February 2, 1952. (6669)

ST. JAMES' HOSPITAL
Ouseley Road, Balham, S.W.12
Wandsworth Hospital Group
RESIDENT SENIOR HOUSE OFFICER
(Orthopaedic and Trauma Unit—90 beds)

Post vacant immediately. Applications, stating age, previous experience, qualifications, and two referees, to the Secretary, 14, Atkins Road, Balham, S.W.12, by January 25, 1952. (6801)

BRISTOL (near), WINFORD ORTHOPAEDIC HOSPITAL (235 beds)
SENIOR HOUSE OFFICERS

Applications are invited from registered medical practitioners to fill two vacancies which will occur in April and May, 1952. Positions are tenable for twelve months. Salary £670 per annum. Apply, stating age, qualifications and experience, with copies of testimonials, to the undersigned as soon as possible.—E. N. Roper, Sec.-Administrator. (6803)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
SENIOR ORTHOPAEDIC HOUSE SURGEON

Applications are invited for the above appointment, which is tenable for one year. Salary £670 per annum and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (5468)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute General Hospital, mainly surgical, with beds for orthopaedic, medical and other specialties)
Bury and Rossendale Hospital Management Committee

Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Orthopaedic)
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Sec. to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9580)

CARDIFF, PRINCE OF WALES ORTHOPAEDIC HOSPITAL
Cardiff Hospital Management Committee
SENIOR HOUSE OFFICER (Sole resident)

Required from February 1, 1952. Orthopaedic experience essential. Transfer to new premises probable during appointment. Application forms from the Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (6670)

ECCLESHALL (near), STAFFORD, STANDON HALL ORTHOPAEDIC HOSPITAL
Stafford Hospital Management Committee

Applications are invited from suitably qualified medical practitioners, male or female, for the post of
SENIOR HOUSE OFFICER
Salary £670 per annum, less deduction for residential emoluments. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Secretary to the Committee, 13, Foregate Street, Stafford. (6740)

HARROGATE, ROYAL BATH HOSPITAL
Cornwall Road (145 beds)
(A National Hospital for the treatment of rheumatism and allied diseases which is the centre of rheumatism research for the area)
Harrogate and Ripon Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
(Surgical Orthopaedic Unit)
Previous orthopaedic experience desirable but not essential. Salary £670 per annum, subject to a deduction of £140 per annum in respect of board and lodging. The appointment is subject to the National Health Service (Superannuation) Regulations, 1950. Applications to be forwarded to the Assistant Secretary. (5939)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee

Applications are invited for the following posts in the Fracture and Orthopaedic Department:
SENIOR HOUSE SURGEON
vacant February 15, 1952. Salary £670 per annum, less £165 for residence.
HOUSE SURGEON
vacant February 1, 1952. Salary £350 to £450, less £100 for residence.
Applications, with full particulars, to the Secretary, Hospital Management Committee. (5846)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
for duties at the Leicester General Hospital and the Leicester Royal Infirmary. Fracture and Orthopaedic service. The successful candidate may either be non-resident or resident at the General Hospital. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to reach the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6629)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
TWO SENIOR HOUSE OFFICERS

Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out-patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible. (6671)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)

Applications are invited from registered medical practitioners for the posts of
RESIDENT SENIOR HOUSE SURGEONS
The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER
(Orthopaedic)
Duties to commence as soon as possible. Duties will relate mainly to accident and fracture cases, both in- and out-patients, and include orthopaedic cases. Previous experience of this type of work is essential. Salary and conditions of service in accordance with the Ministry Regulations. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (5801)

PLYMOUTH, MOUNT GOLD ORTHOPAEDIC HOSPITAL

Applications are invited for the appointment of
TWO SENIOR HOUSE OFFICERS
at the above hospital (120 beds). The appointments are resident and the salaries and conditions of service are in accordance with the National Health Service terms. Some experience in orthopaedics is desirable. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, should be sent to the Director of Orthopaedics, Mount Gold Hospital, Plymouth, within fourteen days of the appearance of this advertisement. (5737)

SALISBURY GENERAL HOSPITAL
Salisbury Group Hospital Management Committee

Applications are invited for
RESIDENT ORTHOPAEDIC SENIOR HOUSE OFFICER
Wide variety of experience available. Apply immediately, naming two referees, to Group Secretary, Odstock Hospital, Salisbury. (5847)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
TWO SENIOR HOUSE OFFICERS (Orthopaedic)/CASUALTY OFFICERS

required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7795)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
The post is recognized for the F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5819)

SWANSEA, MORRISTON HOSPITAL (450 beds)
Glantawe Hospital Management Committee

Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER
in the Traumatic and Orthopaedic Surgical Department. Salary and conditions of service will be according to the National Health Service scale. Applications, stating age, qualifications, and experience, should be addressed to the Medical Superintendent, Morriston Hospital, Swansea.—O. C. Howells, Secretary. (6861)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee

Applications are invited for the vacancy of
RESIDENT SENIOR HOUSE SURGEON
to the Orthopaedic and Traumatic Department
which occurs on February 7, 1952. This is a large and busy specialty with two consultants, 70 beds, and deals with the greater part of the casualties in West Cornwall. The post is tenable for one year at a salary of £670, less £100 for emoluments, and subject to the terms and conditions published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of two recent testimonials, should be forwarded to the Administrative Assistant without delay. (4807)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Orthopaedics—contd.

TYNEMOUTH VICTORIA JUBILEE INFIRMARY
South-East Northumberland Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT SENIOR ORTHOPAEDIC HOUSE SURGEON and CASUALTY OFFICER
Salary £670 per annum. Applications, giving full details and with two testimonials (or the names of two referees), should be sent to the Secretary, South-East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (6794)

WARWICK HOSPITAL, Lakin Road, Warwick (General 348 beds)
South Warwickshire Hospital Group (No. 14)
Applications are invited from suitably qualified candidates for the post of
SENIOR HOUSE OFFICER
in Orthopaedic and General Surgery
Salary, terms and conditions of service in accordance with hospital medical staff. The post is resident. Applications, stating age, qualifications and experience, together with names and addresses of three referees, should be forwarded to the undersigned not later than Monday, January 28, 1952.—W. A. James, Secretary to the Management Committee, 67, Radford Road, Leamington Spa. (6604)

WIGAN (near), WRIGHTINGTON HOSPITAL
Appley Bridge
SENIOR HOUSE OFFICER
Required for this 352-bedded hospital which is the Manchester Regional Orthopaedic Tuberculosis Centre. Salary £670 per annum, less deduction for residence, etc. Also
HOUSE SURGEON
Terms and conditions as per national scales. Applications to Secretary, giving qualifications and names of two referees. (5738)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
Winchester Group Hospital Management Committee
SENIOR HOUSE OFFICER
in the Orthopaedic Department
The appointment will be for six months in the first instance and will be resident. Salary at the rate of £670 per annum, less £150 for board and residence. Applications should be sent to the Secretary. (6907)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
RESIDENT HOUSE OFFICER
Required in the Orthopaedic Department. Appointment for six months from February 5, 1952. Applications, with names of two referees, or copies of testimonials, to Medical Director by Jan. 26. (6862)

AMERSHAM GENERAL HOSPITAL, Bucks (124 acute beds)
RESIDENT HOUSE OFFICER
Orthopaedic and Accident Department
Applications are invited. Duties include charge of casualty department under visiting consultant staff and care of in-patient beds. Hospital is a peripheral centre of Oxford Regional Orthopaedic Service based on Wingfield Morris Orthopaedic Hospital. Applications, with copies of three recent testimonials, to Secretary, H.M.C., St. Mary's Cottage, High Wycombe. (6672)

BRADFORD ROYAL INFIRMARY
Applications are invited for the appointment of
ORTHOPAEDIC HOUSE SURGEON/ CASUALTY OFFICERS
Vacant now and vacant January 31, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (6863)

BRADFORD, ST. LUKE'S HOSPITAL
ORTHOPAEDIC HOUSE SURGEON/ CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (6864)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
ORTHOPAEDIC HOUSE SURGEON
Vacant now. Applicants, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (5801)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
ORTHOPAEDIC AND GENERAL SURGICAL HOUSE SURGEON
The above post, which is recognized for the F.R.C.S. Diploma, becomes vacant at the end of January. National Health Service salary and conditions. Applications to be addressed to the Chief Administrative Officer at the hospital. (5533)

DARTFORD, WEST HILL HOSPITAL
HOUSE OFFICER
(Specialty—Orthopaedic Surgery)
Required immediately by the Dartford Hospital Management Committee. Salary in accordance with terms and conditions of service of hospital medical and dental staff. The appointment is limited to a period of six months. The hospital is a large general hospital, affording opportunities for wide experience, and is within easy reach of London. Applications, stating age, qualifications, experience and the names of two persons to whom reference may be made, should be sent to the Surgeon Superintendent, The West Hill Hospital, Dartford, Kent. (6673)

EDINBURGH, PRINCESS MARGARET ROSE HOSPITAL FOR CRIPPLED CHILDREN
Applications are invited from registered medical practitioners for the appointment of
TWO HOUSE SURGEONS
for the six months commencing April 1, 1952, resident, at National Health Service scales of salary. Applications, stating age, qualifications and experience and names of two referees, to the Medical Superintendent, Edinburgh Central Hospitals, 18, Rillbank Terrace, Edinburgh, 9, by Jan. 30. (6842)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Vacant now. National scales and conditions. Six-monthly appointment, terminable at any time by one month's notice on either side. Forms of application from the Administrative Officer. (7138)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the post of
HOUSE SURGEON (Orthopaedics)
commencing April 1, 1952. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24. (6630)

NORWICH, NORFOLK AND NORWICH HOSPITAL (440 beds)
HOUSE SURGEON
to the Orthopaedic Department
Post vacant now. Salary £350, £400 or £450 per annum, according to experience, less £100 per annum for residential emoluments. Six months' appointment. Applications, stating age, qualifications, experience, with names of two referees, to Secretary, Group 6 Hospital Management Committee, St. Stephen's Road, Norwich. (5161)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE HOUSE SURGEON
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

PORTSMOUTH, ROYAL, HOSPITAL (205 beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the following appointment:
HOUSE SURGEON (Orthopaedics)
Vacant January 30. Applications, stating age, experience and qualifications and names of two referees, should be submitted as soon as possible to the undersigned.—E. H. Hurst, 35, Grove Road South, Southsea. (6674)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5534)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)
Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6675)

STONEHOUSE, LANARKS, COUNTY HOSPITAL
Board of Management for Motherwell, Hamilton and District Hospitals
Applications are invited for following vacancy:
HOUSE OFFICER (Orthopaedic)
Apply to Medical Superintendent, County Hospital, Stonehouse, Lanarkshire. (6804)

PAEDIATRICS

QUEEN ELIZABETH HOSPITAL FOR CHILDREN MANAGEMENT COMMITTEE
Hackney Road, E.2, Shadwell, E.1, and Banstead Wood, Surrey
Appointment of
RESIDENT MEDICAL OFFICER
(Male or female) (Graded Senior House Officer)
at Hackney Road, E.2
Applications are invited for the above appointment to become vacant on March 1, 1952. Candidates must have had experience in the treatment of sick children. The appointment will be for one year. Salary £670 per annum, subject to a charge of £100 per annum for residential emoluments. Application forms may be obtained from the Secretary at Hackney Road, and should be returned with not more than three testimonials not later than January 28, 1952. (5941)

AMENDED ADVERTISEMENT
BEBINGTON, CHESHIRE, CLATTERBRIDGE HOSPITAL (840 beds)
Central Wirral Group
SENIOR HOUSE OFFICER (Paediatrics)
Salary in accordance with current terms and conditions of service. Application forms from Group Secretary, Clatterbridge Hospital, Bebington, Cheshire, to be returned by Feb. 14. (6808)

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Paddington Hospital, Harrow Road, W.9
Applications are invited for the post of
HOUSE PHYSICIAN
for duty from March 1, 1952, in the Paediatric Department of St. Charles' Hospital, Ladbroke Grove, W.10. Salary and conditions of service for hospital medical and dental staff. Applications stating age, qualifications, experience, together with the names and addresses of two referees, to reach the Secretary to the Committee by Feb. 11. (6743)

PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN, St. Quintin Avenue, W.10
St. Mary's Hospital, Children's Department
Applications are invited from registered medical practitioners for the appointment of
RESIDENT CASUALTY OFFICER
(Second or third post)
vacant on March 1, 1952, for six months. Salary and conditions of service in accordance with National Health Service scales (House Officer grade). Recognized for the D.C.H. Applications stating age, nationality, qualifications, together with three recent testimonials, should reach the undersigned not later than January 28, 1952.—A. C. Young, Secretary. (6806)

PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN, St. Quintin Avenue, W.10
St. Mary's Hospital, Children's Department
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN (Second or third post)
vacant on March 1, 1952, for six months. Salary and conditions of service in accordance with National Health Service scales. Recognized for the D.C.H. Applications, stating age, nationality, qualifications, together with three recent testimonials, should reach the undersigned not later than January 28, 1952.—A. C. Young, Sec. (6807)

ASHTON, HYDE AND GLOSSOP HOSPITAL MANAGEMENT COMMITTEE
HOUSE PHYSICIAN (Paediatrics)
Required immediately for duty mainly at Lake Hospital, Ashton-under-Lyne (600 beds) and District Infirmary, Ashton-under-Lyne (200 beds). Salary £350 to £450 per annum, according to experience, less £100 per annum for board and lodging, etc. Applications, giving age, nationality, qualifications and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (6631)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
TWO HOUSE OFFICERS (Surgical)
Required for six months, to commence duty on February 1, 1952. The duties will be mainly general surgery, but the officers will have, in addition, the opportunity of undertaking a certain amount of special surgery. Forms of application may be obtained from the undersigned and should be returned immediately.—N. R. Winwood, House Governor (5741)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
HOUSE OFFICER (Medical)
Required for six months to commence duty on April 1, 1952. Forms of application may be obtained from the undersigned, and should be returned not later than January 28, 1952.—N. R. Winwood, House Governor. (5835)

BRADFORD CHILDREN'S HOSPITAL (102 beds)
RESIDENT HOUSE OFFICER
Post now vacant. Hospital recognized for D.C.H. Salary £350 to £450 per annum, according to experience, less £100 per annum emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (6726)

Paediatrics—contd.

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
PAEDIATRIC HOUSE OFFICER
Duties in the Sick Children's Wards and the Neonatal Department. Post qualifies for D.C.H. Vacancy March 1. Apply immediately, stating age, qualifications and experience, with a copy of two testimonials, and the name of one referee, to Group Secretary, St. Helier Hospital, Carshalton, Surrey. (6676)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
to the Paediatric Department
The appointment is for a period of six months, commencing March 17, 1952. The department is recognized for D.C.H. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5480)

EDINBURGH, ROYAL HOSPITAL FOR SICK CHILDREN
Applications are invited from registered medical practitioners for the appointments of
THREE HOUSE PHYSICIANS (Third post)
TWO HOUSE SURGEONS (Third post)
All appointments resident at National Health Service scales of salary. Applications, stating age, qualifications and experience and names of two referees, to the Medical Superintendent, Edinburgh Central Hospitals, 18, Rillbank Terrace, Edinburgh, 9, by January 30, 1952. (6843)

FARNBOROUGH HOSPITAL
Farnborough, Kent
Applications are invited for the post of
HOUSE PHYSICIAN
in the Paediatric Department
to commence on February 20, 1952. The appointment is for a period of six months and recognized for candidates preparing for the D.C.H. Salary £350 to £450 a year, according to experience, less £100 a year for residential emoluments. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be forwarded to the Administrative Officer. (6787)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the post of
PAEDIATRIC HOUSE PHYSICIAN
commencing April 1, 1952. Recognized for the D.C.H. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6632)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
HOUSE PHYSICIAN (Paediatric Department)
for a period of six months, commencing April 1, 1952. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to reach the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6633)

LIVERPOOL, OLIVE MOUNT CHILDREN'S HOSPITAL, Wavertree
Liverpool Region Children's Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
for a period of six months as from March 1, 1952. The successful applicant will also act as Clinical Assistant to Alder Hey Children's Hospital and this post is recognized for the D.C.H. examination. A salary of £50 per annum in excess of those set out in the terms and conditions of service of hospital medical and dental staff has been authorized. Applications, stating age, qualifications (with dates), experience and details of present and previous appointments, together with copies of three recent testimonials, should be sent to the undersigned immediately.—H. R. Mason, Secretary to the Committee, Alder Hey Children's Hospital, Liverpool, 12. (6809)

WREXHAM, POWYS AND MAWDDACH HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the appointment of
PAEDIATRIC HOUSE PHYSICIAN
for newly formed unit under Consultant Paediatrician for duty mainly at Maelor General Hospital, Wrexham (600 beds), and War Memorial Hospital, Wrexham (170 beds). The appointment will be for six months and will commence at beginning of March. Salary will be at the rate of £350 to £450 per annum, according to experience, less £100 per annum for full residential accommodation. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, to be addressed to the Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (6616)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
Applications are invited for the post of
HOUSE SURGEON
with duties in the Paediatric Department. Salary £350 to £450, according to previous posts held, with deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications, and experience, together with names of two referees, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible.—A. Ashworth, Secretary to the Committee. (4813)

SOUTHAMPTON CHILDREN'S HOSPITAL
(Recognized by Conjoint Board for D.C.H.)
HOUSE OFFICER
Post vacant February 17. Salary, etc., as nationally advocated. Preference given to candidates intending to specialize in paediatrics. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (5802)

PATHOLOGY

HITCHIN, LISTER HOSPITAL
North-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME ASSISTANT PATHOLOGIST
Salary scale £1,300 to £1,750 per annum. Possession of higher qualification desirable and candidates should have wide experience in pathology with special interest in morbid anatomy. This is a general hospital of some 400 beds with the usual special departments. Applications, stating date of birth, qualifications and experience, and the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 23. Candidates are welcome to visit the hospital by direct appointment with Medical Director. (6810)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified practitioners for the whole-time, non-resident post of
ASSISTANT PATHOLOGIST (S.H.M.O. Scale)
for duties at hospitals in the Halifax Group. The successful candidate will work under the general guidance of the Consultant in charge of the department and will be required to reside in Halifax or within such distance of that town as the Board may approve. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than February 16, 1952. (6605)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time non-resident post of
ASSISTANT PATHOLOGIST
to the Group Laboratory at Withington Hospital, with main duties at Christie Hospital and Holt Radium Institute, Manchester. Experience in all branches of hospital pathology is desirable, but special interest in morbid anatomy and histology (particularly of malignant disease) would be advantageous. The successful candidate will work under the general guidance of consultants. Salary £1,300 by £50 to £1,750. Forms of application can be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than February 7, 1952. (6867)

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications are invited for the following whole-time appointments:
REGISTRAR IN PATHOLOGY
Birmingham (Selly Oak) Group
Duties mainly at Selly Oak Hospital, Birmingham (1,098 beds). Appointment may be resident or non-resident. Experience in specialty essential, and possession of higher qualifications an advantage.
REGISTRAR IN PATHOLOGY
Coventry Group
Duties at Group Laboratory at Coventry and Warwickshire Hospital. Applicants must have some experience in Pathology, and an interest in Haematology is desirable.
Appointments subject to National Health Service (Superannuations) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 4, 1952. Candidates for both appointments should forward 15 copies of application. Candidates may visit the hospitals concerned. (6852)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
NON-RESIDENT REGISTRAR in Pathology
for duties at hospitals in the Halifax Group. This post offers good facilities for training in pathology, and is normally tenable for two years, subject to satisfactory service. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than February 2, 1952. (6677)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Pathological)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (6762)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
SENIOR HOUSE OFFICER (Pathologist)
Salary £670 per annum. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (6653)

WATFORD, GROUP NO. 9 LABORATORY
Peace Memorial Hospital
North-West Metropolitan Regional Hospital Board
Applications are invited from registered medical practitioners for the post of
NON-RESIDENT JUNIOR PATHOLOGIST
(Senior House Officer grade)
The appointment will be tenable for a period of one year in the first instance. Previous experience is desirable, but not essential. Salary and conditions of service will be as laid down in the National Health Service regulations. Applications, stating age, qualifications, and experience, together with the names of two referees, should be sent to the Pathologist in Charge at the above named Laboratory. (6720)

PSYCHIATRY

BRITISH HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS
72, Camden Road, N.W.1
North-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
TWO PSYCHIATRISTS (Consultant)
each for two half days a week. Applicants should possess appropriate higher qualifications and have wide experience in this specialty. It will be an advantage for one of those appointments for applicants to have had experience in group therapy. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 23, 1952. Candidates are welcome to visit the hospital by direct appointment with the Secretary of the hospital. (6812)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
DEPUTY PHYSICIAN SUPERINTENDENT AND CONSULTANT PSYCHIATRIST
at Tooting Bec Hospital, S.W.17 (2,300 beds)
Patients are mainly senile and chronic psychotics, but acute cases of mental disorder are received. Candidates should possess the D.P.M. and preferably a higher medical qualification and should have wide experience in all modern methods of psychiatric treatment. The appointment is a resident one; a house being available in the hospital grounds at an appropriate rental. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than February 16, 1952. Applicants may visit the hospital by local arrangement. (6617)

BASINGSTOKE, HANTS, PARK PREWETT HOSPITAL (1,400 beds)
South-West Metropolitan Regional Hospital Board
Applications are invited by the Board for the whole-time appointment of
DEPUTY PHYSICIAN SUPERINTENDENT and CONSULTANT PSYCHIATRIST
at the above hospital. The post is residential with a house available within the curtilage of the hospital, at a charge of £111 16s. per annum. Candidates should possess the D.P.M. and preferably a higher medical qualification and have had extensive psychiatric experience, together with some practical knowledge in the administration of a mental hospital. Duties will include work at out-patient clinics (Aldershot, Odstock and Park Prewett Hospitals), psychotherapy at H.M. Prison, Winchester, and domiciliary work. Applications (five copies), stating date of birth, qualifications, experience and present appointment, and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than February 16, 1952. Applicants may visit the hospital by local arrangement. (6678)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Psychiatry—contd.

BURTON-ON-TRENT GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of

WHOLE-TIME ASSISTANT PSYCHIATRIST

Duties at St. Matthew's Hospital, Burntwood (1,200 beds). Salary scale £1,300 to £1,750 per annum. Candidates must have considerable experience in psychiatry, and should hold D.P.M. Accommodation available for married man. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 4, 1952. Candidates may visit hospitals concerned. (6853)

ABERGAVENNY, MON, PEN-Y-VAL HOSPITAL (1,211 beds)
Welsh Regional Hospital Board

Applications are invited from registered medical practitioners for the appointment of

REGISTRAR *in Psychiatry*

Facilities for training for the D.P.M. examination will be made available. Married quarters are available in the form of a flat. The post will be subject to review at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh R.H.B., Cathays Park, Cardiff. (6763)

BIRMINGHAM REGIONAL HOSPITAL BOARD

Applications are invited for the following whole-time appointments:

REGISTRAR IN PSYCHIATRY
Mid-Staffs Mental Group

Duties at St. George's Hospital, Stafford (1,334 beds). Single or married accommodation available. Experience in specialty essential. Possession of *higher qualification an advantage.*

REGISTRAR IN PSYCHIATRY
Stoke-on-Trent Group

Duties at City General Hospital, Stoke-on-Trent (966 beds). Department comprises mental observation ward (500 admissions annually). 150 beds for chronic psychotics and M.D.s. Opportunity to study all aspects of adult psychiatry. O.P. Department (four sessions weekly), including E.C.T. Facilities for D.P.M. Previous experience desirable.

Appointments subject to National Health Service (Superannuation) Regulations. Ten copies of application, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 4, 1952. Candidates for more than one appointment should forward seven copies of application in respect of each vacancy for which they wish to apply. Candidates may visit group hospitals. (6854)

BIRMINGHAM, UNITED, HOSPITALS
REGISTRAR to the Psychiatric Department

Applications are invited for this appointment, Senior Registrar Grade. Candidates must be medical practitioners, registered for not less than two years, and must hold the D.P.M. (or Part I). *The post offers good facilities for training.* The psychiatric department is an integral part of the departments of neurology, neurosurgery and psychiatry of the teaching hospital and of the University. The duties will include work in both the in-patient and out-patient departments of the hospital. Applications should be submitted on a special form which will be forwarded on request to the undersigned, from whom all further information may be obtained.—G. A. Phalp, Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (5742)

BRENTWOOD MENTAL HOSPITAL
Brentwood, Essex
TEMPORARY PSYCHIATRIC REGISTRAR
(Male or female)

Required at once. The hospital has over 2,000 beds and an annual admission rate of over 600 patients. All modern treatments are carried out and the post affords a means of gaining valuable experience in modern psychiatry. Salary is at the rate of £775 per annum, less £150 for residential amenities. Applications, stating age, experience and qualifications, to the Physician Superintendent, with names of two referees. (6813)

DENBIGH, NORTH WALES HOSPITAL FOR NERVOUS AND MENTAL DISORDERS
Welsh Regional Hospital Board

Applications are invited from registered medical practitioners for the appointment of

REGISTRAR *in Psychiatry*

The hospital provides a comprehensive mental health service for North Wales. Facilities for training for the D.P.M. examination will be made available. Married quarters are available in the form of an unfurnished flat. The post will be subject to review at the end of the first year. *Forms of application should be obtained immediately* from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (6764)

DUNDEE (bs), BALDOVAN INSTITUTION
(400 beds)
Eastern Regional Hospital Board (Scotland)

Applications are invited for the post of

SENIOR REGISTRAR

in the Regional Establishment for Mental Deficiency

Authorized training post. Salary and conditions of service in accordance with national agreement. *Further particulars and forms of application may be had from the Secretary to the Board,* 430, Blackness Road, Dundee, with whom applications must be lodged not later than January 26, 1952. (5940)

HOVE, SUSSEX, ST. FRANCIS AND LADY CHICHESTER GROUP OF HOSPITALS
South-East Metropolitan Regional Hospital Board

Applications are invited to fill a vacancy for a

WHOLE-TIME REGISTRAR in Psychiatry

Previous experience in general medicine is desirable. The appointment will be for one year in *the first instance and in accordance with the terms* and conditions of service of hospital medical and dental staff (England and Wales). The post will include opportunities for gaining further experience in a wide range of psychiatry. Applications, giving particulars of age, qualifications and experience, with relevant dates, together with the names and addresses of three referees, should be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1, not later than Feb. 1. (6679)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for

TWO RESIDENT REGISTRARS IN PSYCHIATRY

One at Prestwich Hospital, near Manchester, and one at Parkside Hospital, Macclesfield. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by Jan. 28, 1952. (6868)

SHEFFIELD, MIDDLEWOOD HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the whole-time post of

REGISTRAR (Psychiatry)

to the above hospital, which is a recognized training hospital for the D.P.M. Residential accommodation is available. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 7, 1952. (6680)

ABERGAVENNY, PEN-Y-VAL HOSPITAL
Vale of Usk Hospital Management Committee

Applications are invited for the post of

JUNIOR HOSPITAL MEDICAL OFFICER

Salary £700 to £1,000 per annum. Full residential accommodation for single person for which a de*duction of £150 per annum will be made.* Experience in psychiatry not necessary. Applications, stating age, sex, nationality, qualifications and present appointment, together with names of two referees, to be forwarded to the Medical Superintendent, Pen-y-val Hospital, Abergavenny, Mon., immediately. (6765)

CANTERBURY (near), ST. AUGUSTINE'S HOSPITAL, Chartham

Applications are invited by the Management Committee of this hospital for mental and nervous disorders, *from registered practitioners, male or female,* for the following posts:

JUNIOR HOSPITAL MEDICAL OFFICERS

(Two posts). Salary £700 per annum by £50 to £1,000 per annum.

SENIOR HOUSE OFFICERS (Two posts)

for tenure of one year. Salary £670 per annum.

A house is available on the hospital estate, for which a rental will be charged. Unmarried accommodation is also available in the hospital, for which a charge of £150 per annum will be made. Apply to the Medical Superintendent, stating nationality, age, sex, qualifications and experience, with the names of three referees, within fourteen days of this advertisement. (5743)

MAIDSTONE, OAKWOOD HOSPITAL
JUNIOR HOSPITAL MEDICAL OFFICER

Required immediately for the above Mental Hospital of 2,200 beds. Salary £700 (for an officer appointed not less than two years after registration as a medical practitioner) by £50 to £1,000 per annum. Full residential accommodation is available, for single officers. The appointment is subject to the National Health Service (Superannuation) Regulations and to conditions published by the Minister of Health. Applications, in writing, giving the names of two persons to whom reference can be made, to be sent to the Medical Supt., Oakwood Hospital, Maidstone. (6792)

WELLS, SOMERSET, MENDIP HOSPITAL
(920 beds)

Applications are invited for the appointment of

JUNIOR HOSPITAL MEDICAL OFFICER
(Married or single)

with experience in psychiatry, for duty at the above mental hospital. Salary will be £700 by £50 to £1,000 per annum, with a charge of £150 per annum for quarters and residential services, or in the case of a married man a flat can be provided at a charge of £80 per annum (flat partly furnished, heating, gas, etc.). The appointment will be in accordance with the terms and conditions of service issued by the Ministry of Health. Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should be forwarded to the Medical Superintendent, Mendip Hospital, Wells, Somerset. (5898)

WORCESTER (near), POWICK MENTAL HOSPITAL
South Worcestershire Hospital Management Committee

A vacancy exists for a

JUNIOR HOSPITAL MEDICAL OFFICER

Experience of mental hospitals is not essential but desirable. Salary will be on the scale of £700 by £50 to £1,000, according to experience, and the conditions will be according to the terms laid down for hospital medical staff. A deduction for residential emoluments of £150 per annum will be made. Applications, with copies of three testimonials, should be sent to the Medical Supt., Powick Mental Hospital, nr. Worcester. (5899)

HOVE, SUSSEX, LADY CHICHESTER HOSPITAL
Aldrington House, New Church Road
(For the Treatment and Rehabilitation of Early Nervous Disorders of Men, Women, and Children)
Hospital Management Committee for St. Francis and the Lady Chichester Hospitals

HOUSE OFFICER (Second or third post)
(Man or woman)

required at once. Appointment for six months. Preference will be given to applicants who have held resident surgical or medical posts in a General Hospital. Salary at the rate of £400 or £450 per annum (in accordance with previous posts held), less a charge at the rate of £100 per annum for residential emoluments. Applications, stating age and sex, together with the names of three persons to whom reference may be made, to be sent to the Secretary, St. Francis Hospital, Haywards Heath, Sussex, not later than two weeks after the appearance of this advertisement. (5901)

RADIOLOGY

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

CONSULTANT in Radiology

(maximum part-time sessions) for duties mainly at the Bradford Royal Infirmary and also at St. Luke's Hospital, Bradford, and other hospitals in the Bingley, Keighley, Skipton and Settle Hospital Management Committee Group. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than February 16, 1952. (6681)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL
East Anglian Regional Hospital Board
WHOLE-TIME ASSISTANT RADIOTHERAPIST

Candidates must have a wide experience in the specialty and possess the D.M.R.(T.). Salary scale £1,300 to £1,750. Eight copies of applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 28, 1952. Applicants are invited to visit the hospital by direct arrangement with the Hospital Management Committee Secretary at the hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (5695)

WIGAN AND LEIGH HOSPITALS
Manchester Regional Hospital Board

Applications are invited for the whole-time, non-resident post of

ASSISTANT RADIOLOGIST

Applicants should possess the D.M.R.D., and have good experience in diagnostic radiology. The successful applicant will work under the general guidance of the Consultant Radiologist to this hospital centre, and will be required to live within reasonable distance of Wigan or Leigh. Salary £1,300 by £50 to £1,750 per annum. Forms of application can be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned to be received not later than February 8, 1952. (6869)

BIRMINGHAM, UNITED, HOSPITALS

Applications are invited for the post of

REGISTRAR *in Radiodiagnosis (Non-resident)*
(Registrar Grade)

for duties within the teaching group. Possession of the D.M.R. would be an advantage. Post vacant and tenable for one year in the first instance. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him not later than January 28. (5746)

RHEUMATOLOGY

CHARTERHOUSE RHEUMATISM CLINIC
54-60, Weymouth Street, W.1
(Independent of National Health Service)

Applications are invited from registered medical practitioners for the appointment of

PART-TIME PHYSICIAN

upon a sessional basis. Candidates must have had special experience of rheumatic diseases and hold the higher medical qualifications, including the membership of a Royal College of Physicians. Applications, which should include the names of three referees, should be sent to the Secretary, Major Ellert Forbes, M.C., T.D., from whom further particulars of duties and remuneration may be obtained. (6744)

MAIDENHEAD (near), CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow
SENIOR HOUSE OFFICER
to the Special Unit for Research in Juvenile Rheumatism

The post offers scope for those interested in research, paediatrics, rheumatology or cardiology, and previous experience in one of these is desirable. The appointment is tenable for twelve months, and carries a salary of £670 per annum, less £120 per annum in respect of residential emoluments. Applications, stating age, qualifications (with dates), experience, together with copies of three testimonials, should be sent to the Administrative Officer. (6634)

UROLOGY

ST. PETER'S, ST. PAUL'S AND ST. PHILIP'S HOSPITALS
St. Philip's Hospital, Sheffield Street, W.C.2
RESIDENT SURGICAL OFFICER

Required for St. Philip's Hospital, which is designated as a constituent hospital in the above teaching group for the treatment of male and female chronic urological cases, including children. Salary scale as for Senior House Officer. Appointment for six months to date from March 1, 1952. Applications (six copies) with six copies of two recent testimonials, to the House Governor, St. Peter's Hospital, Henrietta Street, W.C.2, by February 2, 1952. (6766)

MEDICINE

HAREFIELD HOSPITAL, Harefield, Middlesex
North-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of

PART-TIME PHYSICIAN (Consultant)
in the General Medical Unit of 40 beds for three half-days a week

Candidates should possess a higher qualification and have had wide experience in general medicine. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 16, 1952. Candidates are invited to visit the hospital by direct appointment with the Medical Director. (5904)

OXFORD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the post of

GENERAL PHYSICIAN
to the hospitals of the Northampton-Kettering area

The post will carry Consultant status and be part-time for a minimum of eight notional half-days a week. Applicants must be members or Fellows of a Royal College of Physicians. The successful candidate will be a member of the Area Department of General Medicine and will live in or near Northampton. Applicants are invited to visit the hospitals by arrangement. Applications (nine copies), stating age, qualifications, experience, and the names and addresses of three referees, should reach the Secretary of the Board (from whom further details may be obtained), 43, Banbury Road, Oxford, by February 8. (6682)

KING'S COLLEGE, HOSPITAL
Denmark Hill, S.E.5

Applications are invited for the post of

WHOLE-TIME SENIOR RESIDENT MEDICAL OFFICER

The duties will include the medical care of nurses and domestic staff, the supervision of emergency admissions, and work in the Medical Out-patient Department. Applicants should preferably hold the qualification of M.D., or M.R.C.P. Salary £1,300 to £1,750. Applications, stating age, education, qualifications and experience, together with the names of three referees, should be addressed to the undersigned, from whom further particulars may be obtained, by February 2, 1952.—S. W. Barnes, House Governor. (6814)

BARNET GENERAL HOSPITAL, Barnet, Herts
Barnet Group Hospital Management Committee

Applications are invited for the post of

SENIOR MEDICAL REGISTRAR
to an Acute Unit of 50 beds

The post, which is immediately available, is temporary pending the approval of a permanent appointment by the Regional Board. Candidates should possess a higher qualification. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent to the Med. Director. (5382)

BOLTON AND DISTRICT GROUP OF HOSPITALS
Manchester Regional Hospital Board

Applications are invited for the post of

RESIDENT REGISTRAR IN GENERAL MEDICINE

with main duties at Bolton Royal Infirmary. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by Jan. 28, 1952. (6870)

DORSET COUNTY HOSPITAL, Dorchester
South-West Metropolitan Regional Hospital Board
West Dorset Group Hospital Management Committee

Applications are invited for the post of

MEDICAL REGISTRAR (Registrar Grade)

Salary according to experience, with a deduction of £160 per annum for board residence, etc. Intending applicants should apply to Secretary, West Dorset Group Hospital Management Committee, Damers Road, Dorchester, Dorset, for application forms, which should be returned, duly completed, by February 2, 1952. (6745)

SHEFFIELD, UNITED, HOSPITALS
Royal Hospital Unit

Applications are invited from registered medical practitioners for the non-resident post of

REGISTRAR to the Medical Professorial Unit

at the above hospital. Duties will include out-patient and ward work under the direction of the Professor of Medicine. Interest in or special experience of respiratory or cardiac physiology would be an additional qualification for the post. Applications, stating age, qualifications and experience, together with the names of three referees, should be forwarded to the undersigned, to be received not later than February 2, 1952.—Kenneth Sumner, Chief Administrative Officer, The United Sheffield Hospitals, Central Office, Royal Hospital, Sheffield, 1. (6815)

SHEFFIELD, UNITED, HOSPITALS
Royal Infirmary Unit

Applications are invited from registered medical practitioners for the resident post of

MEDICAL REGISTRAR or SENIOR HOUSE OFFICER

at the above hospital. The successful applicant will work in the first instance in the wards of the Professor of Therapeutics. Applications, stating age, qualifications and experience, together with the names of three referees, should be forwarded to the undersigned, to be received not later than February 9, 1952.—Kenneth Sumner, Chief Administrative Officer, The United Sheffield Hospitals, Central Office, Royal Hospital, Sheffield, 1. (6816)

LINCOLN, ST. GEORGE'S HOSPITAL (126 beds)
Lincoln No. 1 Hospital Management Committee

Applications are invited for the post of

RESIDENT MEDICAL OFFICER

within the J.H.M.O. Grade at the above hospital. Salary and conditions of service in accordance with the terms for hospital medical staff. Salary being at the rate of £700 by £50 to £1,000 per annum. Applications, stating age, qualifications and experience, together with copies of recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary, County Hospital, Lincoln (53 3)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee

Applications are invited for the appointment of

SENIOR HOUSE PHYSICIAN
(Senior House Officer)

required March 15. Salary £670 per annum, less £155 for residential emoluments. Applications, with details of age, qualifications, and experience, together with copies of two recent testimonials, to be submitted to M. H. Boone, Secretary. (5636)

CLELAND, LANARKS, COUNTY HOSPITAL
Board of Management for Motherwell, Hamilton and District Hospitals

Applications are invited for the following vacancy.

SENIOR HOUSE OFFICER (Mainly Medical)

Apply to Medical Superintendent, County Hospital, Stonehouse, Lanarkshire. (6817)

KETTERING GENERAL HOSPITAL

Applications are invited from registered medical practitioners, who have held house appointments, for the post of

SENIOR HOUSE OFFICER IN MEDICINE
(Non-resident)

The appointment is for twelve months. There are five Resident Officers and full Consultant Staff. Applications, stating age, nationality, qualifications, past experience, and enclosing copies of two recent testimonials, should be forwarded as soon as possible to the Assistant Secretary, Kettering General Hospital. (6769)

NORTH-WEST DURHAM HOSPITAL MANAGEMENT COMMITTEE
Lee Hill Hospital
Lanchester, Co. Durham (245 beds)
Maiden Law Hospital
Lanchester, Co. Durham (108 beds)

Applications are invited from registered medical practitioners for the appointment of

RESIDENT SENIOR HOUSE OFFICER

which will become vacant on March 1, 1952. Salary being £670 per annum, less emoluments valued at the rate of £150 per annum. Duties will involve working at Lee Hill and Maiden Law Hospitals and provide opportunities for experience in the following: chronic sick, pulmonary and surgical tuberculosis, mental, infectious diseases and ear, nose and throat. Applications, accompanied by copies of three testimonials, should be sent to the undersigned as soon as possible.—A. Lawther, F.C.C.S., F.H.A., Secretary, Shotley Bridge General Hospital, Shotley Bridge, Consett, Co. Durham. (6767)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Medical)

Required for the above hospital. Duties to commence on or about February 5. Salary £670 per annum. If resident £150 deducted for emoluments. Conditions of service in accordance with the published conditions of the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (5637)

PRESTON ROYAL INFIRMARY

Applications are invited for the post of

SENIOR HOUSE OFFICER (Medical)

vacant early February, 1952. Applications to Secretary, Royal Infirmary, Preston. (6890)

ROSSENDALE GENERAL HOSPITAL
Rawtenstall
Bury and Rossendale Hospital Management Committee

There is a vacancy for a

SENIOR HOUSE OFFICER (Medical)

at the above-named hospital. National rates and conditions of service are applicable, and applicants should state age, qualifications, experience and nationality, and give either the names of two referees, or copies of recent testimonials. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee. (6818)

BOW GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE PHYSICIAN
(First, second or third appointment)

Required for general wards, part acute, part chronic. Post will become vacant almost immediately. Apply, stating age, qualifications and experience, together with the names and addresses of three referees, to Assistant Sec., St. Clement's Hospital, 2a, Bow Road, London, E.3. (6746)

NEW END HOSPITAL, N.W.3

Applications are invited for two posts of

HOUSE PHYSICIAN

vacant March 1, 1952. Applications, stating age, qualifications and previous experience, together with copies of two recent testimonials and the name of one referee, to the Surgeon Superintendent, New End Hospital, Hampstead, N.W.3, by January 28, 1952. (6684)

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Paddington Hospital, Harrow Road, W.9

Applications are invited for the posts of

TWO HOUSE PHYSICIANS for General duties

for duty from March 1, 1952, at St. Charles' Hospital, Ladbroke Grove, W.10, a busy general hospital of 579 beds. Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of two referees, to reach the Secretary to the Committee by February 11, 1952. (6747)

PLAISTOW HOSPITAL
Samson Street, London, E.13

Applications are invited from registered medical practitioners for the appointment of

RESIDENT HOUSE PHYSICIAN (Male or female)
(House Officer, second or third post)

for six months in the Chest and Infectious Diseases Wards. The position offers valuable experience in both groups of diseases. Candidates should send applications to the undersigned, together with copies of recent testimonials, by February 2, 1952.—M. J. Huntley, Secretary, West Ham Group H.M.C., Stratford, London, E.15. (6871)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Medicine—contd.

AYLESBURY, STOKE MANDEVILLE HOSPITAL (624 beds)

Applications are invited from medical practitioners, who have held house appointments, for the post of

HOUSE PHYSICIAN

for a period of six months from February 9, 1952. Salary £400 to £450 per annum, according to experience, less £100 for board residence. The medical beds are situated at this hospital, but the House Physician will be required to attend the Royal Buckinghamshire Hospital Out-patients' Departments. Applications, giving full details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Administrative Officer, Stoke Mandeville Hospital, Aylesbury. (6685)

AYLESBURY, TINDAL GENERAL HOSPITAL (281 beds)

HOUSE PHYSICIAN

for Acute General Medicine and Geriatrics

Vacant now. Applications, with two testimonials, to the Administrative Officer. (6686)

BARNSLEY, BECKETT HOSPITAL

HOUSE PHYSICIAN (House Officer)

Required for above hospital. Apply to Secretary, Barnsley Hospital Management Committee, 33, Gawber Road, Barnsley. (6635)

BATLEY, GENERAL HOSPITAL, Carlinghowhill (102 beds)

Dewsbury, Batley and Mirfield Hospital Management Committee

Applications are invited for the post of

HOUSE OFFICER

This hospital is a general hospital at present, but will shortly specialize in orthopaedic and general surgery, ophthalmology and oto-rhino-laryngology. Applications, giving full details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Sec., 20, Oxford Rd., Dewsbury. (4420)

BEDFORD GENERAL HOSPITAL (426 beds)

Applications are invited for the posts of

HOUSE PHYSICIANS

at the above hospital, which consists of two wings. The post at the South Wing is now vacant, and at the North Wing on January 29, 1952. Applications, stating age, nationality, qualifications, previous appointments, together with the names of two referees, should be sent to the Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton Road, Bedford. (5658)

BILLERICAY, ST. ANDREWS HOSPITAL

South-East Essex Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

HOUSE PHYSICIAN

at the above hospital. The duties of this post cover a wide range of medical work, i.e., general medical, skins, neurology, infectious diseases. The appointment, which becomes vacant on February 14, 1952, is for six months in the first instance. Resident. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (5639)

BISHOP'S STORTFORD AND DISTRICT HOSPITAL, Rye Street, Bishop's Stortford, Herts (67 beds—Medical, Surgical and Maternity)

(Midway between London and Cambridge—Main Line Railway from Liverpool Street)

Applications are invited from registered medical practitioners for a

RESIDENT HOUSE OFFICER

(First or second post held)

Salary £350 to £400 per annum, less £100 per annum for residential emoluments. Appointment to commence March 1, 1952. Applications, stating age, nationality, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Administrative Officer, Haymeads Hospital, Bishop's Stortford, Herts. (6748)

BOURNEMOUTH, CHRISTCHURCH HOSPITAL Hants (298 beds)

Bournemouth and East Dorset Hospital Management Committee

HOUSE PHYSICIAN

Required immediately. The Consultant Physicians are the same as at the Royal Victoria Hospital. Applications to be forwarded to the Assistant Secretary, Christchurch Hospital, Christchurch, Hants. (5314)

BRADFORD, ST. LUKE'S HOSPITAL

TWO HOUSE PHYSICIANS

One vacant now, one vacant January 25. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (6872)

BRADFORD, ST. LUKE'S HOSPITAL

HOUSE PHYSICIAN

Vacant February 14. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (6873)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

HOUSE PHYSICIAN

to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)

Canterbury Group Hospital Management Committee

HOUSE PHYSICIAN

The above post is now vacant. N.H.S. salary and conditions. Applications to be addressed to the Chief Admin. Officer at the hospital. (5544)

CARDIFF, ROYAL HAMADRYAD GENERAL AND SEAMEN'S HOSPITAL (66 beds)

Cardiff Hospital Management Committee

RESIDENT HOUSE OFFICER (Medical)

Required at the above hospital. Applications, giving full details, to the Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (6606)

CARMARTHEN, WEST WALES GENERAL HOSPITAL (160 beds)

West Wales Hospital Management Committee

Applications are invited for the post of

HOUSE PHYSICIAN (First appointment)

Six months' appointment. Full residential emoluments. Applications, stating age, qualifications, experience, and names of three referees, to N. A. Ball, Secretary, West Wales Hospital Management Committee, Glangwili, Carmarthen. (5925)

CHATHAM, ALL SAINTS' HOSPITAL

Medway and Gravesend Hospital Management Committee

HOUSE PHYSICIANS

Applications are invited from registered medical practitioners for the above posts. Vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (5873)

CHESTERFIELD ROYAL HOSPITAL (321 beds)

Chesterfield Hospital Management Committee

HOUSE PHYSICIAN

Required March 1 for six months' appointment. Salary in accordance with national rates. Applications, with details of age, qualifications, and experience, and copies of three testimonials, to be submitted to the undersigned immediately.—M. H. Boone, Secretary. (5640)

COSHAM, QUEEN ALEXANDRA HOSPITAL (464 beds)

Portsmouth Group Hospital Management Committee

Applications are invited for the appointment of

HOUSE PHYSICIAN

vacant January 31. Applications, stating age, experience, qualifications and the names of two referees, should be forwarded as soon as possible to the undersigned.—E. H. Hurst, 35, Grove Road South, Southsea. (6687)

COVENTRY, GULSON HOSPITAL (329 beds)

Applications are invited for the post of

HOUSE PHYSICIAN (106 general medical beds)

Vacant end of January. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hosp., Coventry. (6768)

CREWE MEMORIAL GENERAL HOSPITAL (108 beds, with Continuation Annexe 33 beds)

South Cheshire Hospital Management Committee

Applications are invited for the post of

RESIDENT HOUSE PHYSICIAN (Male or female)

Emoluments valued at £100. Post vacant end of January. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, giving details of age, nationality, qualifications, and experience, together with copies of three recent testimonials, should be sent to the Secretary, South Cheshire Hospital Management Committee, Central Office, 540, West Street, Crewe. (6895)

DORKING GENERAL HOSPITAL

Horsham Road, Dorking, Surrey

Redhill Group Hospital Management Committee

Applications are invited from candidates possessing some hospital experience for the position of

RESIDENT HOUSE PHYSICIAN

to the Department of Medicine

vacant early February. The post offers wide experience in general medicine and is an excellent opportunity for candidates studying for M.R.C.P. Applications, stating age, qualifications and previous experience, should be forwarded to the Medical Superintendent. (6636)

DRIFFIELD, YORKS, EAST RIDING GENERAL HOSPITAL

HOUSE PHYSICIAN

Required. Post vacant end February. Duties to include medical wards, out-patients, and some anaesthetics. Salary £350 to £450 per annum. Applications to Sec., Westwood Hospital, Beverley. (5716)

DUDLEY, GUEST HOSPITAL

National Health Service Act, 1946

Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

RESIDENT HOUSE OFFICER (Physician)

Post vacant February 1, 1952, and will be tenable for six months. The post will be House Officer status and salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (5496)

EDGWARE GENERAL (formerly Redhill County) HOSPITAL, Edgware, Middlesex (715 beds)

RESIDENT HOUSE PHYSICIAN

Post vacant February 15, 1952. Salary £400 to £450 per annum, according to experience. Deduction of £100 per annum for board, lodging, etc. Six months' appointment. Applications, stating age, qualifications, experience and enclosing copies of up to three recent testimonials, to Medical Director of hospital by January 26, 1952. Candidates selected for interview will be notified by February 2, 1952. (5926)

EDINBURGH, CHALMERS HOSPITAL

Applications are invited from registered medical practitioners for the appointment of

HOUSE PHYSICIAN

for the six months commencing April 1, 1952, resident, at National Health Service scales of salary. Applications, stating age, qualifications and experience and the names of two referees, to the Medical Supt., Edinburgh Central Hospitals, 18, Rillbank Terrace, Edinburgh, 9, by January 30. (6844)

ELLESMERE PORT HOSPITAL (50 beds)

XIII Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for the post of

HOUSE PHYSICIAN (General)

The appointment is for a period of six months, commencing April 18, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (5156)

ENFIELD, MIDDLESEX, CHASE FARM HOSPITAL

Enfield Group Hospital Management Committee

RESIDENT HOUSE PHYSICIAN

(Second or third post)

Required March 2, 1952, for general medical and paediatric duties. Six months' appointment. Applications, stating age, nationality, qualifications, and experience, with the names of two referees, to the Acting Medical Director of the hospital by February 2, 1952. (6727)

EPPING, ST. MARGARET'S HOSPITAL (485 beds)

HOUSE PHYSICIAN

Required at the above hospital. Applications, together with copies of two recent testimonials, to be forwarded to the Secretary, Epping Group Hospital Management Committee, St. Margaret's Hospital, Epping by not later than January 26. (5699)

FALMOUTH, DISTRICT HOSPITAL

West Cornwall Hospital Management Committee

Applications are invited for the post of

HOUSE PHYSICIAN

vacant February 26, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Falmouth and District Hospital, Falmouth. (5262)

FARNBOROUGH HOSPITAL

Farnborough, Kent

Applications are invited for the post of

HOUSE PHYSICIAN

The appointment is for a period of six months and is recognized for candidates preparing for the M.R.C.P. Duties to commence on April 2, 1952, and will include care of general medical and chest beds and assistance with chest unit, chemotherapy research unit, general medical out-patients and cardiology clinics. Salary £350 to £450 a year, according to experience, less £100 a year for residential emoluments. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be forwarded to the Administrative Officer. (6788)

Medicine—contd.

FARNBOROUGH HOSPITAL
Farnborough, Kent
Applications are invited for the post of
HOUSE PHYSICIAN
There are two vacancies, one commencing March 17, 1952, and the other March 24, 1952. Both appointments are for a period of six months and are recognized for candidates preparing for the M.R.C.P. Each post will include the care of some 50 general medical beds, some psychiatric beds, and work in medical out-patients and cardiology clinics. The post vacant on March 17 includes some clinical research duties. Salary £350 to £450 a year, according to experience, less £100 for residential emoluments. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be forwarded to the Administrative Officer. (6789)

GRIMSBY GENERAL HOSPITAL (200 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
The post will fall vacant in February, and is tenable for six months. Applications, together with the names of two referees, should be sent to the Admin. Officer, Grimsby General Hospital. (6688)

HARTLEPOOLS HOSPITALS MANAGEMENT COMMITTEE
Hartlepools Hospital
Friar Street, Hartlepool (126 beds)
HOUSE PHYSICIAN, vacant February 15, 1952.
West Hartlepool General Hospital
HOUSE PHYSICIAN, now vacant.
West Hartlepool, Cameron Hospital (92 beds)
HOUSE PHYSICIAN and CASUALTY OFFICER now vacant. To be responsible for medical beds and casualty department.
Salaries and conditions in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality, and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (6758)

HASTINGS, ST. HELEN'S HOSPITAL (452 beds)
Hastings Group Hospital Management Committee
HOUSE PHYSICIAN
Post vacant January 28, 1952. National scales of salary. Applications to the Administrator at the hospital. (6637)

HAYWARDS HEATH (near), CUCKFIELD HOSPITAL
Mid-Sussex Hospital Management Committee
RESIDENT HOUSE OFFICER
Required March 1, 1952, six months' appointment. Duties mainly in the medical and obsteric departments. National salary scale and conditions. Applications, stating age, qualifications, experience, and giving names of two references, should be addressed to the Secretary of the Committee, Cuckfield Hospital, Cuckfield, Haywards Heath, Sussex, immediately. (6607)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
HOUSE PHYSICIAN (Male)
(Second or third post held)
Six months' appointment. Preference will be given to applicants who have held resident surgical and medical posts in a general hospital. Salary is at the rate of £400 to £450 per annum, less £100 for residential emoluments. Duties to commence immediately. Applications to the Secretary, Mr. P. G. Brooks, Hertford No. 1 Group Hospital Management Committee, Hertford County Hospital, Hertford, Herts. (5905)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE PHYSICIAN
Required to commence duty as soon as possible after February 1, 1952. Salary in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, together with copies of three recent testimonials, should be addressed to the undersigned.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (5500)

HUNTINGDON COUNTY HOSPITAL
South-West General Hospitals Group Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (Medical)
to the above hospital. The selected candidate will be required to look after medical and paediatric cases under the direction of the consultants concerned, and may be required to give some emergency anaesthetics. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (6749)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE PHYSICIAN
Required February 22, 1952. Applications, with full particulars, to the Secretary, Hospital Management Committee. (5855)

KIRKCALDY, VICTORIA HOSPITAL
East Fife Hospitals Board of Management
RESIDENT HOUSE PHYSICIAN (Male)
Applications are invited for a vacancy in the above hospital to the Acute Medical Unit in the charge of the Consultant Physician for the East Fife Group of Hospitals. Appointment to date from April 1, 1952, and tenable for six months. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, to be sent to the Medical Superintendent, East Fife Hospitals Board of Management, 243A, High Street, Kirkcaldy, by Saturday, February 16, 1952. (6891)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the posts of
THREE HOUSE PHYSICIANS
commencing April 1, 1952. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24. (6638)

LEICESTER ROYAL INFIRMARY
Applications are invited for the posts of
TWO HOUSE PHYSICIANS
for a period of six months commencing April 1, 1952. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to reach the Secretary of No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6639)

MAIDENHEAD (near), CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow
HOUSE PHYSICIAN
Required for post vacant March 31. Salary on national scale. Applications, stating age, qualifications (with dates) and experience, together with copies of two testimonials, should be sent to the Administrative Officer. (6640)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the following appointment:
HOUSE PHYSICIAN
Six months' appointment. Post vacant March, 1952. Salary at the rate of £350, £400 to £450, according to experience. A deduction at the rate of £100 a year is made in respect of board and lodging and other services provided. Applications should be forwarded as soon as possible to the Administrative Officer at the hospital. (5723)

MEXBOROUGH, MONTAGU HOSPITAL
(123 beds)
SANDYGATE HOUSE ANNEXE (30 beds)
RESIDENT HOUSE PHYSICIAN
Required, tenable for a period of six months in the first instance. Salary £350 to £400 per annum, according to experience, from which a deduction of £100 per annum for residential emoluments will be made. Applications, stating age, experience, qualifications and nationality, with names of three referees, to be addressed to the Secretary, Management Committee, Fern Bank, Doncaster Road, Rotherham, Yorks, as soon as possible. (5610)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)
For the care of both medical and surgical cases. Appointment for six months. Duties to commence February 1, 1952. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NUNEATON, MANOR HOSPITAL (139 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
(24 general medical beds)
Post vacant mid-February. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (6819)

ORPINGTON HOSPITAL
Orpington and Sevenoaks Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN
for duty on Geriatric T.B. wards
This post offers excellent opportunity for studying for higher qualifications and affords good clinical experience in diagnosis and treatment of acute and chronic geriatric and tuberculous cases. Applications, stating age, qualifications and experience, should be sent immediately to the Secretary (M.J. 293), Orpington and Sevenoaks Hospital Management Committee, Orpington Hospital, Orpington, Kent. (6790)

PENZANCE, WEST CORNWALL GENERAL HOSPITAL (100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN (Male)
which falls vacant on March 6, 1952. Salary at the rate of £350 or £400 per annum, from which a deduction at the rate of £100 per annum will be made for board residence, etc. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6689)

READING, AREA DEPARTMENT OF MEDICINE
Applications invited from registered medical practitioners (male) for the posts of
THREE HOUSE PHYSICIANS
vacant February 8, 20, and March 1, 1952, each for period of six months. Salary £350 to £450, less £100 board residence, etc. Successful applicants will be required to carry out duties at following Reading hospitals. Royal Berkshire (403 beds), Battle (364 beds), and Prospect Park (104 beds), where 40 acute medical beds will be opened shortly. The experience to be gained in these appointments is exceptional as it covers the whole field of clinical medicine, including children's diseases, fever, pulmonary T.B., and geriatrics. Applications, stating age, qualifications with dates, nationality, present post, with copies of three recent testimonials, to Administrative Officer, Royal Berkshire Hospital, Reading. (5386)

ROCHDALE, BIRCH HILL GENERAL HOSPITAL
TWO HOUSE PHYSICIANS
National Health Service terms and conditions. Apply at once to the Secretary. (5856)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
HOUSE PHYSICIAN
Applications are invited from registered medical practitioners for the above appointment. The post is resident and tenable for six months. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital Romford. (5624)

ROMFORD, ESSEX, VICTORIA HOSPITAL
(91 beds)
RESIDENT HOUSE PHYSICIAN
Applications are invited from registered medical practitioners (male) for the above post vacant from February 13, 1952. Six months' appointment. Applications, stating age, nationality, qualifications (with dates), and experience, together with copies of three recent testimonials, or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5717)

SCARBOROUGH HOSPITAL
Yorkshire (163 beds)
Applications are invited from male or female registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
which will become vacant in early February. The salary is in accordance with the national scale and the appointment will be for six months. Applications, stating age, and qualifications, with testimonials, to be sent to the Secretary. (5159)

SHREWSBURY (near), CROSS HOUSES HOSPITAL (183 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT MEDICAL OFFICER
Vacant immediately. Preference will be given to those applicants with previous obstetrical experience. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (6063)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
(Medical and Paediatrics)
vacant February 1, 1952. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5820)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Medicine—contd.

STORNOWAY, LEWIS HOSPITAL
Lewis and Harris Hospitals Board of Management
RESIDENT HOUSE PHYSICIAN
Applications are invited for this vacancy which occurs on March 1, 1952. Salary £400 to £500 according to previous experience, and preference will be given to applicants with previous hospital service. The post is superannuable, and will be for a period of six months in the first instance. Applications, together with copies of recent testimonials, should be sent immediately to the Secretary, Lewis Hospital, Stornoway. (6875)

TILBURY AND RIVERSIDE GENERAL HOSPITAL, Orsett Branch
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the above hospital. The duties for this post cover a wide range of medical work, i.e., general medical, skins, neurology, infectious diseases. The appointment will be for six months in the first instance. Salary scale will be at the rate of £400 to £450 per annum, according to experience, less £100 for residential emoluments. Applications for the post, which is vacant from January 21, 1952, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (4735)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN (Male or female)
Post vacant March 1, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, giving details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5263)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY
South-East Northumberland Hospital Management Committee
Applications are invited from registered medical practitioners for appointment as
HOUSE PHYSICIAN
Applications, with two testimonials, should be sent to the Secretary, South-East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (6796)

WALLASEY, VICTORIA CENTRAL HOSPITAL
(135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6770)

WALSALL HOSPITAL MANAGEMENT COMMITTEE
Walsall General Hospital (181 beds)
HOUSE PHYSICIAN
Required at the above hospital. Post vacant February 1, 1952. Apply Secretary.
Manor Hospital (333 beds)
HOUSE PHYSICIAN (General Medicine)
HOUSE PHYSICIAN (Paediatrics)
Required at the above hospital. Posts vacant February 1, 1952. Apply Administrative Officer. These are two busy General Hospitals within easy reach of Birmingham and Wolverhampton, offering wide experience. (4901)

WEST BROMWICH, HALLAM HOSPITAL
Hallam Street
West Bromwich and District Hospitals Management Committee, Group No. 18
TWO HOUSE PHYSICIANS
The above posts will be vacant on February 1, 1952, and are resident. Salaries, terms and conditions in accordance with the Ministry of Health regulations. Applications, accompanied by copies of two recent testimonials, to the Medical Secretary, Hallam Hospital, West Bromwich. (5789)

WORKINGTON INFIRMARY (86 beds)
West Cumberland Hospital Management Committee
HOUSE PHYSICIAN
Required on February 1 for six months appointment: Salary in accordance with national scales (£350 to £450). Applications, stating qualifications (with dates) and experience, and accompanied by copies of two testimonials, to be sent to the Secretary, Workington Infirmary, Workington, Cumberland. (5318)

WESTCLIFF HOSPITAL
Balmoral Road, Westcliff-on-Sea
Applications are invited for the position of
RESIDENT HOUSE MEDICAL OFFICER
(House Officer Grade)
post now vacant. The hospital deals with communicable diseases in its widest sense, e.g., common exanthemata, primary pneumonias, infections of the nervous system, tuberculosis, infective hepatitis, gastro-enteritis, etc. In addition there is a ward for general medical cases. The appointment covers a wide field of medicine including paediatrics and offers excellent training for general practice. Applications, etc., to be sent to the Secretary at the above hospital as soon as possible.—J. C. Field, Secretary, Southend-on-Sea Hospital Management Committee (5773)

SURGERY

PUTNEY HOSPITAL, Lower Common, S.W.15
South-West Metropolitan Regional Hospital Board
Battersea and Putney Group Hospital Management Committee
Applications are invited for the following whole-time resident post:
REGISTRAR (Surgical)
Appointment for one year in the first instance. Forms of application obtainable from the Secretary, Battersea and Putney Group Hospital Management Committee, 54, Upper Richmond Road, S.W.15, to whom they should be returned not later than fourteen days from the appearance of this advertisement. (6820)

ST. JAMES' HOSPITAL
Onslow Road, Balham, S.W.12
(General, 660 beds)
South-West Metropolitan Regional Hospital Board
Wandsworth Hospital Group
Applications are invited from Fellows of the Royal College of Surgeons for the post of
SENIOR SURGICAL REGISTRAR
to the gastro-enterological unit at the above hospital. Application forms (send stamped addressed foolscap envelope) obtainable from the Secretary, 14, Atkins Road, Balham, S.W.12, to be completed and returned by January 30, 1952. (6821)

EAST ANGLIAN REGIONAL HOSPITAL BOARD
Applications are invited for the following appointments:
RESIDENT SURGICAL OFFICER
(Registrar Grade)
West Norfolk and King's Lynn Hospital
RESIDENT SURGICAL OFFICER
(Registrar Grade)
North Cambridgeshire Hospital, Wisbech
The appointments will be for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than January 28, 1952.—K. V. F. Morton, Secretary, 117 Chesterton Road, Cambridge. (5662)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for the following positions:
SURGICAL REGISTRAR
(Resident or Non-resident)
St. Andrew's Hospital, Billericay, Essex
RESIDENT SURGICAL REGISTRAR
Essex County Hospital, Lexden Road, Colchester, Essex
RESIDENT SURGICAL REGISTRAR
Southend-on-Sea Group of Hospitals, Essex
Duties principally at General Hospital, Rochford (a large acute hospital of 602 beds), and certain duties at other hospitals in the group. Unfurnished married quarters available.
Appointments are subject to review after one year. A local charge will be made for any residential amenities provided. Separate applications in duplicate in respect of each post, stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, 11a, Portland Place, W.1, by Saturday, February 2, 1952. (6876)

NORTHWOOD, MIDDLESEX, MOUNT VERNON HOSPITAL
North-West Metropolitan Regional Hospital Board
WHOLE-TIME SURGICAL REGISTRAR
Required for one year in the first instance. Appointment recognized for the final F.R.C.S. examination. Candidates are welcome to visit the hospital by direct appointment with the Medical Superintendent. Application forms obtainable from, and returnable to, the Secretary, Harefield and Northwood Group Hospital Management Committee, Mount Vernon Hospital, Northwood, Middlesex, by January 29, 1952. (6771)

SOUTH WARWICKSHIRE GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
WHOLE-TIME SURGICAL REGISTRAR
Duties at Stratford-on-Avon Hospital. Resident appointment. Experience in specialty essential, and possession of higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 4, 1952. Candidates may visit the hospital concerned. (6855)

BARNSLEY, BECKETT HOSPITAL
HOUSE SURGEON SPECIALS (S.H.O.)
Required for duties mainly in Casualty Department. Some E.N.T., ophthalmic, anaesthetic and orthopaedic work. Salary £670. Apply to Secretary, Barnsley Hospital Management Committee, 33, Gawber Road, Barnsley. (5700)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge. Main Line Railway from Liverpool Street)
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER (Surgical)
Salary £670 per annum, less £130 per annum in respect of residential emoluments. The appointment is due to commence as soon as possible, for a period of one year. Applications, stating nationality, age, qualifications, and experience, with copies of recent testimonials, or the names of referees, should be sent to the Secretary, Hertford Group Hospital Management Committee, Hertford County Hospital, Hertford, Herts (5774)

CARMARTHEN, WEST WALES GENERAL HOSPITAL (160 beds)
West Wales Hospital Management Committee
Applications are invited for the post of
RESIDENT SURGICAL OFFICER
(Senior House Officer grade)
Appointment will be for one year and is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with national scales. Applications, stating age, qualifications, experience and names of three referees, to N. A. Ball, Secretary, West Wales Hospital Management Committee, Glangwili, Carmarthen. (5924)

COSHAM, QUEEN ALEXANDRA HOSPITAL
(464 beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the following appointment:
SENIOR HOUSE SURGEON
Applications, stating age, experience, and qualifications, and names of two referees, should be submitted as soon as possible to the undersigned.—E. H. Hurst, 35, Grove Rd. Sth., Southsea (6690)

CREWE MEMORIAL GENERAL HOSPITAL
(108 beds, with Continuation Annexe 33 beds)
South Cheshire Hospital Management Committee
Applications are invited for the posts of
RESIDENT SENIOR HOUSE OFFICER AND RESIDENT HOUSE OFFICER
Emoluments valued at £100 in each case. Posts vacant end of January. Salaries and conditions of service in accordance with the terms published by the Ministry of Health. Applications, giving details of age, nationality, qualifications, and experience, together with copies of three recent testimonials, should be sent to the Secretary, South Cheshire Hospital Management Committee, Central Office, 540, West Street, Crewe. (6894)

DUNDEE ROYAL INFIRMARY
SENIOR HOUSE OFFICERS (Surgical)
Required for professorial and two other ward units. Salary £670 per annum, non-resident. Apply, with particulars of experience, and giving names of three referees, to the Medical Superintendent. (6822)

ECCLES AND PATRICROFT HOSPITAL
(General Hospital, 72 beds)
West Manchester Hospital Management Committee
SENIOR HOUSE OFFICER AND HOUSE OFFICER
Applications are invited from registered medical practitioners for these two appointments which are now vacant. The work of the hospital is mainly surgical and there is a busy out-patient department. Salaries for House Officer posts £350 to £450 per annum, according to experience. A deduction of £100 per annum will be made for residential accommodations and services. Six months' appointment. The Senior House Officer's appointment will be for twelve months at a salary of £670 per annum, less £130 per annum for residential accommodation and services. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (5827)

HULL, WESTERN GENERAL HOSPITAL
(560 beds)
Hull (A) Group Hospital Management Committee
SENIOR HOUSE OFFICER
(Surgical, non-resident)
Extensive general surgical and gynaecological work. Salary £670 per annum. Apply to the Administrative Officer. (6691)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE SURGEON
at the above hospital. The post is recognizable for the F.R.C.S. (Eng.). Salary will be £670 a year, with a deduction at the rate of £150 for residential emoluments. Applications should be forwarded to the Secretary of the Mid-Kent Hospital Management Committee, 103, Tonbridge Road, Maidstone (4969)

Surgery—contd.

MINEHEAD AND WEST SOMERSET HOSPITAL
(58 beds) Minehead, Somerset
Bridgwater, Minehead and Butleigh Hospital Group
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
with care of surgical and medical cases at the above hospital immediately. Salary £670 per annum. One year's appointment. Appointment will be subject to a deduction of £150 per annum for residential emoluments. Applications to the Clerk in Charge, Minehead and West Somerset Hospital, The Avenue, Minehead, Somerset. (5909)

MORECAMBE, QUEEN VICTORIA HOSPITAL
(100 beds)
Lancaster and Kendal Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
(General Surgery)
Applications are invited from registered medical practitioners for the above appointment. The post is vacant now and normally tenable for one year. The successful applicant will be attached to a specialist unit, but will be expected to relieve the Senior House Officer (Obstetrics and Gynaecology) during absence. Applications, stating age, qualifications, experience and nationality, along with the names of two referees, should be forwarded immediately to the Secretary, Lancaster and Kendal Hospital Management Committee, Royal Lancaster Infirmary, Lancaster. (6751)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence as soon as possible. Salary £670 per annum and conditions of service in accordance with the published conditions of the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (4133)

SCUNTHORPE, WAR MEMORIAL HOSPITAL
(269 beds)
Scunthorpe Hospital Management Committee
Vacancy mid February for
HOUSE SURGEON (S.H.O. grade)
with duties in general gynaecology and some radiotherapy. Applications, with full details of qualifications, experience and naming two referees, to Secretary, War Memorial Hospital, Scunthorpe, Lincs. (6610)

SOLIHULL HOSPITAL, Lode Lane, Solihull
Birmingham
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
RESIDENT SURGICAL OFFICER
(Senior House Officer)
which becomes vacant at the end of January, 1952. This is a busy general hospital, with five other resident medical staff. Applications, stating age, nationality, qualifications, and experience, together with copies of testimonials, to be sent to the Medical Superintendent within fourteen days of the appearance of this advertisement. (6857)

STONEHOUSE, LANARKS, COUNTY HOSPITAL
Board of Management for Motherwell, Hamilton and District Hospitals
Applications are invited for the following vacancy:
SENIOR HOUSE OFFICER (Surgical)
Apply to Medical Superintendent, County Hospital, Stonehouse, Lanarkshire. (6823)

STROUD GENERAL HOSPITAL
Gloucester, Stroud and the Forest Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT SURGICAL OFFICER
at the above hospital, which is a small specialist hospital of 53 beds, with a large out-patient department. Salary will be in the Senior House Officer grade, i.e. £670 per annum, with a deduction of £125 per annum in respect of residential emoluments. There is also a vacancy at this hospital for a House Physician, and the two posts might be suitable for married medical officers. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent as soon as possible to the Secretary, Stroud General Hospital, Stroud, Gloucestershire. (6641)

WEST HARTLEPOOL, CAMERON HOSPITAL
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
vacant January 25, 1952. To be responsible for surgical and gynaecological beds. Salary and conditions of service in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (5942)

SUTTON-IN-ASHFIELD, NOTTS, KING'S MILL HOSPITAL
Mansfield Hospital Management Committee
Applications are invited for the post of
RESIDENT SURGICAL OFFICER
(Senior House Officer Grade)
Applicants should have had previous surgical experience. The hospital contains 115 surgical beds and the post offers good facilities for practical experience in general surgery. A flat is available for the successful candidate if married, for which an appropriate deduction will be made from salary. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary. (4817)

WORKINGTON INFIRMARY (86 beds)
Annexe (26 beds)
West Cumberland Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required immediately. Salary in accordance with national scales (£670 per annum). Applications, stating qualifications (with dates) and experience, and accompanied by copies of two testimonials, to be sent to the Secretary, Workington Infirmary, Workington, Cumberland. (5629)

BOLINGBROKE HOSPITAL
Wandsworth Common, S.W.11
Battersea and Putney Group Hospital Management Committee
RESIDENT HOUSE SURGEON
Required for six months from February 1, 1952. Applications, stating age, nationality, experience and qualifications, with dates, accompanied by copies of three recent testimonials, to be sent to the Administrative Officer as soon as possible. (5943)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
RESIDENT HOUSE OFFICER
in the General Surgical and Urological Department
Appointment for six months from February 26, 1952. Applications, with names of two referees, or copies of testimonials, to Medical Director by January 26, 1952. (6877)

CONNAUGHT HOSPITAL (118 beds)
Walthamstow, E.17
SURGICAL HOUSE OFFICER
Required for six months (including special departments). Post vacant February 27, 1952. Recognized for F.R.C.S. Applications, with full details, and copy testimonials, should be sent immediately to the Secretary, H.M.C. Forest Group, Langthorne Road, E.11. (6692)

HACKNEY HOSPITAL, London, E.9
Applications are invited for the post of
HOUSE SURGEON (First, second or third post)
to the E.N.T. Department with Casualty duties. Six months' appointment, now vacant. Applications, with three testimonials, should reach the Group Secretary, Hospital Management Committee, Hackney Hospital, E.9, by not later than January 28, 1952. (6752)

MEMORIAL HOSPITAL
Shooters Hill, Woolwich, S.E.18
TWO HOUSE SURGEONS
(Recognized for F.R.C.S.)
Vacant mid-February. Both appointments are in general surgery, one also assists in E.N.T. and the other in orthopaedics. Salary £350 to £450 per annum, less £100 per annum for residence. Apply to Secretary. (5805)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications invited for appointment of
RESIDENT HOUSE SURGEON
Vacant now. Applications, stating age, qualifications, and experience, with a copy of two testimonials, and the name of one referee, should be sent immediately to the Group Secretary, St. Helier Hospital, Carshalton, Surrey. (6693)

NEW END HOSPITAL, N.W.3
Applications are invited for the post of
HOUSE SURGEON (General Surgery)
Vacant March 1, 1952. Applications, stating age, qualifications, and previous experience, together with copies of two recent testimonials, and the name of one referee, to the Surgeon Supt., New End Hospital, Hampstead, N.W.3, by Jan. 28, 1952. (6694)

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Paddington Hospital, Harrow Road, W.9
Applications are invited for posts of
HOUSE SURGEON (General duties)
from March 1, 1952, as follows: St. Charles' Hospital, Ladbroke Grove, W.10 (579 beds) (two vacancies). National Temperance Hospital, Hampstead Road, N.W.1 (138 beds) (one vacancy). Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of two referees, to reach the Secretary to the Committee by February 11, 1952. (6753)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

ST. NICHOLAS HOSPITAL, Plumstead, S.E.18
HOUSE SURGEON (Recognized for F.R.C.S.)
Vacant February 23 approximately. Salary £350 to £450 per annum, less £100 per annum for residence. Apply to Secretary, Memorial Hospital, Woolwich, S.E.18. (6729)

WANSTEAD HOSPITAL (191 beds)
Hermon Hill, E.11
HOUSE SURGEON
Post vacant March 3, 1952. Recognized for F.R.C.S. Applications, with full details, and copy testimonials, should be sent immediately to the Secretary, H.M.C. Forest Group, Langthorne Road, E.11. (6695)

ACCRINGTON, VICTORIA HOSPITAL
(112 Acute beds)
HOUSE SURGEON
Post tenable for six months. Salary £350 to £450 per annum according to previous posts held, less £100 for board residence. Applications, giving age, nationality, qualifications, etc., accompanied by copies of two testimonials, to be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (6696)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT HOUSE SURGEON (Male)
Required for wards taking general surgical cases. Six months' appointment. Vacant Feb. 20. National Health Service salary and terms and conditions of service. Applications, stating age, qualifications, and experience, with copies of up to three recent testimonials, to be sent to the Medical Director of hospital as soon as possible. (6824)

ASHTON-UNDER-LYNE DISTRICT INFIRMARY (200 beds)
Ashton, Hyde and Glossop Hospital Management Committee
HOUSE SURGEON
Salary £350 to £450 per annum, according to experience, less £100 per annum for board and lodging, etc. The post is recognized for F.R.C.S. (Eng.). Applications, giving age, nationality, qualifications and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (6642)

BANBURY, HORTON GENERAL HOSPITAL
(170 beds)
HOUSE SURGEON
Required immediately for general surgical and gynaecological beds. Four other residents. Post tenable six months in first instance. Salary from £350, according to experience. Recognized for six months' training F.R.C.S.(Eng.). Applications, stating age, nationality, qualifications and names of two referees, to the Secretary, Hospital Management Committee, Horton General Hospital, Banbury, Oxon. (4095)

BARNSTAPLE, NORTH DEVON INFIRMARY
(110 beds)
North Devon Hospital Management Committee
TWO HOUSE SURGEONS
Posts now vacant. Applications to Secretary and Finance Officer, 19, Alexandra Road, Barnstaple, Devon. (4832)

BARROW, NORTH LONSDALE HOSPITAL
Barrow and Furness Hospital Management Committee
Applications are invited for a post of
RESIDENT HOUSE SURGEON
at the above hospital (189 beds), with surgical work under control of Consultant Surgeons. This post is recognized for the F.R.C.S examinations. National conditions and salary scale (House Officer grade). Applications, stating age, qualifications, and experience, with copy testimonials, should be forwarded to the Secretary, Barrow and Furness Hospital Management Committee, 52, Paradise Street, Barrow-in-Furness. (6892)

BEDFORD GENERAL HOSPITAL (South Wing)
HOUSE SURGEONS
These appointments are recognized for F.R.C.S., and offer exceptional opportunities for general experience in a busy acute surgical unit. These posts are now vacant. Applications, stating age, nationality, qualifications, previous appointments, together with copies of two testimonials, should be addressed to the Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton Road, Bedford. (6608)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Surgery—contd.

BILLERICAY, ST. ANDREW'S HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
for the General Surgery and Orthopaedic Departments. These departments of this hospital provide interesting and active traumatic experience. Six months' appointment in the first instance. Resident. Post now vacant. Salary scale £350 to £450 per annum according to experience, less £100 residential emoluments. Applications, together with copies of not more than three testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (3221)

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN
United Birmingham Hospitals
HOUSE SURGEON
Salary £400 or £450 per annum, according to experience. The appointment is for a period of six months. Duties commence April 1, 1952. Application forms can be obtained from the undersigned, and should be returned not later than February 2, 1952.—H. N. Lamb, House Governor, The United Birmingham Hospitals, Birmingham and Midland Hospital for Women, Showell Green Lane, Sparkhill, Birmingham, 11. (6909)

BLACKBURN ROYAL INFIRMARY (244 beds)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
to the General Surgical Unit
The appointment will be for a period of six months in the first instance, and the salary, etc., will be in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, giving age, nationality, qualifications, etc., with copies of two testimonials, to be sent to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn, as soon as possible. (6697)

BLACKPOOL, VICTORIA HOSPITAL (339 beds)
HOUSE OFFICER (Surgical Unit)
Recognized for F.R.C.S. Vacant in March, 1952. National Health Service salary and conditions of service. Applications and references should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (6643)

BOURNEMOUTH, ROYAL VICTORIA HOSPITAL (485 beds)
Bournemouth and East Dorset Hospital Management Committee
TWO HOUSE SURGEONS
One for general and thoracic surgery for post vacant February 11, the other for general surgery for post vacant February 16. Both appointments are recognized for the F.R.C.S. examinations. Application to the Assistant Sec. at the hospital. (5703)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (General)
Vacant March 1, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary. (6878)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON
Vacant March 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (6879)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
HOUSE SURGEON
Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, should be sent to the Administrative Officer of the hospital within seven days of the appearance of this advertisement. (6880)

BURNLEY, GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is vacant now, and is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. The post is recognized for the F.R.C.S. examination. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (9287)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical, with beds for orthopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments:
Caernarvon and Anglesey General Hospital, Bangor
RESIDENT HOUSE SURGEON
RESIDENT HOUSE SURGEON for Casualties and Special Departments
Llandudno General Hospital, Llandudno
Eryri General Hospital, Caernarvon
RESIDENT HOUSE SURGEONS
The appointments are for a period of six months. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, experience and qualifications, together with copies of three testimonials, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor. (6825)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
GENERAL SURGICAL AND UROLOGICAL HOUSE SURGEON
The above post, which is recognized for the F.R.C.S. Diploma, is now vacant. N.H.S. salary and conditions. Applications to be addressed to Chief Administrative Officer at the hospital. (5551)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, now vacant. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (5814)

CHERTSEY, SURREY, ST. PETER'S HOSPITAL
(Late Botleys Park War Hospital) (430 beds)
RESIDENT HOUSE SURGEON
Required for the Gynaecological and Special (E.N.T., Eye, etc.) Departments. Salary in accordance with terms and conditions of National Health Service. Hospital within easy reach of London. Applications, together with testimonials or names of referees, should be sent to the Physician Supt., St. Peter's Hospital, as soon as possible. (4758)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for
TWO HOUSE SURGEONS
The appointments are for a period of six months, duties to commence February 20, 1952, and April 4, 1952, respectively. Applications, giving full particulars, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, King Street, Chester. (5755)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
HOUSE SURGEON
Required immediately for busy General Hospital. National salary and conditions of service.—M. H. Boone, Secretary. (5643)

CHICHESTER, ROYAL WEST SUSSEX HOSPITAL
RESIDENT HOUSE SURGEON
Required for six months' appointment at this General Acute Hospital of 202 beds. Six residents on staff, including R.S.O. and three House Surgeons. National scale for first, second or third post. Applications, giving details of qualifications, age and experience, should be forwarded to the Senior Administrative Officer at the Royal West Sussex Hospital. Vacancy occurs middle of January. (5807)

CHORLEY AND DISTRICT HOSPITAL, Lancs
HOUSE SURGEON (J.H.O. Grade)
Six months' post. National scale and conditions. Applications to be forwarded to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary. (5808)

DARTFORD, JOYCE GREEN HOSPITAL
HOUSE OFFICER (General Surgery)
Required immediately. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. The hospital is a large general one offering opportunities for a wide experience, and is within easy reach of London. Applications, stating age, qualifications, experience, and the names of two persons to whom reference may be made, should be sent to the Medical Superintendent, The River Hospitals, Joyce Green, Dartford, Kent. (6698)

DARTFORD, KENT, WEST HILL HOSPITAL
HOUSE SURGEON (General)
Required at the beginning of February. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. The hospital is a large general one offering opportunities for wide experience, and is within easy reach of London. Applications, stating age, qualifications, experience, and the names of two persons to whom reference for testimonials may be made, should be sent to the Surgeon Supt. of the hospital. (6699)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
Salary at the rate of £350, £400, or £450 per annum, according to experience, from which a deduction at the rate of £100 per annum will be made for board, residence, etc. The post will be vacant on February 19, 1952. Applications, stating age, qualifications with dates, nationality, and present post, and accompanied by copies of three recent testimonials should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (5719)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
RESIDENT HOUSE SURGEON
Vacant end February, 1952. The post affords good experience in general surgery and casualty work. Apply to the Medical Superintendent. (6644)

EASTBOURNE, ST. MARY'S HOSPITAL (261 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
for general surgery. Staff of five house officers. Salary in accordance with terms and conditions published by Ministry of Health. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, to The Sec., 29, Bedfordwell Rd., Eastbourne. (5720A)

EDGWARE GENERAL (formerly Redhill County) HOSPITAL, Edgware, Middlesex (715 beds)
RESIDENT HOUSE SURGEON
Post vacant February 12, 1952. Post recognized for F.R.C.S. Salary £400 to £450 per annum, according to experience. Deduction of £100 per annum for board, lodging, etc. Six months' appointment. Applications, stating age, qualifications, experience and enclosing copies of up to three recent testimonials, to Medical Director of hospital by January 26, 1952. Candidates selected for interview will be notified by February 2, 1952. (5927)

EDINBURGH, CHALMERS HOSPITAL
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
for the six months commencing April 1, 1952, resident, at National Health Service scales of salary. Applications, stating age, qualifications and experience and the names of two referees, to the Medical Superintendent, Edinburgh Central Hospitals, 18, Rillbank Terrace, Edinburgh, 9, by Jan. 30. (6845)

EPPING, ST. MARGARET'S HOSPITAL (485 beds)
HOUSE SURGEON
Required at the above hospital. Applications, together with copies of two recent testimonials, to be forwarded immediately to the Secretary, Epping Group Hospital Management Committee, St. Margaret's Hospital, Epping. (6700)

GLOUCESTERSHIRE ROYAL HOSPITAL
Southgate Street Unit (245 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the above hospital. The post is recognized for the F.R.C.S. examination. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, nationality and experience, accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—C. J. Adams, Group Secretary. (6645)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON
With opportunity for experience in Obstetrics and Gynaecology
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, nationality, qualifications, and experience, to be addressed to the Administrative Officer. (5817)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications invited for the post, now vacant, of
HOUSE OFFICER (Male or female)
for General Surgery, E.N.T. and Ophthalmic Departments. The hospital is approved for the D.L.O. Apply to the Administrative Officer, Grimsby General Hospital, Grimsby. (4309)

GUILDFORD, ST. LUKE'S HOSPITAL
Guildford Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
in the General Surgical Unit (66 beds)
This unit is recognized for the F.R.C.S. The post is for a period of six months and falls vacant in February, 1952. Applications, giving full details of qualifications, age and experience, together with copies of three recent testimonials, should be forwarded to the Physician Superintendent as soon as possible. (5945)

Surgery—contd.

HALIFAX GENERAL HOSPITAL (425 beds)
Applications are invited for the post of
HOUSE SURGEON (Male or female)
Salary according to experience. Applications, stating age, nationality, qualifications and experience, with copies of three testimonials, to be addressed to the Secretary at the Royal Halifax Infirmary, Halifax. (5514)

HARTLEPOOLS HOSPITAL
Friar Street, Hart'epools (126 beds)
Applications are invited for the appointment of
HOUSE SURGEON (with obstetric duties)
vacant immediately. Salary and conditions in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (3929)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL
(170 beds—4 Residents)
Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
for a term of six months from February 8, 1952. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (5515)

HEREFORD GENERAL HOSPITAL (154 beds)
Herefordshire Hospital Management Committee
Applications are invited from registered medical practitioners for appointment of
HOUSE SURGEON
(Casualty, E.N.T. and Fracture Departments)
Applications, with copies of two recent testimonials, should be sent to the Secretary, Hospital Management Committee, County Hospital, Hereford. (8343)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
RESIDENT HOUSE SURGEON
Required at the above busy, acute general hospital. Four other resident medical staff. Busy Casualty and Out-patient Departments. Applications, stating age, qualifications, and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (6701)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant now. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8754)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the Sutton Branch Hospital. Vacant February. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Admin. Officer. (5757)

HUNTINGDON COUNTY HOSPITAL
South-West General Hospitals Group Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (General Surgery)
to the above hospital. This is a busy hospital staffed by consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and the names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (6754)

ILFORD, KING GEORGE HOSPITAL
Ilford and Barking Group Hospital Management Committee
There will be vacancies for the following:
HOUSE SURGEON, February 13, 1952.
HOUSE SURGEON, March 1, 1952.
HOUSE SURGEON, March 6, 1952.
Salary will be £350 per annum minimum and maximum £450, according to experience and qualifications, less emoluments. The posts will be tenable for six months. Applications, giving full particulars, and accompanied by testimonials, should be sent to the undersigned within fourteen days of the appearance of this advertisement.—G. Austin Hepworth, Secretary, King George Hospital, Ilford. (6646)

ISLE OF WIGHT GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE SURGEON
Royal I.W. County Hospital, Ryde, I.W.
but may be required to undertake duty at any hospital in the Group in emergency. Vacant February 20, 1952. Salary £350, £400 or £450 per annum, according to experience. National terms of service. Applications, stating age, qualifications, experience and nationality, to H. Forshaw, Chief Administrative Officer, Hospital Management Committee, St. Mary's Hospital, Newport, I.W., as soon as possible. (5553)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE SURGEON
to Senior Consultant General Surgeon
Post recognized for F.R.C.S. Applications immediately to the Secretary, Hospital Management Committee. (6783)

ISLE OF WIGHT GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE SURGEON
St. Mary's Hospital, Newport, I.W.
but may be required to undertake duty at any hospital in the Group in emergency. Vacant now. Salary £350, £400 or £450 per annum, according to experience. National terms of service. Good residential accommodation for single person. Applications, stating age, qualifications, experience and nationality, to H. Forshaw, Chief Administrative Officer, Hospital Management Committee, St. Mary's Hospital, Newport, I.W., as soon as possible. (6826)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Midd'esex Hospital Management Committee
HOUSE OFFICER
(Preferably second or third post)
Required for specials unit, comprising E.N.T., plastic, ophthalmic and dental departments. Applications, stating age, nationality, qualifications (with dates) and details of experience, together with copies of up to three recent testimonials, to Secretary, Management Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date Jan. 29. (6750)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bing'ey (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton (64 beds)
(Yorkshire, West Riding)
(Full Consultant Staffs)
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
(Either sex)
at each of the above hospitals. First, second or third appointments. Now vacant. Six months' appointments. Salary in accordance with the National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley. (5287)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL (141 beds)
King's Lynn Area Hospitals Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
at the above hospital. Appointment will be for six months in the first instance. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Duties of the post offer valuable experience in general surgery, E.N.T. work and anaesthetics in a busy acute general hospital. Applications to be forwarded as soon as possible to the Secretary of the above Committee, St. James' Hospital, King's Lynn, Norfolk. (6609)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners (male and female) for the post of
HOUSE SURGEON (Genito-Urinary Surgery)
The person appointed will attend the Cystoscopic Clinic at the above hospital and the Out-patient Clinic at the teaching hospital. The appointment is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Folkard, Secretary to the Committee. (4738)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the posts of
TWO HOUSE SURGEONS
commencing April 1, 1952. Recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6647)

LEICESTER ROYAL INFIRMARY
Applications are invited for the posts of
FOUR HOUSE SURGEONS
for a period of six months from April 1, 1952. Posts are recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to reach the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester not later than January 24, 1952. (6648)

LINCOLN, COUNTY HOSPITAL (200 beds)
Lincoln No. 1 Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON (Male or female)
Post recognized for F.R.C.S. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary. (6618)

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)
Applications are invited for the vacancy of
HOUSE SURGEON
commencing April 1, 1952. Applications, stating age, qualifications and experience, together with copies of recent testimonials, to the Secretary, Leicester No. 1 H.M.C., 38a, East Bond Street, Leicester, not later than January 24, 1952. (6649)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the following appointment:
HOUSE SURGEON
Six months' appointment. Post vacant March, 1952. Salary at the rate of £350, £400 to £450, according to experience. A deduction at the rate of £100 a year is made in respect of board and lodging and other services provided. Applications should be forwarded as soon as possible to the Administrative Officer at the hospital. (5724)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
TWO HOUSE OFFICERS (General Surgery)
Applications are invited from registered medical practitioners for the above posts, one of which will be vacant on January 30, 1952, and the other on February 6, 1952. These posts are recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another specialty at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (5825)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy General Hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (4139)

MERTHYR GENERAL HOSPITAL (120 beds)
Merthyr and Aberdare Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
The appointment, which is resident, is for a period of six months. Salary in accordance with the terms of service issued by the Ministry of Health. The hospital is an acute general hospital with the usual special departments staffed by whole-time and visiting consultants. Applications, with full particulars, should be sent to the Secretary, Merthyr and Aberdare Hospital Management Committee, St. Tydfil's Hospital, Merthyr Tydfil. (5666)

MORECAMBE, QUEEN VICTORIA HOSPITAL (100 beds)
Lancaster and Kendal Hospital Management Committee
RESIDENT HOUSE OFFICER (General Surgery)
Applications are invited from registered medical practitioners for the above appointment. The post is vacant now and is normally tenable for six months. Applications, stating age, qualifications, experience and nationality, along with the names of two referees, should be forwarded immediately to the Secretary, Lancaster and Kendal Hospital Management Committee, Royal Lancaster Infirmary, Lancaster. (5861)

NEWPORT, MON, ST. WOOLOS HOSPITAL (379 beds)
Applications are invited for the post of
HOUSE OFFICER (Surgical).
vacant at the end of January. The Surgical Department of 62 beds consists of a full-time Consultant who works only at this hospital, a Registrar and this post. The appointment is recognized for the Fellowship of the Royal College of Surgeons. Apply, stating age, and the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (5068)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

Surgery—contd.

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
vacant immediately. Recognized for the F.R.C.S. National Health Service salary scale and conditions of service for House Officers. Appointment in the first instance, until March 31 or September 30, 1952, to be determined at interview. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Secretary to the Management Committee. (6619)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence on or about January 31, 1952 Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (Male or female)
Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6702)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Freedom Fields
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON (Second or third post)
Vacant March 1, 1952. Recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications, and experience, together with names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (5914)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON (Second or third post)
Vacant February 1, 1952. Recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications, and experience, together with names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (5915)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments:
Queen Alexandra Hospital (464 beds)
HOUSE SURGEON
Royal Portsmouth Hospital (205 beds)
HOUSE SURGEON, vacant January 30, 1952
Applications, stating age, experience and qualifications and names of two referees, should be submitted as soon as possible to the undersigned.—E. H. Hurst, 35, Grove Rd. South, Southsea. (6703)

PRESTON ROYAL INFIRMARY (400 beds)
GENERAL HOUSE SURGEON
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5554)

READING, ROYAL BERKSHIRE HOSPITAL
(403 beds)
Applications are invited for the post of
JUNIOR HOUSE SURGEON (Male or female)
resident at Blagrave Hospital, for a period of six months. Vacant immediately. Post provides opportunity for further medical studies. Salary £350 to £450, according to experience, less £100 for residential emoluments. Apply, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials to Administrative Officer (8738)

ROMFORD, ESSEX, VICTORIA HOSPITAL
(91 beds)
RESIDENT HOUSE SURGEON
Applications are invited from registered medical practitioners (male) for the above post, vacant from February 29, 1952. Six months' appointment. Applications, stating age, nationality, qualifications (with dates), and experience, together with copies of three recent testimonials, or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5680A)

RUGBY, HOSPITAL OF ST. CROSS
HOUSE SURGEON for General Surgery including accidents and some orthopaedics
Required February 1. Applications, stating age, qualifications, together with copy testimonials, should be addressed to the Assistant Secretary, Hospital of St. Cross, Rugby. (5778)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid Herts Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of a
HOUSE SURGEON (House Officer grade)
for one of the two surgical teams. Recognized for the F.R.C.S. Post vacant immediately and tenable for six months. Applications, together with the names of two referees, should be sent to the Secretary, Osterhills, Normandy Road, St. Albans. (6704)

SHEFFIELD, UNITED, HOSPITALS
Applications are invited, immediately, from registered practitioners for the post of
HOUSE SURGEON
Salary in accordance with National Health Service regulations. Applications will be forwarded to the Superintendent, The Children's Hospital, Western Bank, Sheffield, 10. (6881)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners (male or female) for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consultant Surgeon. The post is vacant immediately, tenable for six months, and recognized for the F.R.C.S. Salary as published by the Ministry of Health. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (9391)

SOLIHULL HOSPITAL, Lode Lane, Solihull, Birmingham
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant immediately. This is a busy general hospital, with five other resident medical staff. Applications, stating age, nationality, qualifications, and experience, together with copies of testimonials, to be sent to the Medical Superintendent within fourteen days of the appearance of this advertisement. (6858)

SOUTH SHIELDS, GENERAL HOSPITAL
(670 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (First or second post)
vacant now. The appointment will be for a period of six months. The post is recognized for the F.R.C.S. (London and Edinburgh). Applications to be addressed to the Medical Supt. (5759)

SOUTH-EAST NORTHUMBERLAND HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners for
HOUSE SURGEON
posts at Tynemouth Victoria Jubilee Infirmary and Preston Hospital. Applications, together with two testimonials, should be sent to the Secretary, South-East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (6795)

SOUTHEND-ON-SEA, GENERAL HOSPITAL
Applications are invited for the post of
RESIDENT HOUSE SURGEON
vacant February 1, 1952. Applications, etc., to reach the undersigned at the hospital by January 24, 1952.—J. C. Field, Secretary. (5872)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
(General Surgery)
vacant February 1, 1952. The post is recognized for F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5821)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Surgery)
vacant immediately. Post recognized for F.R.C.S. examination. Applications, with copy testimonials, should be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5822)

SUTTON-IN-ASHFIELD, NOTTINGHAMSHIRE KING'S MILL HOSPITAL
Applications are invited for the post of
HOUSE SURGEON
The hospital contains 115 surgical beds and the post offers facilities for practical training in general surgery and E.N.T. surgery. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Salary £350 to £450, according to previous posts held, with a deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary to the Committee. (4818)

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident appointment of
HOUSE SURGEON
Full particulars of age, qualifications and experience, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (5809)

SWINDON HOSPITAL GROUP (536 beds)
Applications are invited from registered medical practitioners for post of
RESIDENT HOUSE SURGEON
for General Surgical Unit (80 beds)
Excellent accommodation available. Post recognized by Royal College of Surgeons under paragraph 23 of the Fellowship regulations for six months of requisite year's surgical training. Applications, giving full details and not more than three referees, to Secretary, Swindon and District Hospital Management Committee, 7, Okus Road, Swindon, as soon as possible. (6611)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Orsett Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
for General Surgery and Orthopaedic Departments
The appointment will be for six months in the first instance and the salary scale £400 to £450 per annum, according to experience, less £100 residential emoluments. Applications, together with copies of not more than three testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (5579)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for
HOUSE SURGEON (Male or female)
for General Surgery and Gynaecology
Post vacant March 18, 1952. The successful candidate will be responsible jointly with the House Surgeon for the 74 beds allocated to the two specialties. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, qualifications and experience, and copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5268)

WALLASEY, VICTORIA CENTRAL HOSPITAL
(135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointments:
RESIDENT HOUSE SURGEON
vacant April 27, 1952.
RESIDENT HOUSE SURGEON
vacant May 2, 1952.
These posts are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

WARRINGTON GENERAL HOSPITAL (372 beds)
There are immediate vacancies for
TWO RESIDENT HOUSE SURGEONS
The hospital is modern and offers excellent experience in general surgery. Salary and conditions in accordance with national scales.—H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington. (4667)

Surgery—contd.

WALSALL HOSPITAL MANAGEMENT COMMITTEE
Walsall General Hospital (181 beds)
TWO HOUSE SURGEONS
Required at the above hospital. Posts vacant immediately. Apply Secretary.
Manor Hospital (333 beds)
HOUSE SURGEON
required at the above hospital. Post vacant February 1, 1952. Apply Administrative Officer. These are busy General Hospitals within easy reach of Birmingham and Wolverhampton, offering excellent experience in all branches of general surgery. (4900)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Second or third post)
Vacant end of February. Salary according to National Health Service scale. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent to the undersigned.—Cyril Hopkinson, Administrator. (5862)

WEST BROMWICH, HALLAM HOSPITAL
Hallam Street
West Bromwich and District Hospitals Management Committee, Group No. 18
TWO HOUSE SURGEONS
The above posts are resident and are at present vacant. The hospital is recognized by the Royal College of Surgeons of England. Salaries, terms and conditions in accordance with the Ministry of Health regulations. Applications, accompanied by copies of two recent testimonials, to the Medical Sec., Hallam Hospital, West Bromwich. (5790)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL
HOUSE SURGEON in General Surgery
(Male or female)
Required for post vacant March 2. Post recognized for F.R.C.S. Salary on national scale. Applications, stating age, qualifications (with dates), and nationality, together with copies of recent testimonials, should be sent to the Administrative Officer. (6650)

WORTHING GROUP HOSPITAL MANAGEMENT COMMITTEE
Worthing Hospital and Courtlands Recovery Hospital (273 beds—5 Resident Officers)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
Applications to Administrative Officer, Worthing Hospital, Lyndhurst Road, Worthing, stating age, qualifications (with dates), nationality and details of experience, with two testimonials.—A. V. Oakton Secretary Administrator (4721)

WREXHAM, MAELOR GENERAL HOSPITAL (513 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the above hospital to commence at the beginning of March. The appointment is recognized for the Diploma of F.R.C.S. (Eng. and Edin.). Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (6620)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full consultant staff)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
which is vacant immediately and recognized under F.R.C.S. regulations. Salary £350 per annum for first post, £400 for second post, £450 for third post, less £100 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (6827)

CASUALTY

YORK, CITY HOSPITAL
(Modern general hospital of 265 beds, with full consultant staff)
Applications are invited from registered medical practitioners for the post of
CASUALTY OFFICER AND ORTHOPAEDIC OFFICER
The post is graded Junior Hospital Medical Officer. Salary £700 by £50 to £1,000 per annum. Residence is available for which a charge of £153 per annum will be made. Arrangements can be made for the person appointed to be non-resident or partly resident. Post vacant immediately. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (6828)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
RESIDENT SENIOR HOUSE OFFICER
Required in Casualty Department. Successful candidate will work under supervision of Orthopaedic and Traumatic Specialist. Preference given to applicant who has held resident surgical and medical post in general hospitals. Post vacant March 1, 1952. Appointment for six months, renewable for further six months. Applications to Medical Director by February 2, 1952. (6882)

NATIONAL TEMPERANCE HOSPITAL
Hampstead Road, N.W.1
Paddington Group Hospital Management Committee
Applications are invited for the post of
RESIDENT CASUALTY OFFICER
(Senior House Officer)
The appointment is tenable for one year in the first instance. Applications, stating age, qualifications, experience, together with names and addresses of two referees, should be sent immediately to C. R. Jolly, Secretary, Paddington Group Hospital Management Committee, Paddington Hospital, 285, Harrow Road, W.9. (6893)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
Edmonton Group Hospital Management Committee
CASUALTY OFFICER
Duties mainly surgical casualties (including fractures) and out-patients. Over 2,500 minor operations a year. Salary £670 per annum, non-resident. Six months' appointment, with possible extension to one year. Vacant March 1. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials or names of two referees, to Secretary of hospital by Jan. 26 (5863)

ST. MARY'S HOSPITAL, W.2
Applications are invited from suitably qualified practitioners for the post of
CASUALTY SURGEON
(Resident or non-resident—preference to be stated)
Candidates must have held an appointment as House Surgeon at this hospital, or at another general hospital approved by the Board of Governors. The appointment is for a first period of six months as from March 1, 1952, with remuneration at the rate of £670 per annum, i.e., graded Senior House Officer. Applications, stating nationality, date of birth, permanent address, qualifications (with dates) and details of previous appointments, together with the names and addresses of three referees, should reach the undersigned by Jan. 31.—Alan Powditch, House Governor. (5946)

BILLERICAY, ST. ANDREW'S HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
at St. Andrew's Hospital, Billericay, for the Casualty, Orthopaedic and General Surgery Departments. Resident. The appointment will be for six months in the first instance, and the post is vacant immediately. Applications, together with copies of not more than three testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary Thurrock Hospital, Grays, Essex. (7747)

BLACKPOOL, VICTORIA HOSPITAL
ASSISTANT RESIDENT SURGICAL OFFICER
Required, with responsibility for Casualty Department (Senior House Officer Grade). Post recognized for F.R.C.S. Vacant in February, 1952. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (6680A)

DARLINGTON MEMORIAL HOSPITAL
CASUALTY OFFICER (S.H.O.)
Applications are invited from male or female practitioners with experience for the above post. Salary £670 per annum, deduction of £150 per annum for full residential emoluments. The post is tenable for twelve months and is renewable annually. Apply, with references, stating age and experience, to the undersigned.—G. W. Beckwith, Secretary. (8990)

DARTFORD HOSPITAL MANAGEMENT COMMITTEE
RECEIVING ROOM OFFICER (Resident)
(Hospital admissions and casualties)
Vacant February 1, 1952. Candidates should have held House Officer appointments. Salary £670 a year, less £150 a year for residential emoluments. Six months' appointment, with possible renewal up to one year. Applications, stating age, qualifications, experience, nationality, and the names of two persons to whom reference may be made, to the Secretary, Dartford Hospital Management Committee, The Bow Arrow Hospital, Dartford, Kent, immediately. (6705)

DONCASTER ROYAL INFIRMARY
Doncaster Hospital Management Committee
CASUALTY OFFICER
Applications are invited from registered medical practitioners for the above whole-time post, in the grade of Senior House Officer, in accordance with the terms and conditions of service for hospital medical and dental staff. Salary at the rate of £670 per annum, from which a deduction at the rate of £130 per annum will be made for residential emoluments. Applications, stating age, education, qualifications and details of present and previous appointments (with dates), and giving names and addresses of three referees, should be forwarded to the undersigned immediately.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (6706)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (5816)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
(140 beds)
SENIOR HOUSE OFFICER
(Casualty and Orthopaedic Surgery Department)
required March 1, 1952. Salary £670 per annum, less deduction of £150 for board residence. One year's tenure first instance. Post recognized for F.R.C.S. Busy out-patient department. Full consultant staff. Duties include control of four other residents. Applications, with testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (6707)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
RESIDENT CASUALTY OFFICER
Required to commence duties immediately. Senior House Officer grade. Salary in accordance with the terms and conditions of service for hospital medical and dental staff, £670 a year, less £130 in respect of residential emoluments. Applications, together with copies of three recent testimonials, to be sent to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (5520)

Chairman: James Fenton, CBE, MD.

MEDICAL INSURANCE AGENCY

Hon. Secretary: Henry Robinson, MD, DL, JP.

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MANCHESTER: 33 Cross Street.
BIRMINGHAM: 154 Great Charles Street.
CHIEF OFFICE: B.M.A. House, Tavistock Sq., London, W.C.1. Telephone: Euston 5561-2-3.
EDINBURGH: 6 Drumsheugh Gardens.
NEWCASTLE-UPON-TYNE: 16 Saville Row
GLASGOW: 234 St. Vincent Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.

Casualty—contd.

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary (5418)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of either
RECEIVING ROOM OFFICER
Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or
CASUALTY OFFICER
Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant.
Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

NOTTINGHAM, GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Casualty)
Duties to commence as soon as possible. Salary £670 per annum, less £150 emoluments. Terms and conditions of service as published by the Ministry. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (4819)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for the appointment of
SENIOR HOUSE OFFICER
to Casualty and Fracture Department
Vacant immediately. Salary at £670 per annum. Terms and conditions in accordance with the National Health Service terms. The appointment will be for a period of 12 months and is renewable. Applications, stating age, nationality, qualifications, and experience, together with the names of three referees, to be sent to the undersigned.—Arthur R. Cash, Sec., 7, Nelson Gardens, Devonport. (5916)

PORTSMOUTH, ST. MARY'S HOSPITAL (773 beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Casualty Department)
Vacant March 1, 1952. Applications, stating age, experience and qualifications and names of two referees, should be submitted as soon as possible to the undersigned.—B. H. Hurst, 35, Grove Road South, Southsea. (6710)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties, which include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROTHERHAM, DONCASTER GATE HOSPITAL (155 beds)
SENIOR HOUSE OFFICER
(Casualty and Orthopaedic)
Commencing salary £670 per annum, less £140 per annum residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (5615)

ROTHERHAM, DONCASTER GATE HOSPITAL (155 beds)
SENIOR HOUSE OFFICER
duty in Casualty, E.N.T. and Eye Departments
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (6612)

MEMORIAL HOSPITAL
Shooters Hill, Woolwich, S.E.18
CASUALTY OFFICER
Vacant mid-January. Six months' appointment. Salary £350 to £450 per annum, less £100 per annum for residence. Apply to Secretary. (5762)

ST. NICHOLAS HOSPITAL
Tewson Road, Plumstead, S.E.18
CASUALTY OFFICER
Vacant February 3. Six months' appointment. Salary £350 to £450 per annum, according to experience, less £100 per annum for residence. Apply to Sec., Memorial Hosp., Woolwich, S.E.18. (6774)

BANBURY, HORTON GENERAL HOSPITAL (170 beds)
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
Required immediately. Post tenable six months in first instance. Salary from £350, according to experience. Applications, stating age, nationality, qualifications and names of two referees, to the Secretary, Hospital Management Committee, Horton General Hospital, Banbury, Oxon. (4100)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
HOUSE OFFICER (Casualty)
Required for six months, to commence duty on April 1, 1952. Forms of application may be obtained from the undersigned, and should be returned not later than January 28, 1952.—N. R. Winwood, House Governor. (5836)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE SURGEON
Casualty and Orthopaedic Department
Post recognized for F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (6613)

BURY ST. EDMUND'S, WEST SUFFOLK GENERAL HOSPITAL (289 beds)
West Suffolk Hospital Management Committee
HOUSE SURGEON
for Casualty and Orthopaedic duties
Post recognized for Fellowship of Royal College of Surgeons. National Health Service terms and conditions of service and salary apply. Appointment initially for six months. Post vacant mid-February. Applications, including the names of three referees, to the House Governor. (5631)

CAMBRIDGE, ADDENBROOKE'S HOSPITAL
United Cambridge Hospitals
Applications are invited for the post of
CASUALTY OFFICER
(House Officer, first or subsequent post)
Vacant on February 14, 1952. Salary, terms and conditions as approved for hospital medical staff. Applications, stating age, qualifications with dates and nationality, and accompanied by copies of three recent testimonials, should be sent to the undersigned as soon as possible.—J. A. Beardsall, Secretary. (6708)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
CASUALTY OFFICER (House Officer)
Required immediately. National salary and conditions.—Apply M. H. Boone, Secretary. (5645)

DARTFORD, WEST HILL HOSPITAL
Dartford Hospital Management Committee
HOUSE OFFICER (Casualty)
Required immediately. Salary in accordance with terms and conditions of service of hospital medical and dental staff. The hospital is a large general hospital, affording opportunities for wide experience, and is within easy reach of London. Applications, stating age, qualifications, experience, and the names of two persons to whom reference may be made, should be sent to the Surgeon Supt., The West Hill Hospital, Dartford, Kent. (6709)

EXETER, ROYAL DEVON AND EXETER HOSPITAL
(300 beds, 10 Resident Medical Staff employed)
Exeter and Mid-Devon Hospitals Management Committee
Applications are invited from registered medical practitioners, male and female, for the appointment of
CASUALTY OFFICER
and to act as House Surgeon, Ear, Nose and Throat Department, vacant now. The appointment is for a period of six months. Salary £350, £400, or £450 per annum, less deduction of £100 per annum for full residential emoluments. Health Service terms and conditions. Applications, with copies of two recent testimonials, should be forwarded to the Senior Administrative Officer immediately. (6883

HASTINGS, ROYAL EAST SUSSEX HOSPITAL (150 beds)
Hastings Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Post now vacant. National scales of salary. Applications to Administrator at the hospital. (6651)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for residential emoluments. The post will be tenable for six months and terminable by one month's notice either side. Forms of application from the Administrative Officer. (6325)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN
(Busy Casualty Department)
Good scope for medical experience. Applications immediately to the Secretary, Hospital Management Committee. (6782)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
CASUALTY OFFICER AND HOUSE SURGEON
for a period of nine months from April 1. The first three months will be served as Casualty Officer and Deputy House Surgeon to future chief. The post of House Surgeon recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to reach the Secretary of No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 24, 1952. (6652)

MANCHESTER (near), PARK HOSPITAL, Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Casualty and Orthopaedic)
Applications are invited from registered medical practitioners for the above post, which is vacant on February 2, 1952. The post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (5826)

NORWICH, NORFOLK AND NORWICH HOSPITAL (440 beds)
Applications are invited for the appointment of
JUNIOR CASUALTY OFFICER and HOUSE SURGEON (House Officer Status)
to the E.N.T. and Ophthalmic Departments
Post vacant February 14, 1952. Six months' appointment. Salary £350, £400 or £450, according to experience, less deduction £100 per annum for residence, etc. Applications, stating age, experience, qualifications, with names of two referees, to the Secretary, Norwich, Lowestoft and Great Yarmouth Hospital Management Committee, St. Stephen's Road, Norwich. (5633)

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
CASUALTY HOUSE SURGEON
Post vacant January 21, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance (6447)

PRESTON ROYAL INFIRMARY (400 beds)
CASUALTY OFFICER (House Officer grade)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5917)

STOURBRIDGE, CORBETT HOSPITAL (106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, *Birmingham Region*
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Casualty)
Post now vacant and will be tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (5384)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT OR NON-RESIDENT CASUALTY OFFICER
Vacant May 12, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6775)

Casualty—contd.

ST. ALBANS CITY HOSPITAL (425 beds)
Applications are invited from registered medical practitioners for the appointment of
CASUALTY OFFICER (House Officer grade)
Post vacant February 1, 1952, and tenable for six months. Applications, together with the names of two referees, should be sent to the Secretary, Osterhills, Normandy Road, St. Albans. (6711)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 22

PUBLIC HEALTH

(See Important Notice page 25)

BIRMINGHAM, CITY OF, EDUCATION COMMITTEE
Applications are invited for appointment of
ASSISTANT SCHOOL MEDICAL OFFICER in the School Health Service
Candidates must have had at least three years' experience in the practice of their profession subsequent to obtaining a registrable qualification. Salary £850 by annual increments of £50 to £1,150 per annum. Previous experience in local Government service may be taken into account. Travelling expenses allowed. Forms of application (to be returned not later than Monday, February 11), together with further information, obtainable from the undersigned on receipt of a stamped, addressed foolscap envelope. Communications should be endorsed "Assistant School Medical Officer." Canvassing will disqualify.—E. L. Russell, Chief Education Officer, Education Office, 74/5, Broad Street, Birmingham, 15. (6896)

CAERNARVONSHIRE COUNTY COUNCIL
ASSISTANT COUNTY AND SCHOOL MEDICAL OFFICER
Applications are invited for the above post from those possessing the Diploma or Certificate in Public Health. The salary scale will be £850 by £50 to £1,150, and the commencing salary on this scale may be determined by the length of service in a similar post. Opportunities are available for gaining experience in public health administration. Travelling and subsistence allowances will be paid in accordance with national scales. A knowledge of Welsh is desirable. Further information may be obtained from the County Medical Officer of Health. Applications, giving complete particulars of training and experience, together with copies of two recent testimonials and the names of two referees, should be sent to the undersigned by not later than January 31, 1952.—Gwilym T. Jones, Clerk of the County Council, County Offices, Caernarvon. (5866)

CROYDON, COUNTY BOROUGH OF
DEPUTY MEDICAL OFFICER OF HEALTH AND DEPUTY SCHOOL MEDICAL OFFICER
Applications are invited for this appointment from male registered practitioners with a Diploma of Public Health, and previous experience in a Public Health Department. The duties will be partly administrative, and partly clinical. Salary £1,470 per annum, rising by annual increments of £100, and a final one of £50 per annum, to a maximum of £1,720 per annum. Applications, on forms obtainable from the Medical Officer of Health, 45, Wellesley Road, Croydon, must be returned to him by February 2, 1952. No living accommodation is offered. Canvassing will disqualify.—E. Taberner, Town Clerk. (6887)

KENT COUNTY COUNCIL
City of Rochester and the Borough of Chatham
DEPUTY MEDICAL OFFICER OF HEALTH AND ASSISTANT COUNTY MEDICAL OFFICER
Applications are invited from practitioners holding the Diploma in Public Health or similar qualification for the above mixed appointment at a salary, with travelling expenses, in accordance with the recent Industrial Court award. The successful candidate will be required to devote 75 per cent of his time to duties for the County Council in the services concerning the care of mothers and young children and school health, for which an appropriate proportion of the salary £850 by £50 to £1,150 for an Assistant County Medical Officer will be paid. For the remaining 25 per cent of his time the officer appointed will act as Deputy Medical Officer of Health in Rochester and Chatham and these responsibilities will include duties in the Rochester Port Health Service. The amount payable for these duties being 25 per cent of the Deputy Medical Officer of Health's salary scale. The appointment is superannuable and the successful candidate will be required to pass a medical examination. Applications, stating age, qualifications and experience, together with the names of two persons to whom reference may be made as to professional experience and character, should be sent to the County Medical Officer, County Hall, Maidstone, not later than January 31, 1952. Any form of canvassing will disqualify.—W. L. Platts, Clerk of the County Council, County Hall, Maidstone. (6734)

CUMBERLAND COUNTY COUNCIL
MILLOM RURAL DISTRICT COUNCIL
Applications are invited for the mixed appointment of
MEDICAL OFFICER OF HEALTH
Millom Rural District Council, and
ASSISTANT COUNTY MEDICAL OFFICER
at a salary within the range of £1,192, rising by six increments to £1,500 under the Industrial Court award (2321), plus travelling, subsistence, etc., allowances. Applicants should be registered medical practitioners holding a Diploma in Sanitary Science, Public Health or State Medicine. Further particulars and forms of application may be obtained from the County Medical Officer, 11, Portland Square, Carlisle, to whom applications should be submitted before February 14, 1952.—G. N. C. Swift, Clerk of the County Council. W. N. Kitchin, Clerk to the Millom Rural District Council. (6713)

GLAMORGAN EDUCATION AUTHORITY
Rhondda Urban District Council
Committee for Education
Applications are invited from registered medical practitioners for appointment as
MALE ASSISTANT MEDICAL OFFICER
under the supervision of the District School Medical Officer at a salary of £850 per annum, rising by annual increments of £50 to £1,150 per annum. Preference will be given to candidates holding the D.P.H. or D.C.H., and experience in paediatrics will be an advantage. The successful candidate, if in need of housing accommodation and not already a resident of the Rhondda Urban Area, may be offered the tenancy of a Council house. Forms of application and conditions of appointment may be obtained from the District School Medical Officer, Tydfil House, Pentre, Rhondda, by whom completed applications should be received as soon as possible.—D. J. Jones, Clerk of the Council. (5867)

GLASGOW, CORPORATION OF THE CITY OF
Applications are invited from qualified medical women for posts as
ASSISTANT MEDICAL OFFICERS
in the Maternity and Child Welfare Service of the Health and Welfare Department
The work carried out by the officers will be principally in connexion with ante natal and post-natal supervision, but they may be required by the department to carry out other maternity and child welfare duties. This supervision of the expectant mother is being developed in co-operation with the Western Regional Hospital Board. Applicants must have postgraduate experience in obstetrics and the possession of the D.R.C.O.G. will be an advantage. The salary scale for the appointments is £850, rising by annual increments of £50 to £1,150 per annum, with placing according to qualifications and experience. The posts are superannuable and successful applicants will be required to undergo medical examination. Applications, stating age, qualifications, and full details of training and experience, together with copies of not more than three recent testimonials, or the names of three referees, to be lodged with the undersigned in an envelope marked "Appointments—Assistant Medical Officers (Maternity and Child Welfare)" not later than January 26, 1952.—William Kerr, Town Clerk, City Chambers, Glasgow. (6733)

MIDDLESEX COUNTY COUNCIL
County Health Department
DEPUTY AREA MEDICAL OFFICER
Required, initially in Area 8 (Hayes/Harlington, Ruislip-Northwood, Uxbridge, Yiewsley/West Drayton) for administrative and clinical duties mainly in connexion with National Health Service and Education Acts. Must be prepared, if required, to undertake also duties of Medical Officer of Health or Deputy of one or more of the County Districts in Area, in which case salary would be amended in accordance with appropriate nationally negotiated scale. Degree or Diploma in State Medicine or Public Health and practical experience of public health administration essential. Whole time, established. Subject to medical assessment and prescribed conditions. Salary £1,200 by £50 to £1,500 per annum inclusive. Applications, stating age, qualifications, experience, two referees, to Area Medical Officer, Local County Offices, High Street, Uxbridge, by February 23 (quoting K.364 B.M.J.). Canvassing disqualifies.—C. W. Radcliffe, Clerk of the County Council. (6897)

PRESTON, COUNTY BOROUGH OF
ASSISTANT MEDICAL OFFICER OF HEALTH
Applications are invited from registered medical practitioners for the above appointment. The duties will include maternity and child welfare work, school health and such other duties as may be allotted by the Medical Officer of Health. The possession of the D.P.H. or D.C.H. will be an advantage. The salary scale is £850 by £50 to £1,150 per annum. The person appointed will be required to pass a medical examination and to contribute to the superannuation fund. Application forms may be obtained from the Medical Officer of Health, Municipal Building, Preston, and should be returned to the undersigned endorsed "Assistant Medical Officer of Health" not later than Monday, January 28.—W. E. E. Lockley, Town Clerk, Municipal Building, Preston. (6735)

LONDON COUNTY COUNCIL
Applications invited from registered medical practitioners for appointment as whole-time
ASSISTANT MEDICAL OFFICER
in Public Health Department. Inclusive salary £850 by £50 to £1,150, commencing point on scale dependent on local government service. No emoluments. Duties will be primarily on child health. Experience in (i) maternity and child-welfare work, (ii) school health service, and the Diploma in Public Health an advantage. Application form obtainable from Medical Officer of Health (PH/D.1), The County Hall, Westminster Bridge, S.E.1, to be returned by February 2, 1952. (39) (6884)

NORTHUMBERLAND COUNTY COUNCIL
Applications are invited from registered medical practitioners for the appointment of an
ASSISTANT COUNTY MEDICAL OFFICER
to undertake duties in connexion with maternity and child welfare. Salary will be in accordance with the scale £850, rising by annual increments of £50 to £1,150 per annum, previous experience being taken into consideration in determining the commencing salary. Travelling and subsistence allowances will be paid in accordance with the Council's scale when the officer appointed is required to be away from the normal centre which, in this case, will be Blyth. The appointment is subject to superannuation, and will be determinable by three months' notice on either side. The successful candidate will be required to pass a medical examination. Forms of application may be obtained from the undersigned, and must be returned, accompanied by names of three referees, not later than January 31, 1952.—John B. Tilley, County Medical Officer, County Hall, Newcastle upon-Tyne, 1. (6888)

NOTTINGHAM, CITY OF
Health Department
Applications are invited from qualified medical practitioners for the post of
ASSISTANT MEDICAL OFFICER OF HEALTH
The duties will be chiefly in connexion with maternity and child welfare, together with any other duties allocated by the Medical Officer of Health. Preference will be given to candidates possessing higher qualifications and the salary attached to the appointment will be £850 by £50 to £1,150 per annum. The post will be subject to three months' notice on either side at any time. The successful candidate will be required to pass a medical examination under the provisions of the National Health Service (Superannuation) Regulations or the Local Government Superannuation Act, 1937. Conditions of appointment and forms of application may be obtained from the undersigned to whom they must be returned, together with the names of two persons to whom reference may be made, not later than January 26, 1952.—T. J. Owen, Town Clerk, The Guildhall, Nottingham. (5671)

SOMERSET COUNTY COUNCIL
ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH
Applications (men or women) are invited for the above appointment. The salary is £850, rising by £50 to £1,150 per annum, but in fixing the commencing salary the Council will have regard to previous experience. Possession of the D.P.H. or D.C.H. would be an advantage. The duties will be mainly concerned with the services of school medical inspection and maternity and child welfare. Possession of a motor car is essential. Travelling allowance will be paid in accordance with the county scale. The post is superannuable and subject to a satisfactory medical examination. Applications should be made forthwith, on forms to be obtained from the undersigned.—J. F. Davidson, County Medical Officer of Health, County Hall, Taunton. (5670)

INDUSTRIAL APPOINTMENTS

APPLICATIONS ARE INVITED FROM REGISTERED practitioners for appointment of **Area Medical Officer**, No. 1 (South Northumberland) Area, **Northern (N. & C.) Divisional Coal Board.** Duties will include normal functions of industrial medical officer, and responsibility for organization and supervision of medical and first-aid services at collieries. Candidates should have experience in general practice and/or in field of preventive and industrial medicine. Knowledge of coal-mining industry, though not essential, an advantage. Salary according to qualifications, experience, etc., within range of £1,250 to £1,900. Applications, stating full particulars of age, qualifications, experience, posts held, and salary, should be sent within 14 days of date of this notice to Establishments Officer, National Coal Board, Ellison Buildings, Ellison Place, Newcastle-upon-Tyne.

FACTORY DOCTORS
FACTORIES ACTS, 1937 and 1948
The following appointments as Appointed Factory Doctor under the Factories Acts, 1937 and 1948, are vacant: Birmingham, West, in the County of Warwick; Haywards Heath, in the County of Sussex; Uppingham, in the County of Rutland. Applications, which should be received not later than February 2, 1952, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

Industrial Appointments—contd.

RAILWAY EXECUTIVE: NORTH-EASTERN REGION.—Applications are invited from registered medical practitioners, preferably aged 28 to 35, for appointments as **Assistant Medical Officers (Full-time)** at Hull and Darlington in the North-Eastern Region, British Railways. Candidates should have a good clinical background and an interest in industrial medicine. Experience in general practice is desirable. Commencing salary £1,000 per annum. Membership of the Superannuation Fund, subject to medical examination, is obligatory. Applications, giving full particulars of age, qualifications and experience, together with names of two referees, should be sent to the Regional Medical Officer, Railway Executive, North-Eastern Region, Headquarters Offices, York, not later than Feb. 1. (6900)

EIRE

DUBLIN CORPORATION
ANAESTHETIST

Application forms and particulars from the Secretary, 45, Upper O'Connell Street, Dublin. Essential qualifications include (a) a Fellowship of the Faculty of Anaesthesia or a Diploma in Anaesthetics or equivalent; (b) three years' whole-time experience in the study and practice of anaesthesia. Salary £1,340. Latest time for receiving completed application forms, 5 p.m. on January 29. (6898)

OVERSEAS

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

ALBANY HOSPITAL, Albany, N.Y.

Residency in tuberculosis available at Albany Hospital, Albany, New York, associated with Albany Medical College, beginning July 1, 1952, for a period of twelve months. Salary ranges from $1,800 to $2,400. (9920)

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

ALBANY HOSPITAL, Albany, N.Y.

Internships and residencies available in Albany Hospital, Albany New York, 750-bed general hospital, directly associated with Albany Medical College. House officers receive appointments in medical school. Salaries range from a minimum of $300 a year for interns to $1,400 a year for residents. Details on request. (9695)

UNITED HOSPITAL
Port Chester, New York, U.S.A.

200-bed fully approved general hospital offers one year rotating internship to graduates of approved medical schools, period beginning July 1, 1952. Stipend $100 monthly, plus full maintenance. Address applications to Superintendent, United Hospital, 406, Boston Post Road, Port Chester, N.Y., U.S.A. (6886)

KENTUCKY, U.S.A.
PHYSICIANS

Wanted for two Kentucky State mental hospitals, psychiatric experience desirable but not absolutely necessary. Salaries range from $4,800 (£1,714) to $5,760 (£2,057) per year with maintenance. Details from Medical Practices Advisory Bureau (Agents), B.M.A., Tavistock Square, W.C.1. (6901)

BRITISH EMPIRE CANCER CAMPAIGN invites applications from British subjects for **Exchange Fellowships in Cancer Research** offered by the National Cancer Institute of Canada and the American Cancer Society. Completed applications must be received by February 29, 1952. Fellowships are of one year's tenure at a stipend of $4,000. Travelling expenses to and from centre of work will be borne by the Campaign. For further particulars and application forms apply to the Secretary-General, British Empire Cancer Campaign, 11, Grosvenor Crescent, Hyde Park Corner, London, S.W.1. (5405)

GREY HOSPITAL, Greymouth, New Zealand
PATHOLOGIST

Applications from registered medical practitioners with training and experience in pathology are invited for the above position. Commencing salary at rate of £1,260 to £1,660 (N.Z.) per annum, according to qualifications and experience. A new laboratory is in course of erection. The position is non-resident and housing will be appointee's own responsibility. Annual leave and sick leave are prescribed in regulations. Reasonable travelling expenses incurred by an overseas appointee will be refunded up to £150 for single man and £400 for married man accompanied by dependent relatives. The appointment is terminable by three months' notice on either side. Applicants are advised to obtain further particulars from the office of the High Commissioner for New Zealand, 415, Strand, London, W.C.2. Applications (by air mail) close with the undersigned on March 31, 1952.—W. H. J. Watson, Managing Secretary, Grey Hospital Board, Greymouth, New Zealand. (6757)

OTAGO HOSPITAL BOARD
Dunedin Hospital and University of Otago

Applications are invited for the position of

HALF-TIME OPHTHALMIC SURGEON
to the Department of Ophthalmology at Dunedin Hospital

Salary, commencing at a rate between £800 to £1,000 per annum, according to qualifications and subsequently according to the Hospital Employment Salary Regulations shortly to be issued. Salary will commence on assuming duty at Dunedin Hospital. Full details may be obtained on application to the office of the High Commissioner for New Zealand, 415, The Strand, London, or to the office of this *Journal*. Applications, stating age, qualifications, postgraduate experience, accompanied by copies of testimonials, a certificate of health and radiological certificate and testimonials, will be received by the undersigned until 10 a.m. on February 20.—W. A. Williamson, Secretary, Otago Hospital Board, P.O. Box 453, Dunedin. (6902)

COLONIAL DEVELOPMENT CORPORATION
MEDICAL OFFICERS

Required for service overseas. Experience of medicine and hygiene in tropical and sub-tropical climates particularly for native labour forces. Preferably having diploma tropical medicine and hygiene. Commencing £1,200 to £1,750 with house and hard furnishings at five per cent of emoluments. Outfit grant, general U.K. leave. Superannuation scheme. Normal tour 18 to 36 months. Write, giving full details, age, qualifications and experience, to Personnel Manager, 33, Dover Street, W.1, quoting Serial No. 84, by January 29. (6899)

UNIVERSITY OF SYDNEY, Australia

The Senate will shortly proceed to the appointment to the

CHAIR OF PATHOLOGY

which becomes vacant on the retirement of Professor W. K. Inglis. The salary will be at the rate of £2,500 (Australian) per annum, plus cost-of-living adjustment. There is a normal retirement provision under the Professorial Superannuation Scheme, and, in addition, a pension of £400 (Australian) per annum upon retirement after the age of sixty years. The Senate reserves the right to fill the Chair by invitation. Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, 5, Gordon Square, London, W.C.1. The closing date for receipt of applications is March 31. (6777)

UNIVERSITY OF SYDNEY, Australia

The Senate will shortly proceed to the appointment to the

BOSCH CHAIR OF BACTERIOLOGY

which becomes vacant on the retirement of Professor H. K. Ward. Salary will be at the rate of £2,500 (Australian) per annum, plus cost-of-living adjustment. There is a normal retirement provision under the Professorial Superannuation Scheme, and, in addition, a pension of £400 (Australian) per annum upon retirement after the age of sixty years. The Senate reserves the right to fill the Chair by invitation. Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, 5, Gordon Square, London, W.C.1. The closing date for receipt of applications is March 31. (6778)

HIS MAJESTY'S COLONIAL RESEARCH SERVICE—East African Medical Survey

Vacancy exists in the above unit in Tanganyika for a

MEDICAL RESEARCH OFFICER

whose duties will include carrying out of physical examinations of Africans as part of a large scale medical survey of isolated populations. African assistants will be available. Candidates, who should be male and not over 35 years old, should hold medical qualifications registrable in the United Kingdom. Tropical experience is an advantage but not essential, as opportunities will be provided on arrival in East Africa of acquiring knowledge of local disease conditions, etc., if this is necessary. Emoluments (including Overseas research allowance) on scale £840 to £1,500 per annum, point of entry according to age and qualifications. Cost-of-living allowance also payable. Selected candidates may be required to proceed to East Africa by air. Official quarters are available for which rent is chargeable at the rate of 10 per cent of basic salary. Free passages for officer and his wife and children under 13 years. Outfit allowance of £60. Superannuation provided under Colonial Superannuation Scheme. Forms of application may be obtained from the Under Secretary of State, Colonial Office, Research Department, S 610, Sanctuary Buildings, Great Smith Street, S.W.1. (6776)

MUFULIRA COPPER MINES LIMITED
Northern Rhodesia

Applications are invited for the post of

SENIOR MEDICAL OFFICER

Applicants should have had considerable experience in general surgery. Starting salary from £1,620, depending on qualifications and experience, plus cost-of-living allowance (at present £90 per annum) and bonus (at present 60 per cent on basic salary). Also pension and life assurance scheme. Write, Rhodesian Employment Department, Selection Trust Building, Mason's Avenue, Coleman Street, London, E.C.2. (6830)

HIS MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom, with one or more years' experience after qualification, are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH

for general medical and health duties. A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan medical service. Appointment is available (a) on probation for permanent establishment, (b) on employment from the National Health Service, and (c) on short term contract with gratuity. **(a) Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in His Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g. F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). **(b) National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malayan salary on leaving Malaya at the end of their engagements. Emoluments as under (a) including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their Colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. **(c) Contract terms.** The contract will be for three years' resident service, renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a) including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e. those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No 27215/242/51). (5187)

UNIVERSITY APPOINTMENTS

WORLD HEALTH ORGANIZATION
FELLOWSHIPS

A small number of Fellowships is to be awarded in 1952 by the World Health Organization to registered medical practitioners, dental practitioners and State registered nurses of at least five years' standing who are engaged in the health services, medical education or medical research in the United Kingdom. Fellowships will be of two kinds: (1) Resident Fellowships for a period which exceptionally might be extended to one year. (2) Travelling Fellowships of short duration for senior persons holding responsible appointments. Applications, giving full particulars of qualifications, experience, proposed programme and duration of study, and accompanied by the names of two referees, should be sent (a) by those resident in Scotland to the Secretary, Department of Health for Scotland, St. Andrew's House, Edinburgh, 1; (b) by others to the Secretary, Ministry of Health, Savile Row, London, W.1. Envelopes should be marked "World Health Organization Fellowships" and received not later than February 2, 1952. (6904)

University Appointments—contd.

THE BRITISH EMPIRE CANCER CAMPAIGN invites applications for **Fellowships in Cancer Research.** These Fellowships will be intermediate between the Campaign's existing Senior and Junior Fellowships, and will normally be tenable for five years at a salary of £1,500 by £100 to £1,900 per annum. Fellowships are full-time and will carry superannuation. Fellowships are open to any person of British nationality who, at the date of election, has taken a degree in any faculty in any university in the British Empire approved by the campaign, or who, if a female, has passed an examination which would have entitled her, if a male, to take any such degree. The possession by a Fellow at the date of election of a medical diploma registrable in the United Kingdom will be accepted as a qualification for a Fellowship in lieu of a degree. Elections will take place in June, 1952, and work, if possible, should be begun before the end of the year. Fellows must carry on their research initially in Great Britain or in Northern Ireland, and only at the place at which they are authorized by the Campaign to work. The fares of successful candidates from overseas will be paid by the Campaign. The closing date for the receipt of applications is May 1, 1952. For further particulars and application forms apply to the Secretary-General, British Empire Cancer Campaign, 11, Grosvenor Crescent, Hyde Park Corner, London, S.W.1. (5404)

CRICHTON ROYAL FELLOWSHIPS

The Board of Management of the Crichton Royal have established three Fellowships for the training of specialists in psychiatry, each carrying a salary of £670, less a deduction of £150 for the usual residential emoluments. Two of these Fellowships will fall vacant on April 1, 1952. The Fellows receive training in all branches of clinical psychiatry, including work in out-patient and child guidance clinics, by the senior members of the medical staff. The Fellowships are tenable for one year but may be prolonged for another year. Previous general hospital experience essential. Application form and syllabus are obtainable from the Physician Superintendent, Crichton Royal, Dumfries. (6779)

WELSH NATIONAL SCHOOL OF MEDICINE
(University of Wales)

Applications are invited for the post of
SENIOR LECTURER IN THE MEDICAL UNIT
The person appointed will be required to assist in all the work of the Professorial Department of Medicine as directed by the Professor, and to take charge of hospital medical patients in his absence. The unit has 40 beds and good laboratory accommodation. The post is full-time and the salary will be within the scale £1,500 by £100 to £2,000 per annum. Schemes of superannuation and family allowances apply to the appointment. Further particulars may be obtained from the undersigned, by whom applications should be received not later than Thursday, February 14, 1952.—F. Dodsworth, Secretary, 34, Newport Road, Cardiff. (5764)

UNIVERSITY OF BRISTOL

Applications are invited for the post of
DEMONSTRATOR IN ANATOMY
Salary £600 per annum. About half the Demonstrator's time will be spent on research for which facilities are available. Applications, giving full names, age, qualifications, details of education and experience, together with the names of not more than two referees, and copies of not more than three recent testimonials, should reach the undersigned, from whom further particulars may be obtained, on or before February 15, 1952.—H. C. Butterfield, Registrar and Secretary. (6832)

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL (Obstetric Unit)

Applications are invited for the post of
ASSISTANT in the Obstetric Unit
Salary according to qualifications, but not less than £900 per annum, with superannuation and family allowance. The appointment will commence from March 1, 1952. Applicants must possess a University degree. The holder of the post will be required to sign an honorary contract to undertake duties in University College Hospital. Applications, with names of two referees, should be sent to the Secretary of University College Hospital Medical School, University Street, London, W.C.1, not later than fourteen days from the date of the appearance of this advertisement. (6833)

UNIVERSITY OF OXFORD
RADCLIFFE TRAVELLING FELLOWSHIP 1952

An examination for a Fellowship of the annual value of £300, tenable for two years, will be held at the University Museum on February 23, 1952. Candidates must have passed all the examinations for the Degree of Bachelor of Arts and Bachelor of Medicine, and must not have exceeded four years (exclusive of military service) from the time of passing the last examination for the Degree of Bachelor of Medicine. The examination will take the form of a self-chosen essay and an interview. Further particulars to be obtained from the Regius Professor of Medicine, University Museum, Oxford. All applications, with essays, must be sent in by January 31, 1952. (4342)

UNIVERSITY OF LEEDS

The Council invites applications from suitably qualified persons, either with or without a registrable medical qualification, for the
BROTHERTON CHAIR OF BACTERIOLOGY
which will become vacant on September 30 next on the retirement of Professor J. W. McLeod. Applications (fifteen copies), together with the names of three referees, should reach the Registrar, The University, Leeds, 2 (from whom further particulars, including salary range, may be obtained), not later than March 17, 1952. Applicants abroad may apply by cablegram naming three referees in the United Kingdom. (6780)

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

PERSONAL

HIGHLY QUALIFIED AND EXPERIENCED practitioner wishes to contact practitioner in the West End London with view to co-operation. Can bring some connection with him. No Health Service work considered.—Replies in strict confidence to Box 230, B.M.J.

NOTICES

FACULTY OF ANAESTHETISTS
Royal College of Surgeons of England
Board of Faculty Election

Notice is hereby given that an election of three Fellows and one Member to the Board will take place on Wednesday, March 12, 1952, at 3 p.m. The following are the candidates for election:

Fellows—Low, William Alexander (Fellow 1948), Board 1948-51, Pask, Edgar Alexander, O.B.E. (Fellow 1948), Board 1948-51, Pleasance, Reginald Ernest (Fellow 1948), Board 1948-51, Dawkins, Charles John Massey (Fellow 1948), Harbord, Richard Penn (Fellow 1948), Nosworthy, Michael Denis (Fellow 1948), Pinkerton, Herbert Harvey (Fellow 1948), Scott, Eric Arnold (Fellow 1948), Woodfield-Davies, Hugh (Fellow 1948).

Members—Beard, Arthur John Wells (Member 1949), Davies, Russell Maddox (Member 1949), Churchill-Davidson, Harry Cunningham (Member 1951).—W. F. Davis, Secretary. (6831)

PREGNANCY DIAGNOSIS

PREGNANCY DIAGNOSIS (HOGBEN) TEST. Family Planning Association Laboratories, 64, Sloane Street, London, S.W. (Sloane 0451). Specimens of urine accepted from doctors and hospitals anywhere. Result available within 24 hours of receipt of specimen. Cost 25s. (hospitals and clinics at special rates). Telephone or write for details.

EDUCATIONAL

CHILDREN'S DISEASES (D.C.H.): FEBRUARY 18 to March 1. Daily 5.30 to 7 p.m. Princess Louise Kensington Hospital. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

GENERAL SURGERY (F.R.C.S.) WEEK-END: All day Saturday and Sunday, January 26 and 27. Queen Mary's Hospital for the East End, Stratford. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

PRIMARY F.R.C.S., PHYSIOLOGY AND Pathology. Short course, February to April, in London by experienced teachers. C.N.S., Respiration, Circulation, General Pathology. Telephone: PRI 8266.—Box 152, B.M.J.

M.B. AND CONJOINT. REVISION COURSE in Physiology in London by experienced teacher, late afternoons. Tel.: PRI 8266.—Box 153, B.M.J.

WEEK-END COURSE—HEALTH IN THE FACTORY. An intensive practical course for medical practitioners and nurses engaged or interested in industrial health, will be held at the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1 (Tel.: MUSeum 3041), on Saturday and Sunday, February 9 and 10, 1952. Fee one guinea. Apply to the Registrar for further information. (5921)

OBSTETRICS (D.OBST.R.C.O.G.) WEEK-END: February 9 and 10, all day Saturday and Sunday. Queen Mary's Hospital for the East End, Stratford. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

INSTITUTE OF LARYNGOLOGY AND OTOLOGY
330-332, Gray's Inn Road, London, W.C.1
(University of London)

The next Advanced Revision Course for M.S. and Final F.R.C.S. Students commences on February 11, 1952. The course has been arranged as a part-time one in order to meet the circumstances of students holding appointments. It runs for ten weeks and the fee is £21. A detailed syllabus is obtainable from the Dean. (6781)

OBSTETRICS (D.OBST.R.C.O.G.): FEBRUARY 11 to 16. All day. West Middlesex Hospital, Isleworth. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

INSTITUTE OF UROLOGY
in association with St. Peter's, St. Paul's and St. Philip's Hospitals
POSTGRADUATE COURSE IN VENEREOLOGY
March 3 to April 30, 1952

The course will include systematic lectures and demonstrations, covering the whole subject, out-patient clinics and weekly ward rounds. Fee for the course is 12 guineas. Applications to the Dean, Institute of Urology, c/o St. Paul's Hospital, Endell Street, W.C.2. (6834)

POSTGRADUATE STUDY. Diploma in Anaesthetics: Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Laryngology; Diploma in Child Health; F.R.C.S.Eng., and all Surgical Examinations; M.R.C.P.Lond., and all Medical Examinations; M.D Thesis of all Universities; Courses for all qualifying Examinations. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested. Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1.

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes. 1937-1950; M.D.Lond., 62; M.B., B.S.Lond., Final, 133; F.R.C.S.Eng., Primary, 212; F.R.C.S.Eng., Final, 173; M.R.C.P.Lond., 209; M.R.C.S., L.R.C.P., Final, 303; D.A., 177; D.C.H., 135; M. and D.Obst.R.C.O.G., 232; D.O., C.P.H., D.P.H., D.L.O., D.P.M., F.R.C.S.Edin., many successes. Assistance with M.D. Thesis. Prospectus, list of tutors, etc., on application to Dr. G. E. Oates, University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE
Department of Medical Statistics and Epidemiology

The following short courses, lasting sixteen weeks, will be held in March to June 1952: (1) **Course in Medical Statistics and Epidemiology,** on the mornings of Tuesdays and Thursdays, starting March 4. (2) **Course in Statistical Methods and their application in Medicine,** on the mornings of Wednesdays and Fridays, starting March 5. Fee for each course ten guineas, for both taken together seventeen guineas. Students without a medical qualification can be accepted. Application for admission must be made before February 15. Details of the syllabus of each course can be obtained on request. (6835)

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE
Postgraduate Academic Diploma in Bacteriology

The course for the Postgraduate Diploma in Bacteriology for the Session 1952-3 will commence in October, 1952. This is a full-time day course extending over one academic year. The course may be taken by: (a) Graduates in Medicine or Veterinary Science desiring to study Bacteriology as applied to Medicine and Hygiene. (b) Graduates in Science with a First or Second Class Honours degree in Chemistry, or its equivalent. For such students, the course covers the fields of General Bacteriology, Chemical Microbiology and Industrial Microbiology. Applications for admission to the Diploma course must be received not later than March 1, 1952. Further information and application forms can be obtained from the Registrar, London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1. (5406)

UNIVERSITY OF LONDON
Institute of Obstetrics and Gynaecology
(Incorporating the teaching facilities of Queen Charlotte's Maternity Hospital, Chelsea Hospital for Women, and the Department of Obstetrics and Gynaecology at the Postgraduate Medical School, Hammersmith Hospital)

Applications are invited from graduates with a registrable qualification, for enrolment for the Spring Term (March 10 to June 7, 1952). Graduates are allotted to one of the constituent hospitals for clinical work, and attend lectures and special demonstrations at all three hospitals. Enrolment fee £3. Tuition fee £30 for one term, £55 for two terms. General practitioners wishing further experience in obstetrics may be accepted to attend the course at Queen Charlotte's Maternity Hospital for shorter periods (i.e., two to four weeks). They will be allowed to do normal deliveries and will have the opportunity of attending the combined classes of lectures and demonstrations at the three hospitals of the Institute. Ministry of Health grants are payable to approved general practitioners attending for a period of two weeks. During vacation, graduates may attend the practice of the hospital at Queen Charlotte's Hospital and at the Postgraduate Medical School. Fee £1 per week. A Refresher Course for general practitioners will be held from February 25 to March 1, 1952. Fee £5 5s. Hostel accommodation is available at Queen Charlotte's Hospital and at the Postgraduate Medical School. Further particulars can be obtained from the Secretary, Institute of Obstetrics and Gynaecology, Dovehouse Street, S.W.3. (5865)

SOCIETY OF APOTHECARIES OF LONDON.—DIPLOMA IN INDUSTRIAL HEALTH.—The next examination will begin on Monday, July 7, 1952. The following Examination will be held in December. For regulations apply Registrar, Apothecaries' Hall, Black Friars' Lane, London, E.C.4.

TUBERCULOSIS EDUCATIONAL INSTITUTE
Three-day Clinical Courses for Doctors—1952
Intensive three-day clinical courses will be held at the following centres during 1952:

Cheshire Joint Sanatorium, Market Drayton, Shropshire
March 19, 20, and 21. May 14, 15, and 16. November 12, 13, and 14.

King George V Hospital for Diseases of the Chest, Godalming, Surrey
February 27, 28, and 29. June 4, 5, and 6. October 1, 2, and 3.

Red Cross Sanatoria of Scotland (Tor-na-Dee and Glen o'Dee)
March 19, 20, and 21 May 21, 22, and 23. October 15, 16 and 17.

The fee for each course is three guineas, and applications should be sent to the Secretary, Tuberculosis Educational Institute, Tavistock House North, Tavistock Square, London, W.C.1. (6731)

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A complete course of instruction for the Diploma in Medical Radiotherapy, granted by the Royal College of Physicians of London and the Royal College of Surgeons of England, will commence at the Western Infirmary, Glasgow, in October, 1952. Application for admission should be made to the Medical Superintendent. (6836)

LECTURES

UNIVERSITY COLLEGE LONDON
Free Public Lectures, Spring Term, 1952
Thursday, January 31, 1952, at 5.30 p.m., inaugural lecture by Professor B. Katz, "Different Forms of Signalling Employed by the Nervous System." **Fridays, February 15, 22,** at 5.30 p.m., Dr. F. Bergel, "Some Recent British Contributions in the Field of Pharmaco-Therapeutics." **Thursdays, February 21, 28, March 6, 13, 1952,** at 4.45 p.m., Dr. A. L. Lehninger, "Mitochondria and Biological Oxidations and Phosphorylations." **Fridays, February 29, March 7, 1952,** at 5.30 p.m., Professor J. F. Danielli, "Cell Physiology and Pharmacology."
Complete list of public lectures from Assistant Secretary, University College London, Gower Street, W.C.1 (stamped envelope required). (6837)

GENERAL MEDICINE (M.R.C.P.): FEBRUARY 4 to March 14. 5 to 8.30 p.m. daily. Lectures, clinical cases, pathology, x-rays. Whittington Hospital (Archway Wing). Limited. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

UNIVERSITY OF LONDON. A LECTURE ON "The Metabolism of Ethyl Alcohol" will be given by Dr. E. Jacobsen (Copenhagen) at 5.30 p.m. on January 28 at University College (Physiology Theatre), Gower Street, W.C.1. Admission free, without ticket.—James Henderson, Academic Registrar.

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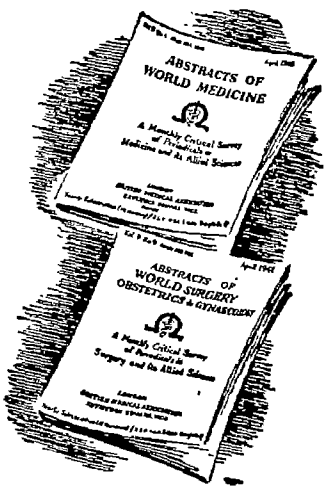

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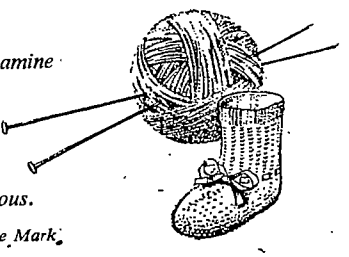

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 26 1952

INAUGURAL LANGDON-BROWN LECTURE*

BY

The Late GEOFFREY EVANS, M.D., F.R.C.P.

We are assembled this afternoon to honour the memory of Sir Walter Langdon-Brown, and I will do my best to place on record something at least of the contribution he made to medical science and human understanding. I am very grateful to the President and Board of Censors for the honour of being appointed to give this Inaugural Lecture.

Bedford Days

Walter Langdon-Brown was born on August 13, 1870, in the old manse, Bedford, the eldest son of the Reverend Dr. John Brown, who was the sixth direct successor of John Bunyan in the pastorate of Bunyan Meeting, Bedford, and the author of the standard biography of Bunyan. He entered Bedford School in 1879 and there he showed himself very earnest in his work and keenly curious to know. Although a poor classical scholar judged by the school standard of those days, he won the prize for English essay each year, an achievement which confounded his masters, who held that the ability to write good English depended on a knowledge of the classics. By the age of 15 he had developed an enthusiasm for English literature, and two years later he was promoted top of the form. At the age of 18 he won a leaving scholarship and so ended his school days with credit.

His home life was a happy one. His father concerned himself with his schooling and took his son to Bedford School when he went there for the first time for his entrance examination. The boy admired his father; he realized that the headmaster of his school, Dr. J. S. Phillpotts, and his father were the intellectual leaders of the town. His mother was the deciding influence in his career in these early days. She seems to have been somewhat reserved, very firm in character, and puritanic in outlook—using the term "puritanic" in the sense of being extremely strict in morals. Mrs. Brown had complete faith in her eldest son; she watched his every step and did her best to guide him in the path of goodness. But he wanted more than this, an expressed affection, and he found in his sister Florence, later Mrs. J. N. Keynes, who was nine years older than himself and whom he adored, and to whom, to use his own words, he remained devoted throughout his life. With his brothers, Harold and Kenneth, he was lifelong friends. He was strong and constant in affection.

*Read, owing to the death of Dr. Evans on August 30, by the President of the Royal College of Physicians of London at the College on October 30, 1951.

Cambridge Days

Langdon-Brown entered St. John's College, Cambridge, with a junior scholarship in 1889. He arrived unsure of himself and diffident, but he soon made friends and became engrossed in his work. In his third year he found himself. He was by nature ambitious; his teachers gave him the encouragement and appreciation which were his greatest need at that time, and now he became conscious of a firmer grip on things and felt he was beginning to approach the first-class academic standard.

He has left us a beautiful vignette of an occasion in his life at St. John's College. "We take our places in hall along the long Jacobean benches at the equally long and ancient tables. The bell rings in the turret. The butler hands the Latin grace to the scholar of the week as he advances to the dais. We rise; the bell ceases; silence. 'Benedic, Domine, nos et dona tua,' he begins; 'Bless us, O Lord, and these thy gifts.' So has the grace run these four hundred years since the Lady Margaret, whose portrait hangs in the place of honour, founded the College. So it ran in the days when the great men whose portraits adorn the walls were undergraduates, became distinguished, died, and faded into memories more or less distinct. So it will run when we in our turn give place to others. What a deep sense of continuity it gives; of life that transcends the individual."

Langdon-Brown completed his career at Cambridge with distinction by gaining a first-class in both parts of the Natural Sciences Tripos. Subsequently he maintained the high standard which he had set himself by being bracketed first in surgery and midwifery and in being second in medicine in the third M.B. examination: later he was awarded the Horton-Smith Prize for the best thesis for the degree of M.D., University of Cambridge.

St. Bartholomew's Hospital

When Langdon-Brown delivered the Annual Harveian Oration in this College on October 19, 1936, he chose for his subject "The Background to Harvey." And so it is in keeping with his own approach to biography to speak about his background at St. Bartholomew's Hospital, more particularly in respect of its atmosphere of learning, to which he himself so greatly contributed.

Robert Bridges, later Poet Laureate, had left the hospital in 1881, 13 years before Langdon-Brown came

to St. Bartholomew's. It is appropriate, however, to mention his name, because Langdon-Brown was enthralled by his great work, *The Testament of Beauty*, and he chose "Robert Bridges: The Poet of Evolution," as the theme for his inaugural address to the Abernethian Society on November 3, 1931.

Langdon-Brown entered St. Bartholomew's Hospital in 1894 with the senior open entrance scholarship. In the same year Sir James Paget gave the inaugural address at the 100th session of the Abernethian Society. After qualification in 1896 he was appointed house-physician to Dr. Samuel Gee, a man of remarkable talent, whose mind was cast in the same mould as that of the seventeenth-century philosopher Thomas Hobbes, whose works he often quoted. This was the age of materialism at Bart's; reason disputed empiricism, and logic prepared the ground for the incursion of science into medicine. Norman Moore was assistant physician, later full physician, and, finally, President of this College during the years of Langdon-Brown's life at St. Bartholomew's Hospital. In addition to his knowledge of biology and natural history, Norman Moore was a scholar of Irish Gaelic. In those days, the notes of a patient's case were pinned on a board which was hung on the wall at the head of the bed for everyone to see, and Norman Moore would sometimes write a very private note on the patient in the ancient language of Erse, or a less private record was made in Latin, such as the diagnosis "valetudo conquassata" (literally translated, "health severely shattered"); meaning much the same as anxiety neurosis or battle fatigue. But his name in the future will be remembered by his *History of the Study of Medicine* in the British Isles, and by his editing of the Middle English translation of *Liber Fundacionis*, a work composed by an Augustinian canon in the Priory of St. Bartholomew in West Smithfield in the reign of King Henry II; and especially will he be remembered by his great history of St. Bartholomew's Hospital.

This literary tradition was carried on by Langdon-Brown's contemporaries. Sir D'Arcy Power shared Sir Norman Moore's interest in historical research in his Life of William Harvey, published in 1897, while another of his colleagues, Sir Percival Horton-Smith Hartley, in conjunction with Harold Aldridge, has written the Life of Johannes de Mirfeld, who was one of the Clerks of the Priory of St. Bartholomew in Smithfield in the latter half of the fourteenth century, when Richard II was king. The latest contribution to historical research emanating from the hospital is a collection of *Essays in the History of Medicine* by the late George Gask, and no doubt Langdon-Brown heard some of these lectures delivered.

Sir Archibald Garrod introduced biochemistry to clinical medicine. He walked to and fro between his wards and Dr. Hurtley's chemical laboratory: to Garrod the wards and laboratory were as much one as the two sides of a penny. He was elected a Fellow of the Royal Society in recognition of his work on urinary pigment and his discovery and description of *Inborn Errors of Metabolism*, which was first published in book form in 1909; the second edition was published in 1923, when he was regius professor of medicine in the University of Oxford. Administrative capacity was represented by Sir Wilmot Herringham and by Sir Holburt Waring, who is still with us, both of whom in their time were vice-chancellors of the University of London. Herringham was a great orator; Waring was in the forefront of surgical practice.

Langdon-Brown had a wide education in clinical medicine. He served as clinical assistant in the department of diseases of the ear, nose, and throat, and then as external midwifery assistant. When he had completed his term as house-physician to Dr. Gee he became senior resident medical officer to the Metropolitan Hospital; two years later, in 1900, he was appointed assistant physician and pathologist to that hospital, and in 1906 became full physician. Meanwhile his progress at St. Bartholomew's Hospital was slow, but it provided him with ample opportunity for learning and clinical experience, first as casualty physician in 1900, then as junior demonstrator of practical medicine three years later, and, again three years later, he was appointed medical registrar and demonstrator of morbid anatomy. It was not until 1913, at the age of 43, that he was elected assistant physician to St. Bartholomew's Hospital. It was a long and arduous climb to the Staff at Bart's in those days. He became full physician in 1924 at the age of 54. Meanwhile he had already made his name and fame by his work on war nephritis, undertaken at the request of the Medical Research Council and the Director-General of the Army Medical Service in 1915, and his Croonian Lectures, delivered in this College in 1918. That his name was known outside this island of ours is shown by his having been invited to lecture at the American Academy of Medicine in New York in 1929. It was very hard on him that on account of the appointment of a full-time professor of medicine at Bart's in 1920 he was not elected full-physician in that year. But all this time he was teaching and working with great energy and perseverance. His book *Physiological Principles in Treatment* appeared in successive editions, and in 1927 he published his book on endocrinology for the use of general practitioners, *The Endocrines in General Medicine*, in which he gave an account of the endocrine system in relation to the autonomic nervous system.

Physiology

Langdon-Brown brought an entirely new outlook on clinical medicine to this seat of learning. He was a physiologist at heart and kept himself informed on advances in this subject throughout his active professional life.

During his early years of clinical practice he taught physiology, first as junior demonstrator in 1899 and then as demonstrator of physiology in 1902, an appointment which he held for a number of years. And so his first contribution to clinical medicine was the interpretation of the signs and symptoms of disease in terms of physiological reactions; at the same time he began to put therapeutics, or the treatment of disease, on a scientific as opposed to an empirical basis. In October, 1908, the first edition of his *Physiological Principles in Treatment* was published. The book was written to acquaint the busy practitioner with the leading changes in physiology, so that he might deduce from it the points on which his clinical conceptions should be modified. He was helped by Dr. Reginald Hilton in the preparation of the eighth edition, published in December, 1942, when the book had already been 34 years in circulation, in itself a notable indication of its value.

His interest in physiology was aroused by his teachers, and by Gaskell in particular. His interest in endocrinology, the ductless glands, had its origin in his own work and observation. One Easter he stayed

up at Cambridge, by special permission, to study embryology. He incubated hens' eggs, stopping their growth at different stages and cutting serial sections of the embryo, and then studying the sections under the microscope and drawing what he saw. He worked from dawn to dusk; in later years he wrote of his excitement, in those days, of seeing the brain, the backbone, the eyes, and the heart forming themselves before his eyes. He wrote: "I could hardly tear myself away from this self-imposed task. I can still recall the thrill as I saw, what had not then been described, the pituitary gland arising like a nephridium, which according to a theory I was already formulating it ought to do. I remember drawing a diagram on the laboratory bench before a group of fellow students to illustrate the idea of the evolution of the ductless glands (whose functions were then quite unknown) which was surging in my brain. It is an essential part of my pleasure in the work that I am now doing that it links directly with the happy labours of those days." What a vivid description this is of his own discovery of one of the "hidden mysteries of nature and science."

The Sympathetic Nervous System

Langdon-Brown was much influenced by Gaskell, whom he has described as "one of the greatest minds that ever adorned British physiology," and he said that an account of the sympathetic nervous system written before Gaskell was like writing a description of the circulation before Harvey. Speaking metaphorically, in those days more than one chapter was being written in the new Book of Physiology, and the contributors were collected by Michael Foster, who had a genius for choosing his men. Gaskell wrote the first chapter by his researches on the innervation of the heart; he laid the foundation on which modern cardiology is built. In the second chapter he showed that the nerve fibres which flowed from the spinal cord into the sympathetic chain were of smaller calibre than the nerves to the skeletal muscles, and by this standard he was able to show that there were fibres with visceral functions in the cranial and sacral nerves. J. N. Langley, with much help from Hugh K. Anderson, showed by his nicotine method that these small medullated fibres ended round cells in one or more sympathetic nuclei from which a new non-medullated fibre passed to its ultimate destination. Langley gave us a plan of what he called the autonomic nervous system, and he showed that it consisted of two parts—namely, the sympathetic and the parasympathetic—while Gaskell showed that when these two parts were distributed to the same structure their function was antagonistic.

Langdon-Brown was interested at once in the close connexion of the sympathetic nervous system with the ductless glands, and in his Croonian Lectures in 1919 he quotes Gaskell verbatim in his account of the evolution of the suprarenal glands. It is a curious story of chromaffin cells, which appear to originate in the central nervous system, and in the segmented worms they remain there. In evolution the sympathetic cells emigrate from the central nervous system into outlying nuclei accompanied by the chromaffin cells. Gaskell wrote: "The evidence of embryology and comparative anatomy thus points strongly to the conclusion that the sympathetic nervous system arose from the nerve cells containing adrenalin . . . and that when these cells left the central nervous system to become peripheral they left not as single cells but as two separate cells, one of which contained all the adrenalin and formed the chromaffin system, and the other the nerve cells of the sympathetic system of the vertebrate."

Since then it may be that a comparable phenomenon has been discovered in regard to two groups of nerve cells in the hypothalamus—namely, the supra-optic and paraventricular nuclei. These two nuclei are a single mass of cells in submammalian vertebrates; in man they are distinct, but they have the same peculiar cytological characters. It has been shown by anatomists that these nerve cells may contain droplets of colloidal material in their cytoplasm. It seems that these small droplets may later coalesce into larger globules, which are extruded into the intercellular ground substance and taken up into blood vessels. It is noted that these two nuclei are permeated by an exceedingly rich capillary network, which, says Le Gros Clark, from whom this description is taken, suggests a high grade of metabolic activity. This is not yet proved physiologically, but the comparison with the origin of the cells of the suprarenal medulla from nerve cells in the spinal cord is evident, and so knowledge advances and the ball passes to and fro between physiologist and anatomist, and now in neuropsychiatry the biochemists and physicists are making their contribution to the game.

It was the close connexion of the hypothalamus with the pituitary and the importance of the pituitary gland in its effect on the function of other ductless glands that led Langdon-Brown to name the pituitary gland the "leader of the endocrine orchestra"; and in all his teaching as a clinician in later years he realized the close integration of function of the sympathetic nervous system and the ductless glands.

Psychology

The advance in our understanding of functional disorders has been so rapid in recent years that it is difficult to realize the darkness and fog that enveloped the subject of psychoneurosis 40 years ago, when Langdon-Brown began to apply his knowledge of the autonomic nervous system and ductless glands to the elucidation of neurotic behaviour. At that time psychologists were regarded as cranks and the average reaction to psychoneurosis was one of antipathy or disdain. I can illustrate this attitude of mind from my own experience in the examination for membership of this College in 1914, before the outbreak of war. As I entered the room for the viva voce examination I found the President sitting at the head of a large table and at the same table were the members of the Board of Censors. I was invited to take an empty chair on the President's right. The first and, as it turned out to be, the only question put to me by this distinguished company of Fellows of the College was asked by the President as soon as I had taken my seat: "Tell me, Dr. Evans, what diagnosis you would make in the case of a woman who had had her appendix removed for abdominal pain and later her gall-bladder removed for the same reason, and who during the next few years had no less than four abdominal operations for the division of adhesions?" After I had made a number of diagnoses, all of which I feared were futile, the President, seeing that I was nonplussed, said to me in a kindly way, "You have a lot to learn, Dr. Evans. This woman was suffering from Cheirurgophilia. It is a common complaint, Dr. Evans."

There were several reasons that led Langdon-Brown to develop an interest in psychology. He was mindful of Hippocrates' injunction to examine the whole of the patient. He realized that this required more than the simple physical examination that he had been taught by Dr. Gee, and that it involved the consideration of the patient's whole attitude to life, both past and present, and his adjustment to his environment. In the second place, he was influenced by his friend Dr. W. H. R. Rivers, who was brought from St. Bartholomew's to Cambridge by Michael Foster in 1893 to lecture on the physiology of the special senses. Rivers was a member of the expedition to the Torres Straits organized by Dr. A. C. Haddon, and Langdon-Brown remarks that the party went out as physiologists and returned psychologists. Here, then, was a man of high scientific reputation and unimpeachable integrity who found his true mission in life in the treatment of soldiers suffering from war neuroses. In the third place, Langdon-Brown had had experience of war as senior physician in the Imperial Yeomanry Hospital, Pretoria, in the South African War. But the first world war was different. Much larger numbers were involved and the hardships and terrors of war were greater, and this brought him to realize the importance of emotional disturbance in causing physical ills. He found that physiological principles and facts could be as well applied to war neuroses and later to civilian neuroses as to the physical ills which he had chiefly studied up to date.

In his inaugural lecture as regius professor of physic in the University of Cambridge, Langdon-Brown gives a bird's-eye view of the relation of emotion to organ function, and explains in simple language how emotional stress may cause symptoms of disease. The following illustrates his approach to one aspect of this large subject. "When under conditions of modern life emotion is dissociated from the movement it should evoke under more primitive conditions, the sympathetic disturbance may continue. The mobilized army which is not allowed to fight the enemy becomes a danger to its own country." The same notion must have been in the mind of William Blake when he wrote: "Better murder an infant in its cradle than nurse unacted desires." Then, expanding his thesis, Langdon-Brown continued: "Nervous impulses tend to run along accustomed channels. The exciting cause may long have passed from the realm of consciousness, but its effects may continue. Designed for an intensive preparation for action or defence, the sympathetic response may be dissociated, perverted, or prolonged, with serious effects on the individual. The pressure of the blood or its sugar content may be kept too high, the digestive processes in stomach or intestines may be inhibited, from purely emotional causes, yet ultimately leading to organic changes in structure." This is an interesting passage because it introduces two ideas—namely, organ habit and functional disorder as the cause of change in structure.

In 1938, when President of the Medical Society of Individual Psychology of London, Langdon-Brown gave his own answer to how he became interested in medical psychology. In this address he dealt with Adler's contribution to general medicine. He first referred to Adler as having linked psychoneuroses with organ inferiority, thereby enabling orthodox medicine to join hands amicably with the new psychology; and he said that Adler's main theses had been the early formation of a style of life, the significance of each child's position in the family hierarchy, the importance of knowing the goal towards which the individual is consciously or unconsciously striving, and the vital necessity for co-operation with others. From Adler, Langdon-Brown passed to Jung, attracted by Jung's wider and more far-reaching conception of the human mind.

Teaching

Langdon-Brown was a great teacher not only of clinical medicine to students within the walls of St. Bartholomew's Hospital but also to the world at large in many lectures and addresses that he gave to important medical, scientific, and literary societies.

Professor V. H. Mottram, who has had forty years' experience of teaching physiology—a Cambridge man and well known to many who are here to-day—in a broadcast talk on education given three years ago provided an insight into the make-up of a good teacher or educator. What he said applies so truly to Langdon-Brown that I will quote some of his words: "It is axiomatic," said Mottram, "that education should set out to develop those qualities which have enabled man to evolve from and dominate the kingdoms of plants and animals. At the head of the list are the faculties which we can loosely term spiritual: awe in the presence of the sublime; reverence for the true, the good, and the beautiful; worship of the numinous (which means of or belonging to the deity, the presiding power or spirit). . . . Next comes the capacity for making use of the stored wisdom of the past, oral and written. This needs language. . . . No one incapable of the accurate use of language can think; accurate language —English—spoken, written, or declaimed, prose or poetry."

Langdon-Brown had all this, and it was born in him. Both in discourse and in writing he made frequent reference to the spiritual component of human nature, and in all that is and is to be he realized the handiwork of the Great Architect of the Universe. Thus when as an undergraduate he embarked on the study of embryology he was completely thrilled. For him it was "a lovely science." In his own words, "Wonderful beyond anything I had hitherto learned was the marvellous energy of the fertilized cell; the Unseen Potter moulding the growing protoplasm deftly according to a preconceived plan." Of the three great experimental psychologists, Freud, Adler, and Jung, he was most in sympathy with Jung, because, as he said, "Jung of all men is best qualified to reconcile life with spiritual values." And he went on to say, "Man is more than a bundle of conditioned reflexes and behaviourism, and can never remain satisfied with psychology without the psyche. It has been suggested that it would be well to study the simpler Adlerian philosophy of social co-operation on the way to the study of Jung, for with Jung lies the future of psychology that can best explain and meet the deepest emotional needs." It was this feeling for the sublime which took him away from the material grandeur of Roman antiquities and led him to find a deeper satisfaction in Greek art and mythology.

In the nineteen-thirties his visits to Rome ceased. He said that he had come to dislike the fact that the most striking landmarks of the city were memorials to the individual. That the Roman, hating the transience of life, demanded some projection of the ego. Thereafter he spent more time in Athens and in the Greek islands,

finding far greater appeal in the reticence of the sceptical and modest Greeks—with their "whispers of a sigh to greatness." In Grecian art he found his ideal of created beauty, and his description of a statue, one of several dredged up off the coast of Greece, which he watched being carefully cleaned in the Museum of Athens, records his feelings on this occasion. "It was an exquisitely beautiful figure of a boy, perfect in every respect except for the palm of his left hand. His right arm was uplifted and he appeared to be gazing with wonder and delight at something which has now vanished, but once rested on that left hand. It has been suggested that this was a lyre which the boy had struck and that he stood enchanted by the music he had created. . . . For me," he wrote, "it was a symbol of the recurrent wonder and delight that different generations have experienced on discovering again the treasures of the Greek mind which more than once have sunk beneath a sea of indifference and neglect." I have the permission of Freda Langdon-Brown to quote from a letter she wrote to me that these her husband's words "speak so clearly to me of him and his love of beauty; and of that enchanted and enchanting quality of awe and wonder which was his to hold and share to the end of his life."

Accurate Use of Words

As to the second qualification for a lecturer or educator, Langdon-Brown was equally well endowed. An accurate use of words is of course essential to clear thinking; this is brought home to us by the Greek word λόγος, which means both a word—that is, the outward form by which an inward thought is expressed—and the inward thought itself. Thus λόγος comprehends both *ratio* and *oratio* in the Latin language. But the word, the spoken or the written word, means much more than this to us. It expresses at once both thought and feeling, it expresses the whole range of feeling, mood, emotion, and affect—affect means mental disposition, which is the essential basis of personality. And so for Langdon-Brown the accurate use of words was an expression of absolute sincerity and truth, which were hall-marks of his character, and I can illustrate this by a simple conversation as we walked to his home in Cavendish Square after a meeting. It was in 1935, soon after Hitler had arrived on the world's stage. I asked Langdon-Brown what he thought of Hitler. His answer was, "I do not trust him; he does not speak the truth. I believe the words in the Bible, 'In the beginning was the word, and the word was with God, and the word was God. The same was in the beginning with God.' You can't get away from that," he added, meaning the sanctity of the spoken word and the sacrilege of lying.

His literary education began when he was very young. He described his father's study as an enchanted room, lined to the ceiling with books: volumes of old topographical prints his father had collected; editions of *Pilgrim's Progress* in sixty languages; Bunyan's cabinet, walking-stick, and mug; Gibbons's *Decline and Fall*; Smith's *Dictionary of Greek and Roman Biography and Mythology*; Chaucer's and Shakespeare's works. Here he sat, his legs too short to reach the ground, a reading-desk in front of him, reading while his father wrote. It recalls Wordsworth's lines:

> "And books are yours
> Within whose silent chambers treasure lies
> Preserved from age to age."

Langdon-Brown had a receptive mind and a retentive memory. He had great knowlege and a store of wisdom to impart. He did me the honour of asking me to collaborate with him in writing the sections on diseases of the kidney and vasomotor neuroses in Price's *Textbook of Medicine*, the first edition of which was published in 1922. We continued together in this work, through seven editions, until he died. We used to work together after dinner at night. We worked late. He never seemed to tire, and it was remarkable that he always had the words and phrases immediately at hand to express what was in his mind, whether for construction of something new or alteration of what was already written. Dr. Hilton has told me that he had the same experience of his quick brain and facility of expression when they worked together on the later new editions of the *Physiological Principles in Treatment*. It is fitting for me here to pay tribute to the generosity of his character, his patience and forbearance, and his great kindness.

Contribution to Literature

Langdon-Brown's contribution to English literature is his book entitled *Thus We Are Men*. It is largely a collection of lectures and addresses which he gave at various times, and it is dedicated to his wife ("my collaborator"). In this book the reader will find an account of some viewpoints of modern psychology and the author's own experience of their application to the practice of clinical medicine. It is a wonderful book to read: it reflects so much of a highly cultured mind, and it contains a number of the author's original ideas. One of these concerns the psychology of authorship, for it was Langdon-Brown's idea that literary criticism would be a more living thing if it were realized that, in works of imagination, a revelation of the working of the author's unconscious mind is to be found in his writings, although, as he remarks, it is not permissible to treat the writings of an author as if they were strictly autobiographical. He was much interested in Barrie's works, and in a chapter entitled "Myth, Phantasy, and Mary Rose" he interprets the whole genesis of Peter Pan in terms of a mother-fixation complex. This is Barrie. If, then, Sir Walter Langdon-Brown's thesis is applied to his own writings, the reader is arrested by his account of his meeting Barrie. "The only time I had the pleasure of meeting Barrie," he wrote, "I mentioned the idea that Lob was Peter Pan grown old. Barrie replied, 'That's good; how did you find it out?' I replied, 'My wife told me.' 'She must be a remarkable woman,' was his comment." And so he lets his conversation with Barrie tell the world that the theme of this chapter was given him by his collaborator.

Thus We Are Men was published in 1938. An American writer, Dr. Alvarez, came across this book ten years later and published a review of it in *Gastroenterology*. He wrote of its being "full of inspiration," and of its author he said: "It is immediately evident that he was not only a master of the practice of medicine but also one of the best educated of the world's physicians."

In reading the works of Langdon-Brown one is repeatedly impressed by the soundness of his views and his anticipation of advancing knowledge. I will give two illustrations in support of this statement. In the first Suckling Memorial Lecture, delivered at University College Hospital in 1939, the subject of which was visceral symptoms in emotional states, Sir Walter Langdon-Brown discussed the connexion between

emotional expression and the visceral nervous system. "Mental activity," he said, "naturally largely depends on the stream of afferent impulses pouring in on all sides." He then quoted from Professor Michael Foster as follows: "We can hardly doubt but that volitional and other psychical processes would soon come to a standstill and consciousness finish" in the absence of these afferent impulses. Michael Foster had quoted a remarkable case of a man who was blind in one eye, who was totally deaf, and who had general cutaneous anaesthesia. His sole remaining tie with the outside world was through the other eye, and if this were closed he simply went to sleep.

In 1947, in his Lumleian Lectures, Dr. Purdon Martin reported a comparable case of a woman aged 56 who suffered a cerebral haemorrhage at the level of the middle of the pons which spread horizontally and involved the whole median fillet on either side and the adjacent lateral fillets and other auditory structures, as well as the sixth nuclei and the right facial nerve. This lesion had been diagnosed correctly during life. When one median fillet was involved the woman was drowsy; when the other side became involved it was impossible to keep her awake. She had become deaf too, and so, writes Dr. Martin, when she closed her eyes all her channels of reception of impressions from without were interrupted (except smell, which was not tested), and in these circumstances she fell into a deep sleep. And Dr. Martin asks, "Is it awareness of the body that is essential for consciousness?" and he concludes that if nearly all the sensory pathways are interrupted the activity of the cortex is greatly depressed or is abolished.

Langdon-Brown more than once refers in his writings to the difference in relation of cortical *vis-à-vis* hypothalamic activity in most animals as compared with man. He writes: "Man is essentially an image maker: it is his human prerogative. Thus in most animals, who act from what we call instinct, action follows on stimulation of the perception mechanism with almost chemical swiftness and certainty; in man the nervous system is more complicated; perception is not instantly transformed into reaction; there seems to be an interval for choice."

Recent anatomical research has perhaps found the nervous pathway that makes it possible, as Langdon-Brown said, for the human being to think again. Nerve impulses from most, if not all, of the cerebral cortex connect with nerve cells in the temporal lobe. They are relayed from there to a subcortical centre called the hippocampus; it is a massed battery of cells whose fibres travel together in a well-defined bundle to the hypothalamus, the head ganglion or centre of the involuntary nervous system. In most animals nerve impulses from the cortex reaching the head ganglion or hypothalamus in this way would lead to an explosion of involuntary activity such as rage, or fight or flight. But in man and the higher mammals these involuntary mechanisms are not necessarily stimulated to activity by these nerve impulses, and it may be because they are immediately relayed back to the cortex—that is, to the frontal lobe. Professor Le Gros Clark in his contribution to *Perspectives in Neuropsychiatry*, edited by Dr. Derek Richter, asks: "Can this possibly provide the basis for the development of the more intelligent type of behaviour involving more continuous cortical processes and characterized by rational deliberation, rather than the instinctive type of behaviour in which the first results of cortical activity are immediately expanded in impulsive actions of a purely emotional character?"

The anatomical connexions of the prefrontal cerebral cortex with the hypothalamus had occurred to Langdon-Brown already thirteen years before as the possible pathway along which psychical activity expressed itself in physical symptoms.

Royal College of Physicians

Langdon-Brown made valuable contributions to the life and work of this College. He was elected a Fellow of the College in 1908, and gave the Croonian Lectures entitled "The Role of the Sympathetic Nervous System in Disease" in 1918 and the Harveian Oration in 1936. It was in 1931 that he served as Senior Censor, and it seemed to many Fellows of the College that he might in due course be elected our President.

Any attempt to portray the life and character of Langdon-Brown would be incomplete without a reference to an unhappy time in his life which lasted over a period of years. There is, I feel, some truth in the idea of salvation through suffering, in the idea that tribulation brings at least a sensation of the power of God and perhaps a better understanding of His purpose. It has seemed to me that the text on Rahere's tomb in the church of St. Bartholomew the Great actually applies to these years in the life of Langdon-Brown; the words are those of the third verse of the 51st chapter of the Book of the Prophet Isaiah, "For the Lord shall comfort Zion: he will comfort all her waste places; and he will make her wilderness like Eden, and her desert like the garden of the Lord." In due course joy and gladness came again into the life of Langdon-Brown, and he pursued his objectives with renewed vigour and enthusiasm.

Regius Professor

In the summer of 1932 the Prime Minister offered Langdon-Brown the chair of regius professor of physic at Cambridge University. This appointment brought him great happiness as well as honour, because it meant his return to his "beloved alma mater," his affectionate term for Cambridge. It is one thing to be appointed regius professor of physic and it quite another to find a way into the social life of the university and so become one of those who belong to the place. The door was opened to him by Corpus Christi College, who offered him a professorial fellowship. This invitation was made in an exceptional way, for, so far as is known, he is the only Fellow of the College who has been thus invited "unseen by the Fellows of the College." He found great social interest here in dining with the Fellows, his room in the College and the Master's Lodge always hospitably open both to him and to his wife. He received the honour of knighthood in 1935, and on February 20 Sir Walter Langdon-Brown received the accolade from his Majesty King George V.

The years of his appointment as regius professor were fully occupied with work of a varied kind. His inaugural lecture as regius professor, of which chair he was the twentieth holder in 392 years, was of the highest order. He gave a number of lectures and addresses in addition to set courses of lectures for the university. He was an examiner at Cardiff and Sheffield Universities, and in the National University of Ireland, and he conducted the Cambridge M.B. examination in medicine. In 1935 his retirement under the age limit for

professors came all too soon. He left Cambridge with deep regret, full of gratitude for the kindness and friendship he had received from Corpus Christi College and from that College of his young enthusiasm, St. John's College, whence came the invitation which he received and accepted with great pride—to give the Linacre lecture in 1941. He returned to Cambridge for the last years of his life, and he was occupied till the end in writing *Some Chapters in Cambridge Medical History*, published in 1946 by the University Press.

Conclusion

Sir Walter Langdon-Brown died in 1946 at the age of 76 honoured by all and loved by his friends, and holding the devoted affection of the nearest and dearest to him. He used to speak with pleasure and satisfaction of the survival of the institutions, of his beloved university in particular, throughout future generations. I would like to speak of the survival of his life's work, the central thesis of which is best defined in his own words. "As we are animals we conform to biological laws. Our future evolution physically is improbable and mentally unlikely. Therefore only a psychological evolution remains. This necessitates co-operation, not merely instinctive as with bees and ants, but intelligent and voluntary. Now we, like all animals, carry with us vestigial traces of our past ancestry, not least in our mental processes. To develop psychologically we must understand ourselves, and it should help us to do so if we can find ways to investigate those hidden depths in our minds from which we draw our impulses."

Psychology has for some years been chiefly concerned in looking back, and it has been a preoccupation of psychologists to search out the origin of thoughts and feelings. This has been a contribution to knowledge as was Charles Darwin's work on the origin of the species. Langdon-Brown asks us to look forward and to find ways—new ways—to investigate the hidden depths of the human mind. Godwin Baynes, speaking of a moral act or response being invariably individual in origin, said, "A moral feeling can be imparted to a community, but its source is in the solitary individual soul." The same holds good for original ideas; they too have their origin in the individual mind. The work and teaching of Sir Walter Langdon-Brown was spread on so large a canvas that it must be viewed from a distance to be seen as a whole. His contribution to medicine was no discovery of factual knowledge, nor was it the presentation of some ideas; it was a wide conception which has given a fresh inspiration and a new direction to the understanding of the human mind.

According to the Swedish International Press Bureau the Swedish Medical Association has agreed on a *Codex Ethicus Medicorum* embodying 15 rules of ethics for medical practitioners in Sweden. Simultaneously a new set of rules for medical specialists has been agreed upon. These two briefs of rules aim at maintaining the high standard of Swedish physicians. They contain instructions on the relationship between the doctor and his patient, and clearly define the duty of the physician towards the preservation of human life, professional secrecy and ethical points about monetary reward, publicity, etc. It is stressed specially that a physician should refrain from advertising himself or his work in an importunate or flagrant way and not draw inappropriate attention to his person when giving information to the Press.

GENERALIZED OSTEOARTHRITIS AND HEBERDEN'S NODES

BY

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Osteoarthritis is usually considered to result from degenerative changes in the articular cartilage and other joint structures which occur to some extent in most individuals with advancing age, but which may occur prematurely in joints subjected to abnormal wear and tear from some special occupational stress or as a result of faulty joint mechanics.

Premature degeneration of a severe nature and more rapid in evolution occurs in joints in which the articular cartilage has been damaged by trauma, infection, or avascular necrosis of the underlying bone. Rapid degeneration may also occur in joints deprived of the protective reflexes afforded by normal pain and proprioceptive sensibility.

Although the degenerative arthritis of old age may affect many joints, the premature degeneration resulting from previous damage by trauma, etc., tends to affect only one or at the most a few joints, because the degenerative process is secondary to these causative factors, which as a rule are operative in only one or a few joints and, since the degenerative process is slowly progressive, the resultant disability also tends to be slowly progressive, though acute painful incidents following trivial injury or unusual stress may be superadded.

The clinical and radiological features of degenerative arthritis are well known, and patients with this condition are seen with great frequency, particularly in orthopaedic clinics; but in clinics dealing largely with rheumatic disease one often sees polyarthritic patients in whom the joint changes in the later stages resemble those of degenerative arthritis, though they differ somewhat in that they often have a rather acute spontaneous onset. Furthermore, these patients tend to present a definite pattern of joint involvement characterized by affection of the distal interphalangeal joints of the fingers, and the first carpo-metacarpal joints in the hand, the great toes, and first tarso-metatarsal joints in the feet, the interfacetal joints of the spine, the knees, hips, and other limb joints. These patients also present certain other characteristic clinical and radiological features which differ from those found in classical degenerative joint disease on the one hand and polyarthritis of the rheumatoid type on the other, and we have come to classify these cases under the heading of primary generalized osteoarthritis, which we consider to be a distinct clinical entity.

More than 150 years ago William Heberden recognized the fact that the nodes so often seen over the distal interphalangeal joints of the fingers represented a condition distinct from either gout or rheumatism, and in 1805 Haygarth described 34 cases of multiple arthritis associated with Heberden's nodes which he classified separately under the heading of "nodosity of joints." A

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polyarticular osteoarthritis was also mentioned by Adams (1857) and Charcot (1881). In more recent years Cecil and Archer (1926), while classifying 182 cases of degenerative arthritis attending their rheumatism clinic, noted that only 20 were of the classical monarticular type and only 17 of the senile type, while 145 were polyarticular and usually associated with Heberden's nodes. Because this latter group was largely composed of middle-aged women they considered this form of arthritis to be "menopausal." Francon (1950) also describes a generalized form of arthritis associated with Heberden's nodes.

On the other hand, Stecher (1948) considered these nodes to be a distinct entity, although he did note a tendency to involvement of other joints (Stecher, 1946b); but in this connexion it must be remembered that Stecher was engaged in a genetic study of the incidence of asymptomatic nodes in the general population, and he was less concerned with the more severe forms of this condition which send the sufferer to the rheumatism clinic. Stecher, however, made a most valuable contribution when he separated the post-traumatic type of node from the idiopathic inherited variety.

Interest in the question of whether Heberden's nodes are associated with generalized arthritis has been stimulated in this department because a routine examination of all the joints of the body is carried out in every patient attending the clinic, even though they may complain only of a single joint, and this routine has allowed us to recognize more clearly the patterns of joint involvement characteristic of the various forms of articular disease, and in particular that associated with Heberden's nodes.

The following description of what we consider to be primary generalized osteoarthritis is based on the experience of 391 cases of osteoarthritis taken from a total of 1,813 cases of arthritis of all types seen in this department during the three years preceding 1951. In addition we have made a detailed analysis of the 196 cases of osteoarthritis seen during the year 1950. Of these, 120 had either Heberden's nodes or arthritis of the first carpo-metacarpal joints or both; 20 were of the classical monarticular degenerative type, and 56 were classed as miscellaneous because, although their arthritis was polyarticular, the characteristic involvement of the hands was not found.

Sex and Age

In the first instance we will describe the features of those cases with characteristic involvement of the hand joints. The condition is found predominantly in middle-aged women; thus of the 120 analysed cases 110 were in women, whose ages at the onset of the disease varied from 35 to 73, with a mean of 52 years. There was, however, no accurate correlation with the menopause, and in 22 cases the arthritis began while the menses were still normal. The age of onset in the 10 men ranged from 20 to 63, with a mean of 50.7 years.

Pattern of Joint Involvement

This is one of the most characteristic features of primary generalized osteoarthritis. Thus of the 120 analysed cases 103 had Heberden's nodes, 79 had arthritis of the first carpo-metacarpal joints, and 62 had both. In a few cases the arthritis also affected the joint between the scaphoid and the multangulum majus, but the rest of the carpus and the metacarpo-phalangeal joints which are so characteristically affected in rheumatoid arthritis were usually spared, only very slight changes in these joints being found in 19 cases. On the other hand, the proximal interphalangeal joints were often severely involved, these joints being affected to some extent in 49 cases. The joints of the feet were affected in 50 cases, and in 40 of these the metatarso-phalangeal joint of the great toes was the one maximally affected.

In 22 cases there was also some involvement of the lateral metatarso-phalangeal joints, but the changes in these were always less than in the great toe, which is the reverse of what is found in rheumatoid arthritis; there was also some tarsal arthritis in 20 cases, and in several the joint between the first cuneiform and the first metatarsal was markedly affected. The knees were affected in 64 cases, nearly always bilaterally, and the hips in 36, while the spine was affected in 57, being the most frequent part to be involved after the hands and knees. The remaining joints were but rarely affected, and usually only to a lesser degree in those florid cases in which nearly all the joints of the body were involved.

Nature of Joint Lesion

Each affected joint tends to pass through two stages: an initial relatively acute phase during which the joint may be warm, red, and exquisitely tender; and, some months later, a chronic phase characterized by bony outgrowths around the joint margins. In the acute phase the joint is usually slightly swollen and may contain a small effusion, this excess fluid being particularly noticeable in the knees. The massive soft-tissue swelling and synovial thickening characteristic of many cases of rheumatoid arthritis is, however, not seen. During this initial acute phase spontaneous pain may be very troublesome. It often comes in severe spasms, particularly at night-time, and waking the patient in the early hours. When the finger-joints are severely affected and the skin over them becomes reddened and tender the pain acquires a characteristic burning, tingling, and bursting quality, and the patients place their hands outside the bed to obtain relief. This type of pain is particularly evident in those cases in which small cystic swellings form over the finger-joints, finally to burst through the skin, discharging a little glairy fluid (Fig. 1). More usually the pain is of the deep aching type, and is not well localized to the joints, often spreading widely up and down the limbs. This deep pain is also markedly aggravated by cooling the part, and these patients avoid cold water and dread exposing their hands in cold weather, although vasospasm is not a feature of this condition.

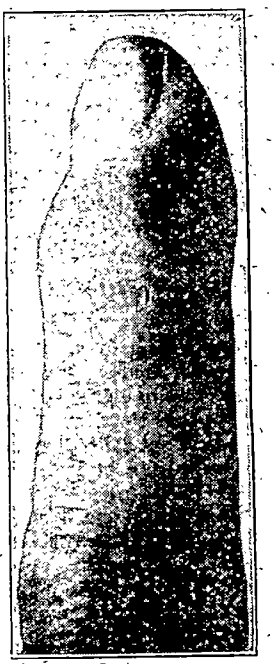

FIG. 1.—Early node with discharging cyst (Case 1).

During the acute phase a few minutes of arterial occlusion produced by a cuff on the arm will cause a rapid and severe increase of pain: in this respect the pain resembles that of acute suppurative lesions such as whitlows (Addis, Jepson, and Kellgren,

1950), and indeed two of our more acute cases were initially thought to be suffering from pulp-space infections of the finger. When a large joint such as the knee is affected in this acute manner the pain may be very severe, and the condition is not unlike that of a low-grade suppurative arthritis, though the constitutional disturbance usually associated with infection is absent.

After a period of several months the acute phase subsides and the clinical signs of inflammation disappear, giving place to the chronic phase, which is characterized by massive bony outgrowths around the joint margins. At this stage there is little pain, and, in spite of the unsightly deformity and gross radiological changes, the joints often retain a fair range of movement and function

FIG. 2.—Multiple nodes and enlargement and adduction deformity of first carpo-metacarpal joint (Case 2).

is largely restored; thus permanent crippling very rarely ensues. The appearance of the hand in a more advanced case is shown in Fig. 2. Note the bony ridges over the terminal joints of the finger, the enlargement and deformity of the proximal interphalangeal joints, and also the bony enlargement, partial subluxation, and adduction deformity of the first carpo-metacarpal joint, giving the hand a curious squared appearance.

Fig. 3 shows the hand of a very advanced case. Although in this case nearly all the joints show bony enlargement the characteristic appearance is still retained. The condition in the hand is quite characteristic and easily recognized, but in the less accessible joints bony enlargement is less readily appreciated, and in the spinal articular processes it may be easily overlooked. Thus in the spine there is often a history of severe back pain and disability lasting several months followed by partial recovery which leaves the patient with only slight limitation of spinal movement, particularly in side flexion and rotation, and it is only by radiography that the marked bony outgrowth on the articular facets and spinous processes can be demonstrated. As the disease progresses first one joint becomes involved and then another, each joint passing through a more or less painful phase and going on to bony enlargement, which is relatively painless.

By no means all the cases present with an onset which is acute enough to resemble a pyogenic process; indeed, only 21 of the 120 cases had incidents of this type in one joint or another, the more usual story being one of a subacute or even gradual onset. Nevertheless, a more or less

FIG. 3.—Advanced case with bony enlargement of all joints.

painful initial phase in each affected joint is the rule in the more severe cases. The characteristic course of the disease is well illustrated by the following case histories.

Case 1

A housewife aged 56 had noticed increasing deformity in the distal and proximal interphalangeal joints of the hands accompanied by much pain for 15 years. During this time acute joint incidents had been noticed, in which first one and then another of the distal interphalangeal joints of the hands would become acutely swollen, painful, and red; and a cystic swelling would appear at the lateral aspect of the joint. This became so painful that she evacuated it with a needle, after which the pain would subside for about a fortnight, to recur as the swelling filled up again. Gradually the swelling became painless, stopped discharging, and left a hard bony knob at the base of the distal phalanx. This series of events then occurred in another distal interphalangeal joint over a period of six months before the discharge finally ceased. For four years she had been troubled by pain and stiffness in the left ankle and had had a goitre from the age of 14 years. The menopause occurred at 46. One sister had Heberden's nodes.

On examination she was seen to be a healthy woman weighing 8 st. 12 lb. (56.2 kg.). A small diffuse goitre was present. There was no clinical evidence of visceral disease. The hands showed large tender Heberden's nodes, and enlargement, tenderness, and limited movement of most of the proximal interphalangeal joints and both first carpo-metacarpal joints. There was also some swelling of the left ankle, and its movements were slightly limited. The distal interphalangeal joint of the right middle finger was very swollen and an acutely tender cystic swelling was present on the lateral edge of the joint, which had discharged a yellowish jelly-like fluid. The erythrocyte sedimentation rate was 35 mm. in one hour, the haemoglobin 84%, and the white blood cells 5,700 per c.mm.

Case 2

A housewife aged 65 had first developed pain and swelling of the distal interphalangeal joints and the first carpo-metacarpal joints 12 years ago. Acute episodes had occurred in the distal interphalangeal joints, lasting months and leaving Heberden's nodes in their wake. At this time the shoulders also became stiff. Eight years ago the knees had become swollen, painful, and stiff, and after a further four years the lower part of the back had become painful. She had been gaining weight for about four years. She had pernicious anaemia at 57 years and had passed a tapeworm at 63. The menopause occurred at 54. There was no family history of rheumatism.

On examination she was seen to be a robust woman weighing 10 st. 12 lb. (69 kg.). There was no visceral disease. Painful Heberden's nodes were present on all the fingers; both first carpo-metacarpal joints were painful, swollen, and limited, especially the left one; and both knees were slightly swollen and painful, and contained effusions. Movement in the right was from 5 to 110 degrees flexion, while that in the left was normal. She attended monthly for observation, and in the third month suddenly developed acute pain in the right knee, which became very much more swollen owing to increase in the effusion; the overlying skin was reddened, and movement was reduced to 5 to 70 degrees flexion. The joint had, in fact, the appearance of an acute arthritis, and she took to her bed for a fortnight, by the end of which time the pain began to subside. A plaster leg cylinder was then applied and she was encouraged to use the leg. After six weeks the plaster was removed, as the knee had returned to its previous condition; its movement was again what it had been before the acute incident. When she was first seen the erythrocyte sedimentation rate was 15 mm. in one hour; it rose to 26 mm. during the acute joint incident. The haemoglobin was 86% and the white cell count 5,300 per c.mm.

Case 3

A housewife aged 60 had noticed pain and swelling of the first carpo-metacarpal joints of both hands with weakness of the grip six years ago. Several months later the distal interphalangeal joints of the middle fingers of each hand became acutely swollen and painful, and a cystic swelling appeared on the dorsum of the middle left distal interphalangeal joint which discharged a yellowish fluid intermittently for a considerable time. The acute swellings subsequently involved the distal interphalangeal joints of the other fingers of both hands, eventually becoming painless over a period of three years, leaving bony swellings typical of Heberden's nodes. Four years ago the right hip gradually became troublesome: she noticed stabbing pains in the thigh on walking, the hip gradually developed a flexion deformity, and she suffered from severe pain in the groins, particularly when lying in bed. At this time walking became difficult.

Eighteen months ago she sought surgical advice, and, after a right subtrochanteric osteotomy had been performed, was nursed in a double hip spica for the next five months. On removal of the plaster it was noticed that the left hip and lumbar spine had become stiff and painful. Since removal of the plaster the knees have been painful and have gradually lost their range of movement, and she is now only able to walk a few yards with the aid of sticks. Her general health has remained good throughout, and there has been no weight loss. The menopause occurred at 53 years. There was no family history of rheumatism.

On examination she was seen to be a pale slim woman in good general health but distressed by pain on movement in both hips. Her blood pressure was 210/110, but there were no clinical signs of visceral disease. Pronounced Heberden's nodes were present on the fingers and there were marked bony enlargement and deformity of the first carpo-metacarpal joints and some bony enlargement of the proximal interphalangeal joints, but the wrist movements were full and painless. Dupuytren's contracture of the fourth and fifth fingers was present in the right hand. The knees were slightly swollen and tender, and their movement was moderately limited. There was bony enlargement of the first metatarso-phalangeal joints of the feet, with some limitation of movement. Examination of the spine revealed a flattening of the lumbar curve and almost complete absence of movement in the dorsal and lumbar regions. The right hip was completely fixed in 10-degrees flexion, while the left hip was capable of movement through 15 degrees of flexion. The erythrocyte sedimentation rate was 13 mm. in one hour, the haemoglobin 98%, and the white cell count 4,400 per c.mm.

Other Clinical Features

In spite of the acute and apparently inflammatory nature of the initial arthritic process we have not observed any constitutional disturbance in these patients. Thus weight loss, which is such a feature of rheumatoid arthritis, was not observed, and the blood picture was not abnormal. On the other hand, the sedimentation rate, estimated by the Westergren method, was often somewhat raised; thus out of the 112 cases for which figures are available 66 had an E.S.R. of under 20 mm. in the hour. In 38 cases the E.S.R. was between 20 and 40 mm., but in only 8 cases was it over 40 mm. The mean value for the whole group was 19 mm. This contrasts with the findings in our group of 20 cases of monarticular degenerative arthritis, in which the E.S.R. was less than 20 mm. in every case, the mean value for the group being 11 mm. The differential agglutination reaction, which is so often positive in rheumatoid arthritis (Rose *et. al.*, 1948; Ball, 1950), was also uniformly negative in these cases.

Soft-tissue lesions, such as thickening of the bursae, and widespread involvement of muscles and fascia were not observed. The florid multiple tendon lesions so characteristic of rheumatoid disease (Kellgren and Ball, 1950) were also not observed in these cases, although in 13 of them a few small firm nodules could be felt in the flexor tendons of the hands. There was also no tendency to vasospasm or excess sweating; neither were there any cutaneous or eye lesions or characteristic visceral disturbances. Thus the disease process seems to be largely confined to the joints, and particularly the diarthrodial joints.

It has been suggested by Fletcher (1947) that both obesity and hypertension occur with unusual frequency in patients with osteoarthritis. On the other hand, Stecher (1946a) did not find any such correlation with Heberden's nodes. Among our 120 cases there were no patients who were grossly obese, and in only four was the systolic blood pressure over 200 mm., and in only two was the diastolic pressure over 120 mm. Thus neither marked obesity nor serious hypertension appears to be a feature of generalized osteoarthritis.

Radiological Changes

The *x*-ray appearances of the stage of bony enlargement conform to those of osteoarthritis. There is narrowing of the joint space, marked sclerosis of the subchondral bone, and florid bony outgrowths at the articular margins. The radiographs reproduced in Figs. 4–9 illustrate the changes seen in the various joints commonly affected. The combination of Heberden's nodes and arthritis of the first carpo-metacarpal joint is a most characteristic finding, and the enlarged views of these joints show the marked tendency to bony enlargement that is so characteristic of the later stages. The changes in the spine (Fig. 7) are peculiar in that the intervertebral disks remain relatively unaffected, while the articular facets and the neural arches, including the spinous processes, become enormously enlarged and sclerosed, so that "kissing spines" are often seen. Thus the spinal changes conform to the osteoarthritis of Collins (1949), who distinguishes between these changes and the osteophytosis of the vertebral bodies which so frequently accompanies degeneration of the intervertebral disk.

In the hips (Fig. 8) the changes are less distinctive. There is a general loss of joint space and the femoral head tends to become elongated; in advanced cases it becomes enclosed in a deep sclerosed acetabulum, resulting from marked overgrowth of the acetabular margin and not from protrusio acetabuli. In several cases crumbling of the upper quadrant of the femoral head was noted in one hip, but in these instances there was a past history of significant trauma to the hip. In the knee (Fig. 9) the radiological picture is again fairly distinctive. There is marked narrowing of the joint space combined with rounded "molten wax" bony outgrowths at the articular margins and a marked absence of the sharp-pointed osteophytes so commonly seen in the

FIG. 4.—Whole hand, showing marked changes in terminal interphalangeal and first carpo-metacarpal joints: there are also slight changes in some of the proximal interphalangeal joints.

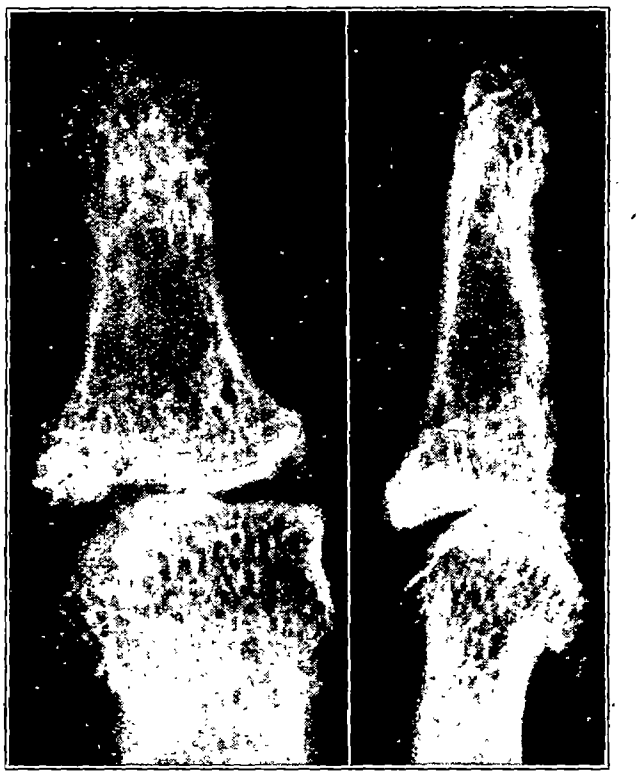

FIG. 5.—Enlarged views of advanced finger node. The most marked changes are seen in the lateral view.

FIG. 6.—Full-size view of first carpo-metacarpal joint showing much new bone formation.

FIG. 7.—Lumbar spine, showing marked enlargement of facets and spinous processes.

degenerative arthritis which follows injury.

Although the overall radiological picture is certainly that of osteoarthritis, in that narrowing of joint space, subchondral sclerosis, and marginal bony overgrowth are present, there are certain differences between the radiological appearances of primary generalized osteoarthritis and those of classical degenerative joint disease.

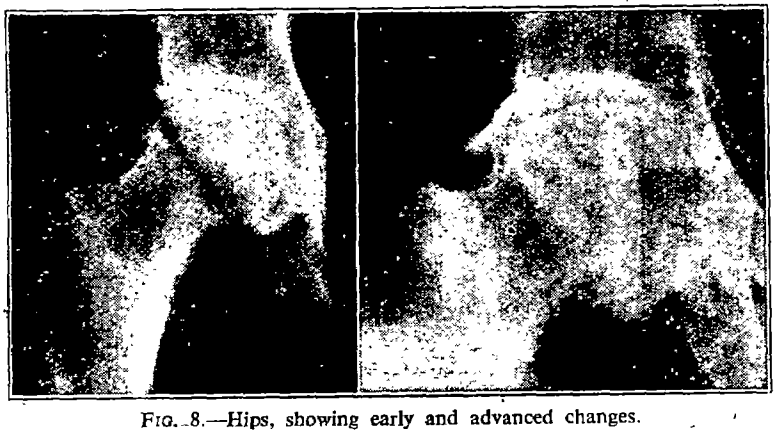

FIG. 8.—Hips, showing early and advanced changes.

FIG. 9.—Knee, showing marked "molten wax" osteophytes.

The Miscellaneous Group

On analysing the miscellaneous group of 56 patients who had polyarticular osteoarthritis but without Heberden's nodes or arthritis of the first carpo-metacarpal joints it became apparent that many of them presented features which we have come to regard as characteristic of primary generalized osteoarthritis, and it seems probable that further experience may justify the classification of many of these cases under the heading of generalized osteoarthritis; we are not yet, however, prepared to make this diagnosis in the absence of Heberden's nodes or arthritis of the first carpo-metacarpal joints. Furthermore, we fully recognize that there are many patients in whom degenerative arthritis of the terminal finger-joints may follow injury or unusual occupational strain (Stecher's traumatic nodes), and that arthritis of similar pathogenesis may affect the first carpo-metacarpal joint; but these cases are easily recognized, and have been excluded from the present investigation.

Treatment

In view of the large number of middle-aged women in our series and the fact that other workers have considered this form of arthritis to be menopausal, we carried out a blind clinical trial of oestrogen therapy. Twenty severely affected middle-aged women were selected, and were divided into two groups of 10, which were as evenly balanced as possible in regard to age, severity, and duration of symptoms, E.S.R., and number of joints affected. Mr. Lloyd, the hospital pharmacist, kindly provided us with two lots of indistinguishable tablets, A and B, one inert and the other containing 0.3 mg. of dienoestrol. These were administered in a dosage of one tablet three times a day for six months, 10 patients receiving tablets A and 10 tablets B. The patients were seen monthly and were fully assessed before treatment and at the end of six months. Neither group reported any marked subjective improvement, and examination revealed a slight deterioration in both groups. Thus the grip measured by the method of Janus (1950) fell slightly in both groups. The E.S.R. rose slightly in both groups, and in both there were a small number of previously affected joints which became painless and a larger number of previously normal joints which became painful during the six-months course. Most of the affected joints, however, remained unchanged. The mean values in the two groups before and after treatment are shown in the table.

	Before Treatment			After 6 Months				
						No. of Joints		
	Grip	E.S.R.	No. of Joints Affected	Grip	E.S.R.	Recovered	Unchanged	Newly Affected
Control	215	22	22	180	26	1	21	4
Dienoestrol	210	23	19	200	26	1	18	5

During the following six months the tablets were reversed, so that the patient previously receiving A now received B, and vice versa. The second six months has not quite been completed in all patients, but it is clear

that no change has taken place, except that while receiving B one or two patients noted uterine bleeding, and this, in fact, proved to be the active tablet. Although there were only 10 cases in each group the remarkable similarity in behaviour between the two groups suggests that dienoestrol in the dosage given fails to influence the arthritic process in any way.

In fact, we are not aware of any treatment which will influence the arthritic process, but many of these patients fear that they are suffering from rheumatoid arthritis and are grateful for an explanation of the nature of their complaint and its probable future course, and some relief may be obtained by the proper management of their arthritis. Thus acute painful episodes in the larger joints respond well to short periods of immobilization in plaster, and pain may also be temporarily relieved by local heat, which is most conveniently applied from an electric heating-pad that the patient can use in her own home. Aspirin analgesics may be helpful, but are not as effective in this condition as in rheumatoid arthritis. Surgical reconstruction of the larger joints is probably best avoided in these cases owing to the marked tendency for new joints to become affected. Fortunately most patients manage to continue a useful life, and it is only the exceptional case which becomes severely crippled.

Discussion

It would appear that the clinical syndrome which we have come to call primary generalized osteoarthritis has certain distinctive clinical and radiological features which enable it to be distinguished from secondary degenerative arthritis and also from rheumatoid arthritis and other allied polyarthritic conditions. Although generalized osteoarthritis has been recognized since the time of Heberden and Haygarth it appears to have been largely lost sight of in recent years, perhaps because it has been described under different names, such as nodosity of joints, menopausal arthritis, and so on. With the clearer definition of degenerative arthritis as an old-age change occurring prematurely in joints damaged by trauma, avascular necrosis, infection, or previous rheumatic disease, or in those worn out by occupational stress and faulty joint mechanics, a definite concept of osteoarthritis has developed.

The polyarticular form of osteoarthritis we have just described does not readily fit into this concept, and we suspect that this has led to its neglect and caused many cases to be classified as rheumatoid arthritis, or as atypical or "mixed" forms of arthritis. That rheumatoid arthritis may coexist with generalized osteoarthritis is very likely, as both diseases are common in middle-aged women, and in our series such a double diagnosis was made four times in 110 female cases. This, however, would be the expected number if the incidence were governed by chance, since in a recent field survey of the general population in a Lancashire town the incidence of rheumatoid arthritis was found to be 4% in the adult female population.

From the work of Stecher it would appear that idiopathic Heberden's nodes are exceedingly common in elderly people, and it seems likely that only in a minority of those affected are the symptoms severe enough to make the patient attend a clinic specializing in rheumatic disease, but in those who do attend such clinics multiple joint involvement is a common finding. We feel, however, that the question of the incidence of multiple joint involvement in people exhibiting asymptomatic Heberden's nodes requires reinvestigation. In our series only 20 out of 120 patients gave a history of similar disease in their known relatives, but a very different incidence of Heberden's nodes might have been revealed if the relatives had been examined, and we have certainly seen families in which all the sisters were severely affected. We are therefore inclined to the view that generalized osteoarthritis as we see it in the clinic represents a severe form of Stecher's idiopathic nodes If that is so, this syndrome, like the nodes, may result from an inherited defect, and should be regarded as a constitutional disease.

Although in the later stages the joint lesions resemble those of classical degenerative arthritis, we have been unable to find a description of the joint changes during the initial acute phase, and this point clearly requires urgent investigation, as the nature of the morbid process at this stage remains unknown. Our object so far has been to define what seems to be a distinct clinical entity, and thereby to stimulate further investigation into its pathogenesis and the aetiological factors which influence its development.

Summary

From a study of 391 cases of osteoarthritis attending a rheumatic clinic we have been able to define a distinct clinical entity for which we suggest the name of primary generalized osteoarthritis. This condition occurs most often in middle-aged women, and is characterized by a distinct pattern of joint involvement, by a course in which each affected joint passes through an initial painful and more or less acute arthritic phase, and by other distinctive clinical and radiological features.

Generalized osteoarthritis is a constitutional disorder affecting the diarthrodial joints and probably represents a severe form of idiopathic Heberden's nodes. A therapeutic trial of oestrogen therapy gave negative results, but patients suffering from this disease may be helped considerably by the proper management of their complaints.

References

Adams, R. (1857). *A Treatise on Rheumatic Gout.* John Churchill, London.
Addis, H. St. C. C., Jepson, R. P., and Kellgren, J. H. (1950) *Clin. Sci.*, **9**, 271.
Ball, J. (1950). *Lancet*, **2**, 520.
Cecil, R. L., and Archer, B. H. (1926). *J. Amer. med. Ass.*, **87**, 741.
Charcot, J. M. (1881). *Clinical Lectures on Senile and Chronic Diseases.* The New Sydenham Society, London.
Collins, D. H. (1949). *The Pathology of Articular and Spinal Diseases.* Arnold, London.
Fletcher, E. (1947). *Medical Disorders of the Locomotor System* Livingstone, Edinburgh.
Francon, F. (1950). *Rheumatism*, **6**, 17.
Haygarth, J. (1805). *A Clinical History of Diseases.* Gadell and Davies, London.
Heberden, W. (1802). *Commentaries on the History and Cure of Diseases.* T. Payne, London.
Janus, O. (1950). *British Medical Journal*, **2**, 1244.
Kellgren, J. H., and Ball, J. (1950). *Ann. rheum. Dis.*, **9**, 48.
Rose, H. M., Ragan, C., Pearce, E., and Lipman, M. O. (1948) *Proc. Soc. exp. Biol., N.Y.*, **68**, 1.
Stecher, R. M. (1946a). *J. Lab. clin. Med.*, **31**, 687.
—— (1946b). *Arch. phys. Med.*, **27**, 409.
—— (1948). *Ann. rheum. Dis.*, **7**, 1.

The largest intake of first-year medical students for many years is reported by the Association of American Medical Colleges, who announced that 7,381 freshmen were admitted for the 1951–2 academic year (*New York Times*, January 12). It was also announced that applications for admittance had declined for the second year in succession. The fact that 30% of this year's applicants were applying for the second time is taken to indicate that about one of every two students who apply for admittance is ultimately accepted.

CORTISONE AND A.C.T.H. IN TREATMENT OF ANKYLOSING SPONDYLITIS

BY

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In this country ankylosing spondylitis is still regarded by most workers as a separate entity from rheumatoid arthritis, and at the recent meeting of the European League against Rheumatism in Barcelona both Forestier *et al.* (1951), on clinical grounds, and Van Swaay (1951), on histological grounds, maintained that the two were different conditions. Most workers in the United States of America accept the two as one disease entity, and favour the term rheumatoid spondylitis. In the *Primer of Rheumatic Diseases* of the American Rheumatism Association the condition is given one paragraph of 27 lines, following Still's disease and Felty's syndrome, under the title "Variants of Rheumatoid Arthritis." Here it inevitably becomes lost, submerged in the general picture of rheumatoid arthritis.

Hart *et al.* (1949) have argued that until something is known of the aetiology of the rheumatic diseases there is little to be gained by merging two unknowns and stating that they are one, particularly when in the vast majority of cases the clinical, radiological, and therapeutic aspects are so very different in the two conditions. It may be that many more cases of diffuse spondylitis with peripheral involvement occur in the New than in the Old World; there may be a geographical difference in the manifestations of the rheumatoid diseases. Be that as it may, when treatment of rheumatoid arthritis is discussed in American papers one never knows how many cases are what we would call ankylosing spondylitis and how many are rheumatoid arthritis. For this reason the therapeutic results achieved by cortisone and A.C.T.H. in our first six cases of ankylosing spondylitis are here recorded.

Assessment of Improvement

Ankylosing spondylitis is in many ways a more difficult condition to assess objectively than rheumatoid arthritis, in which finger-swelling can be a convenient yardstick of therapy (Hart and Clark, 1951). Nevertheless in previous trials we have found patients with spondylitis much less suggestible than those with rheumatoid arthritis, and much less likely to respond dramatically to inert substances under the impression that they were receiving powerful therapeutic agents. We have used in assessment: (1) spinal flexion and extension, as measured by an angled "spondylometer," which, extending from sacrum to cervical vertebrae, eliminates hip movements; (2) simple forward bending which includes hip movement, measurement being taken from finger-tips to the floor at the tip of the big toes; (3) chest expansion, measured in inches at nipple level; (4) vital capacity estimations; and (5) subjective assessment of pain and stiffness by the patient himself, complete normality being taken as zero. Photographic contrast has not been sensitive enough to record small differences, and sedimentation rates have been so erratic as to be entirely unreliable. It will be seen, therefore, that, unlike the ring measurement of finger-swelling in rheumatoid arthritis, there is no absolutely objective measurement in ankylosing spondylitis which cannot be influenced by pain relief and psychological factors.

Case 1

A man aged 26 first had ankylosing spondylitis in 1945 in the lumbar region and the right hip. He was treated as a case of tuberculosis by immobilization in plaster for 10 weeks; but the pains became worse, and on removal of the plaster he was extremely stiff and required the aid of two sticks when walking. During the same period his general health deteriorated and he lost 28 lb. (12.7 kg.) in weight. In August, 1946, deep *x*-ray therapy was given to the right hip without improvement. Pain and stiffness became progressively worse, and in the winter of 1950–1 symptoms were intensified and the left hip became involved, with occasional pains and stiffness in the right shoulder. Extremely painful "muscle spasms" were a feature of the disease.

On admission to the unit in May, 1951, the spine was immobile throughout except for some movement at the atlanto-occipital and atlanto-axial joints. Hips were fixed in partial flexion. *X*-ray films showed poor intercostal expansion and fusion of sacro-iliac, hip, and lumbar and dorsal intervertebral joints. Although he was ankylosed and had a normal corrected sedimentation rate bouts of painful muscle spasm occurred in the back and thighs. Expecting little effect, we gave A.C.T.H. (Armour), 15 mg. six-hourly, intramuscularly, over a period of 17 days. No significant improvement in range of movement occurred and pain increased with this treatment, episodes of muscle spasm becoming more intense and frequent. Subsequently deep *x*-ray therapy was given—1,200 r to each hip and to the sacro-iliac joints. Muscle spasm disappeared for the first time and there was subjective improvement, pain lessening appreciably and well-being increasing.

Comment.—This case once again illustrates the dangers of wrong diagnosis and complete immobilization early in this condition. Although the case was an entirely unsuitable one, A.C.T.H. therapy was given, purely empirically. Attacks of painful muscle spasm, his most troublesome symptom, worsened on this treatment, but were relieved by subsequent deep *x*-ray therapy.

Case 2

A man aged 35 had suffered from ankylosing spondylitis since 1942. He gave the interesting history that when sleeping in an aeroplane on the Berlin air lift he woke up less stiff and with less pain than after sleeping in his normal bed. This history of ease by constant spinal agitation during sleeping hours has been noted also by J. Jackson Richmond (1950, personal communication) in a spondylitic patient sleeping in a small yacht at anchor. Symptomatic ease and measurable improvement followed deep *x*-ray therapy in August, 1948, and February, 1949, different areas being treated on the two occasions. Prior to readmission to the unit in November, 1950, there had been considerable pain in the sacro-iliac, subcostal, cervical, and right shoulder regions, with increasing stiffness and some anterior chest pain. For one year he had had intermittent mild dyspepsia.

Examination on admission revealed limitation of all spinal movement and scattered areas of bony tenderness. Painful haemorrhoids were present. *X*-ray films and tomography showed incomplete fusion of sacro-iliac joints and early longitudinal calcification between vertebrae, but the intervertebral joints were normal. A barium meal revealed a duodenal ulcer. A 10-day course of injections of an inert substance produced no change. A further 10-day course of a substance under trial also brought no improvement. Ten days of cortisone, given intramuscularly (total 1.3 g.), showed an increase of spinal flexion from 17 to 20 degrees, an increase of chest expansion from 1¾ in. (4.4 cm.) at nipple level to 2½ in. (6.3 cm.), but a slight reduction in vital capacity and no reduction of a high blood sedimentation rate. Marked subjective improvement occurred, in that pain and stiffness were much less. No exacerbation of duodenal symptoms occurred.

The patient was unaware of the substances he was receiving, and his observations are therefore of interest. "On

January 2 [his 25th day of injection therapy and 5th day of cortisone] I could literally feel my condition improving hour by hour. I started taking a keen interest in food. Spondylitis, piles, and ulcer pains now suddenly became confined to their own particular sphere. Since then I have felt a great urge for exercise (not physiotherapy !), particularly badminton, and my general condition, both physical and mental, feels as though it has been brought about by a process of rejuvenation rather than by a cure. Since January 2 I have not slept well, and the last three nights have been very wakeful ones, though my mind has been very tranquil. I have not slept in the day-time as usual, as I haven't felt tired enough." Unfortunately injections ceased four days after; so did entries in his diary and all subjective improvement. After discharge in May he was given deep *x*-ray therapy to the dorsal and cervical spine (900 r) as an out-patient, and subjective improvement, though less rapid and dramatic than on cortisone, was much more lasting: the follow-up note on October 17, 1951, read, "Has held improvement gained as a result of radiotherapy."

Comment.—Cortisone gave marked subjective improvement, but little could be demonstrated by measurement, and the improvement rapidly disappeared after treatment ceased. Deep *x*-ray therapy, to painful areas only, produced a less dramatic though much more prolonged effect, improvement being still maintained five months later.

Case 3

A man aged 20 had a four-year history of ankylosing spondylitis. All spinal movement except cervical was restricted; tender areas were present in the left anterior superior iliac spine, left greater trochanter, left lower ribs postero-laterally, and right adductor tubercle. *X*-ray films showed marked involvement of sacro-iliac joints and of both ischial tuberosities. There was slight "squaring" of the bodies of the lumbar spine, and many of the intervertebral articulations were affected. The ribs moved normally on inspiration. Vital capacity was 3,400 c.cm., or 85% of normal. A 10-day course of intramuscular cortisone was given (total 1.3 g.), and subsequently a course of deep *x*-ray therapy, 1,200 r, to the sacro-iliac, lumbar, and thoracic ports. Results are as noted in Table I.

TABLE I.—*Results in Case 3*

	Cortisone*		7 Days Later	After Deep *X*-ray Therapy
	Before	After		
Pain	100	30	100	50
Stiffness	150	50	100	50
Forward flexion	18 in. (45·7 cm.)	13 in. (33 cm.)	16½ in. (42 cm.)	14 in. (35·6 cm.)
Spondylometry	24°	32°	21°	33°
Chest expansion	3½ in. (8·8 cm.)	4 in. (10 cm.)	2 in. (5 cm.)	4 in. (10 cm.)
Vital capacity	3,400 c.cm. =85%	3,620 c.cm. =91%	3,320 c.cm. =83%	3,800 c.cm. =96%

* 1·3 g. given intramuscularly over 10 days.

Comment.—It will be seen that assessments of improvement by the medical attendant and the patient were approximately equal on cortisone and deep *x*-ray therapy, but, while the effect of the former wore off within five days of stopping treatment, the increase in spinal flexion has been maintained since *x*-ray therapy, the figures being 43 degrees two months after therapy and 32 degrees seven months after. Improvement at this time was still maintained, pain and stiffness being much less than before treatment.

Case 4

A male aged 41 had suffered from ankylosing spondylitis for less than one year. Morning stiffness and pain were present in the right foot as well as the sacro-iliac and cervical areas. Spinal flexion was reduced to 37 degrees and extension to 5 degrees (total range 42 degrees), chest expansion was 1¼ in. (4.4 cm.) at nipple level and vital capacity 3,480 c.cm. (73% of normal). *X*-ray films and tomographs showed early changes of ankylosing spondylitis in both sacro-iliac joints; no other changes were present in the spinal column. Osteoporosis of both feet was present, with some erosion of the heads of several metatarsals on the right side. The patient was an excellent witness, and kept a careful record of his impressions day by day. Looking through these, it is apparent that on all forms of treatment, including administration of inert substances, a steady all-round improvement took place (Table II), except in the right foot, which remained painful and stiff throughout a 12-day course of A.C.T.H., 70 mg. being given on the first day in six-hourly dosage, followed by 10 mg. six-hourly for a further 11 days, and a course of deep *x*-ray therapy applied to the spine. Only when a small (500 r) dosage of deep *x* rays was given direct to the foot did improvement occur locally.

TABLE II.—*Results in Case 4*

	Before Treatment	After A.C.T.H.*	After Deep *X*-ray Therapy
Pain	236	155	101
Stiffness	236	121	77
Forward flexion	5½ in. (14 cm.)	4 in. (10 cm.)	0 in. (touching floor)
Spondylometry	51°	47°	60°
Chest expansion	1¾ in. (4·4 cm.)	2 in. (5 cm.)	2 in. (5 cm.)
Vital capacity	3,480 c cm. =73%	3,600 c.cm. =76%	3,700 c.cm. =78%

* 645 mg. given over 14 days six-hourly.

Comment.—A.C.T.H. in small dosage had no dramatic effect on spinal symptoms: steady improvement took place throughout his stay, irrespective of the form of treatment given. Pain, stiffness, and tenderness in the right metatarso-phalangeal area remained an annoying drawback to progress when spinal symptoms had largely abated. A.C.T.H. and spinal deep *x*-ray therapy had no effect; local deep *x*-ray therapy in small dosage produced an immediate response, which has been maintained to date (five months later).

Case 5

A man aged 23 with a history, starting in 1947, of swelling of the left knee and stiffness of the lumbar spine, was diagnosed in 1948 as a case of ankylosing spondylitis and was put into a plaster jacket. In this he became more stiff and the disease progressed and extended, the hips becoming involved. He was removed from the jacket and was given exercises and deep *x*-ray therapy.

On admission in March, 1951, his spine had a range of 34 degrees. Movements of both hips were restricted, but less so than when first seen in 1948. The left knee was slightly swollen, and tender areas were present in the lower ribs, coccyx, and sacrum. *X*-ray films showed ankylosis of sacro-iliac joints and most of the lumbar intervertebral joints. The patient was given routine exercises and allowed full mobility. Control injections were given for 13 days, followed by a 15-day course of A.C.T.H., 10 mg. six-hourly

TABLE III.—*Results in Case 5*

	A.C.T.H.*		3 Days Later	After Deep *X*-ray Therapy
	Before	After		
Pain	70	85	85	80
Stiffness	85	80	90	75
Forward flexion	10½ in. (26·6 cm.)	10½ in. (26·6 cm.)	10½ in. (26·6 cm.)	10 in. (25·4 cm.)
Spondylometry	38°	43°	40°	40°
Chest expansion	1¾ in. (4·4 cm.)	1½ in. (3·8 cm.)	1¾ in. (4·4 cm.)	1¼ in. (3·2 cm.)
Abduction malleoli	38 in. (96·5 cm.)	41 in. (104 cm.)	38 in. (96·5 cm.)	39 in. (99 cm.)

* 625 mg. given over 15 days six-hourly.

intramuscularly. Subsequently deep *x*-ray therapy was given —900 r to the sacro-iliac region, 1,000 r to the right hip. He was discharged four days after *x*-ray therapy was finished, measurements immediately before and after each form of therapy being unchanged (Table III) and no subjective improvement having being noted. No diminution in knee-swelling and no reduction in bone tenderness occurred.

Comment.—No improvement whatsoever was noticed with either control or A.C.T.H. injections, and there was no immediate response to deep *x*-ray therapy.

Case 6

A woman aged 40 had developed acute diffuse back pains suddenly in January, 1951, with fever and general malaise. By the middle of the afternoon she had to retire to bed. Next day her back "felt like a ramrod" and severe spasmodic pain was present. Two days later her knees became swollen. Salicylates had no effect. She then remembered she had had two similar bouts at the age of 19 and 23 years, both being characterized by severe pain and stiffness of the back and swelling of the knees, as in her present bout. Since these two attacks she had been perfectly well, though her back became very painful if traumatized only slightly.

On admission on January 17, 1951, fever was present. She looked ill and was in great pain. Her spinal movements were restricted, her chest expansion markedly so. Both knees were swollen with fluid and were stiff and painful. Double-exposure *x*-ray films showed very limited rib movement with large diaphragmatic excursions. The sacro-iliac joints were eroded, with marginal ilial sclerosis, the picture being that of ankylosing spondylitis. Diarrhoea was present, but no pathogens could be isolated. Blood cultures and agglutinations were negative. Vital capacity was reduced to 50% of normal. Legs were splinted, and after a week's observation period, during which temperature and pulse failed to abate and the general picture remained unchanged, A.C.T.H., 15 mg. six-hourly, was started. On the first day fever abated, and within 48 hours pains and stiffness diminished, the legs appeared less swollen, and appetite and general well-being were much improved. Treatment was continued for a month, the dosage gradually being reduced; in the last two days she received only 16 mg. a day (4 mg. six-hourly). There was no rebound when therapy was discontinued. After eight days, when the dosage of A.C.T.H. was reduced to 32 mg. daily, a low fever and tachycardia returned for a time. Three days before A.C.T.H. was discontinued vital capacity had risen to 65% of normal. At her last out-patient attendance in September, although vital capacity was 68% of normal, *x*-ray films showed rib movement restricted as before. Overall improvement had been maintained, swelling of knees had disappeared, and she was working in a school.

Comment.—This acute episode in a female patient with spondylitis responded satisfactorily to A.C.T.H.; there was no rebound after gradual withdrawal of the drug, and in an eight months' follow-up improvement has been maintained. Therapeutic response has apparently run into natural remission.

Comment

It is fair comment that at least one of these patients could not be expected to give good results with A.C.T.H. or cortisone therapy, and that the more early acute cases did benefit, although dosage in all cases was low and periods of administration were short. In Case 6 improvement rapidly initiated by A.C.T.H. has been maintained and a natural remission appears to have set in with the discontinuance of treatment. In this patient, the only female of the series, two less acute episodes many years previously had subsided similarly, leaving her symptom-free for years. The effects of A.C.T.H. or cortisone on these six cases may be stated thus:

Case 1 (advanced case).—Pains worsened on therapy, painful spasms becoming worse. Deep *x*-ray therapy subsequently lessened pain.

Case 2.—No measurable improvement. Symptoms were relieved by cortisone, and also, less dramatically but over a much longer period, by deep *x*-ray therapy.

Case 3.—Measurable and symptomatic improvement occurred equally with both cortisone and deep *x*-ray therapy, the former lasting only for the duration of treatment, the latter many months subsequently.

Case 4.—Gradual improvement occurred on all forms of treatment, including the administration of inert substances. Cortisone failed to affect peripheral pain and stiffness, which responded to a small dose of locally applied deep *x*-ray treatment.

Case 5.—There was no immediate measurable or symptomatic response either to cortisone or to deep *x*-ray therapy.

Case 6.—Improvement occurred rapidly on A.C.T.H., natural remission setting in early.

It seems reasonable, with supplies of these drugs limited as they now are, to restrict their use to acute painful episodes in cases of spondylitis. Such episodes may be prostrating at the time, and few things cause more severe diffuse pain. Deep *x*-ray therapy has in our hands proved most effective within seven to ten days of starting treatment in such cases in the past, but A.C.T.H or oral cortisone obviously can play a part here in controlling acute symptoms and so enabling other forms of therapy to be instituted.

Ankylosing spondylitis is a disease which lasts for many years or the rest of the patient's lifetime; one is never sure that even a prolonged remission of many years will be a permanent one. Most patients are only moderately incapacitated, and the vast majority are at work and earning their living. A.C.T.H. or cortisone therapy can be applied only over a relatively short period in the life history of the disease. Case 6 seems eminently suitable for two reasons: (1) the acute prostrating episode demanded immediate pain-relieving effective treatment, and (2), the patient being a female of child-bearing age, deep *x*-ray therapy held certain hazards.

Even if supplies of A.C.T.H. and cortisone were completely unrestricted it is very arguable if they would be more than short-term weapons in the treatment of ankylosing spondylitis, for they are in no sense curative In spondylitis stiffness is a prominent symptom, and in all but early cases this is, in part at least, due to irreversible change. Bony tenderness in our cases has not, on the short courses of treatment given, been relieved by A.C.T.H. or cortisone as it has been by deep *x*-ray therapy. Exercises, postural drill, and treatment of postural defects remain as necessary as before. The basic treatment of this condition remains unchanged, though a potent short-term weapon is now available for more acute episodes.

Summary

Six cases of ankylosing spondylitis treated with short courses of A.C.T.H. and cortisone are described. Reasons are given for regarding the present current therapy as unchanged in this disease, although a potent weapon for short-term treatment of acute painful episodes has been placed in our hands.

REFERENCES

Forestier, J., Certonciny, A., Jacqueline, F., and Rotes-Querol, J. (1951). *II Congreso Europeo de Reumatologia*, p. 1. Publicaciones Medicas, Barcelona.
Hart, F Dudley, and Clark, C. J. M. (1951). *Lancet*, **1**, 775.
—— Robinson, K. C., Allchin, F. M., and Maclagan, N. F. (1949). *Quart. J. Med.*, **18**, 217.
Van Swaay, H. (1951). *II Congreso Europeo de Reumatologia*, p. 99. Publicaciones Medicas, Barcelona.

A PSYCHIATRIC STUDY OF SIX CASES OF INFANTILE ACRODYNIA

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In a review of infantile acrodynia, one of us (Leys, 1950) commented on the similarity between acrodynia and the clinical picture described by Spitz and Wolf (1946) in children deprived of their mothers. Without insisting on an absolute parallel, he suggested that there were grounds for investigating the emotional state of cases suffering from acrodynia. While to the perceptive and experienced eye the clinical picture presented by emotionally disturbed infants shows many variations, these must be subjectively interpreted and are open to dispute. It is a truism of paediatric or child psychiatric practice, however, that the emotional state of the mother profoundly influences the emotional state of the child. This was described thirty years ago by Hector Cameron (1919) and has been the subject of many studies and observations. Thus Levy (1943) states: "It is generally accepted that the most potent of all influences on social behaviour is derived from the primary social experience with the mother. . . . His outlook on life, his attitude towards people, his entire psychic well-being, his very destiny is presumed to be altered by the maternal attitude." For the purpose of this report it is unnecessary to enter into discussions on how maternal attitudes influence the emotional state of the child. It is, however, well within the observation of child psychiatry that a child may experience the result of emotional stresses that the mother herself fails to recognize.

In view of these considerations it was arranged that, in each case of acrodynia met with, the family background of the child's life should be investigated, as is done with psychiatric problems. This in practice resolved itself into the psychiatrist interviewing the mother, or both parents, while the paediatrician treated the child. In two of the cases the parents themselves referred other children of the family who suffered from psychiatric disability, so that our knowledge of the family situation was much increased.

Treatment and prognosis are not discussed here; the symptoms and signs of acrodynia cleared up in every case.

Case 1

A girl, admitted at 15 months, had been a model baby. At 8 months she had suffered from constipation and a prolapsed rectum. For two months before admission she had had "teething rashes," treated apparently by exclusion of cream, butter, cod-liver oil, and vitamin preparations from her diet. When seen at 15 months the child was described as listless, off her food, sleeping badly, whimpering, and wanting to be lifted. She sweated a lot, and her hands in the past two weeks had become pink. On examination she was pale, had obviously lost weight, resented being touched, and tended to kneel with her face buried in the pillow (photophobia). She was otherwise apathetic, with hypotonic limbs. Tachycardia (175) and raised B.P. (174/120) were present. Her hands and feet were red and cold. The liver was enlarged below the costal margin. There was some sweat rash over the rest of the body.

The mother, a pleasant young woman, had been a clerk before marriage and sang in the church choir. Her mother was a worrier and was strict in her religion; her father was healthy and easygoing. The patient's father, aged 23, also a clerk, was quiet but with a temper. His mother was much concerned with what people think; his father was easygoing. The parents were engaged when the child was conceived, and both grandmothers were greatly exercised over the scandal in two respectable families. The marriage was hastened on, and the couple were found rooms in the house of the paternal great-grandmother. Here they found conditions impossible; they were limited in coal, and were not allowed to make any noise at night or before 10 in the morning. The mother was forbidden to do washing in the rooms, as it would make the walls damp. She said that caring for the child in these conditions got her nerves "in a state." She felt upset and fed up; nothing was right, and she was inclined to snap at everyone. She attended the doctor for her nerves. It was in this situation that the child's symptoms developed.

When interviewed the mother seemed a pleasant, competent young woman; the circumstances of her marriage were still a preoccupation, and after "confessing" them she spoke of her concern that the child would one day find out.

Comment.—In this case the child was conceived against the wish of the parents and precipitated the marriage. Its presence was associated with much self-reproach to the mother. In addition it had created great material difficulties for her, and she had reacted to these stresses with nervous symptoms at the time of the illness

Case 2

This child was admitted to hospital at 22 months. Birth had been normal; she was breast-fed for two weeks and was put on the bottle when her mother got up. Physical development had been normal up to the onset of the illness, but the child had rocked her cot and when ill she had banged her head. She still picked her woollens and ate them at the time of admission. The normal physical progress had been interrupted two months before admission. The child was fretful and cried when cutting teeth, and did not improve when the teeth came through. She stopped talking, was whining and fretful, slept badly, had loss of appetite, and sweated; her hands were red, hot, and moist, and her feet cold; she tended to constipation and showed doubtful photophobia. Her mother described her as "limp." At the time of admission there had been some improvement, but the child was whining and miserable, was unwilling to sit up, had acrocyanosis of hands and feet, showed tachycardia (140+), and had raised B.P. (145/95). Tuberculosis, of which there was a history on the paternal side, was excluded. The diagnosis of acrodynia was made.

A family background of stress was revealed. The mother, aged 36, grew up in an unhappy home with shortage of money. The maternal grandfather suffered from bronchitis. The maternal grandmother went out to work. The mother as a girl had resented having to work in the house. When she was 17 the maternal grandmother was killed in an air raid and she thereafter kept house for the maternal grandfather and a maternal uncle. She found herself ignorant domestically and was filled with self-reproach at her previous attitude to her mother. She married at 20. The father, a bus conductor, at the time of the child's admission aged 36, was a heavy, anxious, down-in-the-mouth individual, a non-smoker and non-drinker.

The eldest child, aged 6, showed some personality disturbance referable to parental anxiety and mishandling. He was timid, withdrawn, a "bundle of nerves," would not go out, had attacks of vomiting, became agitated on separation from the parents. He was brought for treatment. The second child, aged 3, had been in hospital suffering from strangulated hernia. The patient, the third child,

had been unwanted, and represented a failure in birth control. The mother described herself as tired and "so depressed I can hardly breathe" since she knew she was going to have this child. She had sickness all through this pregnancy, though not with the other children. Since this child had gone into hospital she had suffered from headaches. In view of the failure of contraception, with the consent of the father, and supposedly on the advice of the family doctor, sexual intercourse between the parents had ceased with the birth of this child. The home was good from the point of view of space and activity.

The mother was a pleasant drawn-looking woman, tired, and attending the family doctor for "nerves," but formally good with the children, manifesting no lack of affection.

Comment.—The factors of stress appear to be in the mother's history, in the determination and failure to limit the children to two, and in the disturbed marital situation. The severely disturbed eldest child and the patient's rocking, head-banging, and picking suggest lack of maternal warmth and over-restriction. The patient was confessedly an unwanted child, and the mother had shown psychosomatic symptoms from the time of conception.

Case 3

This patient was admitted to hospital aged 9 months. The history was of a normal pregnancy and birth. She was breast-fed for four to five months and weaned from the breast without difficulty. Previously healthy, the child about two months before admission lost interest, cried a good deal, became limp, slept badly, lost appetite, and lost 2 lb. (0.9 kg.) in weight. A month before admission her hands and feet had become swollen and cold. A week earlier a rash had developed on the body and the child had a blister on one toe. On examination she was irritable and tearful, with a flushed facies. Hands and feet were red, cold, and sweating, there was a papular rash on the trunk, and some of the skin creases were broken. Moderate tachycardia was present (160), and the blood pressure was 140/100. Hypotonia was marked, and the child was found to be running a slight evening temperature. Infantile acrodynia was diagnosed.

The mother, aged 21, a shorthand-typist, had married at 19. The maternal grandmother was highly strung, and the grandfather had been disabled in the first world war. The father, aged 30, was an electrician of healthy parentage. The marriage had been happy, but circumstances were difficult. They had two rooms, but the children arrived too quickly; the eldest was 2 months old when the patient was conceived, despite attempted birth control. "I did not want her." The landlord, wife, and two children also lived in the house. "They don't want children crying all night." They kept bees outside her window, which frightened her, and she continually dashed out to take the child in when they were disturbed. The dog frightened her and the children. The mother had felt overwrought since the birth of the patient, who had cried at nights; the mother had been both irritable and self-reproachful. She had difficulties with the landlady, and was unable to keep the place straight or work a shared kitchen. Sexual relations had been unsatisfying to her. She was inclined to blame the husband for this, but her own fear of conception had probably been the main factor. In the month before the child's illness began the mother said she had become hysterical and had attacks of screaming and weeping, for which she attended her doctor. Seen with the child, she held her with kindness and care.

Comment.—This child was also conceived contrary to the parents' wish. The material difficulties for the mother were great and were aggravated by the child's birth. The child's illness had developed when the mother was attending her doctor for acute nervous symptoms.

Case 4

This child, a girl aged 14 months, had been born at home and had been breast-fed for five months. Her maximum weight was 24 lb. (10.9 kg.) at 12 months. At the time of examination it was 19 lb. 10 oz. (8.8 kg.). She was said to be "feverish" when cutting each tooth. Four weeks before examination she had begun to cut her canines. She had been off her food, had vomited, was restless at night as with her other teeth, but now showed complete refusal of food, and became very passive, although restless and making chewing movements. She refused to be bathed or dressed. On examination she lay quiet in her parent's arms and resented interference. There was gross subcutaneous wasting, mainly over the abdomen, but also in the limbs, which were hypotonic. There was no hypersensitivity or photophobia at the time, but later some evidence of hyperaesthesia. Her heart rate was 160. The systolic pressure (narrow band) was >140. She could stand and walk. Infantile acrodynia was diagnosed.

The family situation and the mother's health were much disturbed. She had been restricted by her own mother, who had disliked her, and she was attached to her father. At 20 she had had a breakdown with attacks of screaming while in the W.A.A.F., after she had picked up a dead baby in an air raid. The father, a student, came of excitable parents. An elder child was born in 1943. The patient had been born when the husband went back to student life after the war. They occupied a small flat and had an "awful" landlady. The husband was studying, and the children had to be kept quiet in the evening, while the baby shared their room. During this time the older child attended a child guidance clinic for pilfering and restlessness, and the mother attended a psychiatrist for anxiety symptoms, phobias, and hysterical manifestations. They had just moved out of this situation when the child's illness began. Subsequently both the elder child and the mother received treatment again.

Comment.—The mother's bitterness against the grandmother was increasingly revealed as creating difficulties for her in a maternal role. This was regarded as the essential element in her problems with her children, though the factor of restriction and crowding did come in. While the mother accused herself of irritability with the children, particularly the eldest, she handled the patient with apparent affection.

Case 5

A girl just over 12 months old was admitted to hospital with a history of a normal maternal first pregnancy and healthy delivery. She had always been a light sleeper. She was breast-fed for only three weeks and then put on the bottle, making a steady gain up till about two months before admission.

At this time she began to refuse feeds and was disinclined to sleep. She would lie and whimper, although yawning all the time. She would play if taken into the parents' bed and eventually slept. When transferred to the care of the maternal grandmother for a few days she tended to improve. At 9 months she could stand and crawl, but had made no progress since and lay passive. She now liked to be cuddled, although initially had shown little response to it. In two months she had lost 2 lb. (0.9 kg.) in weight. She sweated a lot in sleep.

On admission she resented being handled, and her appetite and sleep were poor. There was hypotonia, with some acrocyanosis of hands and feet. The heart rate was 120–130, and B.P. 110/60. Her temperature was normal, as were her gums and mouth. *X*-ray films of the chest were negative, the Mantoux test was negative, and the blood picture and white cell count were normal. She was considered to be a mild or doubtful case of acrodynia.

The background of stress in the child's life was acute. The mother, aged 28, had a stable family background. The

father, aged 35, was a cheerful individual. The paternal grandmother was, however, a dominating woman, and her husband had to conform. The child's parents had been married for two years. They lived in two rooms in the house of the paternal grandparents. Friction had quickly developed between the mother and her mother-in-law, and was aggravated after the birth of the patient. The two women had ceased to speak to each other. One of the rankling accusations made by the grandmother was that the mother did not love her child. Relations between the parents were also strained because the mother had refused sexual intercourse since the birth of the child, as she refused to take the risk of another pregnancy in these circumstances. Both refused to undertake birth control. She felt also that it was the duty of the father to provide her with an adequate home, and her determination had a punitive element in it.

The mother felt that her initial easy disposition had gone and that she was becoming spiteful, irritable, and cross with the child. It was in this situation that the symptoms complained of developed.

The mother was, on interview, a pleasant woman and did not show formal mishandling of the child.

Comment.—The factors present appear to be acute maternal stress related to the housing position, her mother-in-law, and her marital relations. This was so marked as to cause her to report a change in her personality. The grandmother's accusations that she did not love her child may be important.

Case 6

A boy aged 13 months was admitted to hospital. Pregnancy and labour were reported to have been normal except that the mother had oedema in the latter months. He was breast-fed, and was not weaned until 11 months. At 9 months he had had mild whooping-cough. At this time he had weighed 16½ lb. (7.5 kg.); his weight of 18 lb. (8.2 kg.) on admission almost certainly represented a loss of weight. About a month before admission he had begun to refuse feeds, became cross and restless, showed dislike of the light, and developed a fine rash on the body. On examination this was found to be a characteristic but not very severe case of acrodynia, with photophobia, tachycardia, swelling of the hands, hypotonia, moodiness, difficulties with feeding, and a tendency to sweat. On admission he was noted to be rather dirty and uncared for.

The mother, aged 41, a stout, apparently genial, slightly slatternly-looking woman, said she was "always tired"; she also said she was sometimes depressed, but made light of this. She herself had been adopted after the death of her father, and spoke of the maternal grandmother with detachment and of the adoptive parents with affection. The father, aged 41, suffered from duodenal ulcer, and was irritable and moody. There was nothing significant in the paternal grandparents.

The patient was the seventh child, and five older ones were still at home. The father had to work overtime to keep going financially, and gave the mother £5, in addition to which she had an allowance of 25s. weekly. The home was a house with six rooms and a kitchenette and bathroom. The mother indicated that she used to take a pride in keeping the house nice, but no longer did so, and confirmed that she had not wanted the child, and, indeed, half-hearted birth control had been practised since the third child; she did, however, say that it was all right when they were there.

Comment.—Here the factors of the child's being initially unwanted and some degree of stress were both present. The mother herself suffered from continual tiredness and was occasionally depressed. It may be said that the findings in this case were compatible with rather than strikingly illustrative of the elements found in the other cases in the series.

Observations

The evidence of stress in the family situation of these cases is striking, and indeed more obvious than that in the family of many children attending the psychiatric clinic.

In Cases 1, 2, 3, and 4 the mothers were actually attending the family doctor or a psychiatrist for nervous symptoms when the child developed the symptoms. In Cases 5 and 6 the mothers respectively complained of irritability and spitefulness and of tiredness and depression.

In a consecutive series of 30 cases of manifest psychiatric symptomatology referred by the paediatrician to the psychiatrist in the same clinic, maternal symptomatology of this kind was present in only eight cases (Prince, 1951).

In Cases 1, 2, 3, and 6 the children were the result of failure of contraceptive methods and their conception was unwanted. It may be important that in Case 5 the paternal grandmother accused the mother of not loving the child. In Case 4 the mother, who subsequently received psychotherapy, revealed severe emotional difficulties in relation to her children. All these mothers, with the possible exception of Case 6, were, however, formally good mothers who showed care for the welfare of their children. Nevertheless, it is a familiar experience in child psychiatry to meet mothers who, though overtly affectionate, cannot show complete maternal warmth to their infants. The other element present with surprising consistency was the need to restrict the child's crying or activity. This was demonstrably present in Cases 1, 3, 4, and 5, while in Case 2 the child's rocking, head-banging, and picking are signs usually associated in the mind of the psychiatrist with lack of maternal warmth and over-restriction.

In these cases, therefore, we would say that the essential element present was some degree of emotional deprivation associated with the child's being unwanted, and with other maternal stresses and some evidence of over-restriction. This occurred in families reasonably well disposed towards the children. No effort has been made to present more than the manifest situation, and psychodynamics are not discussed.

The series is small, so that an element of coincidence cannot be excluded, but it does contain all cases of acrodynia which attended a paediatric clinic at the time, and there was no selection of cases on any basis other than the symptoms of acrodynia.

In our view the evidence is sufficient to warrant extended observations of the emotional and family background of infants suffering from acrodynia.

Summary

Six cases of infantile acrodynia are described in their family setting and environment. In each case evidence is offered that the child suffered from emotional deprivation, and that the mother was herself suffering from psychiatric ill-health at the time of onset of the child's illness. The circumstances were conducive to restriction of the child.

REFERENCES

Cameron, H. C. (1919). *The Nervous Child*, 1st ed. Oxford Univ. Press, London.
Levy, D. M. (1943). *Maternal Overprotection*, p. 3. Columbia Univ. Press, New York.
Leys, D. (1950). *Arch. Dis. Childh.*, **25**, 302.
Prince, G. S. (1951). Paper to Paediatric Section of R.S.M. on June 23, 1951 (unpublished).
Spitz, R. A., and Wolf, K. M. (1946). *Psychoanalytic Study of the Child*, **2**, 313. London.

AMINO-ACIDURIA IN GALACTOSAEMIA

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During recent years the condition of galactosaemia has been recognized more frequently, but the total number of cases recorded in paediatric literature is still very small. Much interest has been aroused by this rare metabolic disorder because of the satisfactory results following appropriate treatment and because of the serious consequences of misinterpreting the clinical picture. Although diagnosis and treatment are now on a firm basis, the pathogenesis and the nature of the metabolic derangement are not yet fully understood.

Two Recent Cases

During the past four months two infants have been observed who presented the classical symptoms and signs of vomiting, failure to thrive, transient jaundice, enlargement of the liver, and frequent loose stools. One, who has been studied from the first days of life, developed central polar cataracts at the age of 4 weeks; these have subsequently regressed. Examination of the urine in each case showed the presence of a reducing substance which was identified both chemically and by chromatography as galactose. The galactose-tolerance tests in both infants were grossly abnormal, showing an initial galactosaemia, a steep rise of the galactose blood levels, and a slow fall over several hours.

Further evidence supporting the diagnosis was obtained by the therapeutic test of omitting milk from the diet; this produced definite improvement in the infants' condition and led to the disappearance of galactose from the urine.

Because of the hepatomegaly in the first infant the possibility of an amino-aciduria as a result of liver damage was considered and studies of the urine were undertaken. Because of the unusual findings these studies were repeated with the second infant.

Urine Chromatography

One-way paper chromatograms were made on as many specimens of urine as possible, the volume of urine containing 250 μg. of total nitrogen being taken for each analysis. Both cases consistently showed an excessive amino-aciduria when on a milk diet but not when on a diet from which milk was entirely absent. The picture reappeared when 2 g. of galactose a day was added to the milk-free feeds. It also followed a galactose-tolerance test.

In order to identify the amino-acids more definitely two-way chromatograms were made on urines selected on the basis of the one-way chromatography, using phenol/collidine and phenol/tetrahydro furfural alcohol as pairs of solvents and again taking the volume of urine containing 250 μg. of nitrogen. These chromatograms confirmed the previous findings and allowed of a provisional identification of all the amino-acids present. The details of the amino-acid pattern were similar in both cases. Descriptive diagrams of two chromatograms of the urine in each case are shown in Figs. 1, 2, 3, and 4. The amino-acid spots are shown in their usual positions on an actual chromatogram. They are drawn in the form of circles, the relative sizes of the circles giving some indication of the strength of ninhydrin colour and hence of the quantity of each amino-acid present. The urine is assumed to have been placed at the right-hand bottom corner. Phenol has been run as first solvent from right to left followed by collidine in an upward direction.

It can be seen that on the milk diets a definite amino-aciduria was present, involving a large number of amino-acids. A two-way chromatogram of the first case after the administration of galactose showed practically the same pattern as the original urine. It was noted that the pattern obtained was different from any pattern seen in cases of extensive liver damage in infants of the same age.

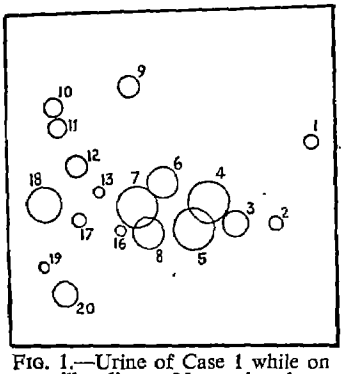

FIG. 1.—Urine of Case 1 while on a milk diet. Note the large number of amino-acids, some of them in large quantities.

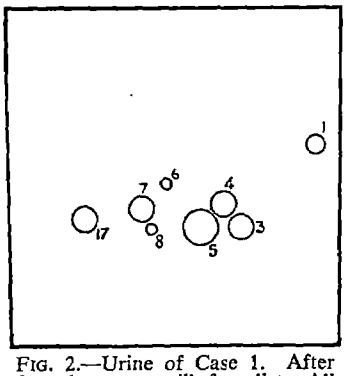

FIG. 2.—Urine of Case 1. After four days on a milk-free diet. All the amino-acids have decreased in quantity—some have disappeared altogether. The excretion is still, however, slightly abnormal.

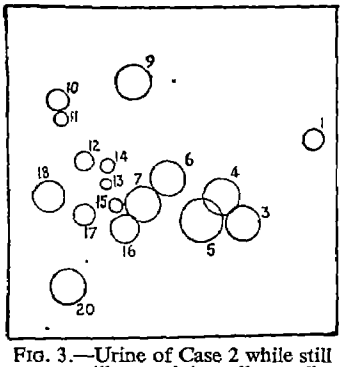

FIG. 3.—Urine of Case 2 while still on a milk-containing diet. The characteristics of the amino-aciduria are very similar to those shown by Case 1.

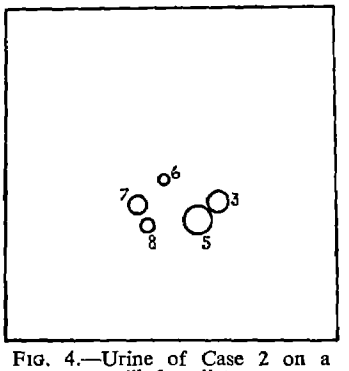

FIG. 4.—Urine of Case 2 on a milk-free diet.

Identification of Spots.—1, Cysteic acid (from cystine); 2, aspartic acid; 3, glutamic acid; 4, serine; 5, glycine; 6, threonine; 7, alanine; 8, glutamine; 9, tyrosine; 10, phenylalanine; 11, leucine; 12, valine; 13, alpha-amino-*n*-butyric acid; 14, methionine sulphone (from methronine); 15, histidine; 16, citrulline; 17, beta-amino-*iso*-butyric acid; 18, methyl histidine; 19, arginine; 20, lysine.

Chromatographic Report

It was felt that confirmation of the amino-acid pattern should be obtained, and Dr. Dent, of University College Hospital, kindly examined specimens. He reported as follows: "Review

of all the chromatograms leaves no question that there is a gross amino-aciduria associated with the galactosuria, which rapidly becomes more normal under treatment with the milk-free diet. The especially unusual characteristics (as against those of the already known amino-acidurias) are the disproportionately large quantities of serine, threonine, methyl histidine, lysine, and tyrosine. It could be that this pattern is specific for the disease. Of especial interest is the fact that the common liver diseases, so far as they have been investigated, display urine amino-acid patterns quite different from those shown by these two cases (Dent and Walshe, 1951). On the other hand, the pattern shows some resemblance to that occurring in the renal amino-acidurias, especially that of Wilson's disease."

Discussion

Pathological excretion of amino-acids in urine has recently been reviewed by Dent (1950, 1951), and it appears that there are two possible mechanisms by which this may occur. The first is the "overflow" mechanism whereby the excretion is the result of a raised plasma level; this occurs to varying extents in both acute and chronic liver disease and in phenylketonuria. The second is a true "renal" mechanism whereby the excretion occurs in the presence of normal plasma levels, presumably as the result of a lowered kidney threshold —that is, raised clearance; this occurs in cystinuria, in the Fanconi syndrome, and in Wilson's disease, all of which have a genetic background. There is also an acquired form of renal amino-aciduria which occurs occasionally as the result of the action of poisons such as lead and uranium on the renal tubules.

No reports have as yet appeared in which a disorder of amino-acid metabolism has been implicated in galactosaemia, but it is possible that this amino-aciduria may be specific and an expression of a "renal" mechanism.

It is hoped to publish the results of further work on these lines in the near future.

We are grateful to Dr. C. E. Dent and his assistant, Miss Dorothy Fowler (University College Hospital Medical School), for their generous help with the sugar and amino-acid chromatography and its interpretation; to Miss Jean Summerscales for her assistance in the chemical identification of the galactose; and to Professor Wilfrid Gaisford for his interest and criticisms.

REFERENCES

Dent, C. E. (1950). *Schweiz. med. Wschr.*, **80**, 752.
—— (1951). "Quelques désordres du métabolisme des acides amines." *Exposés Annuels de Biochimie Médicale.* Masson, Paris.
—— and Walshe, J. M. (1951). In *Conference on Liver Diseases*, p. 22. Ciba Foundation, London.

The Central Council for the Care of Cripples recently produced a *Summary of Legislation and Directory of Organizations for the Care of the Physically Handicapped* (Heinemann Medical Books, price 5s. 6d.), which, in spite of its unwieldy title, is a useful little book of over 100 pages which should be close to the hand of everyone, medical or lay, concerned in the treatment and care of the disabled or crippled. The addresses and functions of many local voluntary societies are included, as well as clear summaries of the provisions of the National Assistance and National Health Service Acts, and other forms of Government aid. There is also a section on the training of orthopaedic nurses and welfare workers as well as of the handicapped themselves.

EXTENSIVE RESECTION OF THE SMALL INTESTINE

A SHORT REVIEW, WITH TWO NEW CASES

BY

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Resection of a large part of the small intestine is called for infrequently and usually unexpectedly. The occasion may be an emergency operation for adhesion obstruction, strangulated hernia, mesenteric vascular occlusion, or mesenteric injury. Less often the indication is widespread tuberculous or other disease of the small intestine, while occasionally it is malignant disease or a benign tumour involving the mesentery. In any case, the need for so drastic an operation has seldom been foreseen and a decision has to be made on the spot. Textbooks on operative surgery give little information, and although many articles on this subject have been published it is still not easy to find out what risk there is of serious impairment of health after an extensive resection. The satisfactory results in the two cases here reported and a review of some of the literature have considerably increased my optimism with regard to this operation.

Extent of Removal

It is true that in most cases the amount of bowel removed is decided by the disease rather than by the surgeon, but even in these there is sometimes room for judgment in deciding whether an extra foot or two of bowel is better removed or left behind. In a minority of cases the extent of removal is far more a matter for individual opinion. The surgeon's decision on how far he should jeopardize the patient's future health by increasing the scope of the operation must be based on his knowledge of the likely effects of removing a large part of the small bowel. If they were to be almost inevitable chronic invalidism, diarrhoea, and misery, then he would serve his patient best by conserving as much as possible. If he knew that several feet more or less would make little difference as regards future health, he would plan the operation accordingly, for long resections are no more difficult or dangerous than short ones.

The case records surveyed support the view that resections of up to one-half of the small intestine are not followed by serious metabolic disturbance. When they exceed three-quarters, then serious metabolic disturbance is probable but by no means certain. There is no clear indication whether resection from the proximal or the distal end is likely to have the greater effect. In practice most massive resections are distal, and the bowel remaining is jejunum. This would be expected from a consideration of the blood supply, as well as from the greater liability of the distal bowel to disease generally and to gangrene from mechanical causes.

A resection of 6 ft. (1.8 m.) is taken by most authors as the minimum qualifying for the term extensive or massive. When less than this is removed the problem of later metabolic upset, in the absence of other disease, never seems to arise. One patient of Jerauld and Washburn's (1929) had only 6 ft. (1.8 m.) resected for polyposis and later had diarrhoea after milk or anything containing fat, but there may well have been polyposis of the

remaining bowel. In their other case the distal 19 ft. (5.8 m.) was resected for mesenteric embolism, leaving 10 ft. (3 m.), and the patient gained weight and was perfectly well two and a half years later. Comparatively few of the cases reported are as informative as this one about the late effects of resection. Most reports give no indication of how much or which part of the small bowel remained; in a few some chronic disease such as tuberculosis makes it impossible to regard the patient as having merely a shortened intestine, and many were followed for a few weeks only. For one or more of these reasons most of the case reports studied do not help greatly in trying to correlate the extent of removal with the late result.

However, the following cases of resection for conditions which would be expected to leave a shortened but otherwise healthy bowel are worth noting. Littlefield (1919) resected the proximal 13 ft. (4 m.), leaving only 6 in. (15 cm.) of jejunum and 4 ft. 1.2 m.) of ileum: the patient was in good health three months later. Sinclair (1924) resected the middle 12 ft. (3.7 m.), leaving several feet above and below, with perfect health three years later. Brenizer (1929) removed the distal 9 ft. (2.7 m.), leaving 6 ft. (1.8 m.), with good health a year later. Holman (1944) removed the distal 19 ft. (5.8 m.), leaving a few feet only, with good health one and a half years later. Cosh (1944) reported a death from diarrhoea and inanition eight months after resection of an unknown length but with only 3 ft. (0.9 m.) of jejunum remaining. Cogswell (1948) resected the distal 10 ft. (3 m.), leaving only 14 in. (36 cm.) of jejunum, with fair health but some diarrhoea six months later. These are representative cases, selected for mention because the reports of them are complete and readily accessible.

Other cases, in which it is not stated how much bowel remained, but with a reasonably long follow-up period, include resections of 11 ft. (3.4 m.) (Turck, 1914), 10 ft. (3 m.) (Turner, 1937), 8 ft. (2.4 m.) (Prioleau, 1944), and 7 ft. (2.1 m.) (Wood, 1920; Watson, 1923), all in good health two or more years later. The loss of 12 ft. (3.7 m.) resulted in poor health and diarrhoea at two months (Brougham, 1907) and at four months (Prioleau, 1944), but in good health with only occasional diarrhoea at 10 months (Addison, 1917). From these and other accounts it seems that diarrhoea in the early weeks is common after the longer resections, with a strong tendency to improve as the months pass. Weight loss, as would be expected, accompanies the diarrhoea and recovers with it. Tetany has occurred in several cases.

Results in the Literature

Collected series from the literature have been published from time to time. Flint (1912) presented 59 cases and Haymond (1935) no fewer than 257. Haymond gives many references, and includes tables of pathology, age, sex, length of resection, type of anastomosis, period of survival, and results in terms of function. Unfortunately, owing to lack of details in the original reports, each table deals with only a proportion of the cases, and few conclusions can safely be drawn from the figures. The condition of only half the survivors had been reported upon three months or more after operation. It is significant of the incompleteness of the information available to him that Haymond was not able even to consider the influence on the result of the anatomical part of the small intestine resected or of the length of intestine remaining—two factors which are likely to be of major importance.

It is clear that considerable variation exists in the response to removal of a large part of the small intestine. Brenizer (1929) stated: "We must conclude that the minimum extreme resection may fail in time and the maximum offers good results, and that there are always possibilities for good and bad between the two extremes." This is true so far as it goes, but the possibility for good is a very strong probability when the resection is not much above 6 to 8 ft. (1.8 to 2.4 m.), or when some 6 to 8 ft. (1.8 to 2.4 m.) is known to remain, and the chances diminish only as these limits are passed. There is certainly an important element of unpredictable and individual variation, but the final result depends to a very great extent on the length of bowel left to the patient.

The actual length of the bowel resected is of much less importance than the fraction it represents of the whole, just as the functional result of a limb amputation depends on how much remains and not on what has been removed. However, perhaps rather naturally, because of the positive nature of this measurement and the dramatic appeal of the very long resections, a disproportionate amount of attention has been given to such lengths as measured. The competitive spirit is exemplified by one author who, having removed 11 ft. (3.4 m.), claimed that this was not only the most extensive resection on record for mesenteric thrombosis, but also the second largest for any cause in the American literature and the tenth largest in the entire literature. Length resected, as an isolated observation, is of course of some importance, as in certain circumstances it may not be practicable to ascertain how much bowel has been left.

A surgeon finding himself obliged, at such an operation, to remove 15 ft. (4.6 m.) of small bowel can only hope his patient has at least an average length of it. This is usually taken as 22 ft (6.7 m.), the range of variation being from 15 to 32 ft. (4.6 to 9.8 m.) (Brenizer, 1929). Exceptionally, a healthy small intestine may measure less than 15 ft. (4.6 m.) and it is well known that in some cases of chronic jejuno-ileitis of the "total" rather than the "regional" type extreme shortening occurs. In a case of this kind, not reported here, which recently came to necropsy, the whole small intestine measured only 6 ft. (1.8 m.) in length. The measurement of a contractile muscular organ such as the small intestine is obviously a difficult matter. Spasm reduces it considerably, which was very evident during the operation on Case 2, below. The length of jejunum not requiring removal was marked off and noted to measure between 4 and 5 ft. (1.2 and 1.5 m.); when ready for anastomosis it was so obviously shorter that it was remeasured and found to be only just over 3 ft. (0.9 m.). Clamping of the mesentery and the manipulations involved in resecting the distal intestine were presumably responsible for the shortening.

Case 1

A man aged 29 was seized with violent abdominal pain at 8 p.m. on July 6, 1939, and admitted to the Bristol Royal Infirmary the following afternoon. He was cold and appeared very ill, with a pulse rate of 144. He obtained some relief from his pain by sitting up, a position he insisted on maintaining while being examined. His abdomen was rigid and tender. There was a history suggesting a chronic duodenal ulcer of several years' duration, and a diagnosis of "probably perforation" was made. Some doubt was felt on account of the position of relief from pain which he adopted, also because of his restless movements. He was given

morphine and intravenous saline, and after four hours his condition, though still very poor, had improved enough to allow operation.

Operation.—This was performed on July 7, 23 hours after the onset. The peritoneal cavity contained blood-stained fluid. The stomach was large. There was no perforation, only a healed duodenal ulcer with scarring and stenosis. The lower abdomen was filled by black coils of small intestine, which had passed from right to left through a slit, apparently congenital, in the mesentery. The margin of the aperture was divided so that the coils of bowel could be withdrawn. There was no difficulty in judging them non-viable from their appearance and from the absence of pulsation in the mesenteric arteries. The affected bowel was resected, leaving behind a few inches of ileum and 4 to 5 ft. (1.2 to 1.5 m.) of jejunum. After cutting away its mesentery the resected bowel was found to be just over 14 ft. (4.3 m.) in length. The cut ends of the remaining bowel were closed and the jejunum was anastomosed side to side with the caecum. The patient's condition continued to cause anxiety for several days after the operation.

During convalescence he was greatly troubled by diarrhoea, up to 10 times daily, which was unaffected by drugs or changes of diet. On discharge from hospital, five weeks after operation, he weighed 85 lb. (38.5 kg.), compared with his normal 130 lb. (59 kg.). He continued weak and generally unwell for some weeks, but gradually improved and the diarrhoea lessened. Three months after operation his condition was fair and the bowels acted only three or four times a day. He was, however, getting increasing symptoms from his duodenal ulcer. A radiograph showed that this was active, and that the meal passed rapidly to the caecum. He improved with medical treatment, and five months after operation was in much better health. Ulcer symptoms then recurred more severely than ever.

He was admitted to another hospital, where partial gastrectomy was carried out six months after the first operation. This was in the early months of the war, when some confusion existed, and it does not appear to have been known at the second hospital that most of the small intestine had been removed. He made an excellent recovery and returned home well a month later. The diarrhoea had by this time entirely ceased, the bowels acting on an average once daily with an occasional day missed. It was not until after the war that an attempt was made to trace this patient. Unfortunately it has not been possible to examine him, but he is known to have been in good health and at work in December, 1949, more than 10 years after resection of the small intestine.

Case 2

A married woman aged 41 attended the Bristol Royal Infirmary with a carcinoma of the caecum, for which a right hemicolectomy was carried out on October 28, 1948. A chain of carcinomatous glands had to be dissected off the superior mesenteric vessels. She remained well for a year, but another mass then appeared in the right iliac fossa and she was readmitted to hospital.

Operation.—On December 9, 1949, the recurrent mass was excised with the iliacus fascia, right ureter, and external iliac artery. Metastatic spread was, as at the first operation, confined to the mesenteric glands, but this time they were so bound up with the superior mesenteric vascular trunk that dissection was out of the question. The superior mesenteric artery and vein were divided clear of the highest affected gland, and the mesentery, with the devascularized small intestine, was excised in a block with the main tumour mass. The resected bowel was later measured and found to be 11 ft. (3.4 m.) in length. Between 4 and 5 ft. (1.2 and 1.5 m.) of jejunum remained, and 1 in. (2.5 cm.) of ileum, the latter being just proximal to the end-to-side anastomosis of ileum to transverse colon carried out at the original hemicolectomy. Continuity of the alimentary canal was restored by end-to-end anastomosis of the jejunum to the stump of the ileum. Recovery was uneventful.

During convalescence there was little trouble with diarrhoea. At first there were three stools daily, but after three weeks they were reduced to two. No drugs were given, but a diet high in carbohydrate and protein and low in fat was found to be most satisfactory. The stools were never more than semi-formed, and, unless fat was kept to a minimum, were pale and obviously fatty. Her weight on leaving hospital a month after operation was steady at 98 lb. (44.5 kg.), compared with 120 lb. (54.4 kg.) before operation, and she felt remarkably well. The tendency to looseness of the bowels diminished and she gradually found herself able to take the ordinary meals of her home, avoiding more than a minimum of green vegetables. She slowly regained weight, and two months after the operation weighed 103 lb. (46.7 kg.), the bowels acting twice daily. She felt very well and was already doing all her housework. Seen at intervals, she continued well and appeared to be in excellent health in November, 1950. Shortly afterwards she began to feel discomfort in the right iliac fossa. When examined a little over a year after the operation a hard fixed mass was palpable, without doubt a further recurrence of growth.

Discussion of Cases

In Case 1 it was obvious how much intestine would have to be removed. It seemed a great deal, but there was no alternative. In Case 2 the decision was a much more difficult matter. Less radical, but still perhaps adequate, surgery for the malignant glands would have permitted the leaving of twice as much small intestine. It would have been possible to enucleate the uppermost of the affected glands, instead of taking them in a block with the rest, and so to divide the superior mesenteric vessels more distally. In both cases the opportunity was taken to estimate the length of bowel remaining. The first patient was so ill that the estimate was made only by the appearance of the bowel coils *in situ*. In Case 2 the bowel was carefully examined and the measurements were as accurate as those of living bowel are likely to be. The shortening of the residual bowel which occurred from muscular contraction has already been mentioned. The length remaining was of the same order in both cases, if anything less in Case 2. This patient had a rather shorter small intestine originally, so that the proportion removed was about the same in both.

Case 1 certainly had a great deal more trouble with diarrhoea in the post-operative period and was in real distress from this for some weeks. His case was complicated by the presence of a duodenal ulcer. The diarrhoea, which had already lessened, was completely relieved after the partial gastrectomy. Case 2 might have been expected to have more trouble with diarrhoea than she did, seeing that she had previously lost the right half of her colon. A striking contrast between the two patients was in their personalities. Case 1 was throughout a difficult patient, anxious and always complaining. Admittedly he had reason to be so in his severe illness, but Case 2 was the exact opposite, quietly determined to get well and with never a complaint from start to finish. It is possible that an unusually stable nervous system was a factor in the mildness of her intestinal symptoms and in the rapidity with which physiological adjustment took place.

Conclusions

Removal of more than three-quarters of the small intestine is likely to be followed by serious permanent effects, but there is considerable variation between individuals. Up to one-half of the intestine can be resected without fear of metabolic disturbance.

If the circumstances preclude an estimate of one half, then 6 ft. (1.8 m.) can be considered safe to remove. Except when the small bowel is shortened by disease it is rarely less than 15 ft. (4.6 m.) in length.

In the more extensive resections it should be possible to estimate the length of the remaining bowel. To leave 8 to 10 ft. (2.4 to 3 m.) is ample, and the taking of the slightest risk in order to leave more cannot be justified, while 5 ft. (1.5 m.) or less may be enough for subsequent good health.

Tetany should be watched for as a possible post-operative complication.

The general tendency is for health and weight to improve, and for diarrhoea to lessen, with the passage of time.

Extensive resections give better results than one might expect, and should not be allowed to fail through being insufficiently radical.

Summary

Extensive resections of the small intestine are discussed and an attempt is made to give some guidance on how much can be removed in certain circumstances. Emphasis is placed on the proportion of the whole removed, and the amount left behind, in determining the result, rather than on the actual length resected. Two new cases are reported in which the result was satisfactory ten years and one year after a resection of the order of 70%. In each of them some 4 to 5 ft. (1.2 to 1.5 m.) of small intestine remained.

REFERENCES

Addison, O. L. (1917). *Brit. J. Surg.*, **5**, 173.
Brenizer, A. G. (1929) *Ann. Surg.*, **89**, 675.
Brougham, E. J. (1907). *Surg. Gynec. Obstet.*, **4**, 782.
Cogswell, H. D. (1948). *Ann. Surg.*, **127**, 377.
Cosh, J. A. (1944). *Lancet*, **2**, 596.
Flint, J. M. (1912). *Bull. Johns Hopk. Hosp.*, **23**, 127.
Haymond, H. E. (1935). *Surg. Gynec. Obstet.*, **61**, 693.
Holman, C. C. (1944). *Lancet*, **2**, 597.
Jerauld, F. N. C., and Washburn, W. W. (1929). *J. Amer. med Ass.*, **92**, 1827.
Littlefield, J. R. (1919). Ibid., **73**, 835.
Prioleau, W. H. (1944). *Ann. Surg.*, **119**, 372.
Sinclair, N. F. (1924). *W. Lond. med. J.*, **29**, 24.
Turck, R. C. (1914). *N.Y. med. J.*, **99**, 316.
Turner, G. G. (1937). *Lancet*, **1**, 802.
Watson, P. (1923). *Trans. med.-chir. Soc., Edinb.*, **102**, 164. (*Edinb. med. J.*, n.s., **30**.)
Wood, W. Q. (1920). *Edinb. med. J.*, **25**, 61.

At the Royal Society of Tropical Medicine, on December 13, Dr. D. B. Jelliffe, senior lecturer in medicine, University College, Ibadan, Nigeria, speaking on the African child, described a form of infective gangrene of the mouth which differs from cancrum oris, since it infects the bones. This terrible and destructive disease, which may strip the tissues from half the side of the face, can be cured by penicillin if taken early, but, although in such cases a remarkable degree of replacement of lost tissue takes place, there is usually gross permanent disfigurement. The aetiology is not clear, but infection and malnutrition must both be important. The newborn baby may have to share his mother's (or grandmother's) milk with a brother 2 or 3 years old, and the milk may be thin, though often unexpectedly rich in protein. Congenital syphilis and relapsing fever are common, and congenital deformities, appearing with a frequency about that observed in Europe, lead not rarely to a fatal bronchopneumonia. The estimated infant mortality rate in Nigeria is somewhere between 300 and 500 per 1,000 live births.

ORCHITIS IN BORNHOLM DISEASE

BY

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In the light of the reported widespread outbreak of Bornholm disease in this country an account of its occurrence in a family and in a contact may be of interest, since epididymo-orchitis figures prominently as a complication.

That Bornholm disease may affect several members of a family is well known. Dabney (1888) describes a family of six children, five of whom had the disease; Payne and Armstrong (1923) cite a family of ten, all developing symptoms within a fortnight; and further examples are given by Pickles (1933), Sylvest (1934), and Howard (1938).

The incidence of orchitis differs markedly in the various epidemics. Sylvest (1934) gives a good account of epidemic myalgia. He states that orchitis was first described as a complication by Bacher in 1896. He reviews the literature and reports 93 personal cases, only one of which had orchitis. Jamieson and Prinsley (1947) describe orchitis as the commonest complication of an outbreak at Aden. It affected 12 out of 30 male cases and was usually unilateral. Orchitis appeared between the 8th and 36th days. The duration of pain and swelling was two to six days, but in one case it was ten days. Huss (1934) states that in the Swedish epidemic of 1931 the incidence of orchitis was 50 in 884 cases. He quotes three further outbreaks with orchitis, notably one at Håby in 1931 in which an epidemic of "benign orchitis" was followed by typical myalgia. On the other hand, Scadding (1946), giving an account of an outbreak in the Middle East, makes no mention of orchitis in his cases. We can find no direct reference to this complication occurring in members of a family.

Case 1

A 52-year-old officer was taken ill on September 17, 1951, just after returning from a three-weeks holiday with his family in Devonshire. (Cases of Bornholm disease had occurred in the locality but had not been associated with orchitis.) He felt shivery and unwell and ached all over. His temperature was 103° F. (39.4° C.). Pain in the left side of the chest appeared on the 20th, and next day had spread across the front to the right. This was severe on moving or deep breathing. He was treated at home by his family doctor. On October 3 he returned to work, but aching pain started in the left testicle and lasted for 48 hours. On October 6 the pain had appeared in the right testicle, and by the 9th discomfort was acute and the organ had become swollen. On October 12 the pain across the chest returned, pleuritic in type and more severe on the right side. Next day he was admitted to hospital. His past history included the usual childhood ailments, mumps, paratyphoid, and malaria.

On examination there was no fever, but he was in some discomfort, complaining of pain in the right side of the chest and in the right shoulder. There was diminished movement of the right lower chest and at the right base air entry was

diminished. Pleural friction was heard over a small area below the right nipple. The blood pressure was 220/140. The right testis and epididymis were swollen and acutely tender. On routine examination the urine was normal. The leucocytes numbered 6,700 (polymorphonuclears 53%, lymphocytes 46%, eosinophils 1%). A chest film showed some tenting of the right leaf of the diaphragm, together with some haziness of outline. Serum agglutinations were negative for leptospira, typhoid, and brucella groups. Specimens of serum were sent to the Virus Reference Laboratory, Colindale, for tests against the Coxsackie virus. The chest pains had practically gone by October 17, although the right testicle and epididymis were still swollen but not tender. All abnormal signs had passed off by October 20, and the patient was discharged fit on the 22nd.

The family consisted of his wife and three sons. One, aged 22, on September 4 complained of indigestion and a rash, thought to be due to something he had eaten. He recovered in four days, but on September 14 he became ill again with fever, shivering, and pain in the shoulder and over the left lower ribs on deep breathing, sneezing, or coughing. Towards the end of his illness he had pain in both testicles, the left beginning first and becoming swollen. His illness lasted 14 days in all.

The second, aged 19, was taken ill on September 14 with headache, malaise, and pains over the lower ribs on both sides. Headache and photophobia were severe and his fever continued until the 27th. Towards the end of his illness pain developed in both testicles.

The third, aged 15, became ill on September 12 with nausea, malaise, and aching pains across the front of the chest. He had fever for a few days but made a rapid recovery. There was no testicular pain or any suggestion of orchitis.

The wife had a sore throat, beginning about the middle of September, but she remained well otherwise.

Case 2

A middle-aged officer had been closely associated with Case 1 since the latter returned from his holiday. On October 1 he became ill with fever, sore throat, and cough. There was no pain in the chest. Pyrexia and malaise lasted for one day only, but on October 4 he complained of pain and swelling of the right testicle. He was seen as an out-patient on the 8th, when the right testis was found to be normal but the epididymis was enlarged and tender. On the 10th there was a definite orchitis. Intermittent testicular pain and swelling persisted. Considerable enlargement and much tenderness of the testis and epididymis continued until October 24. From then onwards symptoms resolved.

Summary

The importance of orchitis as a complication of Bornholm disease is stressed.

This cause should be considered in cases of epididymo-orchitis of undetermined aetiology, particularly if the condition appears in epidemic form.

Orchitis should be looked for in cases of Bornholm disease, especially in the second week.

Our thanks are due to Dr. S. J. Darke, of Hounslow, for clinical details concerning the family, to Colonel F. J. O'Meara, and to the Director-General, Army Medical Services, for permission to forward these notes for publication.

REFERENCES

Dabney, W. C. (1888). *Amer J. med. Sci.*, **96**, 488.
Howard, C. R. G. (1938). *British Medical Journal*, **2**, 1203.
Huss, R. (1934). *Bull. Off. int. Hyg. publ.*, **26**, 1083.
Jamieson, W. M., and Prinsley, D. M. (1947). *British Medical Journal*, **2**, 47.
Payne, G. C., and Armstrong, C. (1923). *J. Amer. med. Ass.*, **81**, 746.
Pickles, W. N. (1933). *British Medical Journal*, **2**, 817.
Scadding, J. G. (1946). *Lancet*, **1**, 763.
Sylvest, E. (1934). *Epidemic Myalgia*. Oxford Univ. Press, London.

"TRIGGER-THUMB" SIMULATING PARALYSIS

A REPORT OF TWO CASES

BY

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Recently two patients have been seen who appeared at first to have an isolated paralysis of the flexor pollicis longus.

Case 1

A housewife aged 53 suddenly noticed that she was unable to flex the terminal joint of her left thumb. She had not had any previous symptoms in the thumb, and her only other complaint was of some acroparaesthesiae in both hands. When first seen, some months later, the only detectable abnormality was loss of active flexion at the terminal joint of the thumb, though passively it appeared full, with some springy resistance at the limit. Faradic stimulation of the flexor pollicis longus produced a flicker of movement at the terminal joint.

General medical examination and an *x*-ray film of the thumb showed no abnormality. A tentative diagnosis of "hysterical paralysis" was made, and treatment by faradic stimulation and by attempts to re-establish active movement was begun.

The patient tried hard to achieve movement for about three weeks, and then suddenly she found that, with great effort and with pain felt in the anterior metacarpo-phalangeal region of the thumb, she was able actively to flex the terminal joint through a full range, but that it then became fixed in flexion and could not be straightened except passively, when a palpable click was noticeable at the site of pain. It was now evident that the diagnosis was "trigger-thumb" involving the flexor pollicis longus, and that the obstruction to movement which was occurring at the level of the metacarpo-phalangeal joint had been partly overcome.

Incision of the tendon sheath was advised, but during the usual long delay before admission the patient continued to practise flexing her thumb, and this gradually became easier and less painful, and eventually spontaneous recovery occurred, so that no disability remained. When seen 18 months later she complained only of odd twinges of discomfort in her thumb, but no catching. There was full painless active movement of the interphalangeal joint. Slight enlargement was palpable in the line of the sheath and tendon of flexor pollicis longus at metacarpo-phalangeal-joint level, and a slight click was noticeable here on active flexion-extension of the terminal thumb-joint.

Case 2

A housewife aged 55 suddenly found that she was unable to flex the terminal joint of her left thumb. When seen at another hospital, where a diagnosis of hysterical paralysis was made, she was referred to a psychiatrist, who was unable to find any evidence of psychological disturbance. When seen at this hospital some weeks later she was still apparently unable to bend the tip of her thumb, and her only other complaint was of slight acroparaesthesiae in the left hand. On going into her history in more detail it was found that the onset of the condition occurred when she woke up one morning with the thumb flexed at the terminal joint and had had to pull it straight. Subsequently she had been unable to bend it at this joint, except on two occasions

when she had fallen with the thumb bent under her, again causing the terminal joint to become fixed in flexion and requiring manipulation to pull it straight.

On examination it was found that active flexion of the terminal joint of the thumb had not been completely lost, for with the proximal phalanx held firmly a flicker of active flexion was noticeable, and, furthermore, this could also be reproduced by faradic stimulation of the flexor pollicis longus. Passively, flexion was full, but with a springy resistance at the limit. Some tender enlargement in the line of the sheath and tendon was palpable at the metacarpo-phalangeal-joint level, and the anterior border of the base of the proximal phalanx seemed unduly prominent. There was a suggestion of creaking at this level on attempted flexion of the terminal thumb-joint. An *x*-ray film of her thumb showed no abnormality.

The patient continued repeatedly to try to make her thumb bend. After a few minutes there was a sudden sensation of tearing, and almost full active flexion of the terminal joint was restored. It was now accompanied by coarse creaking in the position of the tendon sheath at the metacarpo-phalangeal-joint level. The diagnosis was thus again established as "trigger-thumb," the obstruction being overcome by force. She was able to keep the movement of the terminal joint of the thumb for the rest of the day, but by next morning it was again quite stiff. When seen several weeks later the condition was unchanged, and, what is more, she was beginning to develop a similar condition in the opposite thumb. In this case, however, it was proceeding along more classical lines, for she was having difficulty in both bending and straightening the terminal joint, and this was associated with a "click," most noticeable on extension, and located at the usual metacarpo-phalangeal-joint level.

Tendon-sheath incision was suggested for her left thumb, but she was not keen on this, and so was advised to go on trying to re-establish normal movement of the tendon. She was seen three months later, when her left thumb was improving in that, although fixed in extension first thing in the morning, with active exercise it soon regained normal mobility, though this was associated with some clicking in the line of the tendon sheath. The right thumb at this time presented a similar picture.

She was finally reviewed after a further nine months, when she said that both her thumbs were quite normal, and, indeed, on examination the only slight abnormality was some palpable enlargement in the line of the sheath and tendon of the flexor pollicis longus, on both sides, at the metacarpo-phalangeal-joint level.

Discussion

In adults "trigger-finger" affecting the ring and middle fingers is more common than "trigger-thumb." The usual clinical picture is that of a sudden onset of difficulty in bending and straightening the terminal joint, but the difficulty is experienced in semi-flexion. It is associated with a click or jerk palpable in front of the metacarpo-phalangeal joint, for this is the level at which the obstruction commonly occurs (Croh, 1937; Wiles, 1949).

In more advanced cases the obstruction may have to be overcome by passive stretching, and extension usually causes more difficulty than flexion, so that the terminal joint tends to become fixed in the flexed position. In these cases the diagnosis presents no difficulty. "Trigger-thumb" is particularly common in infancy and childhood; and is frequently bilateral; it may be present from birth. Case reports, which are not numerous, appear to be confined to this group (Compere, 1933; Hudson, 1934; Jahss, 1936; Zadek, 1942; Rose, 1946; Sprecher, 1949). The signs are similar to those of the adult group, but the presenting symptom is commonly that the child's thumb has become fixed in flexion. No report could be found of the terminal joint becoming fixed in extension.

The obstruction may be caused either by enlargement of the tendon or by enlargement of the tendon with narrowing of its sheath in front of the metacarpo-phalangeal joint. The former factor alone appears to be by far the more common one. This feature distinguishes the pathology of "trigger-finger" and "trigger-thumb" from that of stenosing tenosynovitis occurring at the radial styloid (de Quervain's disease). In this, the narrowing of the canal within the sheath by the effects of inflammation of the sheath is the important cause of the symptoms and signs (Keon-Cohen, 1951). In "trigger-finger" or "trigger-thumb," however, inflammation of the sheath is not usually seen, and Sprecher found no such evidence in 12 cases.

The consensus is that conservative treatment is of very doubtful value and that surgery in the form of vaginotomy is the only really effective and rapid cure.

The two cases in middle-aged women reported here are unusual in that the real diagnosis was masked because the terminal joint of the thumb had become fixed in extension. At first, as all too often happens when no obvious organic lesion can be discovered, a diagnosis of hysteria was made. In the first case the diagnosis was elucidated by the patient's own effort; in the second, foreknowledge of the syndrome helped to solve the problem. It was fortunate, from the latter patient's point of view, that the psychiatrist was unable to detect any psychological abnormality. In establishing the diagnosis at an early stage, the springy feel at the limit of flexion, due to buckling of the tendon of the flexor pollicis longus distal to the obstruction, and the palpable enlargement of the tendon and sheath at the metacarpo-phalangeal level are useful signs. The complete spontaneous recovery of both cases is in keeping with the prognosis for the more common types of this lesion in adults (J. C. Scott, personal communication). However, as it takes many months to recover spontaneously, incision of the tendon sheath as a method of quick relief in those in whom the functional disability is troublesome should be considered. Physiotherapy, except for attempts by the patient to break down the obstruction by repeated active movements, is of no use.

Summary

Two unusual cases of stenosing teno-vaginitis of the flexor pollicis longus simulating paralysis are described.

Hysteria was initially diagnosed, and one case was actually sent to a psychiatrist.

Spontaneous and complete recovery occurred in both, but it took many months.

Physiotherapy, other than repeated active movements on the part of the patient, was not of value.

I am indebted to Mr. Peter Wright for reviewing the second case.

References

Compere, E. L. (1933). *Ann. Surg.*, **97**, 773.
Croh (1937). Quoted by W. Mercer, *Orthopaedic Surgery*. Arnold, London.
Hudson, H. W. (1934). *New. Engl. J. Med.*, **210**, 854.
Jahss, S. A. (1936). *J. Amer. med. Ass.*, **107**, 1463.
Keon-Cohen, B. (1951). *J. Bone Jt Surg.*, **33B**, 96.
Rose, T. F. (1946). *Med. J. Aust.*, **1**, 18.
Sprecher, E. E. (1949). *J. Bone Jt Surg.*, **31A**, 672.
Wiles, P. (1949). *Essentials of Orthopaedics*. Churchill, London.
Zadek, I. (1942). *J. Bone Jt Surg.*, **24**, 326.

Medical Memoranda

Gangrene of Unknown Aetiology in the Foot

Gangrene of the extremities is rare in infancy and childhood. In older children it seems to occur rather more commonly than in infants, and the cause is less obscure.

A number of cases reported have followed acute exanthemata and other general infections. Scarlet fever has been particularly indicted, and Hoyne and Smollar (1941) reviewed 15 such cases. Others have followed measles (Winstead, 1935) and chicken-pox (Watson, 1934), while Martin and Shore (1928) reviewed the literature and found cases following typhoid, typhus, measles, scarlet fever, diphtheria, pneumonia, appendicitis, tonsillitis, and pulmonary tuberculosis. Uhr (1838) found pneumococcal septicaemia in his case. In a series of 50 cases in infants and children reviewed by von Khautz (1914) 39 followed infections. Thrombocytopenia in association with infections has resulted in peripheral gangrene in children. This occurred with scarlet fever in the case of Webb *et al.* (1947) and with chicken-pox in that of Stoesser and Lockwood (1939).

Few cases have resulted from emboli. In a review of such cases, Craig and Muns (1931) reported the case of a child in whom gangrene was due to emboli from aortic stenosis. In von Khautz's (1914) series four were presumed to be due to Raynaud's disease. Lawrence and McCance (1931) described a child with diabetes causing peripheral gangrene. Other causes are frost-bite, trauma, ergot poisoning, local infections, and periarteritis nodosa. Bandages and plaster casts applied too tightly and weights tied to the foot to assist the delivery of infants have all caused local gangrene.

Peripheral gangrene in association with the presence of cold agglutinins in the serum has been reported in an adult by Stats and Bullowa (1943). Presumably the arterioles were plugged by agglutinated red blood cells. Gangrene may occur in association with paroxysmal haemoglobinuria, and this has long been known to occur in the absence of syphilis (Johnson, 1894).

Except in cases of emboli and arterial spasm, peripheral gangrene must be assumed to be due to thrombosis following arteritis consequent upon some other condition. Arteritis has been proved histologically by Martin and Shore (1928) and Hoyne and Smollar (1941).

The following case is reported because of the mildness of its course and the complete lack of aetiological factors.

Case Report

A boy aged 8 was well until March 12, 1950, when he appeared listless. After a restless night he was still listless, and also off his food but thirsty. In the afternoon he complained of some pain in his right big toe. This appeared bluish-red and swollen, and some reddish patches on the medial surface of the leg were noticed. On March 14 his condition was much the same, but at midday he had a major convulsion lasting about an hour. There was no history of trauma to the foot, and his shoes were free from protruding nails. Later in the day he was admitted to hospital.

Apart from pink disease when aged 2, and recurrent attacks of bronchitis in the past two years, he had had no illnesses.

On admission he was flushed and looked extremely ill. Temperature 103.5° F. (39.2° C.), pulse 128, respirations 26. Lips and tongue dry, tongue also furred. Ears, throat, neck, and chest normal. Heart: cardiac impulse forceful; apex beat in fifth space in mid-clavicular line. Heart sounds muffled; short soft systolic murmur audible at apex. B.P. 110/70 mm. Hg. Abdomen, arms, and left leg normal. Right leg: big toe black, swollen, and tender in distal two-thirds; felt same temperature as corresponding toe of other foot. Plantar surface of fourth toe similarly affected. Plantar surface of fifth toe and area about 1 in. (2.5 cm.) in diameter on lateral border of the foot blanched and cold. Four dark-red, slightly raised, hot areas measuring 0.5 to 1 cm. in diameter on dorso-lateral surface of foot (Fig. 1).

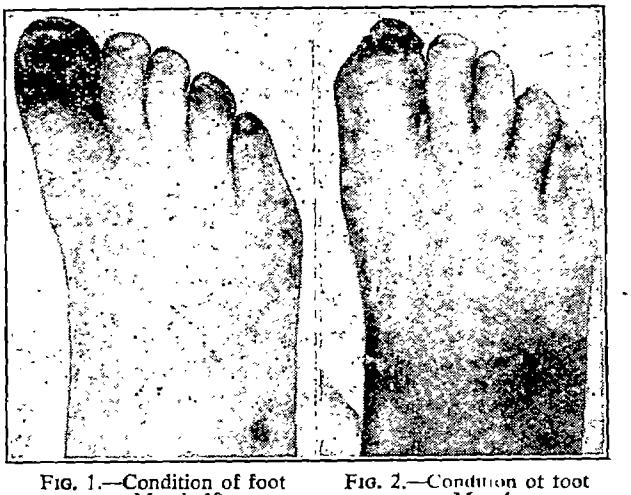

FIG. 1.—Condition of foot on March 18. FIG. 2.—Condition of foot on May 4.

Several red streaks on medial side of lower part of leg. Four small pustules on lower part of leg and foot and one large pustule on left buttock. Lymph nodes in groins not enlarged. Pulsation normal in all palpable arteries, felt in entire length of dorsalis pedis artery of affected foot. No difference in circulation detected between the two legs on raising and lowering them.

Investigations.—Hb, 11 g.%; W.B.C., 9,000 per c.mm. (neutrophils 86%). Urinalysis: protein 90 mg. per 100 ml.; scanty cellular and granular casts, epithelial cells and erythrocytes in centrifuge deposit. Rothera's test, slight positive. Benedict's test, negative. Blood sugar (mid-morning), 144 mg. per 100 ml. Cold haemagglutinins, negative. Blood W.R., negative. Blood culture (10 days), sterile. Pus from pustule on dorsum of foot gave scanty staphylococci (coagulase-negative). *X*-ray film of foot (repeated after three weeks), normal. *X*-ray film of chest, normal. Tuberculin reaction (jelly test), negative.

In view of the heart murmur, the diagnosis made on admission was acute bacterial endocarditis. The patient was therefore treated with crystalline penicillin, 2,000,000 units daily for nine days, and sulphadimidine, 12 g. daily for six days. The general condition rapidly improved, and after five days the cardiac murmur had disappeared. The fever reached 99–100° F. (37.2–37.8° C.) after two days, but did not completely settle to normal for 10 days. The preliminary diagnosis was discarded after nine days in hospital, but penicillin therapy was continued for another 16 days (procaine penicillin–aluminium stearate, 300,000 units daily). After four days in hospital an enlarged tender lymph node was felt in the right inguinal group. The gangrenous areas did not spread, but gradually became blacker. The blanched and reddened areas also gradually blackened. All areas were kept dry, but the big toe slowly became fluctuant, and after 10 days began to ooze a mixture of pus and altered blood, which was sterile on culture.

On the 22nd day after admission the nail and surrounding tissue were removed to allow egress of this material. Repeated blood counts during this time showed a range of 8,500 to 11,500 leucocytes per c.mm., with 54–69% neutrophils. Subsequent urinalyses were all normal. The other gangrenous areas gradually separated after the 30th day in hospital, and by the 42nd day they had all separated, leaving clean granulating surfaces (Fig. 2). In none of these areas was separation deeper than the subcutis. They were dressed with petroleum jelly gauze, and all healed over the course of the ensuing 10 weeks. The gland in the right inguinal region did not break down, and gradually subsided. The patient was discharged from hospital on the 58th day after admission, surveillance being continued in the out-patient department. A small protrusion of the distal phalanx of the big toe sequestered 10 weeks later. No regrowth of the nail has occurred.

Comment

In the case here reported no association or predisposing factors could be determined. The history did not suggest a previous generalized infection. There was some support for a diagnosis of local infection in the presumed fever before admission to hospital and the convulsion, which must be assumed to have been febrile in origin. The lymphangitis in the leg and the later development of an enlarged tender lymph node in the groin also lent support to this diagnosis, but these may have been secondary to the pustules on the foot and leg. The distribution of the gangrene did not, however, suggest a local infection. The normal leucocyte count was also against an infection, and osteomyelitis of the tarsus was excluded by radiography.

Arteriosclerosis and thromboangiitis obliterans could be excluded in view of the age, and there had been no previous episodes to suggest a diagnosis of Raynaud's disease. The course of the illness did not suggest a diagnosis of periarteritis nodosa. Diabetes and syphilis could be almost certainly excluded. There was no haemoglobinuria and the serum was negative for cold haemagglutinins. No history whatever of trauma could be obtained, and frost-bite was out of the question.

Thus none of the accepted associated or predisposing factors in the causation of peripheral gangrene could be demonstrated in this case. The evidence leans more towards a local infection than any other aetiological factor.

Thanks are due to Professor R. S. Illingworth, who gave permission for the publication of the case report and for his encouragement and advice in the preparation of this paper.

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REFERENCES

Craig, J. D., and Muns, W. E. (1931). *Amer. J. Dis. Child.*, **41**, 126.
Hoyne, A. L., and Smollar, L. (1941). *J. Pediat.*, **18**, 242.
Johnson, G. (1894). *British Medical Journal*, **1**, 900.
Khautz, A. von (1914). *Z. Kinderheilk.* **11**, 35.
Lawrence, R. D., and McCance, R. A. (1931). *Arch. Dis. Childh.*, **6**, 343.
Martin, W., and Shore, B. R. (1928). *Ann. Surg.*, **88**, 725.
Stats, D., and Bullowa, J. G. M. (1943). *Arch. intern. Med.*, **72**, 506.
Stoesser, A. V., and Lockwood, W. W. (1938). *J. Pediat.*, **12**, 641.
Uhr, J. S. (1938). *Amer. J. Dis. Child.*, **56**, 1317.
Watson, T. M. (1934). *J. Amer. med. Ass.*, **102**, 2179.
Webb, B. D., Dubs, Elizabeth J., and Conrad, Elizabeth (1947). *J. Pediat.*, **30**, 76.
Winstead, J. A. (1935). Ibid., **6**, 382.

An Anomaly of the Sedimentation Rate in Rheumatic Diseases

In view of the extent to which the Wintrobe sedimentation rate is now being used in the rheumatic diseases, in particular for the assessment of steroid hormone treatment, it was thought that it would be useful to record in a preliminary note an anomaly we have observed, since it may be very misleading in such trials. A full account, it is hoped, will be published in the near future. It would appear from the paper published recently by Gilmour and Sykes (1951) that the phenomenon may not be confined to the rheumatic diseases.

In this unit during the past 10 months, largely owing to our participation in the Medical Research Council United States–United Kingdom scheme for the treatment of rheumatic fever with cortisone, etc., we have determined simultaneously the sedimentation rate by the Wintrobe and the Westergren methods. In some cases an anomaly in the sedimentation rate has been noted in that the Westergren method has given a very high recording, whereas, with blood taken from the same syringe, the Wintrobe method has given readings falling within the normal range or only slightly above it. The Westergren rate was a better index of the clinical state. The Westergren readings were virtually unaltered when dry sodium citrate was used instead of citrate solution as the anticoagulant. The following simultaneous weekly readings taken from a patient with disseminated lupus erythematosus illustrate the type of discrepancy that has been encountered.

Westergren readings (mm./hr.): 75, 84, 65, 43, 35, 36, 57, 98, 60, 90, 90.
Wintrobe readings (mm./hr.): 6, 5, 6, 5, 5, 14, 5, 16, 12.

The haematocrit readings on these occasions ranged from 40 to 43.

As most cases here are in-patients for prolonged periods, we have been able to observe the incidence of this anomaly and have attempted to correlate it with the clinical state. Cases showing this anomaly are those of Still's disease, rheumatoid arthritis, and disseminated lupus, and, very occasionally, acute rheumatic fever at the onset of the attack. In some cases the anomaly occurs consistently over several weeks. In other cases the phenomenon occurs sporadically. When it is noted, sedimentation rates are repeated in duplicate.

The clinical state of patients showing this discrepancy would lead one to expect a high sedimentation rate. In the example quoted the patient was febrile, had arthritis and a lupus rash, was losing weight, and had leucopenia.

In the cases showing these discordant readings, similar low values are obtained when heparin is used as an anticoagulant and the blood set up in either a Wintrobe or a Westergren tube. The addition of dry citrate to the previously oxalated or heparinized blood causes the sedimentation rate to rise to a level approximating that obtained with the Westergren method. Further investigation of the mechanism is proceeding. It appears probable that it depends on the anticoagulant's effect upon the *p*H.

The cases in this unit belong to a selected group (rheumatic diseases) in whom it is apparent that this phenomenon is not uncommon (10 out of 86 cases). It is not known yet to what extent this phenomenon occurs in other diseases. In the rheumatic diseases, at least, the assessment of activity by the Wintrobe method may be misleading.

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REFERENCE

Gilmour, D., and Sykes, A. J. (1951). *British Medical Journal*, 2, 1496.

Reviews

GENETICS AND THE EYE

Genetics in Ophthalmology. By Arnold Sorsby. (Pp. 265; 236 figures. £2 2s.) London: Butterworth and Co. 1951.

With the single exception of serology, ophthalmology affords better opportunities for useful genetic study than perhaps any other branch of medicine. The relative ease with which observations can be made on those still living, the profusion of hereditary anomalies of all kinds, the strikingly high proportion of conditions in which transmission is uncomplicated, all contribute to this pre-eminence. It is indeed true that almost the whole of medical genetics can be expounded by means of ophthalmological examples; but there is more to it than this; for in a country like our own at the present time, thanks to the conquest of infection, the proportion of blindness and ocular disease due to genetic causes is very high indeed. This is emphasized in Professor Sorsby's book; he supports the view, for example, that such conditions as glaucoma and senile cataract have a hereditary basis. If, then, any branch of medicine justifies a genetic textbook of its own, this is the subject of choice.

The first part of the book is on general principles. Some might think that it would be better to refer the reader to a general textbook, but surely Professor Sorsby is right in undertaking the task himself. Inevitably, perhaps, this is the least successful section, for space does not permit the argument to be developed at sufficient length. Moreover, Professor Sorsby has rather fallen between two stools. He has been influenced by my own introductory textbook (to which he makes generous reference), in which, for the sake of simplicity, the approach was made strictly deductive; but at the same time has preserved in the main the more usual approach adopted by other writers. Thus he does not get the best out of either method. Nevertheless the theoretical introduction is competently handled even if it is adequate rather than inspired. One important subject, however, is not made sufficiently clear. The reader will not understand from the account of crossing-over on p. 29 that linked genes (it is a pity that the word linkage was ever coined) tend to separate unduly often just as frequently as they tend to be associated unduly often, and so the old error that traits are linked when they tend to occur in association may be perpetuated.

The largest section of the book is on isolated ocular anomalies. Here the author adopts a plan which could be fully successful only in the hands of someone of great experience and knowledge in the pathological, clinical, and genetic fields. He gives his own summing-up for each condition, illustrating it with selected family histories. It will be found a readable and reliable guide. Those with special knowledge of some particular disease may be inclined to question points of detail here and there, but it is a fine summing-up and probably as good as one man could achieve. The research worker will find a straightforward statement and a bibliographic key to the literature.

It is perhaps in the last and shortest section, on generalized disorders with ocular aspects, that Professor Sorsby's mastery of his subject appears most clearly, for he threads his way skilfully through the difficulties of classification. In this section there is a mistake which ought to be pointed out, as it will puzzle many readers: the pedigree of Fig. 214 suggests ordinary recessive inheritance, not sex-linkage as stated in the legend.

There are 236 figures, beautifully reproduced on good paper; many are in colour. It is an attractive volume and one which should be of great value to ophthalmologists as well as to workers in human genetics.

J. A. FRASER ROBERTS

MOSQUITO BEHAVIOUR

Mosquito Behaviour in Relation to Malaria Transmission and Control in the Tropics. By R. C. Muirhead-Thomson, D.Sc. (Pp. 219; illustrated. £1 10s.) London: Edward Arnold. 1951.

Dr. Muirhead-Thomson gives an account of the results of recent research on the behaviour of anopheles mosquitoes under conditions in nature as studied by modern methods. He discusses in an interesting manner how different species behave when entering and leaving houses, how they select their daytime resting places, what circumstances determine where they shall lay their eggs, and many other features of their behaviour and relations to their environment, together with how all this fits in, or fails to fit in, with methods used for their destruction. Especially interesting to the field worker are his accounts of the many ingenious devices used in modern field research methods in this connexion.

As the author points out, the recent extensive use of residual spraying with D.D.T. and other insecticides has given to every detail of behaviour an importance it did not previously have, so that investigation of behaviour has now become a prime necessity for control. Summarized and presented as a connected story, anopheles behaviour and the methods used in its investigation make an interesting contribution to natural history and a valuable and readily accessible source of information both to entomologists concerned with insect behaviour and to ecologists. To workers interested or concerned in malaria control the importance of this careful study based on wide experience by the author will have a special appeal. The chapter on the relation of behaviour to control by insecticides, including D.D.T. and gammexane in particular, will serve both as a caution and a guide to action. The book is one to be read for interest and pleasure, but reread and studied by every malariologist, for no comparable account has so far been available discussing anopheline behaviour so comprehensively and in such detail.

S. R. CHRISTOPHERS.

ELECTRICAL INJURIES

Fortschritte in der Behandlung Schwerer und Schwerster Hochspannungsunfälle. By Professor H. Fischer and Dr. R. Fröhlicher. (Pp. 72; 23 illustrations. M. 10.80.) Stuttgart: Georg Thieme. 1951.

Following Bywaters's demonstration of myoglobinuria in the crush syndrome, the authors have sought, and found, evidence of myoglobin in the urine of victims of severe electrical high-tension accidents. The pigment is said to be released from muscles by electrothermic action and to act as a nephrotoxin. For treatment they advocate immediate alkali therapy (sodium bicarbonate by mouth or even intravenously) to minimize any renal damage, and early active measures, which included the amputation of two limbs and peritoneal dialysis in the

one case described in meticulous detail. Second-hand reports of eleven other cases are discussed; venesection of as much as one pint of blood is advocated as an adjuvant to the fluid therapy of haemoconcentration. The authors boggle at exchange transfusion.

Now there have been great advances in the general treatment of severe burns—argued so clearly, and applied so successfully, by Colebrook and others—but there has been, presumably, no change in the incidence of renal complications in electrical injuries in particular: they are very rare. While transient albuminuria is common, we found haematuria in only 10 out of some 5,000 cases of electrical injury, and it would disappear spontaneously a few days after the accident. One case alone had 70 ml. of blood in the bladder after a 45,000-V accident and died in complete anuria 48 hours later; both operation and necropsy were refused. In another case renal failure developed in the first 12 hours after a 25,000-V injury, and in a third case, surprisingly, as much as six weeks after a 2,000-V accident. Both recovered promptly after the amputation of an arm and a hand, respectively

But these were exceptional cases, and conservatism should be the rule in the local treatment of electrical lesions, especially where there is immediate or delayed necrosis, or necrobiosis, of tissues, rather than the frank burn of an arc discharge. For the extent of the former can rarely be appreciated at the beginning, and even extensive injuries may leave the general condition unimpaired. Moreover, progress, albeit slow, is often unexpectedly good. Thus, we have seen spontaneous regression of a cataract resulting from a stroke of lightning, and return to normal function of open elbow joints with gross soft-tissue and cartilage destruction from high-tension currents. But secondary haemorrhage is a very real danger.

Spastic or thrombotic vascular effects will often lead to quite dramatic symptoms (e.g., in the central nervous system) and add to the fascinating variability of electropathology. We have much to learn, but the search for a common denominator, even a nephrotoxic one, is to be condemned when it leads to the abandonment of the well-proved conservative treatment of electrical injuries.

STEFAN JELLINEK.

SMALLPOX

The Diagnosis of Smallpox. Issued by the Department of Preventive Medicine and Public Health, Leeds University. (Pp. 12; illustrated. 2s.) Leeds: H. Grayshon Lumby. 1951.

The clinician—even the expert one—has had good grounds in recent years for re-examining the fundamentals of the diagnosis of smallpox. It is undoubtedly true that in such circumstances a return to the classic work of Ricketts makes the expert aware that it left very little unsaid on the side of clinical observation. But all cannot find refreshment from such a source, and this may be sufficient excuse for the publication of a small booklet which contains the essentials for the clinician. Dr. C. W. Dixon saw a considerable amount of smallpox in North Africa, and the present publication contains the fruits of that experience. There can be no doubt that many of the mistakes in diagnosis arise from the fact that the student has been taught the "classical" sequence of events in smallpox. The impression is thus left that the variola virus, when it attacks the European, produces an almost uniform disease with a characteristic course.

The modern approach to all infectious disease, however, emphasizes the peculiarly personal reaction of the host to parasitic attack; the clinical picture produced is a compound of the "virulence" of the infecting organism and the defences—specific and non-specific—of the patient. Dixon expresses this point by defining nine "types" of smallpox. While this can be a useful device for general teaching purposes, it should not be forgotten that these are in fact merely nine broad stages in the modification of the disease from the most severe—purpura variolosa—to the most mild—variola sine eruptione—and that its greatest usefulness is probably not in any aid to clinical differentiation but as a convenient method of subdividing cases in an epidemic for statistical purposes.

The importance of distribution is rightly emphasized. In most clinical accounts of the disease too much attention has probably been given to a detailed description of the individual lesion in regard to its shape, size, location in the skin, and presence of umbilication. In fact, in examples greatly modified by previous vaccination the individual lesion can be indistinguishable from that of chicken-pox, and in such cases the general and focal distributions are the most important clinical facts.

This booklet is therefore a useful vade-mecum for the practitioner. It contains all the relevant information. It could perhaps have been improved—and not altered in character—if the various points had been grouped together under side-headings. This would have permitted more easy reference without interfering with the author's intention of keeping the booklet small and essentially clinical in its application. Readers in Scotland should note that specimens for examination should be sent either to Dr. Swain, Department of Bacteriology, University New Buildings, Edinburgh, 8; or to the Department of Infectious Diseases, The Brownlee Research Laboratory, Ruchill Hospital, Glasgow, N.W.

T. ANDERSON.

ALLERGY

Études Cliniques, Expérimentales et Thérapeutiques sur l'Allergie. Published under the direction of Professor Pasteur Vallery-Radot. (Pp. 242. 900 francs.) Paris: L'Expansion Scientifique Française. 1951.

This small paper-bound book consists of 29 articles, most of them short, which were presented recently before the French Allergy Society or at the first European Congress of Allergy held in Paris in 1950. The fact that the book is edited by Professor Vallery-Radot and Professor Tzanck indicates that the selection will be good. The subjects vary from the daily distribution of the mould flora of Paris and allergic cases of various types to experiments on allergy in animals. As was probably to be expected, the most interesting experimental reports are those of Halpern and his co-workers on the antihistamine drugs. They show that in the rabbit these drugs inhibit the Schwartzmann reaction and they tend to suppress local inflammatory reactions, thus allowing more rapid spread of infection in animals injected with *Salmonella typhi-murium*. A number of papers are on dermatitis due to various antibiotics and other drugs, and Professor Tzanck points out how much more often sensitization occurs when penicillin is used locally as a cream than as a solution. This book gives a fair indication of French thought on allergy.

C. J. C. BRITTON.

KEEPING UP TO DATE

Annual Review of Medicine. Volume 2. Editor, Windsor C. Cutting; Associate Editor, Henry W. Newman. (Pp. 486. $6.) Stanford, California: Annual Reviews Inc. 1951.

Medicine of the Year. 1951 edition. Edited by John B. Youmans, M.D. (Pp. 298. £2.) Philadelphia and London: J. B. Lippincott Company. 1951.

Cornell Conferences on Therapy. Volume 4. Edited by Harry Gold, M.D., D. P. Barr, M.D., McKeen Cattell, M.D., Frank Glenn, M.D., Walter Modell, M.D., and George Reader, M.D. (Pp. 342. $3.50, or £1 6s.) New York and London: The Macmillan Company. 1951.

In an age when most full-time workers in medical schools think themselves accursed if they have not succeeded in publishing some two or three papers a year, no matter how dull or mediocre, it becomes increasingly difficult for the average doctor to have even a nodding acquaintance with the vast literature which accumulates annually, still less to be able to say which paper is or is not worth while. It is scarcely surprising, therefore, that yearbooks of medicine and annual reviews of recent advances should become increasingly popular and increasingly useful. In such works a group of experts predigest the literature pertaining to their own subject, critically separate the good from the bad, and serve up the result in a concentrated, intelligible, and acceptable form.

Three books from America do this sort of thing very well but very differently. The *Annual Review of Medicine* contains a series of essays by experts in which recent advances in medicine only are broadly and critically surveyed. An extensive bibliography covering the references appears at the end of each chapter. Almost without exception the reviews are admirably done. They are clearly designed for those engaged in teaching or research whose knowledge of the subject under discussion is already well established. In *Medicine of the Year* the year's advances in all fields of medicine, including surgery and other specialties, are briefly reported in a more tabloid form. This is a general work of reference more useful for the general practitioner than for the specialist, though valuable for the latter too for information on subjects outside his own sphere.

The *Cornell Conferences on Therapy* were inaugurated in 1937 as a joint venture of the departments of medicine and pharmacology. To qualify for a conference a subject must be a problem in therapeutics on which widely divergent views may be held. They are introduced by a prepared talk from an appropriate member of the staff, and thereafter the discussion, no doubt carefully edited, is reproduced as an unrehearsed and extempore debate understandable to the general practitioner. The purpose is to stimulate interest in rational therapy and the method a report of a spontaneous, informal, and free discussion. It is all great fun and very easy to read as one's partisan interest is excited by this or that speaker in the debate. The course in pharmacology in most schools is isolated by some terms from that on clinical therapeutics, and to a considerable extent clinicians are apt to build the structure of therapeutic teaching with indifferent regard to its pharmacological basis. These conferences help to correct this tendency and to weave pharmacology and therapeutics into a single design. The conference is not a substitute for, but ancillary to, traditional forms of medical teaching and one which should be explored more fully in Britain.

D. M. DUNLOP.

BOOKS RECEIVED

Review is not precluded by notice here of books recently received

A Manual of Lip-Reading. By M. V. Johnstone. (Pp. 108. 5s. 6d.) London: Blackie. 1951.

The Rational Treatment of Catarrh. By W. A. Troup, M.C., M.D., Ch.B. (Pp. 85. 10s. 6d.) London: Chaterson. 1951.

The Hand in Psychological Diagnosis. By C. Wolff. (Pp. 218. 32s. 6d.) London: Methuen. 1951.

Transactions of the Medical Society of London. Edited by W. E. Tanner, M.S., F.R.C.S. Vol. 66. (Pp. 410. No price.) London: The Medical Society. 1951.

The Biochemistry of Fertilization and the Gametes. Edited by R. T. Williams. (Pp. 66. 9s. 6d.) London: Cambridge University Press. 1951.

Essays in Surgery. By R. I. Harris and R. M. Janes. (Pp 584. 75s.) London: Geoffrey Cumberlege. 1950.

Mosquito Behaviour in Relation to Malaria Transmission and Control in the Tropics. By R. C. Muirhead-Thomson, D.Sc. (Pp. 219. 30s.) London: Edward Arnold. 1951.

Diseases of the Nervous System. By W. Russell Brain, D.M., P.R.C.P. 4th ed. (Pp. 1,002. 42s.) London: Geoffrey Cumberlege. 1951.

A History of the General Hospital near Nottingham. By F. H. Jacob, M.D., F.R.C.P. (Pp. 353. 25s.) Bristol: John Wright. 1951.

Your Health. By D. F. Smiley, A.B., M.D., and A. G. Gould, Ph.B., M.D. (Pp. 555. 34s.) London: Macmillan. 1951.

Joll's Diseases of the Thyroid Gland. By F. F. Rundle, M.D., F.R.C.S. 2nd ed. (Pp. 520. 84s.) London: William Heinemann. 1951.

Between Life and Death. By H. Williams. (Pp. 288. 16s.) London: Jonathan Cape. 1951.

Major Symptoms in Clinical Medicine. By J. Almeyda, M.R.C.P., D.P.H., M.R.C.S. Vol. 2. (Pp. 704. 25s.) London: Henry Kimpton. 1951.

The Glaucomas. By H. S. Sugar, M.D., F.A.C.S. (Pp. 469. 84s.) London: Henry Kimpton 1951.

Children's Radiographic Technic. By F. E. Shurtleff, R.T. (Pp. 80. 26s. 6d.) London: Henry Kimpton. 1951.

The Intelligent Use of the Microscope. By C. W. Olliver, A.M.I.E.E., F.R.M.S., M.R.P.S. 2nd ed. (Pp. 192. 15s.) London: Chapman and Hall. 1951.

Surgical Care. By R Elman, M.D., F.A.C.S. (Pp. 586. $8.) New York: Appleton-Century-Crofts. 1951.

Atlas of Framboesia. By K. R. Hill, M.D., and others. (Pp. 52. 5s.) Geneva: World Health Organization. 1951.

Gesundheitsbüchlein für die Tropen. By Dr. E. Von Haller. (Pp. 92. M. 5.70.) Stuttgart: Georg Thieme. 1951.

Tabulae Biologicae. Edited by G. Backman and others. Vol. 22, part 2: Oculus. (Pp. 284. Dutch florins 70.) The Hague: Dr. W. Junk. 1951.

Die Hämolytischen Syndrome im Kindesalter. By Dr. C. Gasser. (Pp. 322. M 45.) Stuttgart: Georg Thieme. 1951.

El Levantado Precoz en los Operados de Abdomen. By Dr. E. Marescot. (Pp. 271. No price.) Barcelona: Byp. 1951.

Atelektasen der Lunge. By Professor H. Alexander. (Pp. 58. M. 8.70.) Stuttgart: Georg Thieme. 1951.

Anemias. By V. de la Loma. (Pp. 393. No price.) Madrid: "Diana," Artes Graficas, Larra, 12. 1950.

Électrothérapie. By J. Laborderie. (Pp. 216. 600 francs.) Paris: Librairie Maloine. 1951.

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THUS WE ARE MEN

The foundation of a lectureship at the Royal College of Physicians by Lady Langdon-Brown in memory of her husband, Sir Walter Langdon-Brown, ensures the recurring recollection of a remarkable man who was also a loyal and devoted Fellow of the College. The President and Censors, with fortunate prescience, appointed Dr. Geoffrey Evans, Langdon-Brown's pupil, colleague, and collaborator, to deliver the inaugural lecture. By a tragic circumstance Dr. Geoffrey Evans did not survive to deliver the lecture which he had prepared and which appears elsewhere in this issue, and it was read with sympathy and understanding on October 30, 1951, by the President of the College, Dr. Walter Russell Brain. This was, therefore, doubly a memorial occasion, and Geoffrey Evans, in paying this fine tribute to his friend, had written for himself a splendid epitaph.

The lecturer described the puritan home of Walter Langdon-Brown in Bedford, with its abiding influence on his personality, and then told of his delighted emergence into the undergraduate life of Cambridge. His work in the Cambridge school of physiology and his association with Michael Foster and Gaskell gave his mind a stimulus which remained to the end of his life. The quoted description of his excitement as he watched the development of the pituitary gland in serial sections of the hen's embryo authentically communicates the thrill of scientific observation.

A different discipline awaited him at St. Bartholomew's Hospital, and Geoffrey Evans sketched the hospital background at the end of the century with Samuel Gee, whose house-physician Langdon-Brown became, as the peerless bedside observer; Norman Moore, as the scholar physician; and Archibald Garrod as the first of the clinical scientists. Here Langdon-Brown himself learnt to observe the processes of disease, both in sick persons and in the post-mortem room—a long and fruitful apprenticeship, for he was 43 years of age before election to the staff of St. Bartholomew's Hospital. By that time he had already made a highly individual and important contribution to the medicine of his day. Almost alone among physicians in his knowledge of physiology, and stimulated by a profound desire to get sick people well, he wrote his famous textbook *Physiological Principles in Treatment*. It was an inspiring book for his generation, and, although the available therapeutic resources look meagre enough as one reads the first edition to-day, yet it was the first published application of physiology to clinical medicine and therapeutics. Here Langdon-Brown was a pioneer who has had many distinguished successors, but as the man who designed and built the first bridge he deserves honoured remembrance.

His second great service to the medicine of his generation was another essay in bridge-building, and he was again impelled to it by the necessities of treatment—the continuing impulse to heal the sick. After the first world war he began to correlate the hypotheses of the new psychology, represented in the work of Freud, Jung, and Adler, with clinical medicine. The researches of Gaskell, Langley, and Anderson into the autonomic nervous system and the increasing knowledge of the function of the ductless glands were the basis of his Croonian Lectures in 1919, and in them he stated for the first time his conception that these were the pathways by which emotional disorders were translated into disturbances of somatic function. This hypothesis he was to elaborate and restate in numerous addresses in succeeding years. Geoffrey Evans quoted a passage from his inaugural address as Regius Professor of Physic in the University of Cambridge in 1932. "Designed for an intensive preparation for action or defence," he said, "the sympathetic response may be dissociated, perverted, or prolonged, with serious effects to the individual," and the lecturer adds the comment that this introduces the ideas of organ habit and functional disorder as the cause of change of structure. Here again, as a host of successors slowly establish the steps in the complicated pathways between emotional states and physical disease, we are reminded of the recognition due to pioneers.

Langdon-Brown's legacy to this generation is his insistence on the unity of human personality—body, mind, and spirit—all aspects of one reality. An impairment of function of any of these components will adversely affect the harmony of the whole organism, and nothing which relates to human personality can therefore be foreign to medicine. The development of these ideas will be found in his book *Thus We Are Men*, of which Geoffrey Evans said, "It is a wonderful book to read." "Thus we are men and we know not how: there is something in us that can be without us, and will be after us; though it is strange that it hath no history what it was before us."

INSURANCE AND PENSIONS

A pamphlet[1] published last week by two Conservative Members of Parliament speaks of a crisis in the social services—"a crisis all the more dangerous for being unrecognized." Is this an exaggeration? Certainly no hint of a crisis appears in the second report[2] of the Ministry of National Insurance, published a few weeks before Christmas. It and its predecessor show that the colossal task of organizing an insurance scheme with about half the population paying contributions, and with most of the others covered either as dependants under the scheme or by family allowances, has been successfully achieved. None of the forebodings that the scheme would be too unwieldy to administer and that it would be impracticable to enforce it have materialized. The standard of compliance, even among the self-employed and non-employed classes, has been remarkably good.

What, then, is the crisis that Mr. Macleod and Mr. Powell speak of? The report of the Ministry of National Insurance goes no farther than the end of 1950. In the spring of last year the Labour Government raised the rate of retirement pension for the older pensioners. This in itself was important, for it represented a deliberate rift in the principles of the Beveridge report, which argued that a person needed the same guaranteed minimum income when his earnings were stopped by, say, unemployment as when they were stopped by sickness or retirement. But the increase in retirement pensions also explains the "crisis" in the social services. They were increased because of the growing inadequacy of the old rate to cover the cost of subsistence. It was laid down in the Beveridge report that the insurance benefit, paid as of right, should be adequate to cover the cost of subsistence in all normal cases. For the abnormal case national assistance was to be there to supplement or replace the benefit, but its scope in the insurance scheme as a whole was to be strictly limited. The "crisis" has arisen because the number of people applying for assistance to supplement their benefits is growing steadily.

As it turned out, the basic benefit of 26s. a week (42s. for a married couple) was never really adequate for full subsistence including rent. It was 2s. higher than the Assistance Board's scale of relief; but the Board's rate was exclusive of rent, for which an additional allowance was made. Thus even as early as the end of 1949, 18 months after the insurance scheme had come into force, of those being paid retirement pensions, sickness benefit, widows' benefits, and unemployment benefit, 18%, 11%, 25%, and 11% respectively were receiving supplementary assistance.

Later the scope of national assistance was widened further. In 1950 the rising cost of living forced the Assistance Board to revise its rates. As a result the assistance allowance, exclusive of rent, was raised to 26s. for a single person and 43s. 6d. for a married couple. This meant that more people became eligible for assistance payments, and the same rising cost of living that compelled the Board to put up its rates also compelled more people to seek its help. By the end of 1950, therefore, the proportion of households whose benefits were being supplemented by assistance had risen to 21%, 13%, 28%, and 18% respectively in the four categories mentioned above. Last year, when the retirement pension was raised for the older pensioners by 4s. a week for a single person and 8s. for a married couple, a similar increase was made in the Assistance Board's scales. These are now, therefore, like pensions, 50s. for a married couple; but again it should be emphasized that this figure is exclusive of rent. Taking an average figure for rent of 14s., Mr. Macleod and Mr. Powell thus calculate that the minimum income needed for subsistence by a married couple is 64s. a week, and they point out that the higher rate of retirement pension is consequently 14s. below subsistence and that the other insurance benefits are 22s. below.

The Government met the cost of increased retirement pensions, widowed mothers' allowances, and children's allowances payable to persons drawing benefits or pensions, not by increasing contributions, but by assuming a more realistic rate of unemployment. Because the rate was originally assumed to be 8% and in actual fact has been below 2% the insurance fund has been running a large surplus. Last year, therefore, the unemployment rate was assumed to be 1½% up to 1954, 2½% in 1954–5, and 4% thereafter. But, as the Government actuary pointed out, the assumption of a lower rate of unemployment only temporarily relieves the Exchequer of its liability under the National Insurance scheme. In the financial year 1952–3 the Exchequer will pay £37m. into the fund to enable income to cover expenditure. But by 1957–8 the sum will have risen to £150m., and by 1977–8 the Exchequer contribution will have grown to nearly £450m.—some £40m. more than was contemplated when the National Insurance Act was passed in 1946.

This heavy liability in the years to come is due to the ageing of the population and the consequent increase in the expenditure on retirement pensions. Thus, the postponement of retirement, which is regarded as usually being in the best interests of

[1] *The Social Services.* Published by the Conservative Political Centre.
[2] Cmd. 8412, 1951, H.M.S.O., London.

elderly people themselves, becomes of national importance. Unfortunately it is still too early to say whether the increased rate of pension since 1946 has outweighed the incentive of a higher pension still if a person postpones retirement. The report of the Ministry of National Insurance provides some provisional information on the subject, but it is admitted to be inconclusive. Roughly the same proportion of elderly people continue at work after reaching pensionable age as before July, 1948. For men this proportion is about 60%, for women about 50%. The proportion, however, falls off in the succeeding months, and 18 months after reaching pensionable age only about 45% of men and 33% of women are still at work.

Last year's National Insurance Act provided an additional incentive for people to postpone retirement by increasing the sum added to their basic weekly pension for each year they continue at work from 2s. to 3s. It will be some time before the effects of this on retirement are made clear. All that can be said at present is that we are a long way from achieving what, in view of demographic trends, must eventually be the objective—a normal retiring age five years older than the present minimum. In one respect a mere maintenance of the *status quo* in retirement trends is disappointing, for the same inflationary conditions which have reduced the value of the basic pension and other insurance benefits ought to encourage people to postpone retirement and at the same time make it easier for them to do so. If elderly people do not or cannot continue working when unemployment is at the rate of 1½%, what prospect is there of their doing so when inflation subsides and unemployment rises to, perhaps, 3%, which would be less than the long-term rate assumed by the Government actuary?

In two years' time the National Insurance scheme will be reviewed and a report made to the Treasury on the adequacy of the contributions payable to support the benefits. The Government should take the opportunity of assessing the adequacy of the benefits to cover the cost of subsistence. If, as is probable, they are found to be grossly inadequate, two courses are possible. Benefits and contributions could be raised all round, as Mr. Macleod and Mr. Powell suggest. The necessary increase in contribution would, however, fall severely on the lowest-paid workers. The Government might well, therefore, consider abandoning the present system of flat-rate contributions and benefits and substituting the system in force in many other countries of contributions and benefits related to earnings. This system was rejected by Lord Beveridge mainly because the benefits of the lowest-paid workers would be bound to be less than the cost of subsistence. But since the present system has failed to guarantee benefits adequate for subsistence the time has come to consider the whole matter afresh. What would be unjustified would be to let most benefits stay well below subsistence and give more favours to old-age pensioners. Lord Beveridge's warning is worth recalling: "It is dangerous to be in any way lavish to old age, until adequate provision has been assured for all other vital needs, such as the prevention of disease and the adequate nutrition of the young."

OSTEOARTHRITIS

Any systematic study of the nature of a disease process requires first of all a clear definition of its characteristic clinical and pathological features. Perhaps one of the most serious weaknesses in our understanding of the arthritides has been a lack of such a definition of the various types of arthritis. In recent times we have moved from the eighteenth century concept of "gouty rheumatism" through that of Charcot,[1] who classified most arthritis under the same heading of "arthritis deformans," to that of A. E. Garrod,[2] who was able to separate two groups, rheumatoid arthritis and osteoarthritis. The rheumatoid group may well conceal a variety of conditions whose most important common factor is that their aetiology is unknown; it is not necessary to assume that it is always the same. It is to be hoped that the present intensive study of this disease will bear fruit, although it must be admitted that so far the use of cortisone and A.C.T.H. as research tools has told us little in this respect.

Osteoarthritis, or degenerative joint disease, presents a problem of equal magnitude, and, as Ryle[3] wrote, "There is no disease of which a fuller, or additional, description does not remain to be written." Since osteoarthritis accounts for some 30–40% of all patients attending rheumatism or similar departments, it might seem a fruitful field for simple clinical study, and every practising doctor must meet almost daily the problem posed by a patient suffering from this condition, with its very wide variety of symptoms. These arise not only directly from the affected joints but also quite often from the very natural anxiety

1 *Clinical Lectures on Senile and Chronic Diseases*, 1881, New Sydenham Society, London.
2 *System of Medicine*, vol. 3, 1907 (Allbutt and Rolleston). Macmillan & Co., London.
3 *The Natural History of Disease*, 1948, Oxford University Press.
4 *Lancet*, 1927, 2, 53.
5 *Proc. R. Soc. Med.*, 1943, 36, 329.
6 Ibid., 1948, 41, 509
7 *Ann. rheum Dis.*, 1950, 9, 48.
8 *J. Lab. clin Med.*, 1949, 34, 1193.
9 *Amer J. med. Sci.*, 1947, 213, 181.
10 *J. Amer. med. Ass.*, 1951, 147, 1629.

induced by the fear of arthritis. Orthopaedic surgery and physical medicine have made great contributions towards solving the problems of treatment, but the mere elaboration of specialized techniques such as cup arthroplasty cannot contribute greatly to our knowledge of the fundamentals of the disease itself.

For these reasons a clearer definition of osteoarthritis was essential, and Drs. J. H. Kellgren and R. Moore on page 181 of this issue provide a very definite advance towards this goal. What they term "primary generalized osteoarthritis" is distinguished from degenerative joint disease caused by trauma resulting from occupational, postural, infective, neurological, or similar factors. They suggest that there is a definite pattern of joint involvement which includes the terminal interphalangeal joints (Heberden's nodes) and the first carpo-metacarpal joints, and often most of the other diarthrodial joints of the body. The symptoms may be acute in onset, with swelling and redness of the affected joints followed by a more chronic and less painful phase, with bony overgrowth. Such cases in their early acute periods are often misdiagnosed as gouty—not only, be it said, by the lay public. Kellgren and Moore's concept of this phase as it affects the interfacetal joints of the spine is particularly interesting. They distinguish carefully between the involvement of these joints and the osteophytosis of the vertebral bodies often found in degeneration of the intervertebral disk. Both conditions may thus give rise to a very similar clinical picture, but radiography should enable a distinction to be made. They thus revive the ideas introduced by Putti[4] and utilized by Bankart,[5] who advised excision of these joints for lumbar or sciatic pain. A study of similar changes occurring in the cervical spine would also be of great interest, since, as Brain, Knight, and Bull[6] have pointed out, the changes around the intervertebral foraminae in this region may give rise to syndromes of pressure on nerve roots, accounting for some cases of so-called fibrositis and neuritis. It seems probable that many of these patients would be found, on careful examination, to be suffering from primary generalized osteoarthritis.

Two other findings should be noted. Kellgren and Moore found tendon nodules in the flexor tendons of the hands in a few cases; that this is a frequent finding in rheumatoid arthritis has already been shown by Kellgren and Ball,[7] but it is clear that their presence does not necessarily mean that the patient has rheumatoid arthritis. Secondly, they found that the sedimentation rate may be abnormally high, and this is a reminder that a raised rate does not necessarily indicate a rheumatoid type of arthritis, for in one-third of their tested cases the reading was between 20 and 40 mm. in the first hour (Westergren). This should discourage the routine use of gold salts in cases with a polyarthritis simply because the E.S.R. is raised.

Many questions remain to be answered: the curious localization in the terminal joints of the hands—only rarely found in rheumatoid arthritis, although always present in true psoriatic arthritis—and the discrepancy between the authors' findings and Stecher's[8] finding of a correlation between the menopause and the onset of Heberden's nodes. Both groups agree, however, that there is probably a genetic factor. Stecher and Karnosh[9] found, too, that an intact nerve supply was necessary for the production of Heberden's nodes, and this requires explanation.

The problem of treatment remains. It is important to remember that most patients with generalized osteoarthritis fear that they have rheumatoid arthritis, and a confident diagnosis, with an explanation that this condition is different and has a reassuring prognosis, is often the most important step and may be the only treatment required. At least it may save the patient from the hazard of widespread dental extraction or some other witchhunt for focal sepsis, and even from the not inconsiderable risk of gold therapy. Whether or not cortisone or, as Hollander and his colleagues[10] suggest, hydrocortisone (Compound F) will offer practical help when administered direct into the joint remains to be seen. During the acute phase this may represent a rational approach by reducing the inflammatory reaction, although one cannot be sure that this reaction is not of itself beneficial by imposing rest on the joint. Its removal is not necessarily therapeutic.

Perhaps the most important point emphasized by Kellgren and Moore is the necessity for a study of the pathology of generalized osteoarthritis in its earliest stages. If the tissue changes occurring at this stage can be clarified we shall have made a great advance in understanding. Their definition of the problem to be tackled represents the first step towards this end.

WHITHER INFLUENZA?

What is the future outlook in influenza? Where and when will it break out next? Faced with these questions, the epidemiologist would like to hide his ignorance of the inner mechanisms of global epidemiology in the retort ambiguous, the reply which gave the oracle at Delphi its reputation in the time of Hippocrates. With the isolation and serological characterization of the influenza viruses A and B, however, it has been possible to see some pattern in the epidemiology of influenza. Stuart-Harris[1] has drawn attention to the two-year periodicity of influenza A outbreaks in this

country. Since 1933, when the virus was first isolated, influenza virus A has been recovered every odd year until last year—with one exception, 1945. In view of this periodicity and the well-known tendency of outbreaks to occur in the winter-time, we may infer by simple extrapolation that the next outbreak of influenza A in this country will be in roughly one year's time. Influenza B outbreaks do not show the same clear periodicity, so that sporadic outbreaks of influenza B are possible at any time this winter; if they occur these are likely to be restricted and mild, however. Compared with influenza A, influenza B outbreaks have generally been very tame.

In a recent article in this *Journal* Isaacs and Andrewes[2] showed that the 1950–1 influenza epidemic in Europe had two sources. A small outbreak of influenza in Sweden during the summer of 1950 preceded by four to five months the epidemic in northern Europe. In the Mediterranean area the causative virus was traced back to the southern hemisphere, where outbreaks of influenza had occurred in the South African and Australian winter six months earlier. In each case the evidence for the spread of virus was provided by strains isolated by World Health Organization laboratories throughout the world and sent to the World Influenza Centre for typing. World Health Organization laboratories will be on the look-out for virus during the next eight months; in particular, a summer outbreak of influenza in Europe should provide a useful "herald patch." This attempt to anticipate influenza outbreaks will fit in well with the trial of influenza virus vaccines recently sponsored by the Medical Research Council and the Ministry of Health.

In the United States of America evidence of periodicity of influenza, which earlier paralleled the experiences in Europe, has not been at all clear in the last few years. Each winter has produced a rise in the numbers of influenza cases, but no sharp peaks in incidence comparable to our experience in Europe have been found. During the 1950–1 European epidemic virus A is known to have been widespread in the U.S., but no major outbreak of influenza occurred. In seeking an explanation of these recent differences between influenza in the two continents we may speculate on the possible epidemiological importance of national boundaries in Europe. Clearly epidemic influenza does not respect national boundaries, but a milder endemic influenza may well do so. With its extensive communications the United States may be an ideal place for the spread of influenza virus, under conditions which would be against a major outbreak but would favour a mild endemic infection producing immunity against a later epidemic. In Europe, on the other hand, minor outbreaks such as that in Sweden in the summer of 1950 might not spread widely in the absence of free communications with susceptible populations in surrounding countries. Presumably with the arrival of winter in 1950 the susceptibility of the population in Sweden and elsewhere was lowered, partly because of waning of specific immunity and partly through other (perhaps climatic) causes, and this resulted in epidemic spread. If this is so, the epidemiologist may yet be able to provide an argument in favour of a United States of Europe.

[1] *British Medical Journal*, 1945, 1, 209.
[2] Ibid., 1951, 2, 921.

THE SCHOOL MEDICAL SERVICE

In the financial year 1948–9 the cost of the school medical service was £9¼m.—about £1m. less than the previous year because of the transfer of hospital charges to the National Health Service account. Other effects of the National Health Service on the school medical service are referred to in the report[1] of the Chief Medical Officer of the Ministry of Education for the years 1948 and 1949. On the debit side there has been a falling off in the work of dental inspection and treatment, owing to the greater financial attraction of dental practice in the National Health Service, and delay in the supply of spectacles. On the credit side is the building up of a specialist service, including paediatricians, psychiatrists, and orthopaedic and ophthalmic surgeons, from which schoolchildren especially will obtain great advantage. The danger that the family doctor may be left out of the arrangements being made to improve the school medical service has been recognized by the B.M.A., and certain recommendations[2] have been made and approved by both the Association and the Society of Medical Officers of Health. As Sir John Charles writes: "The problem of bringing about a closer liaison between the school health service and the family doctor can only be solved by consultation and discussion between the doctors concerned, and it must be met in various ways according to local circumstances and personalities of the people involved."

The report is similar in form to those of previous years, much of the space being given up to quotations from the annual reports of school medical officers all over the country. There is a particularly good chapter on "The Diabetic Child" which surveys the history of diabetes in children since the discovery of insulin and describes the work of diabetic hostels. England is the only country in the world to have set up residential homes for diabetic children who cannot be looked after by their own parents. It is a great disappointment that the number of children found verminous at school inspections is falling so slowly. In 1949 very nearly half a million children in England and Wales—8% of those on the school registers—were infested. In spite of the new insecticides this figure is very little less than those of the years immediately before the war. It is of course not fair to blame the schools for infestation: the figures quoted in this report are a serious reflection on the social services generally. Some might question whether the improvements in health and education during the past fifteen years can really be as great as supposed if just as many children are verminous to-day as in 1937. Certainly the time has come when local education, health, and sanitary authorities should combine to attack infestation at its source.

Sir John Charles concludes his first report as chief medical officer to the Ministry of Education with a well-

[1] *The Health of the School Child*, 1952, H.M.S.O., London.
[2] *British Medical Journal Supplement*, 1950, 2, 111.

deserved tribute to his predecessor, Sir Wilson Jameson, whose period of office, from 1940 to 1950, "was an exceptionally trying and difficult one; thanks to his wise guidance it was also an exceptionally fruitful one."

XYLOCAINE

Xylocaine was synthesized in 1943 by Löfgren[1] and Lundquist[2] at the Organic Chemistry Institute of the University of Stockholm, and was tested clinically in the Anaesthetic Department of the Karolinska Hospital. In Britain a trial was conducted by Drs. D. Carnegie and A. J. Hewer in 1950,[3] at the invitation of the Faculty of Anaesthetists of the Royal College of Surgeons. Xylocaine has the signal advantage of acting more rapidly than any other drug of this group, yet maintaining its effect for a long period. It differs chemically from procaine and most other local analgesics through being a basic anilide, which has the formula *o*-diethylamino-2.6-dimethylacetanilide. It is a relatively non-irritant substance, it is not decomposed by boiling or by changes in *p*H, and it has no vasodilator effect; it does not affect the conjunctival vessels, nor dilate the pupil, nor cause mistiness of the cornea. The toxicity of the drug has been investigated by several workers, notably Goldberg[4 5] in Sweden and Hunter[6] in this country, who seem agreed that a total dosage of 1 g. is within the limits of its safety. Although "reactions" to the drug have been described, and the effects of accidental subarachnoid injection,[7] there has been only one death reported, so far only in the lay press.[8]

Xylocaine is prepared by the manufacturers as a solution, either alone or mixed with adrenaline in a concentration of 1 : 100,000 in 0.5% and 1% solutions, or of 1 : 80,000 in 2% solution; the toxicity of the preparation would be reduced without loss of its efficiency if the adrenaline were in a dilution of only 1 : 250,000 in both. Carnegie and Hewer found that 0.5% solution maintained analgesia for three hours when given alone, and for almost six hours when combined with 1 : 200,000 adrenaline. The drug is used in a strength of 0.5 or 1% with adrenaline for infiltration analgesia, and of 1% or 2% for nerve blocking, caudal analgesia, or epidural analgesia. A 2% hyperbaric solution has been prepared for spinal analgesia. Xylocaine also has a surface action, and its use in a 2% solution for bronchoscopy has been described,[3] though it was not as satisfactory as 10% cocaine. The 4% solution appears to be an improvement, but only a few cases have been reported.[9]

It is the action of xylocaine in the epidural space that emphasizes most strongly its superiority to other local analgesics, and the improved results reported by Drs. Ablett, Dawkins, and Steel[10] will be corroborated by other anaesthetists. The more certain effects of xylocaine in this site may lead to a revival of interest in epidural analgesia.

1 *Studies in Local Anaesthetics—Xylocaine*, Stockholm, 1948.
2 *Svenska Kem. Tidskr.*, 1946, **58**, 206.
3 *Lancet*, 1950, **2**, 12.
4 *Svenska Tandlak. Tidskr.*, 1947, **40**, 819.
5 *Svenska Läkartidn.*, 1948, **45**, 107.
6 *Brit. J. Anaesth.*, 1951, **23**, 153.
7 Howat, D. D. C., *Lancet*, 1952, **1**, 81.
8 *Daily Mail*, London, December 20, 1951.
9 Blayney, A. McA., *J. Irish med. Ass.*, 1951, **29**, 11.
10 *Anaesthesia*, 1951, **6**, 159.

EPIDEMIOLOGY OF CEREBROSPINAL FEVER

The statistical study of meningococcal infections must be approached with caution. In the early days of notification of cerebrospinal fever in this country the number of deaths from the disease exceeded the number of notifications, which is a clear indication that notification was grossly defective at that time. Deductions made from the records of recent years must allow for such administrative changes as the introduction of correction of notifications in 1944 and the change in nomenclature from cerebrospinal fever to meningococcal infections in 1950. These difficulties are multiplied when attempts are made to compare the incidence of the disease in a large number of countries with differing administrative systems and wide variations in the efficiency of the medical services. Nevertheless the study of the occurrence of infectious diseases throughout the world has become indispensable for a full understanding of their epidemiology, and Freyche's[1] report to the World Health Organization on the prevalence of cerebrospinal fever since 1939 is of great interest.

For the last twenty to thirty years the disease has been more common in the regions situated to the south of the North African desert belt than in any other part of the world. In Nigeria in both 1949 and 1950, and in the Sudan during the first half of 1951, there were more cases of cerebrospinal fever than in the whole Continent of Europe in 1940, when exceptionally large numbers of cases were notified. Each country experiences, in addition to the seasonal rise and fall, a periodic recurrence of high incidence at intervals from eight to twelve years. It appears probable that the crowding and migration of population that occur during the military and industrial mobilization of wartime have played an important part in determining the timing and size of some of the periodic waves. In England and Wales and a number of European countries the heaviest incidence of recent years was in 1940–1. The corresponding epidemic years in the United States were 1943 and 1944. There was a return of high incidence in France in 1945 and in the Netherlands in 1946. The timing of seasonal variations in different countries in the Northern hemisphere is remarkably similar, the crest of the wave being in the months of February, March, and April, and the trough between June and November. This makes it difficult to believe that the fundamental cause of seasonal changes in incidence can lie in such environmental influences as sand winds or movements of population that may be peculiar to any one locality. Realizing the danger of estimating case fatality from the available statistics, Freyche uses the term "statistical mortality rate" to indicate the relation between deaths from the disease and notifications. It has been noted in the past that this rate varies inversely with the seasonal variations in incidence, and it is shown in this report that it also varies inversely with the cyclical variations in incidence, but the reasons for this are not clear. It may be that in epidemic times the number of milder cases notified may be greater than in periods of low incidence, but this is probably not the whole explanation of these variations.

1 *W.H.O. Epidemiological and Vital Statistics Report*, 1951, **4**, 311.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

THE PROS AND CONS OF IMMUNIZATION—I

BY

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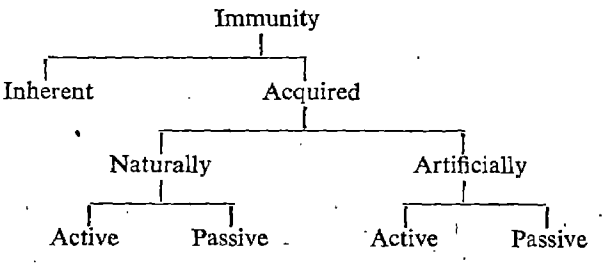
The articles that have hitherto appeared in this series have dealt almost exclusively with the diagnosis and treatment of established clinical diseases and infections. My task is to discuss the specific measures which the family doctor may use or recommend for the *prevention* of infection, in particular the use of vaccines and antisera to protect against the more common fevers of childhood and adult life—for example, diphtheria, scarlet fever, measles, whooping-cough, influenza, tuberculosis, typhoid fever, and smallpox. When we consider preventive measures against infection, the unit is usually the whole family rather than any individual member of it. A schoolchild has a sore throat which may be diphtheria or the early stages of scarlet fever and the doctor must decide what he can do to protect the other members of the family. Or mother has an attack of diarrhoea which may be food-poisoning or bacillary dysentery or the beginning of paratyphoid fever, and again measures must be taken to prevent spread of the infection to the rest of the family. Or, again, the doctor may be asked about the possibility and advisability of protecting a young family against whooping-cough or measles or smallpox before there has been any exposure to the risk of infection.

The control or prevention of infection in a family group may be considered under three main heads: elimination of the reservoir of infection, blocking the spread of the infecting organism, and raising the resistance of the susceptibles. One or all of these measures may be applied according to the circumstances of the case. The reservoir may be eliminated by early recognition and isolation of the primary case in the family, or by active antibiotic therapy which quickly rids the tissues of the infecting germs; spread of the organism may be prevented in the case of intestinal infection by instruction about personal hygiene and avoidance of food handling; and resistance may be raised by the use of specific vaccines and antisera to give "immunity" to the susceptibles.

What Is Immunity?

The medical student often seems to have difficulty in grasping the principles of immunity. The accompanying diagrammatic schema is often used to illustrate the different ways by which resistance to infection may be acquired, and an understanding of these principles is essential for a rational use of the artificial means of protection.



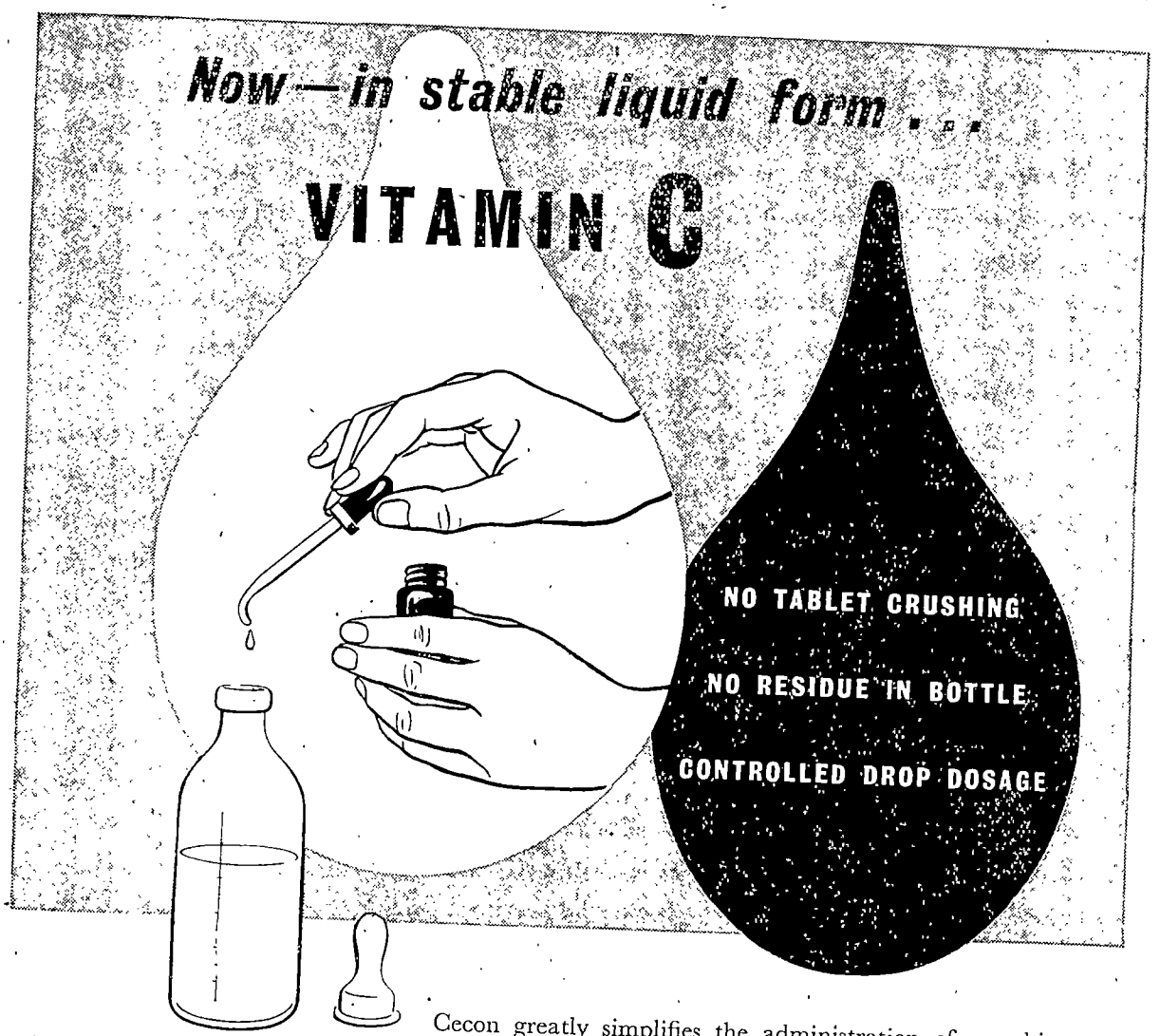
Naturally Acquired Immunity

Apart from an inherent immunity, which may be due to a genetic resistance to particular diseases or to the protection afforded by healthy and intact tissues, the individual may acquire by natural means an immunity of varying duration to specific infections. Thus the infant seems to be immune to such infections as measles, diphtheria, scarlet fever, and chicken-pox for the first few months of life. The explanation of this immunity is that antibodies to these various infections have been "manufactured" by the mother and passed, via the placenta, into the blood of the infant. So long as the specific antibodies persist in sufficient concentration the infant is protected against the corresponding infection, but these antibodies have not been produced by the child's tissues, so that they gradually disappear and are not replaced by fresh antibodies. This is called passive immunity and obviously gives protection for only a short period of time—usually for three to six months. The duration of this passive immunity will have a direct relation to the concentration of antibody in the mother's blood, and if the mother has no antibody to any particular pathogen, as often happens with whooping-cough and sometimes with diphtheria, the infant will be susceptible from birth to these infections.

When, on the other hand, a child develops an attack of measles at the age of 3 or 4 years he (or she) manufactures antibodies to the measles virus and is, as a result, resistant to further attack. This is an example of active immunity, which lasts for a much longer period than does passive immunity, although there are notable exceptions, like influenza and the common cold, pneumonia, and streptococcal infections. Here the lack of persistent immunity may be due to the superficial nature of the infection, as in the common cold and possibly influenza, so that the antibody factories throughout the body are not stimulated into activity; or it may be due, as in the case of pneumonia and streptococcal tonsillitis, to fresh attacks with new and different serological types of the pneumococcus or streptococcus against which the body has not acquired immunity. A further point about naturally acquired active immunity is that many of us become resistant to infections like scarlet fever and diphtheria as a result of repeated subclinical infection. Consequently the past history alone does not tell us whether an individual is or is not susceptible to these infectious diseases, but certain skin reactions, like the Dick and Schick tests, may give us the answer.

Artificial Immunization

If immunity is to be induced artificially the two main procedures are again passive protection and active immunization by agents deliberately introduced into the tissues; there is, in addition, the procedure of inducing a modified infection. Passive immunity is obtained by



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the injection of either an antiserum prepared artificially in the horse or other animal against the infecting micro-organism or its active exotoxin, or the serum of a patient who has already had the disease. This antiserum confers an immediate specific resistance which lasts only until it is all excreted, usually in a matter of two to three weeks, depending on the dose of serum and the concentration of antibody. For example, tetanus antitoxin is given to an injured person to protect him against the risk of tetanus while his wound is being treated surgically, and if the injury is a severe one the dose of antitoxin may be repeated weekly for several weeks.

Active immunity is induced artificially by the injection of an antigen in the form of vaccine containing the intact micro-organism or virus in a modified form—for example, typhoid or yellow fever vaccine—or as toxoid, which is the exotoxin of the organism rendered non-poisonous by treatment with formalin—for example, diphtheria toxoid. Two or more injections of the antigen are usually needed to induce a sufficient degree of immunity, since the first injection (primary stimulus) does not evoke much antibody but prepares the antibody factories for a more active response to further injection (secondary stimulus). The immunity takes some weeks to develop, but persists for a much longer period—several months to several years—than that induced by the injection of an antiserum. As it wanes it can be quickly raised again by a small "booster" dose of the antigen. It is, however, important to warn the inoculated individual or his relatives that no form of artificial immunization, with the possible exception of yellow fever vaccine, will ensure complete protection against any particular infectious disease.

Active immunity may also be obtained by deliberately inducing a modified attack—for example, vaccination with vaccine lymph produces the disease vaccinia which gives protection against the more serious infection smallpox; or injection of convalescent measles serum in a child who has been exposed to infection may result in a mild attack of the disease which gives the child an active immunity without the upset associated with the unmodified attack.

The Risks of Reactions

Any form of immunization should, before it is recommended for general use, satisfy at least three criteria: it must be safe, it must be practicable, and it must be effective. Under the Therapeutic Substances Act all biological preparations issued for distribution must conform to certain requirements and must satisfy tests of sterility, potency, and absence of toxicity. These tests therefore ensure a high degree of safety in the use of sera and vaccines. However, reactions to the injection of these substances do sometimes occur and the practitioner must be aware of the risks.

The Syringe and Needle

It is, in the first place, essential that the syringe and needle used for giving an injection should be sterile, boiling for five minutes in a saucepan immediately before use is the safest procedure. Ideally, the syringe and needle should be boiled between each injection, but if the doctor is giving a number of injections of the same material in a household he may adopt the method recently recommended by Fleming and Ogilvie.* Just enough material for one injection is taken into the syringe. After the injection, with the plunger kept firmly home against the end of the barrel, the needle is withdrawn and, while still attached to the nozzle of the syringe, is immersed in boiling water for 10 seconds. This procedure sterilizes the needle. The syringe has not been contaminated and the doctor can proceed with the next injection without further sterilization.

If rubber-capped bottles are being used the top should be cleaned with spirit, and then with tincture of iodine, or the bottle may be covered with a metal cap on the under surface of which is a pad soaked in disinfectant. For injection of vaccines and toxoids a hypodermic needle of size 12–16 with a long bevel point should be used. For antisera a serum needle size 1 is best. It is most important that the needle should be sharp, and before the injection the point should be inspected to see that it is not turned. Needles of too fine a bore should not be used, as they may bend or break during the injection.

Reactions to Vaccines

Injections of vaccines and toxoids are best given in the deep subcutaneous tissues—for example, in the upper arm near the insertion of the deltoid or in the middle of the outer aspect of the thigh. The skin is sterilized, preferably with 2% iodine or 70–75% alcohol, a fold of the skin is picked up between thumb and first finger, and the needle is then injected with a stabbing movement into the fold of the skin. Reactions of two kinds may occur—local or systemic. The local reaction, coming on in two to three hours, is due to the irritation produced by the foreign material, and is more often present after the injection of bacterial vaccine, particularly T.A.B. vaccine, than after toxoid. If the toxoid contains alum a fibrous nodule and occasionally a sterile abscess or cyst may form, and therefore the material should not be injected too superficially. Constitutional symptoms such as headache, malaise, nausea, and pyrexia are again more common after an injection of bacterial vaccine like T.A.B. and may last for one to two days. Prophylactics which may be expected to produce some constitutional upset should be given in the late afternoon, and the individual should be advised to take 5–10 gr. (0.32–0.65 g.) of aspirin before going to bed. Very rarely a condition of protein shock with rigor and high temperature may come on within half to one hour after an injection if some of the material has accidentally entered a vein.

A more serious complication of prophylactic injections has recently come to light in the form of post-inoculation poliomyelitis. Certain cases of poliomyelitis have developed within a month of the injection of prophylactics like A.P.T. (alum-precipitated toxoid), or combined diphtheria toxoid and pertussis vaccine, and the paralysis has usually been in the inoculated limb, mostly an arm. Statistical analyses have indicated that this association is more than a chance coincidence, and the most likely explanation is that the injection has activated a pre-existing latent infection with the poliomyelitis virus and localized it, perhaps because of the tissue trauma, in the motor nerve cells associated with the affected muscles. This complication may best be avoided by giving the injection subcutaneously rather than intramuscularly, by using prophylactics that are least likely to produce local tissue damage—for example, formol toxoid rather than A.P.T.—and by suspending inoculation of children in the susceptible age group—that is, over 1 year of age—in an area where poliomyelitis is known to be occurring at the time.

*British Medical Journal, 1951, 1, 543.

Reactions to Antisera

The injection of antiserum derived from horse or other animal may cause either a sudden anaphylactic shock or a delayed serum sickness. Anaphylaxis is extremely rare in the human subject, and in its fatal form is most likely to occur in persons who have some inborn or acquired predisposition to allergic disorders like asthma, eczema, or urticaria. Before giving an injection of antiserum, therefore, the doctor should inquire about a personal history of asthma or hay-fever, particularly from contact with horses, or any family or personal history of allergic disorders. If in doubt an intradermal injection of 0.1 ml. of the serum diluted 1 : 100 should be given ; this will produce a local wheal and erythema reaction in a sensitized person, who may then be partially and temporarily desensitized by repeated small injections of the serum.

Serum sickness, developing seven to ten days after the injection of the antiserum, and characterized by an urticarial rash, joint pains, and fever, was common when crude unconcentrated antitoxin was used in large doses. The introduction of concentrated antisera, and later of enzyme-digested "refined" antitoxin given in small doses, has reduced the incidence of serum sickness to less than 3%, so that this complication is now a rare hazard. Antihistaminic preparations locally or systemically will usually give relief. The patient who has had an injection of foreign protein such as horse serum within the past three to six months may develop an acute anaphylactoid reaction, with dyspnoea, pains in the chest, and oedema of the face, within a few hours of receiving a second injection. This type of reaction, while alarming, can usually be prevented or controlled by an injection of 1 ml. of 1 : 1,000 adrenaline. With convalescent human serum, particularly if it is prepared from a pool of donors, there is the small risk of homologous serum jaundice coming on two to three months after the injection. This risk can be largely prevented by "sterilizing" the serum with ultra-violet light and is practically non-existent with concentrated gamma globulin. Injections of whole blood should not be given, because they may induce the formation of rhesus antibodies.

Prevention versus Cure

It is sometimes said in these chemotherapeutic days that there is no advantage in trying to prevent infections that can be easily cured with modern antibiotics. Why, for example, subject people to the inconvenience of T.A.B. inoculations when typhoid fever can be treated effectively with chloramphenicol ? A similar argument was used many years ago for diphtheria, when it was hoped that the use of a specific antitoxin would bring this infection under control, but, in spite of all efforts at earlier diagnosis and better therapy, some 60,000 cases of diphtheria, and around 3,000 deaths, continued to occur every year in England and Wales until large-scale immunization was introduced in 1940. As a result there were 957 notified cases of diphtheria and only 49 deaths in 1950, while the saving in hospital beds and in expert medical and nursing care has greatly reduced the total expenditure on this once dreaded infection. Thus it has been calculated that the dramatic reduction in the incidence of diphtheria has meant a saving to Scotland of something over £300,000 a year, while reduction from nearly 10,000 to a few hundred cases annually represents a saving of about 750 hospital beds on every day of the year and an annual saving of some 250 full-time nurses and a proportionate number of doctors, hospital domestics, etc.

Furthermore, in diseases with insidious onset, such as typhoid fever and whooping-cough, the damage to the patient and his contacts has already occurred before effective treatment can be given. There is little doubt, therefore, that where specific prophylaxis is safe, practicable, and effective prevention is always better than cure. On the other hand, certain infectious diseases, such as lobar pneumonia, cerebrospinal meningitis, and typhoid fever, tend to occur rather sporadically in civilian practice and to affect only a small proportion of the population at risk, so that even if effective prophylactics were available large-scale indiscriminate immunization would not be thought profitable. Where, in special circumstances, the risk is considerable and the prophylactic effective, as happens with typhoid fever among troops on active or foreign service, then obviously prophylaxis is again better than cure.

The specific measures that may be used to protect against particular diseases, and the indications for their use, will be discussed in the next article in this series.

THE INCIDENCE AND PROGNOSIS OF CEREBRAL PALSY

AN INTERIM REPORT

BY

IRENE M. HOLORAN, M.B., Ch.B., D.C.H.

Assistant School Medical Officer, Leeds

In Leeds County Borough a special day school with 140 places caters for all types of physical handicaps other than defects of sight and hearing. The more severely handicapped from cerebral palsy attend here, and in addition it is expected that a residential school for the younger cerebral palsy children will be opened in 1952.

Incidence

The survey of cerebral palsy occurring between the ages of 3 and 16 in Leeds was begun in 1947. During that year an assessment was made of all the children on the school roll known to be suffering from cerebral palsy, including those attending ordinary schools as well as special schools. It did not include children already notified to the mental health authority as ineducable and many children under 5. All the children have been examined by Mr. J. M. P. Clark, orthopaedic consultant to the local authority, and by me. Those attending the day school for the physically handicapped have also been examined by Dr. J. D. Pickup, late lecturer in paediatrics, Leeds University.

The first survey in Leeds as published in the Annual Report of the School Medical Officer for 1947 mentioned 97 children, and the annual report for 1949 shows 136. The present figure is 141. The reasons for the rise in figures for Leeds appear to be as follows:

1. The knowledge that some plans were in preparation for the young cerebral-palsied resulted in more young children being referred from the paediatric and orthopaedic departments of the local hospitals. The latest ascertainment figure includes 19 children between 3 and 5 years of age and five not included in the survey who are under 3 years old. Since the school population includes very few children under 5 at the present time, a more

accurate incidence in proportion to the school population might be obtained by omitting the 19 children aged 3 to 5. Again, since the school population includes a minority of children over the age of 15 it would be more accurate to exclude those aged 15 to 16. The number would thus be reduced to 107—that is, 1.6 per 1,000 of the school population, reckoning the school population of Leeds as 66,548. The known figure for the whole country is 1 to 2 per 1,000. Sheffield reports 1.9, and Birmingham 1 per 1,000 (*British Medical Journal*, 1950, 2, 1051) of the school population and later 0.9 per 1,000 (Asher and Schonell, 1950). The American figure is 4 to 5 per 1,000 (Phelps, 1941).

2. Another factor causing the rise is the inclusion of a number of mildly afflicted children, hitherto undiagnosed. These came to light owing to the generally increased interest in cerebral palsy amongst all members of the school health service, who referred for investigation an increasing number of children showing slight symptoms. The reason given to parents and teachers for a child's clumsiness, slovenly speech, and relative dullness compared with his siblings produces a much more sympathetic attitude, and an acceptance of the child's disability as such rather than as original sin. In this more favourable atmosphere the child often improves considerably.

3. The third factor that produces a rise in the numbers recorded between 1947 and now is that the present list includes 14 children notified as ineducable during that time. Eight were notified before starting school; the other six proved ineducable after a trial in school or incapable of further education after profiting for a time.

Value of a Pre-school Clinic

A pre-school clinic has been started for children under 5 years, and for those over 5 years who are too handicapped to benefit yet from a day special school. The children attend twice weekly for physiotherapy and speech therapy (if required), and are provided with transport if necessary. While far from ideal in frequency of treatment owing to the difficulty in obtaining sufficient attendance of skilled personnel, the clinic has proved of great value.

The children make progress, and parents are taught how to help the children at home and are encouraged by meeting other parents in the waiting-room with similar problems. Much useful information is exchanged and a happy atmosphere prevails. Perhaps the greatest value of the pre-school clinic is that the observations of skilled staff over an appreciable period are available for the difficult task of assessing the educability of severely handicapped children. In the light of reports from the speech therapist and the physiotherapist, along with a Terman–Merrill assessment of intelligence where possible, the medical staff responsible can send the child to school with some confidence that he will profit there both educationally and physically, or they may decide that there is evidence from prolonged observation that the child is ineducable—a decision that could not possibly be arrived at from one or two interviews only. Before the pre-school clinic was started valuable places in the day special school had to be devoted to giving these children a trial. This wastage is now largely avoided.

Type of School Suited to Children with Cerebral Palsy

Unlike the voluntary schools, whose screening personnel merely accept or reject a child as suitable or otherwise for that particular class of school, a local authority has to make a recommendation regarding the place into which the child will fit. Table I shows how 141 children aged 3 to 16 with cerebral palsy have been placed.

Thus about half the children with cerebral palsy occupied a place in a school for the physically handicapped for part if not all of their school life.

TABLE I.—*The Placing of 141 Children Having Cerebral Palsy*

Secondary grammar school	2
Secondary commercial school after day school for the physically handicapped	1
Primary or secondary modern school	37
Primary or secondary modern school, after day school for the physically handicapped	17
Private school after day school for the physically handicapped	2
Day school for the partially sighted, after day school for the physically handicapped	1
Day school for the educationally subnormal, after primary school	5
Day school for the educationally subnormal, after day school for the physically handicapped	10
Private school instead of school for the educationally subnormal	1
Residential school for the physically handicapped	1
Day school for the physically handicapped	21
Home teacher advised	2
Awaiting school for the physically handicapped (all under 6 years old)	14
Under 5 years old, and probably fit for primary school at 5	4
Under 6 years old and probably ineducable	6
Notified to the Mental Health Authority as ineducable	17

Distribution of Intelligence

Table II shows the distribution of innate intelligence amongst the group. The test used was the Terman–Merrill revision of the Stanford–Binet tests, and all the tests were applied by me.

While realizing the difficulties of obtaining a valid intelligence quotient from children suffering from severe cerebral palsy, the findings given below may be of some value, particularly as more than half the children are not so handicapped as to require provision for special physical education.

TABLE II.—*Distribution of Intelligence in the Cerebral-palsy Group (Terman–Merrill I.Q.)*

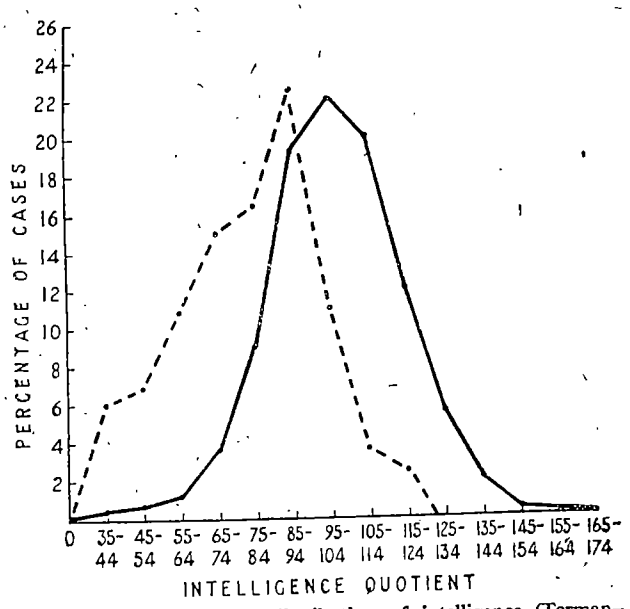
Less than 35	6 (4·5%)	85–94	30 (22·6%)
35–44	8 (6·0%)	95–104	15 (11·3%)
45–54	9 (6·8%)	105–114	5 (3·8%)
55–64	15 (11·3%)	115–124	3 (2·2%)
65–74	20 (15·0%)	Over 124	Nil
75–84	22 (16·5%)		

Completed	133
Gone to work at 15 and change of address untraced	1
Probably ineducable; no figure possible as yet (under 6 years)	4
Probably educable; no figure possible as yet (under 4 years)	2
Probably educable; no figure possible as yet (under 6 years)	1
Total	141

The difference in the distribution of intelligence between the cerebral-palsied group and a normal group is striking and disagrees markedly with the American estimate (Phelps, 1938) that 70% of children suffering from cerebral palsy have intelligence spread over the same distribution as the general public and that many of these children have a high-grade intelligence when their disability will allow them to use it.

The graph on the next page shows the normal distribution of intelligence compared with the distribution in 133 children suffering from cerebral palsy. It appears that far fewer children fit for an academic or technical type of education will be found in a group of children with cerebral palsy than in a normal group.

The highest proportion of children with cerebral palsy come within the dull group. Those of normal and supernormal intelligence as a whole form only 24.8% as



Graph showing normal distribution of intelligence (Terman–Merrill I.Q., ▬▬) compared with distribution of intelligence in 133 children suffering from cerebral palsy (Terman–Merrill I.Q., ▪▪▪▪▪▪▪▪).

against 75% in the normal population. Conversely, 33.3% have intelligence quotients under 70, whilst only 3% of the ordinary population come into this category.

This distribution of intelligence agrees closely with the findings of Asher and Schonell in their summary of 354 cerebral-palsy children in Birmingham and district.

TABLE III.—*Distribution of 141 Estimated Intelligence Quotients of Cerebral-palsy Groups Compared with Asher and Schonell's Estimation and With the Normal Child Population*

I.Q. Level	Present Group		% Asher and Schonell	% Normal Population	Usual Nomenclature	Suitable Provision
	No. of Cases	% of Group				
130	0	0	0·6	1	Supernormal	Ordinary school
110–129	4	2·8	3·4	22	Normal	
90–109	31	22	20·1	52	Dull	
70–89	51	36·2	26·8	22	Feeble-minded	Special school for E.S.N.
50–69	30	21·3	22·9			
25–49	12	8·5	10·7	3	Imbecile	Occupation Centre
Below 25	5	3·5	11·6		Idiot	Institution
Not yet assessable	8	5·7	3·9			

The Ineducable Children

Parents may apply for the admission to a residential colony of an ineducable child whom they are unable to care for at home. In addition to a residential colony, Leeds is fortunate in possessing two day-occupation centres under the care of the mental health authority. Most children who are notified as ineducable have the opportunity of attending a day-occupation centre. Transport is provided, and quite severely handicapped children are cared for. The regular regime on graded nursery-class lines for all ages proves beneficial in many ways. The children are happy to be with others and become more independent and more socially acceptable. Parents agree to a child's notification less reluctantly when some training is still provided for the child and when some solution is offered of the domestic problem often created by having a severely handicapped child in the home all day.

When a child appears likely to be ineducable it is advisable to tell the parents early that there are doubts about how much progress the child will make. If the parents can be helped to accept the truth about the child's disabilities, and their confidence in the doctor can be kept, much unhappiness will be avoided. They will not suffer from feelings of resentment that "Authority" has not given their child a fair chance, nor from disappointment as a result of seeking a multitude of opinions or quack remedies. If difficulty arises a further six-months delay may convince those hitherto unconvinced when the greater progress of other children in the pre-school clinic is seen. A visit to an occupation centre will often clinch matters. It should always be pointed out that should the child make unexpected progress it is possible to cancel a notification.

Employability

The placing of cerebral-palsied children in suitable employment when they leave school presents its own difficulties even in a city, such as Leeds, whose industries are avid for juvenile labour. When one or both hands are affected, when speech may still be slightly abnormal, when the intelligence is too poor to allow of clerical work, when there is accompanying epilepsy, or when some of the emotional instability so typical of cerebral palsy may still remain, the problem is a difficult one. A patient with severely crippled legs, or an educationally subnormal child with strong limbs, is much easier to place than one with the mixture of disabilities apt to be found in the spastic child even though each disability may not be severe in itself.

Of 17 educable children who have left school and are over 16 years old, one is having further training in a private "commercial" school, one is working satisfactorily since leaving school, two have just been satisfactorily placed, two are working for relatives, three have had several changes of job and are difficult to place satisfactorily, four are at long-stay training establishments—e.g., Alton, Oswestry—with a view to home industry such as shoe-repairing, and four are at home unable to work at all.

Of eight children aged 15 leaving school at that age, and therefore all comparatively mildly handicapped and having attended ordinary school, four are working satisfactorily, one has just been satisfactorily placed, one has had several changes of job already, and two have changed addresses and cannot be traced.

From these small groups of children who have left school it would appear that any complete schemes for dealing with cerebral palsy must include sheltered workshops and home industries.

Conclusions

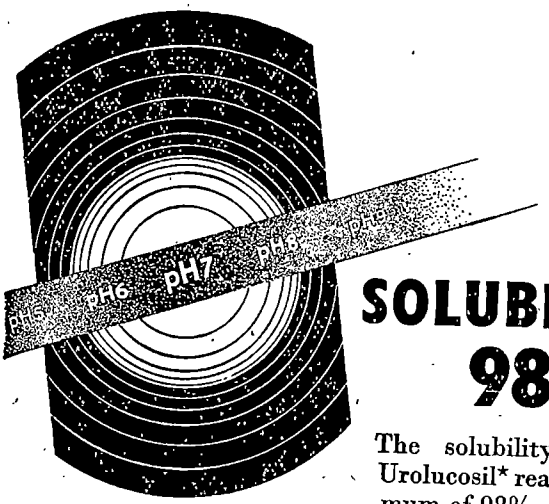
The incidence of cerebral palsy in Leeds children aged 5 to 15 is 1.6 per 1,000 of the school population.

A pre-school clinic is a vital part of any scheme for the treatment and education of children suffering from cerebral palsy.

The condition of half the children has required that part or all of their school life be spent in a special school for the physically handicapped.

Occupation centres do valuable work in rendering the ineducable children more socially acceptable.

The distribution of intelligence is lower than in a similar group of normal children.



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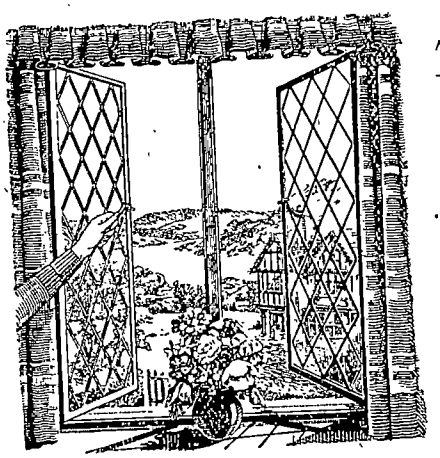

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The placing of these children in suitable work presents considerable difficulty. Home industries and sheltered workshops are needed for a complete scheme.

Thanks are due to Mr. J. M. P. Clark for much helpful criticism and advice, and to the Leeds education authority and to Dr. I. G. Davies, school medical officer and medical officer of health, for permission to publish this report.

REFERENCES

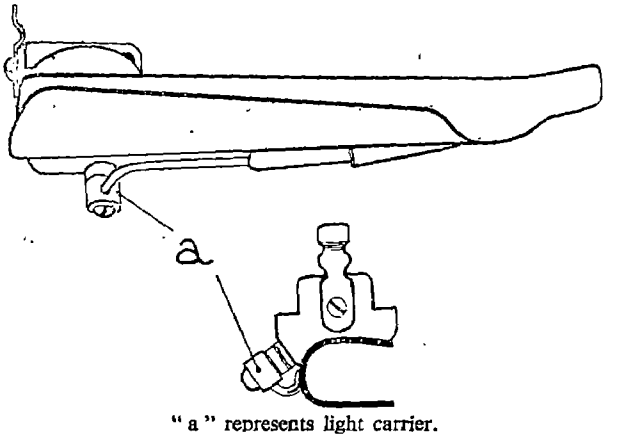
Annual Reports of the School Medical Officer for Leeds, 1947 and 1949.
Asher, P., and Schonell, F. E. (1950). *Arch. Dis. Childh.*, 25, 360.
British Medical Journal, 1950, 2, 1051. Report of Conference of the British Council for the Welfare of Spastics.
Phelps, W. M. (1938). *Occup. Therap.*, 17, 207.
—— (1941). *N.Y. St. J. Med.*, 41, 1827.
Terman, L. M., and Merrill, M. A. (1937). *Measuring Intelligence.*

Preparations and Appliances

A LARYNGOSCOPE BLADE FOR INFANTS

Dr. R. BRYCE-SMITH, first assistant, Nuffield Department of Anaesthetics, University of Oxford, writes: Difficulty is often experienced in exposing the larynx of a newborn baby by those who are not adept, and for this reason intubation in asphyxia neonatorum is rarely practised by the obstetrician or general practitioner. A laryngoscope blade has been designed to give a satisfactory view of the cords whether it is introduced anterior or posterior to the epiglottis, or with the head either extended or flexed. Most other blades for children are not intended for the newborn, and in my hands have not given completely satisfactory results.

The blade has a three-quarter-circle cross-section for the greater part of its length (7.5 cm.), and tapers from a maximum width of 1.8 cm. at the proximal end to 1 cm. at the



"a" represents light carrier.

tip. The distal 2.5 cm. is curved slightly, and although it has an open section it is guarded on the left side to retract the tongue. There is sufficient overhang on the open side to prevent the lips from obscuring the view. The broad flat lower surface does not damage the gums. Though intended primarily for newborn babies, the blade is made long enough for use on children up to 3 years of age. Over a period of six months it has given satisfactory results in this range and has been of value in children with cleft-lips and cleft-palate.

The bulb is mounted on a detachable Melbourne-type light carrier for ease of sterilization and replacement. The blade fits any Longworth laryngoscope handle.

I am indebted to Mr. Richard Salt, of the Nuffield Department of Anaesthetics, for his help in developing and designing this blade, which may be obtained from the Longworth Scientific Instrument Company, Thames Street, Abingdon.

Reports of Societies

CONSERVATIVE TREATMENT OF THE DISK SYNDROME

At a meeting of the Section of Physical Medicine of the Royal Society of Medicine, held at 1, Wimpole Street, W.1, on January 9, there was a discussion on "The Conservative Treatment of the Disk Syndrome." Dr. H. F. TURNEY, president of the Section, was in the chair.

Dr. E. J. CRISP, who opened, said that the lumbar disk lesion—a lesion which knew no age limit—was the commonest cause not only of sciatica but of acute and chronic low back pain. Though the disk was a comparatively avascular structure, he believed that repair of annular tears could take place, though slowly, by vascularization from the adjacent spongiosa or from extradural vessels.

Terms such as "slipped" or "prolapsed" disk were most misleading: disks could not slip and seldom actually prolapsed. The usual lesion was an incomplete annular tear resulting in a postero-lateral bulge of greater or lesser degree. Some idea of the extent of the lesion might be deduced from the clinical picture. With a small annular tear, especially if accompanied by injury to the ligamentum flavum, the lumbar spine was usually held in tight lordosis by protective muscle spasm, little or no forward flexion being possible. Conversely, if there was a large posterior protrusion the lumbar curve would be reversed, and though forward flexion might be possible the patient would be unable to stand upright.

Conservative Measures

The object of treatment was to allow any protrusion to reduce, inflammatory reaction to subside, and repair to take place. Possible methods of treatment included bed rest, plaster jacket, traction, manipulation, epidural injection, physiotherapy, and spinal brace, etc. Cases of average severity usually did well with complete bed rest for three or more weeks. But quite a number failed to respond, usually because complete rest was impracticable. The plaster jacket was a much more effective method of treatment: it splinted the back, allowed repair to take place, and was good for the morale, as the patient could be ambulatory. It was essential to wear the jacket for two to three months, and a spinal brace for a similar period subsequently.

The case with the reversed lumbar curve could often be relieved dramatically by sustained traction on the traction table, the protrusion reducing and the lumbar spine regaining its normal shape; after that a plaster jacket was applied. If traction was not available the protrusion reduced equally well but more slowly in a plaster jacket, though it was necessary to remove the jacket when reduction had occurred and apply a new one with the lumbar spine in the corrected position. Manipulation was contraindicated in the acute stage, but was often effective for the chronic case or for the relief of residual pain following immobilization in plaster. Sustained traction might be equally effective for this type of case. Short-wave therapy for the relief of pain and inflammation, and hyperextension exercises to strengthen the sacrospinalis group of muscles, were rational and valuable physiotherapeutic measures, but they should not be used to the exclusion of rest, but rather as supplementary measures in the resistant case. Exercises which flexed the lumbar spine should be avoided, and lumbar flexion allowed to return spontaneously. The vast majority of patients with lumbar disk lesions could be relieved by conservative methods if sufficient attention were paid to details.

Cervical Disk Protrusions

Dr. M. KREMER considered that the commonest cause of brachial neuralgia was probably a lesion in relationship with the shoulder-joint. Where a cervical disk protrusion

was the cause some neurogenic symptom or sign would be present. The pain in the early stages was caused by ligamentous lesions and occasioned by spasm of the cervical muscles. Later, when the protruded fragments of disk impinged upon one of the cervical nerves, radicular pain appeared—both a distally shooting superficial pain and a more proximal aching myotonic pain in the muscles supplied by the affected segmental nerve. Paraesthesiae in the peripheral distribution of the affected nerve were common. Examination would disclose hypotonia, wasting, and eventually weakness of the muscles supplied by the involved nerve, and diminution of the tendon reflexes was common. Objective sensory disturbance was, however, rare. Radiological examination of the cervical spine in such cases would often show narrowing of disk spaces and osteoarthritic change, but the significance of these *x*-ray changes was far from clear, since identical changes might be present in the absence of symptoms. In treatment rest was all-important. Ideally this should be in bed in a half-sitting position, the head supported on pillows with a sandbag on each side to prevent lateral movement, and a pillow beneath the knees to facilitate the maintenance of the sitting position. The weight of the arms should be carried on pillows. Adequate doses of analgesic drugs were required, morphine being given in the early stages if necessary. Later a mixture containing two or three compound codeine tablets with half a grain (32 mg.) of codeine phosphate added was useful. This was given four-hourly by day, and at night 15 to 20 minims (0.9 to 1.2 ml.) of "nepenthe" was added. Basal sedation with amylobarbitone, 1 gr., was also useful. Heat applied to the shoulder by means of an electric pad might be helpful, but other forms of physiotherapy were contraindicated.

If pain continued for two to three weeks in spite of this regime traction was applied to the neck by means of a Crile halter to which was attached a weight of 6 to 14 lb. (2.72 to 6.35 kg.), the traction being maintained for three to four weeks. Should pain then recur a plastic collar should be provided to limit neck movement. Also if bed rest was impossible a collar must be fitted and analgesics provided.

Central Protrusions in the Elderly

Central protrusions of the cervical disks were a common cause of mild spastic paraplegias in older people, often without sensory change. They caused symptoms by traction on the dentate ligaments, obstruction to the anterior spinal artery, and friction during spinal cord movements. Treatment was by traction, and later a plastic collar. The results were often very satisfactory. Surgery should be conservative, decompression followed by the fitting of a collar being sufficient.

After the contributions of the opening speakers there was a short discussion.

The Food Standards Committee of the Ministry of Food has considered and adopted a report on lead in foods. This states that lead is one of the most widespread and serious of the metallic contaminants of food and drink. Many foods and water contain naturally small amounts of lead; shell-fish may ingest and absorb lead compounds present in sea and estuary water; and lead can be inhaled in atmospheric dust. Some of these sources are uncontrollable but others are attributable to human agency and can be regulated. Lead arsenate is used as an insecticide for spraying apple and pear trees and occasionally for spraying soft fruit. Contamination from this source is not of course confined to the raw fruit but is liable to occur whenever these fruits or products derived from them are used in the preparation of foods—e.g., in the manufacture of cider, of apple pectin, and of soft fruit jams containing apple pectin. Contamination from containers is liable to arise with canned foods or where lead pipes are used to convey water, beer, cider, etc. The extent of contamination of canned meats varies according to the type of container, there being a higher rate of contamination from cans with vent holes which require soldering.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Male Infertility

SIR,—The letter from Dr. F. N. Valdez on this subject (January 12, p. 106) cannot be allowed to pass without comment. I have little desire to question the principles and practice of Roman Catholic theology, but I feel that to regard the production of a seminal specimen *for the purpose of investigating male fertility* by masturbation as a perversion of nature is surely ludicrous, especially as that theology rightly regards reproduction as a cardinal duty of the married couple. If reproduction is so important a duty, then clearly the institution of measures to promote it, when unaided it seems to fail, is equally important. That masturbation is in fact a perversion of nature is, of course, open to grave doubt, if only on the basis of the frequency of its occurrence (see A. C. Kinsey, W. B. Pomeroy, and C. E. Martin, *Sexual Behaviour in the Human Male*, 1948) in human males and in monkeys. In any case, the theological prohibition is clearly aimed at masturbation and other sexual acts employed for the purpose of obtaining pleasure but without reproduction. Masturbation for the production of a seminal specimen for medical examination is obviously not for pleasure—and, indeed, is more or less distasteful to many men. In my experience Roman Catholics have nearly always been able to obtain sanction to produce a masturbation specimen when proper application has been made to the priest.

It scarcely need be reiterated—for the point has been discussed often before—that seminal specimens collected by condom are utterly worthless for fertility estimation, while coitus interruptus is seldom of greater value, owing to the impossibility for most men to exercise the required control and acrobatic agility to ensure the entire ejaculate passing into the specimen jar. To imagine that the study of testicular biopsies and the estimation of urinary androgens and gonadotrophins will be of much help in establishing the fertility of men, in the absence of seminal examination, shows complete detachment from reality. The effort alone required to perform these studies, as compared with seminal analysis, is prodigious and obviously prohibitive, while entirely normal results from all three could be quite compatible with complete sterility as, for example, in cases of aspermia due to blockage of the ducts.

If Dr. Valdez is faced with insuperable difficulties in determining male fertility because of his inability to obtain masturbation specimens in certain cases, may I suggest that he will find the post-coital test far more simple and far more informative than all the testicular biopsies and hormone estimations ever could be?—I am, etc.,

London, W.C.1. G. I. M. SWYER.

SIR,—Dr. F. N. Valdez (January 12, p. 106) is evidently unaware of a very simple method of collecting semen apart from the Huhner test. The patient is given a small test-tube and is instructed to collect the semen from the amount which nearly always flows from the vagina after coitus. This method is in conformity with the tenets of the Roman Catholic Church and is satisfactory.—I am, etc.,

Dublin. BETHEL SOLOMONS.

Diagnostic Unit for Practitioners

SIR,—I read with great interest the article by Dr. John H. Hunt (December 29, 1951, p. 1575). I should like to congratulate him on his courage and enthusiasm in developing the unit which he describes at a time when any such project is beset with difficulties at every step. He suggests, however, that small units such as this may have their place within the

National Health Service. So far as my own specialty, radiology, is concerned, I think any such development is to be deprecated. Multiple small units are inevitably costly and result in inferior work. He states that in three years 1,476 patients have been examined radiologically by a whole-time radiographer, although I am not quite clear if this number includes cases sent from other doctors. In larger departments a radiographer is able comfortably to examine 3,000 cases in a year. It has been my experience that in the small cottage hospitals there is frequently a wastage of personnel owing to the necessity of employing a whole-time radiographer who is not fully occupied. It is also my experience that the standard of radiography and the general usefulness of the department to the clinicians using it is seldom as good where a radiologist is only intermittently available as in those departments where a full-time radiologist is available at all times to give his advice and stimulus.

I do not wish to suggest that there are not strong arguments in favour of these larger departments being freely available to general practitioners. Used with a proper understanding of the limitations of radiology and the significance of radiological reports by the practitioner concerned, together with close personal liaison between himself and the radiologist, I think this direct access can be of great benefit to the patient.—I am, etc.,

Ryde. JOHN H. L. CONWAY-HUGHES.

Shortage of X-ray Films

SIR,—Your leading article on this subject (January 12, p. 94) is the first reference to the fundamentals of the problem, the conflict between those who seek to sell film for hard currency and the voracious demands of the "free" Welfare State. Whatever the solution of the wider problem, the trials and frustrations of the present shortage are the despair of those in charge of *x*-ray departments. The standard of work suffers because particular types of film are not available, and shortage of smaller sizes compels the use of larger films than necessary. Shortage of the usual chemicals in the dark-room again spoils good film. Endless time and energy are wasted by everyone in desperate efforts to get some film somehow from somewhere. In the Eastbourne Group we have up to now had an open department to which the general practitioner could refer cases direct—a much-appreciated and, in my experience, seldom-abused facility. Under the present conditions, we have had to withdraw this service indefinitely, except for accidents. You point out many ways in which film can be saved. The fact is that, even when all this is done as far as possible, there still remain endless difficulty and frustration in obtaining sufficient film.—I am, etc.,

Eastbourne. E. OWEN FOX.

SIR,—Your leading article on the shortage of *x*-ray films (January 12, p. 94) is a fair and accurate analysis of the position. Experience has proved that more and more patients are being referred for *x*-ray examination, and with the refinement of the radiological diagnosis and the discovery of new fields of radiological investigation the expansion will continue indefinitely. In view of our economic position, however, we are likely to suffer from a shortage of *x*-ray films for years to come.

The solution of the problem lies perhaps in a radical change of radiographic technique. Our present radiographic method is extremely wasteful. There is no reason why most of the radiographic pictures should not be obtained by photographing on a small plate the screen image, as in mass radiography. A few years before the war I submitted to a leading *x*-ray manufacturing firm a design for an apparatus suitable for that purpose. The screen image is photographed by means of a suitable camera on a film 3¼ in. by 2¼ in. (9 by 6 cm.). The camera can be focused in such a way that the whole of the photographic film is made use of, irrespective of the size of the part of the body examined. Thus the image of a wrist, for example, would be less reduced than, say, the image of a spine. The focusing, however, would be entirely automatic. The photographs could be examined either directly or by means of a magnifying glass or an enlarger.

Not all *x*-ray installations would be powerful enough to produce screen images bright enough for instantaneous photographic exposures, but all stationary parts of the body could be examined with photographic exposures not longer than a few seconds even when only a small *x*-ray apparatus is available. Such a change in radiographic technique is bound to follow in any case as a logical development of the amplified *x*-ray beam, which is on the way and may as well be adopted now.

The saving in *x*-ray films, the cost of which is continually increasing, would be enormous, as the small photographic plates would cost on an average less than a tenth of the cost of full-size films and the outlay on the camera and suitable enlarger would be recovered in a short time.—I am, etc.,

Guernsey. A. ORLEY.

Radiography and Ruin

SIR,—Are *x*-rays "essential"? Surely the answer must be no. Surely this addiction to radiography is just another symptom of the vice of our time, which threatens to bring our civilization to ruin. Thank goodness your leading article on the shortage of *x*-ray films (January 12, p. 94), ending with the words "food for the fit or films for the failing?" indicates that one journal at any rate is aware of the danger. We fret about atomic bombs and the risk of another war, oblivious apparently of the danger that overrides all else—successful treatment at long last come to fruition in a world of men utterly unfitted to receive it. Thus medical science to-day is harnessed to produce dysgenic breeding of humans, destruction of the "lower" animals, impoverishment of the land, pollution of the water, and inordinate world over-population, the precursor of a cataclysmic fall.—I am, etc.,

Buxted, Sussex. W. R. E. HARRISON.

"Idiopathic" Scoliosis

SIR,—It is good to find Mr. Denis Browne (December 29, 1951, p. 1584) lending the weight of his authority to the contention that infantile scoliosis can and should be diagnosed and treated within a few weeks of birth, instead of encountering either unwarranted optimism or equally disastrous pessimism, such as occurs in many clinics.

The diagnosis is certainly not easy, but the existence of a lump on one side of the chest, which is caused by rotation of the spine forcing the angles of the ribs back one side, should always be considered an indication for radiography of the whole spine on a single large film, on which the primary curve and secondary curves of later development can usually be seen and their relative compensation estimated. In the very young infant the original curve can be expected to disappear; once sitting has begun, it may be possible only to ensure that two curves, or a series, balance each other, so that the general axis of the spine is vertical.

As regards splinting: for over 15 years the writer has been using the wooden bed designed by Schede, of Leipzig, which consists of a base of plywood, padded with lamb's wool, covered with "rexine," so as to be washable; from this base project three well-padded struts, one to compress the ribs on the convex side and the other two to exert counter-pressure on the opposite arm and thigh respectively. The child is held up the centre of the bed by padded straps. Traction to the ankle of the concave side can be applied by a bootee tied to an iron loop projecting from the bed. To increase traction the foot of the bed can be raised at night on a box; while by day, as the child develops, it can be given a view of the world for increasing periods by raising the head-end. Every wriggle by the infant represents an exercise in active correction of its deformity. It is not easy to demonstrate details in a photograph, but the writer could lend a small model to any practitioner interested. This type has been constructed in the Bath orthopaedic splint workshop for many years.—I am, etc.,

Edinburgh. M. FORRESTER-BROWN.

Megaloblastic Anaemia in Indians

SIR,—With reference to Professor S. Chaudhuri's experiences with vitamin B_{12} in megaloblastic anaemia in India (October 6, 1951, p. 825), may I be permitted to point out that I have shown in a certain proportion of cases of megaloblastic anaemia in Indian women in Fiji during pregnancy and the puerperium that, apart from a small temporary reticulocytosis with large doses, there is no marrow reversion or haematological response to vitamin B_{12}? On the other hand, there is a good response to folic acid. These results have now been confirmed (*J. trop. Med. Hyg.*, 1951, **54**, 89) by using the vitamin B_{12} preparation known as "normocytin." There is at present no apparent difference between the cases of megaloblastic anaemia associated with pregnancy and the puerperium which respond to vitamin B_{12} and those which do not. As a rule, however, the cases which require folic acid are more severe, and would have proved fatal in the past; a fact which is apparent in the number of deaths registered in Fiji from "anaemia" in Indian women. This becomes apparent from examination of hospital records. Moreover, many of the cases which need folic acid are misdiagnosed, as the clinical picture may resemble typhoid or severe puerperal sepsis owing to the associated high fever. Unless these cases are sought for, the occurrence of megaloblastic anaemia associated with the puerperium and not responding to vitamin B_{12} may be missed, and deaths may be ascribed to some other cause.—I am, etc.,

Suva, Fiji. P. E. C. MANSON-BAHR.

Malaria

SIR,—In spite of Sir Bennett Hance's disarming kindness to my antiquity, I feel I must join issue with him on one or two points in his letter (January 12, p. 104).

Of course, nobody who has studied a section of brain from a case of cerebral malaria would deny that the intravenous route is the first indication for such an emergency. But for the chronic case I suggest that the intravenous route, like the oral, has the disadvantage of resulting in too rapid absorption with proportionally shorter stay in the body, a case analogous to that of penicillin before the invention of absorption-delaying preparations of this remedy. This view is based on the undoubtedly better results which I obtained by intramuscular injection than by the oral route (though I did try very hard to ensure best results by the latter method) and on the fact that symptoms of cinchonism were very rare in my cases; it is subject to correction by experimental evidence on concentration levels of quinine in the blood serum.

I agree that quinine causes necrosis at the site of the injection, but saw no disadvantage in this provided that the injection was made deeply into the gluteal muscles and precautions were taken to prevent regurgitation of the drug along the needle track. I would suggest that the painful nodules which Sir Bennett mentions are a good argument for drilling a good technique of intramuscular injection into the medical subordinates concerned. After all, intramuscular injection is used for the administration of many other drugs besides quinine, and emphasis on good technique would affect the comfort of far more people than those requiring treatment for malaria.—I am, etc.,

London, S.W.1. L. W. HARRISON.

Treatment of Tropical Ulcers

SIR,—Mr. H. D. Obrien writes (December 29, 1951, p. 1544) that the results of treatment of tropical ulcer are still unsatisfactory. He has improved on our therapy by the addition of penicillin and skin-grafting, both of which were unavailable in our series (Marsh, F., and Wilson, H. A., *Trans. roy. soc. Trop. Med. Hyg.*, 1945, **38**, 259). Dr. Obrien writes that his results do not differ much from the best results in the literature surveyed. Actually the method he describes, is far from simple and is very time-consuming for a medical officer working with little or no skilled help. Dr. Obrien mentions "zipp," which was devised by J. C. R. Buchanan and W. K. Connell (*Trans. roy. soc. trop. Med. Hyg.*, 1933, **27**, 239) and is still very useful. We found that powdered potassium permanganate applied in a very thin layer over the ulcer under medicated gauze and a light plaster bandage rapidly cleared up the most obstinate cases. The application, dressing, and plaster bandage were removed and fresh material applied at the end of 10 days or a week. The majority of our cases were healed in two weeks by this treatment. Dr. Obrien improved the diet of his patients and kept them in hospital. Our patients were all treated as outpatients and their diet was not improved, much as we would have liked to supplement it. Filth, food, friction, fuso-spirillosis comprise what is known of the aetiology of tropical ulcer, even at the present date. I agree that great numbers of these cases occur still because the "seed" and the "soil" have not decreased, even in this modern world. But more than one effective and simple method of treatment—as Dr. Obrien seems to acknowledge—now exists; so progress has not altogether been smothered.—I am, etc.,

Epping. FRANK MARSH.

Epigastric Hernia and Dyspepsia

SIR,—Many of the coal-miners in my practice have emphysema. A number of them have associated dyspepsia. Their medical cards are filled with such entries as bron: catarrh, bronchitis, 'flu, pneumonia ——, dyspep. gastritis, gastric catarrh, ? peptic ulcer, haematemesis, etc. (Also the chills, myalgia, neurasthenia, debility, anaemia, neurosis, "the pinched look and don't-want-to-go-to-work feelings" which I take to be the forerunners of established silicosis.)

Many of the dyspepsia cases have had hospital investigations and barium-meal radiographs. The chest condition is invariably overlooked and just occasionally a gastric ulcer is reported. They are seldom cured and depend on alkalis for relief. On careful digital palpation of the epigastrium between the ziphisternum and navel in the midline, I find many have unsuspected epigastric herniae. The herniae are often less than the size of a pea, and between attacks are difficult to feel. Once the lump is felt there is usually no doubt. The patients often say, "That's the spot, Doctor," though they may not have been conscious of it before. I attribute this emphysema-epigastric-hernia syndrome to the chest becoming barrel-shaped, with an increase of the circumference of its lower part. The upper recti may be pulled apart at the midline, and a chronic cough, with increased action of the diaphragm, completes the job.

I regret, owing to the protracted rebuilding of the local cottage hospital, that I have been unable to get the majority of these cases confirmed by operation. I feel it may be of interest to record these findings and to suggest that emphysema and epigastric herniae may be the real causes of a great number of cases of ill-defined recurrent dyspepsia and gastric ulcer.—I am, etc.,

Chasetown, near Walsall. ROY HOUGHTON.

Cough Fracture

SIR,—In connexion with the papers on cough fracture by Dr. J. B. Mitchell and Dr. N. Wynn-Williams (December 22, 1951, pp. 1492 and 1494) the following case may be of interest:

The patient, a young man 18 years of age, was first seen on September 19, 1950, with a history of a productive cough of about two weeks' duration, some lassitude, and loss of weight. An attack of pneumonia in childhood was given as previous history. Clinical examination and chest radiograph revealed bronchitic changes in both lower lobes, especially on the right side. The patient was instructed in postural drainage exercises, and advised to return to the chest clinic if his symptoms failed to clear up in a few weeks.

He was not seen again until referred to the clinic by his general practitioner on October 17, 1951. About two weeks previously he had developed some cough and sputum and complained of pain in

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his right shoulder and back and down his right arm. His temperature had been elevated, and a pleural rub was heard on the right side at that time. He was given a course of sulphamezathine tablets and put to bed for one week. When seen at the clinic, his general condition was good, and no physical signs could be detected in his chest. A radiograph of his chest (P.A. view), however, revealed a recent fracture of the lower third of his first right rib. It was noted that the first rib on the left was apparently missing, apart from a rudiment discernible on the film. On further questioning, the patient stated that during a fit of coughing some two weeks previously he experienced a sudden fairly severe pain down his right arm which did not leave him for some time. When he was being examined the same kind of pain could still be elicited by pressure on the first right rib. A follow-up radiograph on January 9, 1952, shows good callus formation round the fracture.

It has been stated in one of the papers mentioned above that fractures of the first rib have no relation to cough and are usually asymptomatic. The case described above does not seem to fit in with this. In view of the malformation of the corresponding rib it remains a matter for speculation whether a congenital weakness was present as a predisposing factor in the fracture described.

I wish to thank Dr. John Glen for permission to publish this case, and for his advice and help in connexion with it.

—I am, etc.,

Grimsby. W. E. ZUNDEL.

Post Hoc, Propter Hoc Reasoning

SIR,—I have only just had the opportunity of reading the excellent article by Drs. B. F. Swynnerton and S. C. Truelove (November 24, 1951, p. 1243). That gastric ulcers frequently go malignant is one of the many doubtful theories which have been handed down from textbook to textbook without due inquiry, to clog the minds of generations of unfortunate students. *Post hoc, propter hoc* reasoning has been the curse of scientific progress down the ages. Because we bear certain superficial resemblances to the ape it must be assumed that we have descended from him. Because a carcinoma develops at the site of an ulcer it must be assumed that the two are dependent one upon the other. Because fibro-adenosis of the breast, at a certain stage, is closely allied histologically to carcinoma, it must be called a precancerous condition, and the breast is amputated, while there is no shred of clinical evidence that carcinoma develops any more frequently in these than it does in the normal breast.

There is only one way of forming criteria of malignancy, and that is by studying the living patient, and the pathologist who takes the trouble to follow up his patients instead of going through the years with his eye glued to the microscope or the pathological specimen is the one from whom real advances are to be expected. The great achievements of the old pathologists came from just those men who combined a study of pathology with a study of clinical medicine, and one greatly deplores the present tendency to turn out so-called specialist pathologists who have neither knowledge nor experience of clinical medicine. This present tendency towards the narrow training of specialists will be the ruination of British medicine unless nipped in the bud. We have always prided ourselves on our balance and common sense, and if we are unable to "walk with kings—nor lose the common touch," then it is the kings to whom we should say farewell.—I am, etc.,

Nairobi. R. T. BURKITT.

Simultaneous Haemorrhage and Perforation of Meckel's Diverticulum

SIR,—The article by Drs. John N. Walton and Norma D. Lill (January 12, p. 88) prompts me to report the following case where severe bleeding was associated with a perforated peptic ulcer of Meckel's diverticulum.

A boy, aged 8 years, was admitted on May 9 with a diagnosis of acute appendicitis. There was a history of diarrhoea for four days. On the day previous to admission he had developed lower abdominal pain, but had not vomited. No other relevant history could be obtained. When examined the child was crying quietly. The temperature was 100° F. (37.8° C.) and pulse 84. There was generalized abdominal tenderness and rigidity, most marked in the right iliac fossa. Occasional bowel sounds were heard on auscultation. There was marked tenderness in the recto-vesical pouch on rectal examination.

Operation.—When the abdomen was opened through a McBurney incision a considerable amount of blood-stained fluid was present in the peritoneal cavity. The appendix was normal. A Meckel's diverticulum, situated about 12 in. (30 cm.) from the ileo-caecal valve, showed a circular perforation nearer the base, exuding intestinal contents. A small artery passing from the mesentery to the diverticulum was bleeding freely in the mesenteric edge of the perforation. The bleeding was controlled by ligation of the vessel in the mesentery and the diverticulum was excised. The patient had an uneventful convalescence and was discharged on May 30.

Specimen.—Examination showed the presence of gastric mucosa in the distal half. The remaining mucosa was of the small intestine type. The perforation was situated on the intestinal area about 1 cm. from the edge of the gastric mucosa.

The main points of interest in this case are the unusual association of haemorrhage and perforation, the absence of evidence of passage of blood in the stools (because of involvement of the remnant of the vitello-intestinal artery, haemorrhage had occurred into the peritoneal cavity and not into the lumen of the gut), and the site of the perforation.—I am, etc.,

Balham, S.W.12. J. BURKE.

Congenital Dermal Sinus and Meningitis

SIR,—Drs. B. S. Cardell and Bernard Laurance have done service in reporting (December 29, 1951, p. 1558) their interesting case of congenital dermal sinus associated with fatal meningitis, since, although a rare condition, it will be met with in paediatric practice from time to time and if recognized early can be saved. They refer to two cases of my own which I included when reporting eight cases of spinal epidural abscess in 1938. In one there was an epithelized track from the skin to the dura; in the other, a similar track led down to an infected intra-spinal epidermoid cyst; and, in both, the superficial end was represented by no more than a minute punctum. Since that time I have met with two more cases of intra-spinal dermoid or epidermoid cyst (one of each) connected to the overlying skin by an epithelized track, the arch of the corresponding vertebra being deformed or bifid in each case.

One of my objects in writing this note is to issue a warning against regarding the removal of one of these innocent-looking sinuses as necessarily a simple operation. In fact the surgeon may find himself among the components of the cauda equina, and unless familiar with neurosurgical techniques he may precipitate the very complication he was hoping to prevent. Of the 35 cases quoted in their paper no less than 17 had dermoid or epidermoid cysts lying within the spinal canal.

It seems to me that the origin of all these sinuses is not necessarily always the same. Those overlying the sacrococcygeal region may well be modified forms of pilonidal sinus, as Walker and Bucy suggest, the neural crest ectoderm and cutaneous epithelial ectoderm never having completely separated. The opening is very small, admitting no more than a bristle, and can easily be overlooked by even the most observant mother. But some of the more highly placed sinuses must surely be forms of spina bifida. Of the 33 sinuses overlying the spinal column quoted by the authors 19 were associated with bony defects in the vertebral arches of about the corresponding level, and seven more said to have no bony defect were, nevertheless, connected with the meninges. Some were accompanied by a tuft of hair, an area of pigmentation, or a capillary angioma; and seven had abnormalities of the cord or filum terminale. All these features would fit in with spina bifida occulta, but with a sinus in addition.

In the lesion under discussion infection of the sinus leads inevitably to infection within the spinal canal, which, depending on the deep connexions of the track, leads either to a

primary spinal meningitis or, as the result of infection of the spinal epidural fat or of an intra-spinal cyst, to secondary meningeal irritation or frank meningitis. From the experience of my own 10 cases of spinal epidural abscess, together with others I have seen with colleagues, I would suggest that the really important lesson to be learned is that where a child, ill, feverish, and fretful, complains of pain in the back, or is observed to use it awkwardly—not bending it when picking up something off the floor—and on examination resents even the slightest passive flexion yet not of hyperextension—thus differentiating the case from tuberculous disease of the spine, which it may closely mimic. Think of the possibility of ascending spinal meningitis and look for the minute opening of such a sinus. The sinus may be actively inflamed, as in the case of Drs. Cardell and Laurance, but there may be no inflammatory reaction whatever: the symptoms may be gradual, fulminating, or intermittent, and the latter, like the case reported, may finish with a fulminating attack, the anxiety then being vascular thrombosis affecting the cord. If an *x*-ray picture shows a bifid or ill-formed spine the sinus is even more certainly the responsible lesion. The spine tends to become more and more extended, and head retraction develops, yet a little extra passive extension is tolerated—but not a degree of flexion. This "unfolding" of the spine is very characteristic of ascending spinal meningitis. It is wiser not to perform a lumbar puncture, since the needle may transfix an epidural abscess and carry pus into the subarachnoid space, but a cistern puncture will give information regarding cells and organisms. Should the case be seen before pus has formed sulphonamides and antibiotics may abort the condition, but where pus is suspected or the case is not responding to conservative treatment operation is clearly called for, and it will almost certainly mean a laminectomy.—I am, etc.,

Birmingham. F. A. R. STAMMERS.

The Common Cold

SIR,—Treatment for this malady is being increasingly solicited by the public, who previously were content to endure this affliction stoically or utilize one of the remedies prescribed by folklore. I believe that it has been established that this infection is due to a virus of small molecular size. As the natural immunity conferred by an attack is of short duration vaccine treatment is presumably foredoomed to failure. Virus infections seem resistant to our present range of medicines except for some of the larger molecular viruses which are sensitive to an odd one of the latest antibiotics. If one of these is found which is effective against the coryza virus it is probable that its expense will make its use economically impracticable for at least several years.

I would therefore venture to suggest that the money at present being spent on research on the common cold would have been better devoted to research on the nature of viruses. Any treatment apart from general constitutional measures which can be utilized at present is at the best palliative and, I fear, too often actively harmful. It seems as meddlesome to use ephedrine or other vasoconstrictors in what is an acute inflammatory state as it would be to use ice packs in the treatment of a boil. I think the use of these applications often contributes to the incidence of sinusitis, especially in the mucopurulent stage where a blocked ostium is opened after a negative pressure has become established or there is a pabulum of inflammatory exudate present in the sinuses. It is in this stage these remedies are supposed to be especially efficacious.

The widespread opinion that colds are best left to take their course concurs with this view. A folklore remedy which seems more helpful is that of sniffing a salt solution. This seems analogous to using salts in acute dysentery, which was what I believe to be the best treatment available prior to the introduction of the sulphonamide drugs. In folk-medicine the essential oils in the form of a vapour—for example, eucalyptus, linseed, hops, and onions—figure frequently in anti-coryza measures. It would be interesting to know if any essential oils can indeed influence the course of the coryza infection in any way and, if they do, what their action might be. Might they act by inducing hyperaemia?

In my own case, when sufficiently afflicted to desert stoicism I think I find some relief from hypertonic saline irrigations and also am almost persuaded that the duration of the mucopurulent stage is reduced.—I am, etc.,

Kirkham, Lancs. J. SUTHERLAND.

Indian Remedies for Poor Memory

SIR,—I have never used or wished to suggest (*British Medical Journal*, October 6, 1951, p. 852) the use of the African drug *Catha edulis* therapeutically, and least of all for impaired memory, as Dr. D. A. Baird (December 22, 1951, p. 1522) alleges. I referred to it because its chemistry and pharmacology, as indicated in my references to the *Dispensatory* of the United States of America, may throw some light on the scientific investigation of the Indian drug *Celastrus panniculata* Willd.; both these drugs are derived from the same botanical family and have one of the alkaloids, celastrine, in common. Such botanical grouping often gives some suggestion of similarities (though not identity) in chemical and pharmacological properties, as those of *Atropa belladonna* L., *Hyoscyamus niger* L., and *Datura stramonium* L., all plants from the same botanical family—Solanaceae.

My mention of *Catha edulis* as an excellent stimulant beverage, without subsequent depression (in therapeutic doses), was based on Watt and Breyer-Brandwijk's references and particularly on Martindale's *Extra Pharmacopoeia* (1914, **1**, 325), where catha is mentioned as a drug known for generations for its sustaining power, and the therapeutic (prenarcotic) doses for its solid and liquid extracts are given. All beverages, including the caffeine-containing tea and coffee, can be harmful in overdoses or during prolonged misuse. Amphetamine, which is a cortical stimulant, can produce addiction and other toxic effects and yet is a very valuable drug in narcolepsy and depressive states. The development of the scientific use of opium and some of its valuable alkaloids and the synthesis of amidone ("physeptone") and pethidine ("demerol") would have been impossible if the dangers of addiction or deleterious effects during *mis*use had stifled all research. The Indian drugs I mentioned have been very extensively and effectively used from the times of Charaka and Susruta, and are not known to produce any deleterious effects, and I trust that their scientific investigation will confirm the Indian and my own records.—I am, etc.,

Oxford. SOHRAB A. E. HAKIM.

SIR,—I have been in communication with Dr. Hakim, and have suggested that a controlled clinical trial of *Celastrus panniculata* could be carried out here. Dr. Hakim has agreed to such a trial and I hope to be in a position to report our findings in the not too distant future.—I am, etc.,

Little Plumstead Hall, Norfolk. J. V. MORRIS, Medical Superintendent.

Danger of Extracting Many Teeth at Once

SIR,—I am more than pleased to see that Dr. I. E. Reichenfeld (December 8, p. 1406) is converted to my view that nutrition, environment, and education are the key points in any campaign for better dental health. The good doctor must realize that the dental surgeon sees his patient generally for the first time when the mouth is already in a chaotic state and nothing short of extraction is of any use whatever. I have many, many, tragic mouths to deal with in patients of ages from 12 to 16 upwards, and with all the knowledge and skill in the world one can do nothing with a mouthfull of roots and multiple abscesses.

I will agree that Continental people are more conservative-minded, but I, in common with my colleagues, have had the melancholy duty of removing foul septic crowns and bridges from Polish, Italian, and other Continental patients. From

my own experience the conservation there is pursued to impossible and very dangerous limits. I have at the moment an Austrian gentleman who wishes me to construct a bridge upon a floating $\overline{7}$ across to a non-vital and rarified $\overline{4}$. A bridge is already carried on rather similar teeth on the right side.

There is no doubt that, given greater co-operation between medical and dental colleagues, much can be done, but I must restate this: although I know that medicine is already overburdened, the family doctor always sees the patient first and usually many years before the dentist.—I am, etc.,

Birmingham. L. A. PHILPOTT.

POINTS FROM LETTERS

L-Noradrenaline

Mr. L. M. SPALTON (Bayer Products, Ltd.) writes: The statement in your annotation, entitled "*Nor*adrenaline by Intravenous Infusion" (December 29, 1951, p. 1571), that the solution of *nor*adrenaline in saline should be slightly acid, or should contain ascorbic acid, may well impose an unnecessary burden on the anaesthetist. Normal saline, if properly prepared, should always be slightly acid, and will be alkaline only if stored for a prolonged period in glass containers which release alkali. L-*nor*-adrenaline as manufactured usually contains an antioxidant in the ampoule, and will retain its potency for at least a year or two. If the contents of the ampoule are added to a saline solution which has become alkaline, oxidation will occur, but not for several hours.

Shortage of X-ray Films

Dr. JAMES F. BRAILSFORD (Birmingham) writes: Because we are short of *x*-ray films essential radiographic services are being jeopardized, but the reason why we are short of these essentials is because they are being extravagantly wasted, chiefly by those clinicians who fail to give adequate consideration to the need of the radiographic examination and to assess the true value of the evidence to the patient which this expensive service yields. If a careful census of films used were made and their merits assessed it would be found that the percentage wastage was in the region of over 70 and often over 90, and the tuberculosis and chest service would easily top the list in waste. For over 10 years I have been repeatedly urging in and out of the medical journals the need for the exercise of reasonable care in the use of *x*-ray films. I forecast the present outcome before the wastefulness of the present service; it may have come sooner but for this cry in the wilderness. I saw the same waste in the U.S.A., and even against opposition did not miss any opportunity of drawing attention to it.

Ruptured Spleen

Dr. J. MURRAY BLACK (Dunfermline, Fife) writes: Recent articles in the *British Medical Journal* by Sir James Learmonth (July 14, 1951, p. 67) and Mr. Harold Edwards on splenectomy stimulated me to look up the records in the Dunfermline and West Fife Hospital regarding the incidence of traumatic rupture of the spleen. I find that during the year ended November, 1951, five cases were operated on. Considering that A. K. Hendry (in *British Surgical Practice*, vol. 8) gives the London Hospital figures as 32 cases in 34 years, the occurrence of five cases in one year at a small provincial hospital must be unusual.

Initiative

Dr. P. C. LEWIS (Hove) writes: I was called out one evening to see a little boy, and on arrival found that he was suffering from sore throat and earache. The auditory canal was full of wax and the drum head thus obscured. I had not brought my ear syringe with me, and it was essential to remove the wax. As no syringe was available it occurred to me that the little boy might have a water pistol. Discovering that one was in the house (confiscated for obvious reasons), it was brought forward and one shot displaced the wax to reveal a red but not bulging drum.

Correction

Dr. S. RUSSELL JAMIESON writes that he omitted to thank Mr. Peter Gaskill, of the Department of Education of the Deaf at Manchester University, for information contained in paragraphs two to five of the discussion in his paper on "Tuberculous Meningitis" (*Journal*, January 12, p. 84).

Obituary

NIGEL CORBET FLETCHER, O.B.E., M.B.

Dr. N. Corbet Fletcher, formerly Surgeon-in-Chief of the St. John Ambulance Brigade, died in London on December 21, aged 74 years.

The son of the late Dr. J. Corbet Fletcher, Nigel Corbet Fletcher was educated at Merchant Taylors' School; Queen's College, Cambridge, to which he won a classical scholarship; and University College Hospital. Qualifying in 1904, he graduated in the following year. He won the Fellowes Gold Medal at University College Hospital, where he held resident posts as house-physician and senior obstetric assistant. In 1906 he started practice in Hampstead, where he worked to within a few days of his death. His reputation grew quickly and he was soon respected and admired throughout the whole district. Fletcher was a fine athlete, and played Rugby football for his school, his university, and for Middlesex. He was twice capped for England, in 1901 and 1903. In 1908 he married Mabel Isabel Browne. His married life was ideally happy, and it was a great blow to him when his wife died in 1942.

Major A. C. White Knox, Surgeon-in-Chief of the St. John Ambulance Brigade, writes: Corbet Fletcher's great hobby was the St. John movement, and he gave his first lecture for the association in 1908 to a class of employees of the old L.N.W. Railway. He was associated with the late Sir James Cantlie in teaching first aid at the Regent Street Polytechnic and the College of Ambulance. In 1915 he took over the answering of queries in the magazine *First Aid*, and 13 years later became the honorary medical correspondent to the Order's own magazine. His concise and sometimes pungent remarks in these magazines made readers look forward with interest to next issues. He lectured and examined many classes in first aid and home nursing for the railways, police, and many other large organizations where a knowledge of first aid was becoming essential. In 1916 Corbet Fletcher became divisional surgeon to the Hampstead Division of the No. 1 (Prince of Wales's) District. He was promoted to Assistant Commissioner and later to Surgeon-in-Chief, a post which he held from 1936 to 1950. He wrote numerous books on first-aid work, and was awarded the O.B.E. for his services to the movement. He held the Service Medal, and between 1918 and 1937 was made Honorary Associate, Officer, Commander, and finally Knight of the Order of St. John.

In the 25 years that I knew Nigel Corbet Fletcher, or "N. C. F.," by which initials he was known throughout the whole St. John world, I would say that his outstanding qualities were a lovable nature, hidden sometimes under a gruff exterior, and a great courage which carried him forward under the difficulties of failing health. His name is a landmark in the first-aid world, and his work will stand for many years to come as a great example of the St. John motto, *Pro Fide—Pro Utilitate Hominum*, "For the Faith and For the Service of Mankind."

R. FOSTER KENNEDY, M.D., F.R.S.Ed.

Dr. Robert Foster Kennedy's death on January 7 was recorded in last week's *Journal* (p. 165).

Dr. Robert Marshall writes: The first determining point in Foster Kennedy's career was when he was appointed house-physician at the National Hospital in

Queen Square, at a period when it was rare for graduates of the provincial universities to obtain even a resident appointment in London. The second was when he embarked for America to establish there the principles and precepts of British neurology which he had learnt so thoroughly. He was a man of dynamic energy and found time in his full life for many and varied activities. After his death the *New York Times* paid tribute to him in these words:

"One of the leading medical personalities of the United States and the world for many years, Dr. Kennedy was more than an outstanding physician or neurologist. He was a scholar and a wit, connoisseur and philosopher, an accomplished orator and raconteur. The mere announcement that Foster Kennedy was to deliver an address or participate in a discussion was sufficient to assure a lecture hall overcrowded by fellow-physicians, whom he never failed to delight with his original point of view, his fresh approach to a problem, his *bons mots* and aphorisms, pronounced in a faint Irish brogue. The medical fraternity came to regard him as a modern version of a Delphic oracle who always could be counted upon to highlight the essence of a subject with a trenchant quotable phrase."

This just and kindly appreciation of him gives the reader some idea of his amazing charm and of what a delightful person he was, but to see Foster Kennedy at his best was to see him at the bedside of a sick person. There he was a simple, kind, and gentle man, quick to appreciate the patient's point of view, and leaving nothing undone for his comfort and his welfare. If, as has been said, one can achieve success by being clever or by being kind—and one can always be kind—his skill and his cleverness were transcended by his unfailing kindness. When he was elected a doctor of science, *honoris causa*, of the Queen's University of Belfast, the dean of the faculty reminded us that he had served in the first world war with the rank of a British major in a French military hospital, and was awarded the Military Cross. He had also obtained special recognition by learned societies in France, Sweden, Hungary, Cuba, and Mexico, as well as London and Edinburgh. Better still, he had made friends all over the world, and nothing delighted him more than to entertain them royally in his beautiful American home. Ulster can indeed be proud of Robert Foster Kennedy.

The sudden death of Dr. W. J. McL. BAIRD, of Blackpool, on October 29 at the age of 69, came as a great shock to his many friends and colleagues. He had made what was apparently an excellent recovery from two serious operations the previous year, and all his friends felt that his wonderful vitality would carry him through many years to come. William Joseph McLearn Baird studied medicine at Queen's University, Belfast, and at Dublin, graduating M.B., B.Ch. in 1904. He went into general practice in Blackpool, where he was the last of the general-practitioner surgeons in the area. He had been on the staff of the Victoria Hospital from 1910 to 1948, when he retired from the active surgical staff to become honorary consulting surgeon. In the 1914–18 war he served in Mesopotamia, and was attached to the 32nd British General Hospital. On returning from the Middle East, in addition to running a large general practice, he resumed his surgical work at the Victoria Hospital, and also had charge of one of the auxiliary military hospitals established in the town. As honorary secretary of the Blackpool Division of the B.M.A. from 1912 to 1923 he took an active part in local medical politics in the early days of National Health Insurance. He later held office as chairman of the Division, and was a member of the insurance committee and panel committee. At the time of his death he was a member of the Blackpool executive council and the local medical committee. He was a J.P., president of the local Ulster Association, and had been a member of the borough council for a number of years. He leaves a widow, to whom every sympathy is extended.

A colleague writes: "Mac," as he was known to his friends, will be much missed. He was a very good companion, and to travel with him was a most enjoyable experience. His likeable personality always asserted itself in the end, even on occasions where controversy and somewhat acrimonious argument had been prevalent. A true son of Ulster, like so many of his fellow countrymen he loved to be "agin the Government" at times, and thoroughly enjoyed a spot of bother.

Lieutenant-Colonel EDWARD VICTOR HUGO, formerly of the Indian Medical Service, died on December 24, 1951, after a short illness at his home in Richmond, Surrey. Born in 1865, he was educated at Foyle's College, Londonderry, and received his medical training at St. Bartholomew's Hospital, qualifying in 1889 and graduating M.B., B.S. (with honours and gold medal) in 1890. His postgraduate studies gained him many distinctions which served him well in his future career in the I.M.S. He joined the Service in 1892, and in the 30 years of his life he devoted to it there were ample opportunities for the development of his personal and professional abilities to the fullest degree. He was a member of the Waziristan expedition, the Chitral relief force, and the Malakand field force, and he took part in the siege of Chakdara. He was mentioned in dispatches for his work on the N.W. Frontier in 1897–8. His special interest was surgery, and in 1908 he was elected professor of surgery at King Edward's Medical College, Lahore, a post which he held until 1914, when he reverted to military duties. As senior medical officer in the hospital ship *Gascon* he was present at the Dardanelles landing. In 1916 he became consulting surgeon, Mesopotamian Expeditionary Force. He was appointed C.M.G. in 1917, having previously been mentioned in dispatches. After the war he returned to the chair of surgery in Lahore, where he remained until he retired in 1922 and came to live in Richmond. After leaving India he served for several years as a member of the medical board of the India Office, and he took an active interest in the work of the B.M.A., becoming chairman of the Richmond Division and president of the Surrey Branch in 1934–5, besides finding time to support the local Red Cross, the Royal Hospital, Richmond, and the Royal National Lifeboat Institution, which last year bestowed on him its highest award, the gold medal. Colonel Hugo married in 1909, and his widow survives him.—L. H. W.

Dr. PERCY CLIFT PEACE died at his home at Burry Port, Carmarthenshire, on January 1, aged 71. Born at Sheffield, he studied medicine at University College, Sheffield, qualifying in 1903. After serving as senior house-physician at the Sheffield Royal Hospital and resident medical officer at the North Evington Infirmary, Leicester, he went to Wales in 1908 and entered practice in Tylorstown, Glamorganshire, in the mining district of the Rhondda Valley. He continued his general practice in that town for 16 years, and gained a high reputation among his colleagues and his patients for his work. He took an interest in the work of the British Red Cross Society and in the St. John Ambulance Brigade, lecturing and examining for both bodies. In 1924 he went into practice in Kidwelly, Burry Port, and district and carried on his life work among the people of Wales for a further 27 years. He lived in Kidwelly until 1947, when he continued his practice from the neighbouring town of Burry Port, leaving his partner in charge at Kidwelly. It was in Kidwelly that his work with the British Red Cross

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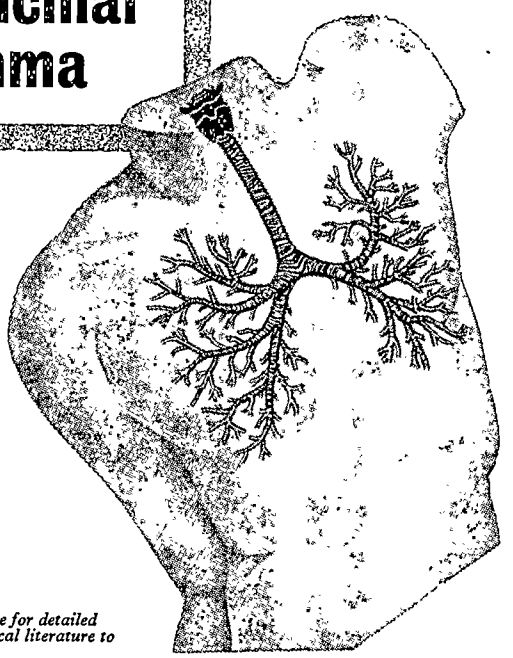

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Society and the St. John Ambulance Brigade came to fruition, for he was appointed honorary life member and examiner for both. He took a lively interest in local affairs, and was a borough councillor from 1945 to 1947, when ill-health forced him to retire. Although crippled at an early age, he was able to take part in and was ever interested in sports, holding vice-presidencies of Kidwelly and Burry Port rugby football clubs and the Burry Port bowling club.

T. R. D. writes: As a general practitioner Dr. Peace was a very sound clinician and always put his patients' welfare in the foreground. His outstanding personal quality was courage, which sustained him through many difficult times and in the fight against increasing physical infirmity during the last 10 years. Though the struggle was prolonged and often grim, he maintained to the end his confident and cheerful bearing towards his patients. At home he was the wise and understanding father of a united family, always ready to take a kindly interest in their troubles and rejoice with them in their pleasures. He is survived by three sons of his first marriage and by his widow and a young son and daughter.

Dr. PERCY BERNARD SKEELS, coroner for the Metropolitan District of Essex, who died suddenly on January 5 at the age of 70, was educated at the Leys School, Cambridge, and was admitted as a solicitor in 1905. While still in legal practice he entered Guy's Hospital Medical School in 1917, and qualified medically in 1925. He was later deputy coroner to Dr. Guthrie in the County of London and also for the City of London, and in 1933 was appointed to the coronership, which he still held at the time of his death. In 1943 he was elected president of the Coroners Society, of which he was an active member, and he was also a member of the Medico-Legal Society and on the council of the Medical Protection Society. Skeels represented a rather unusual type of career, the solicitor who takes up medicine, and throughout his years of office as coroner he constantly showed his legal training in the scrupulous attention to detail which he maintained in the conduct of his court and which he infused into the pathologists who worked for him. At the same time his interest in medicine never flagged, and when an unusual case was reported to him he would often visit the Royal Society of Medicine to seek further information. Although he did not write much himself he was always willing to advise on medico-legal publications. His interests were wide. In his young days he played cricket for Guy's Hospital, and he was a keen ornithologist and horticulturist.—F. E. C.

The passing of Dr. JOHN PHILLIPS has taken from the ranks of the medical profession another of those ardent souls whose ambition it is to die in harness rather than to retire. Dr. Phillips was well past 80 before his last illness intervened to stop his working. He was born in 1866, the only son of Mr. and Mrs. William Laing Phillips, of Harrogate, and entered Edinburgh University as a medical student, graduating as M.B., C.M. in 1888. After being resident medical officer at Mount Vernon Hospital, Hampstead, and house-surgeon at Monkwearmouth and Southwick Hospital, he settled in practice in Southsea in 1894. In 1901 he was top of the poll for election as assistant physician on the reconstituted staff of the Royal Portsmouth Hospital, from which as senior physician he retired in 1921. Dr. Phillips joined the Territorials in 1908 and was a major in the R.A.M.C. when called up for home service in 1914. He was appointed to the Staff of the 5th Southern General Hospital, which was established at Portsmouth during the first world war, and in 1918 he was made cardiologist to the Ministry of Pensions for the Portsmouth area. His last illness, of 18 months' duration, was most bravely borne. In 1914 Dr. Phillips married Dorothy Mary, the daughter of the late Mr. and Mrs. Forbes-Leith, of Southsea. Much sympathy is extended to his widow.—M. A. K.

Medico-Legal

FORGOTTEN TOURNIQUET

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

On March 14, 1951, a bus conductor, aged 32, was admitted to Heatherwood Orthopaedic Hospital, Ascot, for an operation for the removal of a cartilage in his right knee. Apart from his knee injury he was in perfect health. He was brought into the theatre at 12.15 p.m. on March 16. The tourniquet, an Esmarch rubber bandage, had already been applied to his thigh by the anaesthetist. The surgeon, assisted by a registrar, then performed the operation, which lasted about 30 minutes. It was the last operation performed by the surgeon that morning. The anaesthetist left the theatre with the surgeon's consent before the end of the operation. The surgeon saw the patient taken from the theatre. Nobody removed the tourniquet. It was hidden by the theatre gown he was wearing and by towels.

When the patient recovered from the anaesthetic at about 1.15 p.m. he complained of pain in his leg, and the registrar saw him in the ward. He was given an injection of morphine but was very restless, having to be held in bed until after a second injection of morphine at about 3.30 p.m. It was not until 6.15 p.m., when a male nurse was straightening up the patient's bed, that the tourniquet was noticed. The nurse released it at once.

The patient was seen that evening by the surgeon, who found deep lines round his thigh and red areas where the tourniquet had been. Treatment was immediately instituted, and next day the patient was given a blood transfusion. He later began to vomit, and it was found that his kidneys were not functioning properly. Some sensation later returned in his right leg and he could move his toes, but as his kidneys still did not function properly he was transferred to Taplow Hospital to be under the care of a doctor who had special experience of such injuries. He got worse, however, and a week after transfer developed abdominal pain. An exploratory operation was performed on March 30, but no cause could be found, and he died on April 4, nineteen days after the injury.

At the inquest the pathologist who carried out the necropsy gave evidence that the organs of the circulatory system were pale, there was congestion of the vessels, and the heart muscle was flabby. Death was caused by pulmonary oedema, and the serous spaces contained an increase in fluid. The kidneys showed degenerative changes associated with damage to the muscles of the right leg following the prolonged application of the tourniquet, which had caused a band of necrosis in the muscle of the upper part of the right thigh with progressively less severe changes from there towards the knee. Other muscles in the body showed spontaneous bruising. The failure of the kidneys to function normally had produced a very great rise of urea in the blood.

The cause of death was recorded as uraemia and nephrosis (crush syndrome). A verdict of death by misadventure was returned.

Universities and Colleges

UNIVERSITY OF BRITISH COLUMBIA

Dr. Donald Hugh Paterson has been appointed Clinical Professor of Paediatrics in the Faculty of Medicine of the University. Professor Paterson graduated M.B., Ch.B.Ed. in 1916. He proceeded M.D. in 1928 and was elected an F.R.C.P. in the following year. Before returning to Canada in 1947 he was Consulting Paediatrician to Westminster Hospital, Consulting Physician to the Hospital for Sick Children, Great Ormond Street, London, and Lecturer in Diseases of Children in the University of London. He is Paediatrician in charge of the Children's Health Centre at Vancouver General Hospital and Consultant in Children's Health to the Metropolitan Health Committee of the City of Vancouver. He was elected F.R.C.P.(C.) in 1947.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **January 5** (No. 1) and corresponding week 1951.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 160 great towns in England and Wales (126 in 1951), London administrative county, the 17 principal towns in Scotland (16 in 1951), the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	45	6	9	1	0	38	5	11	4	6
Dysentery	295	30	43	4	1	834	74	98	3	
Encephalitis, acute	3	1	0	0		4	2	0	0	
Enteric fever:										
Typhoid	2	1	0	0	1	4	2	1	0	3
Paratyphoid ..	6	1	2 (B)	0		1	0	1 (B)	0	
Food-poisoning ..	309	23		0		108	33		0	
Infective enteritis or diarrhoea under 2 years				14	19				8	12
Measles*	3,491	46	135	174	77	21,688	2753	75	65	130
Meningococcal infection	40	3	15	2	3	50	4	26	2	2
Ophthalmia neonatorum	24	0	10	0		26	0	13	0	
Pneumonia† ..	973	86	231	5	1	1,774	109	459	20	
Poliomyelitis, acute:										
Paralytic ..	18	2	0	0	2	37	4	2	0	3
Non-paralytic ..	7	0				10	0			
Puerperal fever§ ..	197	28	4	2		90	6	12	1	1
Scarlet fever ..	1,102	84	229	29	39	923	59	174	36	82
Tuberculosis: ..										
Respiratory ..			68	13				94	30	
Non-respiratory..			10	4				15	9	
Whooping-cough ..	2,154	74	182	94	66	5,009	521	442	25	64

DEATHS in Great Towns‡	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	0	0		0	0	*2*	0	*0*	0	0
Dysentery	10	0		0			1		0	
Encephalitis, acute		0			0		0			1
Enteric fever ..	0	0		0		*0*	0	*0*	0	
Infective enteritis or diarrhoea under 2 years	20		2	0	0	*19*		*2*	2	2
Influenza	23	4		0	0	*458*	40	*17*	8	1
Measles		0		0	0		2	*0*	0	1
Meningococcal infection		0					0	*2*		
Pneumonia ..	305	51		11	10	*770*	111		31	16
Poliomyelitis, acute	0	0			0	*3*	0			0
Scarlet fever ..		0		0	0		0	*0*	0	0
Tuberculosis:										
Respiratory ..	172	18	22	3	5	*245*	37	*38*	9	15
Non-respiratory..		3	4	0	1		1	*5*	1	3
Whooping-cough ..	2	0		0	0	*12*	1	*1*	0	3
Deaths 0–1 year ..	299	26	53	5	15	*334*	51	*51*	16	17
Deaths (excluding stillbirths) ..	6,183	909	677	129	193	*9,860*	1570	*1053*	256	284
LIVE BIRTHS ..	8,054	1287	874	265	452	*6,858*	1217	*903*	231	320
STILLBIRTHS ..	183	25	26			*173*	20	*17*		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.
‡ See "Census Changes" opposite.

Vital Statistics

Census Changes

Population figures obtained at the 1951 census show that there are now 160 great towns (population over 50,000) in England and Wales instead of 126, and 17 principal towns (population over 30,000) in Scotland instead of 16. Therefore the 1952 figures for deaths, births, and stillbirths in these countries, published weekly in our Table, cannot be accurately compared with those for 1951, which are printed in italics. The 160 great towns in England and Wales have a population about 10% higher than the 126.

Uncorrected Notifications

The weekly figures of notifications recorded in the Table and depicted in the graphs on these pages are uncorrected figures and may sometimes differ considerably from the final corrected ones. A case in point is diphtheria, on which we commented last week (January 19, p. 169), the corrected figures for which may be appreciably different from those we discussed.

Quarterly Return for Eire

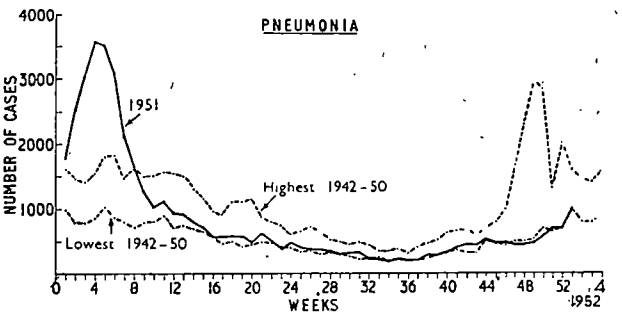
In the third quarter of 1951 the infant mortality rate in Eire was 36, as compared with 37 for the third quarter of the previous year. The death rate per 1,000 from tuberculosis, with the corresponding figure for 1950 in parentheses, was as follows: all forms, 0.6 (0.7); respiratory system, 0.4 (0.5); all other forms, 0.2 (0.2). The number of deaths from influenza was 59, as compared with 30 in the third quarter of 1950.

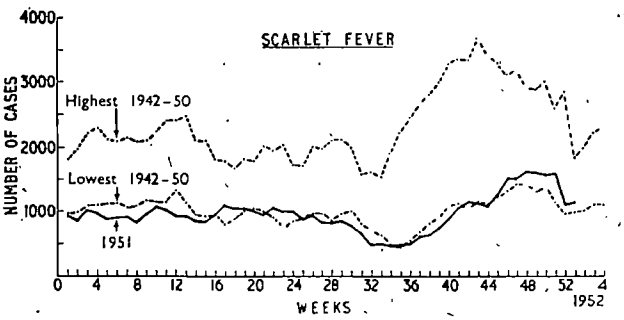
Week Ending January 12

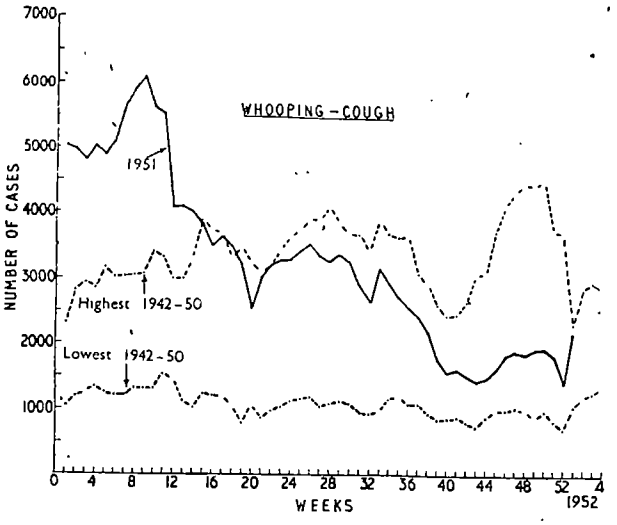
The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,055, whooping-cough 2,394, diphtheria 33, measles 2,840, acute pneumonia 1,056, acute poliomyelitis 36, dysentery 315, paratyphoid fever 3, and typhoid fever 3.

Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1942–50 are shown thus - - - - - - -, the figures for 1951 and 1952 thus ———. Except for the curves showing notifications in 1951 and 1952, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.







Infectious Diseases

A general rise occurred in the notifications of infectious diseases in England and Wales during the week ending January 5. The largest increases were measles 1,160, whooping-cough 752, and acute pneumonia 295.

The notifications of scarlet fever were 7 more than in the preceding week; the largest local fluctuation was a decrease of 34 in Lancashire. The largest rises in the number of notifications of whooping-cough were Yorkshire West Riding 113, Warwickshire 93, and Staffordshire 69. The increased incidence in these counties was due to the experience of the county boroughs. The notifications of diphtheria were 2 more than in the preceding week. The chief features of the returns of diphtheria were decreases in Lancashire 9 and Lincolnshire 5. A rise in the incidence of measles was recorded throughout the country, although only 13 cases were notified in the five south-western counties and the incidence in London and the south-midland counties was relatively low. The largest rises in the notifications of measles were Lancashire 191, Warwickshire 152, Staffordshire 126, and Kent 90. The rise in acute pneumonia was general throughout the country; the largest increase was London 56.

The notifications of acute poliomyelitis increased by 1 for paralytic and by 4 for non-paralytic cases. The largest returns were Kent 4 and Lancashire 3.

A further 38 cases were notified from the outbreak of dysentery in Norfolk, Norwich C.B. The other large returns of dysentery were Middlesex 34, Lancashire 34, London 30, Devonshire 19, Yorkshire West Riding 14, and Northumberland 13.

The largest centre of food-poisoning during the week was Northamptonshire 119 (Towcester R.D. 39, Northampton C.B. 36, Brixworth R.D. 25).

Medical News

French Scholarships in Medical Science.—Under the terms of a reciprocal arrangement with the Centre National de la Recherche Scientifique, the Medical Research Council invites applications from British workers in medical science, excluding clinical medicine, for two scholarships tenable at research institutions in France during the academic year 1952–3. The scheme is intended for young graduates in medicine or science who have already had some experience in a branch of medical science. Candidates must be of British nationality and have at least a working knowledge of French. The stipend of the scholarships will ordinarily be within the range of 45,000–90,000 francs a month, according to qualifications and experience, and married men will receive a supplementary allowance (payable in sterling by the Council); the grade appropriate to each individual will be decided by the C.N.R.S. in consultation with the Council. Provision will also be made for travelling expenses to and from the place of work. Forms of application may be obtained from the Secretary, Medical Research Council, 38, Old Queen Street, London, S.W.1, with whom applications must be lodged by March 31.

British Schools Exploring Society: 1952 Expedition.—Applications are invited for the posts of an honorary physician and an honorary surgeon for the Central Iceland expedition, leaving about July 28 and returning about September 16. The entire cost to each member will be £120, plus about £2 10s. for personal equipment. Applicants should apply as soon as possible to the secretary, British Schools Exploring Society, c/o Royal Empire Society, Northumberland Avenue, W.C.2.

South African Medical Research Fellowship.—Applications may be submitted for the 1952 award of the Eli Lilly medical research fellowship, from practitioners registered in South Africa. The closing date is May 8, and full details may be obtained from the honorary secretary of the selection committee, Capetown Postgraduate Medical Association, P.O. Box 2980, Capetown, South Africa.

John Hunter Commemoration Service.—A service will be held at St. Martin-in-the-Fields at 11 a.m. on Thursday, February 14, in commemoration of the fact that John Hunter's grave was in this church until 1859, when the remains were removed to Westminster Abbey. The discovery of the Hunter coffin was made by Frank Buckland, whose name is also commemorated on the plaque. The service will be taken by the Dean of Westminster. An address will be given by Sir Gordon Gordon-Taylor, the lesson read by Sir Cecil Wakeley, and the unveiling carried out by Sir Henry Dale.

Old Journals.—Readers who would like to help their colleagues abroad can do so by sending their used *British Medical Journals* and other medical periodicals to the Mailing Department of the British Council (65, Davies Street, London, W.1). They should be marked "For Overseas Distribution," and will then be sent to those countries most in need of up-to-date medical literature. A number of free copies of various journals are being sent to libraries in Yugoslavia and elsewhere, but many more are needed.

Help in Establishing New Libraries.—The Department of Scientific and Industrial Research has recently helped the Association of Special Libraries and Information Bureaux to establish a consultant information service. This service, drawing upon the existing resources of Aslib, and backed by new research into information techniques, is now available to advise those who are considering the establishment of special libraries and information services in industry and research establishments, and to assist the development of existing services. Details of this service and other facilities can be obtained from the Director, Aslib, 4, Palace Gate, London, W.8.

Search for Silvester.—During the last few years several exhaustive but unsuccessful searches have been made for a portrait of Henry Robert Silvester (1828–1908), who first described his method of artificial respiration in the *Journal* in 1858. We should be glad to hear from any reader who may have knowledge of the existence of such a portrait.

British Association of Otolaryngologists.—At the annual general meeting of the British Association of Otolaryngologists held on December 7, 1951, the following were elected officers for 1951–2: *President,* Mr. V. E. Negus; *Vice-president,* Mr. F. C. W. Capps; *Honorary Secretary,* Mr. Myles L. Formby; *Honorary Treasurer,* Mr. W. A. Mill.

Medical Research Council.—The Earl of Limerick has been appointed a member of the Medical Research Council and will be its chairman, in succession to the late Viscount Addison.

Order of St. John of Jerusalem.—The name of Dr. J. Main Russell, who has been promoted to Officer (Brother) in the Venerable Order of the Hospital of St. John of Jerusalem, was omitted from the list of promotions in, and appointments to, the Order published in the *Journal* (January 19, p. 160).

Scottish Western Region Association of Psychiatrists.—At a general meeting of the association on November 16, 1951, the following office-bearers were elected for the year 1951–2: chairman, Professor T. Ferguson Rodger; vice-chairman, Dr. W. Mayer-Gross; secretary, Dr. J. F. McHarg (Glasgow Royal Mental Hospital); treasurer, Dr. J. Milne. All sections of psychiatry in the region have representatives on the committee.

Fine Arts at the Ministry of Health.—The 21st annual exhibition of the work of the Ministry of Health Art Club and Camera Club was opened at 23, Savile Row, W.1, on January 21 by the Minister of Health. About 30 exhibitors are showing over 40 oil paintings, the same number of water colours, pastels, and etchings, and some sculpture, as well as some beautiful photographs. The artists have mostly chosen landscapes as their subject, and there is a notable absence of abstract work or of "modern art." The standard is high, often comparable with the Royal Academy's summer show.

Emergency Bed Service: Applications and Admissions.—During the seven days ending January 21 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,061, of whom 83.12% were admitted. A white warning, indicating that the percentage of admissions fell to 82½, was issued on January 18 and cancelled on January 22.

COMING EVENTS

Hunterian Society.—The annual dinner will be held at the Savoy Hotel, Strand, W.C.2 (Embankment entrance), on Thursday, February 14, at 7 for 7.30 p.m. The price of the dinner is 30s. Acceptances and cheques should be sent to Mr. Alec W. Badenoch, 110, Harley Street, W.1, before February 11. If Fellows will state with whom they would like to sit, every effort will be made to meet their wishes.

Films in Teaching.—A combined meeting of the Royal Society of Medicine and the Scientific Film Association on "Recent Research on the Effectiveness of Films in Teaching" will be held at the Royal Society of Medicine, 1, Wimpole Street, W.1, at 8 p.m. on Friday, February 29. The opening speakers will be Professor Patrick Meredith, Dr. H. Ellis Lewis, and Mr. John Maddison.

Medical Artists' Association.—Drawings for the examination for membership should reach the chairman of the board of examiners, c/o Dr. Tompsett, Royal College of Surgeons, Lincoln's Inn Fields, London, W.C.2, not later than Thursday, February 28. Application forms will be sent on request by Miss Mary Hawker, Snowdrop Cottage, Slut's Lane, Lindfield, near Haywards Heath, Sussex.

Tuberculosis Educational Institute.—Intensive three-day clinical courses will be held at the following centres during 1952:

Cheshire Joint Sanatorium, Market Drayton, Shropshire, March 19, 20, and 21; May 14, 15, and 16; November 12, 13, and 14.

King George V Hospital for Diseases of the Chest, Godalming, Surrey, February 27, 28, and 29; June 4, 5, and 6; October 1, 2, and 3.

Red Cross Sanatoria of Scotland (Tor-na-Dee and Glen o' Dee), March 19, 20, and 21; May 21, 22, and 23; October 15, 16, and 17.

The fee for each course is three guineas, and applications should be sent to the secretary, Tuberculosis Educational Institute, Tavistock House North, Tavistock Square, London, W.C.1.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Monday

GRESHAM COLLEGE, Basinghall Street, London, E.C.—January 28, 5.30 p.m., "*The Physiology of the Brain—Sensations*," first of four lectures by Professor H. Hartridge, F.R.S. (See also January 29, 30, and 31.)

INSTITUTE OF PSYCHIATRY, Maudsley Hospital, Denmark Hill, London, S.E.—January 28, 5.30 p.m., lecture-demonstration for postgraduates by Dr. E. Stengel.

LONDON UNIVERSITY.—At Physiology Theatre, University College, Gower Street, W.C., January 28, 5.30 p.m., "*The Metabolism of Ethyl Alcohol*," Special University Lecture in Pharmacology by Dr. E. Jacobsen (Copenhagen University).

MANCHESTER MEDICAL SOCIETY: SECTION OF GENERAL PRACTICE.—At Physiology Theatre, Medical School, Manchester University, January 28, 9 p.m., "*The Soul of Medicine*," by Dr. G. J. Langley.

MANCHESTER MEDICAL SOCIETY: SECTION OF ODONTOLOGY.—At Lecture Room, Manchester Dental Hospital, January 28, 5 p.m., "*Anatomy for the Clinician*," by Professor R. J. Last.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—January 28, 8.30 p.m., "*Surgery of the Spleen and its Indications*," discussion to be introduced by Sir Lionel Whitby and Mr. Rodney Maingot.

ROYAL EYE HOSPITAL, St. George's Circus, Southwark, London, S.E.—January 28, 5 p.m., "*Ptosis*," by Dr. T. H. Whittington.

UNIVERSITY COLLEGE, Physiology Theatre, Gower Street, London, W.C.—January 28, 5.30 p.m., "*The Metabolism of Ethyl Alcohol*," by Dr. Erik Jacobsen (University of Copenhagen).

Tuesday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., January 29, 5.30 p.m., "*Carcinogenesis*," by Professor A. Haddow.

GRESHAM COLLEGE, Basinghall Street, London, E.C.—January 29, 5.30 p.m., "*The Physiology of the Brain—Movements*," second of four lectures by Professor H. Hartridge, F.R.S. (See also January 28, 30, and 31.)

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 29, 5.30 p.m., "*Epithelioma*," by Dr. R. T. Brain.

MANCHESTER MEDICAL SOCIETY.—At Large Anatomy Theatre, Medical School, Manchester University, January 29, 4.30 p.m., "*Animal Electricity*," University Lecture on the History of Medicine by Professor W. Schlapp.

SOCIETY FOR THE STUDY OF ADDICTION.—At The Barnes Hall, Royal Society of Medicine, 1, Wimpole Street, London, W., January 29, 8 p.m., joint meeting with Medico-Legal Society. "*A New Form of Treatment for Delinquent Alcoholics as Applied in Denmark*" (*Illustrated with Cinematograph Film*), by Dr. Erik Jacobsen (Copenhagen). A discussion will follow.

Wednesday

EDINBURGH CLINICAL CLUB.—January 30, 4 p.m., clinical meeting by Miss G. Herzfeld. Visit to Bruntsfield Hospital.

GRESHAM COLLEGE, Basinghall Street, London, E.C.—January 30, 5.30 p.m., "*The Physiology of the Brain—The Special Senses*," third of four lectures by Professor H. Hartridge, F.R.S. (See also January 28, 29, and 31.)

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 30, 5.30 p.m., "*Mycology—Sporotrichosis: Blastomycosis*," by Dr. R. W. Riddell.

INSTITUTE OF UROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., January 30, 4.30 for 5 p.m., "*Haematuria*," by Mr. A. W. Badenoch.

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION.—At Royal Free Hospital School of Medicine, 8, Hunter Street, Brunswick Square, W.C., January 30, 8.30 p.m., "*Breast Feeding Without Dogma*," by Dr. Charlotte Naish.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW, 242, St. Vincent Street, Glasgow.—January 30, 5 p.m., "*The Treatment of the Typhus Fevers and Typhoid Fever with the Newer Antibiotics*," Dr. John Burns Lecture by Dr. Raymond Lewthwaite.

Thursday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., January 31, 5.30 p.m., "*The Physiological Basis of Visual Sensation*," by Dr. L. C. Thomson.

EPSOM AND SUTTON INTER-HOSPITAL PSYCHIATRIC ASSOCIATION.—At Horton Hospital, Epsom, January 31, 5.30 p.m., clinical meeting. "*Some Problems in the Treatment of Neurosyphilis with Penicillin*," by Dr. M. Wheelen; "*The Life Cycle of the Malaria Parasite*," film to be introduced by Mr. P. G. Shute; demonstration of cases by members of medical staff of Horton Hospital.

GLASGOW UNIVERSITY MEDICO-CHIRURGICAL SOCIETY, The Union, University Avenue, Glasgow.—January 31, 7.30 p.m., "*The Science and Art of Cardiology*," by Professor I. G. W. Hill.

GRESHAM COLLEGE, Basinghall Street, London, E.C.—January 31, 5.30 p.m., "*The Physiology of the Brain—The Higher Functions of the Brain,*" last of four lectures by Professor H. Hartridge, F.R.S. (See also January 28, 29, and 30.)

●INSTITUTE OF CHILD HEALTH, Hospital for Sick Children, Great Ormond Street, London, W.C.—January 31, 5 p.m., "*Surgery in the Newborn,*" by Mr. Denis Browne.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—January 31, 5.30 p.m., "*Histopathology—Epithelioma,*" by Dr. J. O. Oliver.

LONDON UNIVERSITY—At Meyerstein Lecture Theatre, Westminster Medical School, Horseferry Road, S.W., January 31, 5.30 p.m., "*The Physiopathology of Glucose Excretion by the Human Kidney,*" Special University Lecture in Medicine by Dr. P. Govaerts (Brussels University).

MIDDLESEX COUNTY MEDICAL SOCIETY.—At Central Middlesex Hospital, Park Royal, London, N.W., January 31, general meeting. 3 p.m., Demonstration of clinical cases, pathological specimens, and x-rays; 4.20 p.m., "*Errors in Blood Transfusion—Does Science Pay?*" by Dr. George Discombe; 4.45 p.m., "*Hoarseness,*" short paper followed by a film "*Oesophageal Speech,*" by Mr. Maxwell Ellis.

ROYAL ARMY MEDICAL COLLEGE.—At Lecture Theatre, John Islip Street, London, S.W., January 31, 5 p.m., "*Modern Trends in the Treatment of Carcinoma of the Breast,*" by Sir Cecil Wakeley, P.R.C.S.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—January 31, 5.30 p.m., "*Problems of the Radiation Treatment of Cancer of the Larynx,*" Otolaryngology Lecture by Dr. M. Lederman.

ROYAL INSTITUTION, 21, Albemarle Street, London, W.—January 31, 5.15 p.m., "*Respiratory Pigments,*" by Professor H. Munro Fox, F.R.S.

ROYAL SOCIETY, Burlington House, Piccadilly, London, W.—January 31, 2.30 p.m., "*The Thermodynamics of Elasticity in Biological Tissues,*" discussion to be opened by Professor A. V. Hill, F.R.S.

ST. ANDREWS UNIVERSITY.—At Lecture Theatre, Materia Medica Department, Medical School, Small's Wynd, Dundee, January 31, 5 p.m., "*Disabled Youth,*" by Professor T. Ferguson, D.Sc.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—January 31, 4.30 p.m., lecture-demonstration in psychiatry by Sir Paul Mallinson.

UNIVERSITY COLLEGE, Physiology Theatre, Gower Street, London, W.C.—January 31, 5.30 p.m., "*Different Forms of Signalling Employed by the Nervous System,*" by Professor Bernhard Katz.

WYE COLLEGE, Swanley Hall, near Ashford, Kent.—January 31, 8.15 p.m., "*The Coming of Genetics,*" by C. D. Darlington, D.Sc., F.R.S.

Friday

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 1, 5.30 p.m., "*Epithelioma and Epithelial Tumours,*" clinical demonstration by Dr. R. T. Brain.

●INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 1, 5.30 p.m., "*Medical Aspects of Cyanotic Congenital Heart Disease,*" by Dr. Wallace Brigden.

OXFORD UNIVERSITY.—At Magdalen College, Oxford, February 1, 5 p.m., "*The Neurophysiological Basis of Mind,*" Waynflete Lecture by Professor J. C. Eccles, F.R.S.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—February 1, 8 p.m., "*Problem of the Mechanism of Learning,*" by Professor J. Z. Young, F.R.S.

WHIPPS CROSS HOSPITAL MEDICAL SOCIETY.—At Nurses' Lecture Theatre, February 1, 8.30 p.m., "*Coronary Heart Disease in Doctors (Results of a Recent Investigation),*" by Dr. J. N. Morris.

Saturday

BRITISH ASSOCIATION OF ALLERGISTS.—At Royal Society of Medicine, 1, Wimpole Street, London, W., February 2, annual general meeting. Morning session: 10.30 a.m., "*Histopathology of Rhinitis,*" by Dr. H. A. Lucas; 11 a.m., "*Factors Implicated in the Production of Tissue and General Eosinophilia,*" by Dr. J. Pepys; 11.30 a.m., "*Allergy and A.C.T.H.,*" by Professor G. W. Pickering; 12 noon, discussion. Afternoon session: 2.30 p.m., "*The Basis of Antihistamine Therapy,*" by Dr. B. Halpern; 3.15 p.m., "*The Present Place of Antihistamine Therapy in Clinical Practice,*" by Dr. C. J. C. Britton; 4.45 p.m., business meeting.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Evans.—On January 14, 1952, at New Cross, London, S.E., to Alexa (formerly Mitchell), M.R.C.S., L.R.C.P., wife of Dr. C. J. Evans, a daughter—Mary.

Tweedie.—On January 10 1952, at Tripoli, Lebanon, to Gay, wife of G. C. Tweedie, M.B., F.R.C.S.Ed., a son—Thomas Cunningham.

DEATHS

Gaskell.—On January 12, 1952, at Greenwood, Fareham, Hants, Sir Arthur Gaskell K.C.B., O.B.E., F.R.C.S., D.P.H., Surgeon Vice-Admiral, R.N., retired, aged 80.

Mackinnon.—On January 12, 1952, at Craig-a-Charran, Portree, Skye, William Donald Mackinnon, M.B., Ch.B., D.P.H.

Any Questions ?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Vitamins during Lactation

Q.—*Do breast-fed infants get enough vitamins A and D in their mothers' milk? If so, does the amount of the vitamins in the milk vary according to the mother's vitamin level? Do the cod-liver oil tablets which mothers take protect them from vitamin depletion, or do they merely provide a surplus which can "spill" over into their milk?*

A.—Breast-fed infants receive adequate vitamin A in their mothers' milk, but only marginal amounts of vitamin D. Under favourable circumstances the vitamin-D supplies are supplemented by direct exposure to sunlight. The amounts of the vitamins in breast milk do not vary much unless very massive doses are given to the mother. The cod-liver oil tablets protect the mothers from depletion in so far as they restore the heavy drain of vitamins which must be taken from their reserves.

Instruments in Spirit

Q.—*Is there any way of treating surgical spirit, after it has been used for storing instruments and syringes in the surgery, so that it may be used again?*

A.—The only really satisfactory method of purifying spirit is by distillation, but this is forbidden (except under licence) by the Methylated Spirits Regulations.

Traces of water can be removed from undiluted spirit by allowing it to stand over dry quick-lime (calcium oxide) or by adding potassium carbonate and decanting the clear supernatant fluid. The usual formulae for surgical spirit, however, contain castor oil, diethyl phthalate, and either naphtha or methyl salicylate in industrial methylated spirits. These substances may prevent a clear solution from being obtained by the above method. Also the most effective bactericidal strength of alcohol is 70 to 75%.

The Medical Research Council's *Memorandum No. 15* (H.M.S.O.) on "The Sterilization, Use, and Care of Syringes" approves of the use of alcohol for sterilizing syringes only when heat methods are not available. A technique is described using 70 to 75% alcohol. With instruments, again the best method is by heat, and this is recommended by the M.R.C. *Memorandum No. 11* (H.M.S.O.) on "The Control of Cross-Infection in Hospitals."

Strained Eyes

Q.—*Is it possible through reading with a bad light, using ill-fitting spectacles, etc., to damage one's eyes, in the sense of producing permanent changes needing correction with lenses? The necessity for wearing spectacles is often ascribed by the laity to unwise "straining" of the eyes, particularly when young. Is there anything in this?*

A.—The misuse of the eyes from working in bad light, wearing ill-fitting spectacles, and lenses not properly centred, etc., may have both general and local results. Headaches, loss of power of concentration—leading in children to bad school reports—mental fatigue, irritability, and mild indigestion may all be caused by eye-strain. Locally, ciliary spasm and local congestion and lenticular astigmatism may also be caused. These conditions are relieved by treatment, teaching of good ocular habits, and the proper adjustment of the correcting glasses. Apart from ciliary spasm and local congestion, which may be recalcitrant, the other conditions are not permanent.

Herpes Gestationis

Q.—*I have this week seen a case of herpes gestationis. History: First pregnancy—appearance of typical rash at fourth month; despite treatment crops of vesicles persisted to the end of the pregnancy and then cleared up spontaneously. Second pregnancy—as above. Third pregnancy, now five months gone—herpes appeared at fourth month and is running the usual course. (1) Will you please suggest treatment? She did not have serum last time; would you recommend this, as everything else was tried without success? (2) What is the explanation of this syndrome?*

A.—Herpes gestationis is distinguished from other cases of dermatitis herpetiformis only by the fact that it occurs during pregnancy. The cause of dermatitis herpetiformis is unknown, and the virus theory of its origin is as yet unproved. It is not known why pregnancy should have this influence in some cases.

It is very doubtful whether serum or autohaemotherapy really affects the disease, and the treatment of the pregnant patient should be the same as for dermatitis herpetiformis in general. Most cases will eventually yield to the administration of arsenic or sulphapyridine, and it would be as well in this case to make sure that adequate dosage was given before the treatment was abandoned. Local treatment is purely symptomatic, for the relief of irritation and the prevention of secondary sepsis.

Carbon Dioxide Slush

Q.—*How is carbon dioxide acetone slush prepared? How is it used in the treatment of naevi?*

A.—For the preparation of carbon dioxide slush, acetone and carbon dioxide snow are required. The latter is most conveniently made in the consulting-room with a "Sparklet" apparatus; the carbon dioxide ice used in a refrigerating plant is not satisfactory. The powdered snow is placed in a gallipot and a few drops of acetone added. The mixture is stirred with a glass or wooden rod so as to make slush of suitable consistence. It is then best applied to the skin with a camel-hair brush or a thin wisp of cotton-wool.

Carbon dioxide slush has its chief use in the treatment of superficial haemangiomas. It is easier to apply to a large or irregularly shaped area than solid carbon dioxide, but it has a more superficial effect because pressure cannot be applied as it can with a pencil of snow. Most of the haemangiomas which respond to carbon dioxide freezing extend to a moderate depth and are better treated with solid snow. On the other hand, the more superficial lesions are less responsive to treatment, so that slush has a rather limited use.

Fluorescent Lighting

Q.—*In an engineer's drawing-office the draughtsmen require a very good light. Is there any medical reason why a fluorescent lamp should not be brought down from the ceiling to within a couple of feet (60 cm.) of the table?*

A.—There is no medical reason why a fluorescent lamp should not be mounted as low as 2 ft. above a draughtsman's table, provided the draughtsman cannot ordinarily see the lamp itself and so be subjected to glare. Many of these lamps are used as low as this for illuminating bench work in factories, but they are fitted with trough reflectors which allow the light to reach the working area but screen the bright lamps from the workers' view.

Post-herpetic Neuralgia

Q.—*What is the best treatment of post-herpetic neuralgia (T 6 on the left side)? I have a case in which there has been no response to analgesics, aneurin, mixed vitamin-B preparations, short-wave diathermy, or deep x-ray.*

A.—Treatment of established post-herpetic neuralgia, especially in an elderly patient, is frequently unrewarding. There are usually two elements in the condition: paraesthesiae consisting of numbness, tingling, sensations of "crawling," etc., which are a constant source of discomfort rather than a major disability and which do not generally respond to any form of treatment; the second element of severe pain is on the whole less common, and when present may be intractable to treatment but occasionally is relieved by a posterior rhizotomy of several roots or antero-lateral chordotomy.

NOTES AND COMMENTS

Gadgets for the Armless.—ANOTHER EXPERT writes: I have a simpler gadget for holding a telephone to the ear which your questioner ("Any Questions?" December 8, 1951, p. 1413) may find useful. It is made from a slab of hard rubber 2 cm. thick and measures 8 cm. across its longest diameter. The accompanying photograph shows its shape. It fits on to the handle of the

telephone, which rests comfortably on the shoulder against the ear and near the mouth. Not only the armless may find this useful. Personally, I find two hands are not enough, and with this gadget, after a little practice, two hands are left free for writing, etc. Provided it is placed about the middle of the handle of the telephone, it is comfortable to use, and at the same time does not affect the position of the receiver on its stand.

Correction.—An unfortunate error occurred in our report (January 12, p. 102) of the contribution by Dr. D. K. Briggs (American Hospital of Paris, Neuilly-sur-Seine) to the meeting of the General Practice Section of the Royal Society of Medicine, held on December 19. Lines 3 and 4 of the report of his remarks (p. 103) should read: ". . . treatment was determined on considerations less purely scientific than those obtaining in research centres."

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499. TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.
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SUPPLEMENT TO THE

BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 26 1952

CONTENTS

Inflation of Doctors' Lists - - - - - 27
General Practitioners' Remuneration - - - - 28
Co-operation in the N.H.S. - - - - - 28
Maternity Insurance Benefits - - - - - 28
Exceptional Consultations - - - - - - 28
B.M.A. Film Committee - - - - - - 28
Registrars Group of the B.M.A. - - - - 29
Exchange Visits with Canada and U.S.A. - - - 29
General Medical Services Committee - - - - 29
Heard at Headquarters - - - - - - 31
Correspondence - - - - - - - 32
Association Notices - - - - - - - 34

INFLATION OF DOCTORS' LISTS

ACTION OF G.M.S. COMMITTEE

Many letters have been published in the *Supplement* and received at B.M.A. House concerning the action taken by executive councils in asking practitioners to help in tracing the whereabouts of "missing" patients. The background to these arrangements for reducing inflation is described below.

Soon after the appointed day the General Medical Services Committee became disturbed at the unevenness and apparent diminution of the capitation fee as between one area and another. The Committee's representatives on the Distribution Committee were satisfied that the proper amount for capitation fees went into the pool each quarter and that the whole pool was distributed. It was therefore clear that there must be internal factors which were causing the trouble.

Names on Several Lists

Following discussions with the Ministry of Health, it became evident that the major factor was the inflation of doctors' lists, and because of this inflation doctors were receiving capitation fees for persons who had died or were on the list of some other doctor in their own or another area. Indeed, many names were on the lists of several doctors. The Committee was, and still is, of the opinion that in order to get a fair distribution this inflation must be dealt with. It suggested as a long-term measure the establishment of a central register such as existed before the war. Unfortunately at that time, as a result of the war, the introduction of the new Service, and the shortage of clerical staff, it was impossible for the suggestion to be accepted, but a promise was given that action would be taken as soon as possible.

Subsequently the Committee was informed that the Ministry proposed to carry out a clearance of doctors' lists, and approval was sought for bringing this about. Such a scheme was necessarily difficult and complicated and placed much extra work on executive councils. Nevertheless, after further discussion and modifications to the original proposals, the Committee gave its approval to the plan. The detailed extensive and essential preliminary work has been going on for several months, but recently it has become evident that difficulties have arisen in dealing with the residual names. These difficulties were immediately brought to the notice of the Ministry, and a further discussion took place in which both sides endeavoured to find ways and means of eliminating many of the undesirable consequences of the plans.

Committee's Suggestions

The Committee for its part made the following suggestions:

(1) That the period allowed for the final check-up on untraced names be considerably extended;

(2) That executive councils should accept a doctor's assurance that a patient is living at a particular address, even though it had not been possible to obtain the identity number and make further inquiry themselves;

(3) That the absence of an identity number would not of itself mean that a patient was removed from a doctor's list;

(4) That executive councils should send a second explanatory letter to patients who, despite past efforts, are still untraced;

(5) That executive councils should give doctors individual notices of the final residue of untraced names;

(6) That doctors should not be expected to pay personal visits in order to trace the whereabouts of missing patients, but rather that this task should fall upon a representative of the executive council.

The Ministry is now considering all these points, and has undertaken to issue further instructions to executive councils in the very near future. After the discussion at which these suggestions were made an agreed statement was sent to the Press and published in the next issue of the *Supplement* (December 29, 1951, p. 289).

Higher Capitation Fee

It should be emphasized that the "clearance of lists" will not, and cannot, result in a smaller pool. It is the inflation which is responsible for the diminished and unequal capitation fee. The elimination of duplicated names will, however, result in a "truer" capitation fee—a higher one. Had every doctor's list been inflated to the same extent, the actual total amount would be the same for a smaller number on his list. Unfortunately, it is apparent that some lists, especially in some areas, are more inflated than others, and this has given rise to substantial variations in the capitation fee.

The Committee is therefore satisfied that in the long run practitioners will benefit from the clearance of lists, and that it is in their interests to give executive councils all reasonable help. It is hoped that, as a result of the action outlined above, this end will be achieved without the inconvenience and burden of work which had emerged from the original plan.

The Ministry has already agreed to extend the period allowed for the final check on untraced names, and the contents of the new E.C.L. (circular letter) giving effect to changes in the present arrangements will be published in these columns as soon as it is available.

GENERAL PRACTITIONERS' REMUNERATION

COUNSEL TO MEET ADJUDICATOR

The respective counsel of both sides will meet Mr. Justice Danckwerts on January 30 to discuss the procedure for the hearing of the general practitioners' remuneration claim. As previously announced, Mr. Justice Danckwerts is the adjudicator appointed to hear this claim.

CO-OPERATION IN THE N.H.S.

SHEFFIELD SCHEME

Lack of co-ordination between local health authority, regional hospital board, and executive council is one of the defects of the Health Service. To try to overcome it the Sheffield Regional Hospital Board has formed medical co-ordinating committees in its six main hospital areas. Within each area each local health authority is represented by the medical officer of health, each hospital management committee by a consultant, and each local medical committee by two general practitioners. The committees vary in size between 8 and 21 members.

The senior administrative medical officer attended the first meeting of each committee, and a number of problems have been suggested for discussion. These include the employment of general practitioners in hospitals, the provision of maternity beds for general practitioners, the care of patients at home in co-operation with hospital staff, and the division of responsibility between general practitioner and consultant for patients awaiting admission to tuberculosis sanatoria. Also to be discussed are many questions on the relations between the hospitals and the local authority.

Discussions have already begun in these committees, and they are expected to be of much help in increasing liaison between the three main branches of the Health Service.

MATERNITY INSURANCE BENEFITS

MORE CASH FOR BIRTH AT HOME

The mother who has her baby at home should get a higher cash maternity benefit than the mother who is confined in a National Health Service hospital, recommends the National Insurance Advisory Committee (chairman, Sir Will Spens). Its report on *Maternity Benefits* (H.M.S.O., 1s. 3d.) has not yet been considered by the Government. The changes suggested in it would need an amending Act of Parliament before they could come into effect.

Recommending that the mother confined at home should get a higher benefit, the committee says that some women now try to have their confinement in a Health Service hospital solely to save money. The committee received many representations in favour of this change during its investigation. As to the extra cost of home confinement, the committee heard evidence that it might be as low as £2 or might be anything between £6 and £10. It agreed that a reasonable minimum figure would be £3, and decided not to make an exception for the woman confined in hospital who already has children at home. Commenting on this decision, the committee says: "A decisive factor appears to us to be that the sum of £3, as a differential between the costs of the two confinements, is relatively so small as not to justify the insertion of an intermediate figure."

The present maternity grant (£4) and attendance allowance (£1 a week for four weeks) should be replaced by a prenatal grant of £4 and a maternity grant, to be paid after confinement, of £6 for confinements at home and £3 for confinements in hospital. The prenatal grant should not be paid more than eight or nine weeks before the expected confinement. The post-natal grant for home confinements should be paid in two instalments—£3 immediately after confinement, and a further £3 two weeks after confinement. For hospital confinements £3 should be paid two weeks after confinement.

The Maternity Allowance

A woman who ordinarily goes out to work can get a maternity allowance in the weeks before and after her baby is born. At present the allowance can be claimed by a working woman although after her marriage she stopped paying her National Insurance contributions. The committee recommends that maternity allowance should in future be given only when the necessary contributions have been paid. Among other changes, it also recommends that maternity allowances should be available for 18 weeks instead of 13 weeks, but at 26s. instead of the present 36s. a week. Payment would begin 11 weeks before the baby was expected.

EXCEPTIONAL CONSULTATIONS

Under para. 6 of the Terms and Conditions of Service consultants who have no contract with the regional hospital board but who are called in exceptionally to hospitals or clinics for a special visit (because of their unusual experience or interest) are paid at the rate of five guineas a visit.

The staff side of Whitley Committee B has for some time been trying to alter this so that the fee should be paid for occasional and exceptional consultations outside consultants' normal duties whether or not they have a contract with the board concerned.

Problem of Scarcity

In putting forward this proposal the staff side has been thinking chiefly of consultants in neurosurgery and plastic and thoracic surgery. Consultants in these specialties are few in number and are therefore often in contract with a number of boards, so they frequently have to travel considerable distances for a consultation outside their normal duties. Yet they cannot receive a fee under para. 6 unless the consultation is outside the area of the regional board or boards with which they are in contract. In addition, these consultants, because of their scarcity, normally hold contracts for the maximum number of sessions, and are therefore unable to adjust the number of sessions to overcome the difficulty.

The management side has not agreed to a change, arguing that to do so would be a departure from the principle that the consultant's contract must cover all duties to the board except domiciliary consultations.

Suggested Solution

In the course of the negotiations the management side indicated that, if any consultant in these specialties is overburdened, one solution would be for him to advise his regional board that he is unable properly to fulfil all the duties laid upon him, so that the board will have to consider an additional appointment.

At its last meeting the staff side decided to acquaint consultants in these specialties with the position and call their attention to the management side's statement.

B.M.A. FILM COMMITTEE

At a meeting of the Film Committee held at the end of 1951 the final arrangements for the publication of the catalogue of films in the Library were approved, and the catalogue, which was reviewed in the *Journal* of January 19 (p. 152), has now been published.

A full discussion took place on the teaching value of a medical film, and it is proposed to prepare, and have published if possible, a report of the Committee's views on the subject.

The Committee has been active in appraising medical films which have come to its notice, and the views of the appraisal panels have been recorded to assist inquirers.

A representative has been appointed to serve on the subcommittee of the British Standards Institution, which is considering the preparation of a British Standard for containers for filmstrips.

REGISTRARS GROUP OF THE B.M.A.

The Association's Registrars Group has become increasingly active during the past year in promoting and protecting the professional interests of hospital registrars. The Group Council, which comprises three representatives (teaching and non-teaching) of each regional Registrars Group, met three times during 1951, and the Executive Committee of the Group Council met four times.

Among the many subjects considered, the most important was the discussions between the profession and the Ministry of Health on registrar establishments. On two occasions representatives of the Group have met and discussed this subject with the Joint Committee of the Royal Colleges, which negotiates with the Government on matters concerning hospital medical staffs.

Join the Group

Machinery is fully established whereby the views of the Registrars Group may be submitted to the Central Consultants and Specialists Committee and thence to the Joint Committee. Members of the B.M.A. in the registrar grades who have not yet joined the Group are urged to complete the application form below and send it to the Secretary of the Association; and also to participate in the regional activities of the Group, so that the regional representatives on the Group Council may be fully apprised of the views of those they represent.

BRITISH MEDICAL ASSOCIATION

REGISTRARS GROUP

Form of Application for Membership

To the Secretary,
British Medical Association,
B.M.A. House,
Tavistock Square,
London, W.C.1.

I wish to apply for membership of the Registrars Group of the Association, and understand that the inclusion of any individual member within the Group is at the discretion of the Group Council subject to appeal to the Council of the Association.

I am a member of the Association, and am engaged as a hospital registrar.

Name (IN BLOCK CAPITALS): .....

Qualifications: .....

Date of Qualification: ..... Age: ....

Present Appointment: .....

(State name of hospital and department, and whether Registrar or Senior Registrar) .....

Specialty: .....

Region: .....

Signed .....

Address .....

.....

.....

Date .....

EXCHANGE VISITS WITH CANADA AND U.S.A.

The scheme initiated last year, with the approval of the Bank of England, for exchange visits between members of the American, British, and Canadian Medical Associations will be continued this year.

Exchanges with Canada: Two doctors from Britain may visit Canada in exchange for two doctors from Canada. Each doctor from Britain will be required to make all his own travel arrangements and to deposit up to £200 with the B.M.A. in London. On arrival in Canada he will be met by a representative of the Canadian Medical Association, who will present him with the equivalent in Canadian dollars. Similarly, each Canadian doctor on arrival in Britain will be met by a representative of the B.M.A., who will present him with the sum deposited in sterling.

Exchanges with the U.S.A.: Three doctors from Britain may visit the U.S.A. in exchange for three doctors from the U.S.A. Each doctor from Britain will be required to make all his own travel arrangements and to deposit up to £200 with the B.M.A. in London. On arrival in the U.S.A. he will be met by a representative of the Medical Society of the State of New York, who will present him with the equivalent in U.S. dollars. Similarly, each U.S. doctor on arrival in Britain will be met by a representative of the B.M.A., who will present him with the sum deposited in sterling.

The duration of the visits is left to the discretion of the doctors concerned. The American, British, and Canadian Medical Associations cannot accept any responsibility for a doctor who allows his visit to outlast the money placed at his disposal.

Applications are invited from members of the B.M.A. to take part in such exchanges in 1952. Each applicant must state the object of his visit. Medical practitioners in all branches of the profession, including general practice and public health, are eligible. Applicants should also give approximate dates of the visit desired. (Successful applicants will in due course be required to give exact dates and details of travel.) Applications must be received by the Secretary of the B.M.A. by March 1.

GENERAL MEDICAL SERVICES COMMITTEE

PREPARATIONS FOR THE ADJUDICATION

An all-day meeting of the General Medical Services Committee was held at B.M.A. House, London, on January 17, with Dr. S. WAND in the chair. The Committee decided in future to meet half an hour earlier in the morning.

It was reported that the Association had received invitations to submit nominations to the Minister for filling vacancies on the advisory committees of the Central Health Services Council. The Committee agreed unanimously that Dr. Wand's name should go forward to the Council for the Medical Advisory Committee as representing general practitioners.

A report on the preparation of the case to be presented to the adjudicator in the forthcoming remuneration inquiry was made. Discussions had taken place with counsel, and a meeting with Mr. Justice Danckwerts was taking place on January 30 to discuss procedure for the hearing. A point to be decided by the adjudicator was whether the hearing should be in private or public. The feeling of those immediately concerned was in favour of a public hearing save when any particular organization did not wish its remuneration figures to be disclosed. A request was made for practitioners, outside the membership of the Committee, who, having solid experience of practice, might be prepared to offer evidence.

Inflation of Lists

The SECRETARY of the Committee (Dr. D. P. Stevenson) read a statement on this subject (see p. 27). There were objections from some quarters in the Committee that the amount of inflation did not justify the trouble which would be incurred by doctors in effecting clearance of their lists, and that the true answer to the problem was that medical cards should be the criterion of treatment. The CHAIRMAN replied that, while they knew they could not get absolute clearance, the lists should be made as clear as possible, and future entries controlled from the central register.

A letter from the Liverpool Local Medical Committee was read transmitting a resolution passed at a meeting of general practitioners in Liverpool on January 6 protesting at the inadequacy of the moneys allocated to the Liverpool

Executive Council, which provided a capitation fee of only a fraction over 3s. 11d. for the last quarter, and calling upon the Minister to implement the promise made by his predecessor in 1948 of a capitation fee of 17s. 5d. per annum. Dr. GIBBONS, of Liverpool, said that his area was witnessing a steady decline in the capitation fee.

The SECRETARY of the Committee pointed out that the Distribution Committee was a Government committee on which they were represented, and the representatives had to abide by certain principles. If they were asked to treat certain information as confidential they must do so. While there was inflation of lists some areas would continue to get too small a slice of the national cake.

The Committee was reminded that out of the 17s. 5d. which was mentioned had to come basic salaries and emergency and anaesthetic fees. The 17s. 5d. might be the right amount, but it varied from area to area according to the extent of the inflation. The Registrar-General had asked that the quarterly population figures prepared by his department should be regarded as confidential to the Distribution Committee.

It was agreed, on the proposition of the CHAIRMAN, that, in view of the variations which existed, representations should be made to the Distribution Committee that the distribution figures should be available to the G.M.S. Committee.

During the discussion it was suggested that doctors who were purging their lists were penalized by the removal of names, whereas doctors who took no action were receiving payments to which they were not strictly entitled. It was agreed that this point should be put to the Ministry.

One suggestion was that the electoral roll in every area should be used as an additional method of tracing patients. Another, that every doctor should have the right to request that an official of the local executive council should go through the list with him. This suggestion also was accepted and a deputation for the Ministry was appointed.

Filling of Vacancies

The special subcommittee appointed at the previous meeting to consider alternative methods of dealing with the problem of the occupation of a deceased doctor's house in connexion with the filling of vacancies had not yet completed its work, but promised a report for the next meeting. It was stated that the East Midland Regional Medical Committee had expressed its disagreement with the proposals made by the G.M.S. Committee at the last Annual Conference concerning the filling of vacancies, and had asked that further action be deferred until the views of local medical committees had been obtained, and communications had been received from certain local medical committees supporting this view. The CHAIRMAN deprecated the practice of this circulation of proposals before anybody centrally had had an opportunity of considering them. If it continued it would mean that the work of the G.M.S. Committee would go by the board. The effect would be that decisions would be made at the periphery in the absence of full information. Dr. A. C. E. BREACH said there was surely no objection to local committees approaching other local committees.

After some further discussion it was decided to point out to local medical committees that the G.M.S. Committee was under an obligation to report to the Conference on this subject, and would do so fully.

The question of filling vacancies was also the subject of a statement from the management committee of the Executive Councils Association, which, before reaching a decision, had decided to obtain the views of the B.M.A. on the matter. This matter was deferred to the next meeting, and it was agreed that Dr. W. E. Dornan, chairman of the Medical Practices Committee, should be invited to be present.

Dispensing Capitation Fee

A lengthy report was made on a large number of matters, including the machinery for appeals by practitioners against discontinuance of payment of basic salary, the medical treatment of lighthouse staffs and merchant seamen, medical service committee procedure, and maternity medical services, which had been discussed between representatives of the Committee and officers of the Ministry of Health. One of these matters concerned the case for a substantial increase in the dispensing capitation fee. The reply of the Ministry's representatives was that discussion on this question was barred for the moment because it was intimately bound up with the forthcoming adjudication on the general matter of remuneration. Deep dissatisfaction had been expressed at the lack of progress in this matter.

Dr. D. T. MCDONALD said that figures in his area, Northumberland, indicated that dispensing doctors, who were getting 6s. 6d., were actually losing money. At the end of 1950 he had worked out the costs in his own practice and found that a loss was being incurred, but, hoping that something would be done to rectify the position centrally, he did not transfer to the tariff method. In 1951, in a practice with a list of 4,500, with dispensing done for 98% of the patients, the net loss was £200. The doctors were providing for the patients a chemists' service—the kind of service that chemists gave to prescribed-for patients, and by which they earned a reasonable living—and were incurring a loss in doing so. If the Ministry would not increase the dispensing fee, the only solution was to go on to the tariff.

This view was supported by Dr. KILLICK, chairman of the Rural Practitioners Subcommittee, who said that the Ministry had gone back on its promise. Doctors in rural districts were providing a service which the chemists were not providing. It was a 24-hour service, and it was given in areas where chemists did not think it economic to set up in business. Yet doctors were paid less than half the sum that the chemists were paid.

Dr. TALBOT ROGERS, who was one of those who went to the Ministry on this and other subjects, said that the officers of the Ministry were on weak ground, and he was surprised when it was suggested that it would be necessary to consult the Ministry's legal adviser in order to see whether it was possible to proceed any further in this matter at the present time without prejudicing the case which the Ministry would put before the adjudicator.

It was agreed that the Secretary should send a letter to the Ministry expressing the disappointment and frustration which were felt at the delay and lack of understanding which the Ministry had displayed in this matter, and intimating that failing an early and satisfactory reply rural practitioners would be advised to consider going over to the tariff system.

As to the relation of this matter to the forthcoming adjudication, the CHAIRMAN said that the proper course of action would be for the department and the Committee to work out together what would be an adequate dispensing capitation fee and then to let the adjudicator decide whether such a fee should be regarded as part of the total remuneration of general practitioners.

Reinstatement of Demobilized Personnel

The Committee considered a proposal for a scheme of automatic reinstatement of demobilized ex-Service men and women on doctors' lists. The opinion of the officers of the Ministry was that in view of the comparatively small size of this problem the introduction of such a scheme as had been suggested by the Committee, involving the use of food office machinery, would not be justified. They thought the position might be met by the revision of the present Form E.C.13. This proposal was agreed to, somewhat reluctantly, as an interim measure, but the matter is to be discussed further. Dr. HOWIE WOOD pointed out that as all demobilized personnel had to go to the food office for their documents there seemed to be no reason why, when doing so, they should not receive a medical card. A suggestion was that the food offices should be asked to let executive councils know the names and addresses of people who took out

ration books after demobilization, and that a medical card should then be supplied to such persons by the councils.

Association with Hospital Work

The Committee again spent some time on the question of the association of the general practitioner with hospital work. It was pointed out that, in addition to the special committee set up by the Council to consider and report upon the matter, the Working Party was considering it, and the Amending Acts Committee was in due course to consider the position of the general practitioner who wanted to become a consultant; in fact there were at least five committees engaged on this question or certain aspects of it. The CHAIRMAN suggested that when the adjudication was out of the way the next major problem to be tackled by the G.M.S. Committee should be the status of the general practitioner including his relation to hospitals. In the meantime the Committee had before it a useful memorandum prepared by one of its members, Dr. FRANK GRAY.

Among other business on the agenda were questions raised by various local medical committees or referred by other committees of the Association, and a memorandum by Dr. W. WOOLLEY on limited lists affecting institutions.

Heard at Headquarters

Child Guidance and its Results

A large conference of workers in child guidance clinics from all parts of the country, under the auspices of the National Association for Mental Health, assembled in London recently to hear reports on a follow-up of children who have passed through the clinics. At Bristol, for instance, of 338 children who attended the clinic in 1946, complete follow-up records have just been made of 202; but a psychiatric worker from the East London Child Guidance Clinic brought forward 45 cases of ex-clinic children who had been followed up twenty years after they left the clinic. Many of them were found to have made apparently stable marriages, but sometimes it was noted that the same faults and maladjustments appeared in their offspring, though in a milder degree, as had previously appeared in the parents. Two of the children had gained university degrees, another a high military award for conspicuous bravery in the war, others were in successful business careers or in highly skilled craftsmanship, and one was himself a teacher of maladjusted children. The reports on the follow-up were encouraging on the whole. The conference listened to an address by Dr. Alice Stewart, director of the Institute of Social Medicine at Oxford, who made a brilliant justification of this new, or newly entitled, specialty, in particular for its value in elucidating the remoter causes of disease.

Sir Wilson Jameson

Retirement has not diminished the pointedness of Sir Wilson Jameson's speech and pen, and his Stephen Paget Memorial Lecture, delivered before the Research Defence Society last November, was a masterly exposition of the history and present state of research. This was the twentieth lecture of the series, which began in 1927, the year after Stephen Paget's death. Sir Wilson Jameson spoke in particular of the strength of the partnership between research and administration as a result of the last war, and said that although the outlook was not all plain sailing they could be hopeful of the future. What was needed now was a peaceful period in which to apply their gains and use their ever increasing knowledge for the benefit of mankind. Immediately after his lecture Sir Wilson Jameson was elected chairman of the Society in succession to Professor A. V. Hill, who has held the chairmanship for ten years. Professor Hill recalled that 25 years ago he and Sir Wilson Jameson were co-operating in Hornsey in an effort to prevent diphtheria among schoolchildren; but another speaker, Dr. Andrew Topping, recalled a still earlier association, dating back to 44 years ago, when he and Sir Wilson Jameson were students at Aberdeen.

Passion for Certification

Discussing how the sickness wages bill of co-operative societies might be reduced, a writer in the *Co-operative News* of January 19 feels that the great bulk of sickness claims, and especially those for long-period sickness, are genuine and in no way exaggerated. But what will startle doctors is his assertion that the only thing that will prune the bill "will be a change of heart on the part of the medical profession, whose passion for certification is the background cause of much unneeded absence." The writer seems to have fallen into the popular habit of finding, not a background cause, whatever that may be, but a scapegoat.

A Representatives' Hansard

The proposal to have a *Hansard* of Representative Meetings has been turned down on the ground of economy, for verbatim recording—which means the recording of every syllable uttered—is a costly business. One representative at the recent Special Representative Meeting, when the matter was discussed, suggested that the Association should purchase a mechanical recording machine, which would entail a certain capital outlay, but would be cheaper in the end than the employment of verbatim note-takers. He appeared to overlook the fact, however, that even after speeches have been "taken down," whether by the pen or the machine, they remain to be transcribed, and the transcription takes three or four times as long as the taking of the original note, and is really the costliest part of the business. Moreover, even when a mechanical recorder is used, a careful check has to be maintained concerning names, interjections, and all the accessory business of the meeting which would be lost on a blind record, and the transcription itself, without memory to assist the transcriber, may be very difficult and time-taking. The Representative Meeting must await more prosperous times for its *Hansard*.

Penny for His Thoughts

Last September an agreement between the Minister of Health and pharmacists was reached whereby an additional "on-cost payment and dispensing fee" became payable. A chiropodist writes to tell us that his executive council found that a dispensing fee was payable to him under this agreement. It covered one prescription, and the additional sum was sent by the council—a cheque for "One Penny Only."

Clearing the Flue

A distracted doctor, asking whether it is the Health Service that is abused or the general practitioner, sends us the following note "as one example of many" dropped in at his surgery: "Doctor, Will you please send Jack bandages lint cotton wool ointment. Bottle of medicine for Mrs. Smith for gastic flue. Tablets for headache."

Request from French Doctor

A French doctor living in Vichy would like his 21-year-old daughter to come to England in the spring to live with an English medical family for six months in return for some work, such as looking after children. Anyone interested should get in touch with Dr. H. A. Sandiford, International Medical Visitors Bureau, B.M.A. House, Tavistock Square, London, W.C.1.

Dangerous Drugs Act: Withdrawal of Authority

The Home Office announces that Dr. Terence O'Neil Fraser Kelly, (Aberdeen) is no longer authorized to be in possession of or to prescribe those drugs to which the Dangerous Drugs Regulations apply.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Rent at Health Centres

SIR,—It appears that all medical practitioners who work at a health centre will be charged a rental in the region of £350 per annum for the privilege of doing so.

We are already grossly underpaid. Although it is a nuisance having our surgery premises as part of our residence, it has its compensations financially, as we can obtain a certain amount of income-tax relief, which to some extent helps us with the upkeep of our unnecessarily large houses. Having to pay a rental for working at a health centre will therefore hit a lot of doctors with a left as well as a right.

Members of the medical profession who already work in Ministry of Health buildings are the medical and surgical specialists employed by the various hospital boards. What rental do these specialists pay towards the upkeep of their out-patient clinics with their attendant staffs of porters, nurses, and secretaries? I have a feeling they pay nothing. If this is so, why should their poor relations be asked to pay?—I am, etc.,

Leeds. J. F. ROBINSON.

Help Now

SIR,—I have read with interest Mr. Donald M. O'Connor's letter (*Supplement*, January 12, p. 15) and the footnote by the B.M.A. Secretary, which misses the essential point, kept to the end by Mr. O'Connor for emphasis—"We want help *now*." I am encouraged by his letter to express my views in the hope that you will publish them, although I have for long now realized that there are only a minority of general practitioners, similarly placed to myself, who are likely to agree with me. I believe this minority is growing and has done so rapidly during the last year.

Being one of those severely hit financially by the N.H.S., and being one of the few, locally, who spoke at meetings prior to the appointed day, pointing out the danger of leaving the financial side of negotiations in the air, I have followed the subsequent conduct of our case with detailed interest, and have always admitted in my own mind that such conduct has been patient, reasonable, and dignified, as one would consider worthy of an honourable profession. This, however, does not prevent me from stating now that I consider our financial affairs have been brought to a state of nightmare craziness unsurpassed by anything imagined by W. S. Gilbert.

What other body, trade or professional, when it had successfully, though tardily, won the case for arbitration, would meekly accept quarter by quarter a dwindling remuneration, and at the same time set to patiently to revise errors and omissions made by the defunct Insurance Committee, with no compensation for time wasted?

If one agreed with our leaders in their negotiations, it is yet possible to say that one has now realized at what stage they went wrong. It is obvious that some error has been made or we should not still be meekly waiting after nearly four years. I am confident that the point where we failed was when Mr. Bevan, then Minister of Health, quite gently but cleverly manœuvred us into a position where, to save public opinion, we were forced to state that under no circumstances should we strike. It was obviously right to make this statement, but having done so we should have at once refused to negotiate further until it was admitted by Government and people that, because we have no right to strike, arbitration must always be immediate and speedy, and the results of such arbitration carried out without delay.

Adjudication has been set in train and we must wait patiently for the judgment. On paper we have a good case, as we have indeed had for the last six years, but I think Mr. O'Connor and some others would join me in believing that, even with a supremely favourable judgment, it is unlikely that we shall receive any additional hard currency before January, 1953, at the earliest.

I suggest, therefore, that it is not too late to make our point that the Minister of Health be informed that both sides, Government and profession, have lost sight of the fact that we alone of all professions have no right to strike and no taste for the use of force, and that not only are we absolutely indispensable but also that we have carried a superhuman burden, because we believe in the Health Service and the future of Medicine. Therefore, with some of us at breaking point, we should be given urgent consideration.

Secondly, I suggest that one of our fairly numerous medical M.P.s—and there are those with a gift of oratory who owe us a duty—should be persuaded to take a motion to the effect that "this House is deeply grateful for the patience and endurance displayed by our general practitioners, and is greatly encouraged by the success of our Health Service, of which their good will is the keystone, and is therefore determined that no time shall be lost in correcting the grave injustice done to them, so that the Service may develop and flourish as originally planned."

Finally, may I say, Sir, that as it seems highly unlikely that my suggestions will be adopted by any official body I intend to get as near as possible to carrying them out myself with whatever support I can rally?—I am, etc.,

Ockbrook, Derbyshire. JAMES W. SMITH.

Tracing Patients

SIR,—The following communication was submitted by Dr. C. H. Ross Carmichael to a meeting of general medical practitioners held in Liverpool on January 6, and had the backing of all present:

"We are gravely concerned by the recent measures directed against inflation of lists, though we are all agreed that inflation is undesirable and that a proper remedy should be found. What specially disturbs us is the method by which it is proposed to delete names from our lists. Not only can we see that it is valueless as a guide to names genuinely calling for deletion, but we seriously question whether it is well founded in law. Patients duly registered with us are to be treated, for the purpose of remuneration, as if they were no longer on our lists, for no better reason than that they have failed to reply to a communication.

"We are told that we can only obtain relief by ourselves pursuing investigations that are strictly administrative, yet in very many cases there is no reason why we should fare better than the executive councils, and often there are reasons why we might fare worse. The manifest inequity of all this is especially alarming because it directly involves the one solid foundation on which our economic security is built—namely, the actual lists of persons for whom we are individually responsible. We cannot exaggerate the importance which we attach to any measures calculated to disturb these lists unfairly or otherwise improperly, and we take unqualified exception to the recent measures on all counts. We hold that the situation demands a 'stay of execution' pending further consultation between the Ministry and the B.M.A."

—I am, etc., T. A. JERMY,
Hon. Secretary,
Liverpool. Liverpool Local Medical Committee.

SIR,—It is to be regretted that busy general practitioners should be asked to trace their patients on behalf of the executive councils. All this would appear to be quite unnecessary. The appropriate action to secure the names and addresses of the population in any area is for the records of the local food office to be made available to the executive council.

A refinement which would give completely accurate information is for the food office to be empowered to ask of all persons being issued with ration books the name of the doctor with whom they are registered. This may appear to some to savour of bureaucracy, but both food control and

the National Health Service are Government organizations, and to pass on information of this type would not be improper.—I am, etc.,

Brighton. W. S. PARKER.

SIR,—Like others, I have had a list of "untraceable patients," 60% of whom had merely changed their address locally. I think there are two serious points to consider. First, the executive councils appear to have no machinery for keeping track of the patients on their lists other than naively expecting the public to keep them informed. As most people have to eat, liaison with the Ministry of Food would solve their difficulties.

Secondly, while I do not mind helping them out as an act of courtesy, I strongly object to doing it under threat. In effect, the executive council say: We haven't a clue where these people are, and we are going to make the doctors find out for us under penalty of financial loss. It simply is not good enough. Can someone teach these people manners?—I am, etc.,

Ashtead, Surrey. W. EDWARDS.

Time to Instruct Counsel

SIR,—Mr. Donald M. O'Connor (*Supplement*, January 12, p. 15) always puts first things first. He is impatient that at this late hour our leaders coolly tell us that before our long-awaited claim be heard they will have to instruct counsel and this will take some months. The Secretary of the B.M.A. found it necessary to answer this letter in a footnote, which in effect said that conditions are continually changing and evidence based on the cost of living must be submitted from a current date.

A glance through almost any issue of the *Economist* or the *Financial Times* would let the Secretary know that by the time these weeks or months have passed circumstances will have again changed, and against us all too, as the purchasing power of the pound diminishes further. Then presumably the expert witnesses to be called in our favour will have to start all over again gathering fresh evidence—thus more delay.

One would prefer rather to present the picture of our invidious position with a few bold strokes without nearly so much detail. The present position of our once dignified and financially comfortable profession is sufficiently obvious to the learned judge without a mass of detailed figures.

It is hard not to be attracted by the way the firemen handled their pay-claim dispute a couple of weeks ago. These very practical men merely omitted to keep themselves and their fire stations tidy for a few days. The result—their arbitration is already taking place.

If, as is at least a possibility, Mr. Butler, the Chancellor of the Exchequer, at the end of January puts a complete stop to wage increases, our goose will be cooked; we will be condemned to shabbiness and penury for years; our long-awaited graduated capitation rate will not materialize; the downtrodden assistants will continue to be exploited; and I for one will bitterly resent the fact that our representatives did not long ago make our profession stronger by taking upon themselves some compulsive powers to bring the weaker vessels into a strike, a lock-out, a rebellion, or whatever you like to call it, so that our just demands be met.—I am, etc.,

Dungannon, N. Ireland. CONN MCCLUSKEY.

Compulsory Retirement

SIR,—The *Supplement* of November 17, 1951, has just reached me, and I would refer to two letters by Drs. I. B. Barclay and H. Fisher (p. 221) on "Compulsory Retirement in Hospital Service." I would like to draw attention to another anomaly of this subject. I was retired at 65 last July after 25 years' service as radiologist at the same hospital. At the time of the appointed day, July 5, 1948, I was still paying £250 p.a. premiums for endowment assurances. I applied to contract out of the superannuation scheme, but was refused permission, as it was not applicable to part-time specialists.

When this policy was reversed over a year later, as my policies would soon become payable I did not trouble to contract out. I failed to realize that, although my pay-slips from that time showed the 8% Government contribution to superannuation, this contribution was only actually payable to *those who contracted out*.

There may only be a few whom this affects, but it surely is an injustice which should be righted and made retrospective to August 1, 1949. It was useless to complain, as the regulations if read carefully make it plain, but it nevertheless is an injustice. Why should those who contract out be treated better than those who do not? I may add that up to a recent date (and I believe up to now) no one had been appointed to replace me, which, of course, is an economy in the medical service. I have been fortunate enough to obtain an opening in Kenya in spite of age.—I am, etc.,

P.O. Box 240 Nakuru, Kenya Colony. A. A. GREENWOOD.

SIR,—In the *Journal* of January 5 (p. 38) you have an annotation on "Compulsory Retirement." I should like to draw your attention to several facts:

(1) I am in full sympathy with the pathologists and radiologists but consider that they have no specific reason to be treated differently from general surgeons who are in a similar position.

(2) I have been refused point blank any honorary contract—no permission to treat patients in a pay-bed of a hospital in which one has served for 29 years and no domiciliary consultations, thus being cut off from the general practitioners who have used one for this purpose for years.

(3) No pension, though I raised this question originally at the S.E. Metropolitan Consultants Committee some two years ago.

(4) Do the B.M.A. really know how badly we are being treated? Do they really feel satisfied with the present method of filling the vacancies? If so, they are the only people who are.

(5) I have been a member for 40 years and remain one still hoping that some of these wrongs may be righted.

—I am, etc.,

Eastbourne. E. WILSON HALL.

POINTS FROM LETTERS

Time to Instruct Counsel

Mr. DONALD M. O'CONNOR (Launceston, Cornwall) writes: If I am permitted to comment on the Secretary's footnote to my letter (*Supplement*, January 12, p. 15) I would suggest that the words, "some little time," do not convey to the average reader quite the same idea as "several months" (*Journal*, November 10, 1951, p. 1141). Are the important relevant facts so deeply hidden that a team of expert witnesses would need long to learn them? Last week's *Economist* informs us that the index of wage rates rose by about 10% during 1951 and that the rise in prices was 12% in the same year. . . . A Government White Paper issued last year showed that during the three years 1948, 1949, and 1950 salaries increased by about 14%, professional earnings by over 12%, and farming incomes by 16%. . . . The apathy, disinterestedness, call it what you will, of the vast majority, so well illustrated by the acquiescence of the Annual Conference of Local Medical Committees, is, I submit, the chief reason why we now put forward our claim when a general "freeze" seems almost inevitable. The probability is that our claim will be conceded in principle and that our patriotism will be appealed to so that we may not press for our rights.

Assistants' Cars

Dr. J. C. C. LANGFORD (London, W.4) writes: The position regarding cars for trainee assistants is now so serious (my own assistant's car is so ancient and so unreliable despite the fact that her name has been on the list for a considerable time) that in the not far distant future we may find that, in advertising for assistants, the doctor may consider the car before the assistant's competence, and one may in future see this sort of advertisement: "Wanted, an assistant with a reliable post-war car; send particulars of *car* to Box XYZ."

Association Notices

NATHANIEL BISHOP HARMAN PRIZE

The Council of the British Medical Association is prepared to consider the award of the Nathaniel Bishop Harman Prize in the year 1952. The value of the Prize is approximately £100. The purpose of the Prize is the promotion of systematic observation and research among consultant members of the staffs of hospitals who are not attached to recognized medical schools. It will be awarded for the best Essay submitted in open competition. The work submitted must include personal observations and experiences collected by the candidate in the course of his practice. A high order of excellence will be required. No study or essay that has previously been published in the medical press or elsewhere will be considered eligible for the Prize. Any registered medical practitioner who is a consultant member of the staff or senior hospital medical officer of a hospital in Great Britain or Northern Ireland and who is not a member of the staff of a recognized undergraduate or postgraduate medical school is eligible to compete. If any question arises in reference to the eligibility of a candidate or the admissibility of his essay, the decision of the Council shall be final.

Should the Council of the Association decide that no essay submitted is of sufficient merit, the Prize will not be awarded in 1952, but will be offered again the year next following this decision, and in this event the money value of the Prize on the occasion in question shall be such proportion of the accumulated income as the Council shall determine.

The writer of the prize-winning essay may be required to prepare a paper on the subject for publication in the *British Medical Journal* or for presentation to the appropriate Section of the Annual Meeting of the Association. Each essay must be typewritten or printed in the English language and must be distinguished by a title and a motto. The essay must not bear the name of the writer, which should be sent with the essay in a sealed envelope bearing only the motto on the outside. It is suggested that essays should consist of from 3,000 to 10,000 words. The title of the proposed essay and the motto should be notified in writing to the Secretary, and a form for this purpose can be obtained from the Secretary. Essays must reach the Secretary, British Medical Association House, Tavistock Square, London, W.C.1, not later than March 31, 1952. Inquiries relative to the prize should be addressed to the Secretary.

SCHOLARSHIPS IN AID OF SCIENTIFIC RESEARCH

The Council of the British Medical Association is prepared to receive applications for research scholarships, as follows:

An Ernest Hart Memorial Scholarship, of the value of £250.
A Walter Dixon Scholarship, of the value of £250.
Four Research Scholarships, each of the value of £200.

These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease.

Each scholarship is tenable for one year, commencing on October 1, 1952. A scholar may be reappointed for not more than two additional terms. A scholar is not necessarily required to devote the whole of his or her time to the work of research, but may be a member of H.M. Forces or may hold a junior appointment at a university, medical school, or hospital, provided the duties of such appointment will not, in the opinion of the Science Committee, interfere with his or her work as a scholar.

Applications for scholarships must be made not later than March 31, 1952, on the prescribed form, a copy of which will be supplied on application to the Secretary, B.M.A. House, Tavistock Square, London, W.C.1. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated.

Diary of Central Meetings

JANUARY

28	Mon.	Psychological Medicine Group Committee, 2 p.m.
29	Tues.	Subcommittee on the Constitution and Procedure of Medical Service Committees, General Medical Services Committee, 2 p.m.
31	Thurs.	Education Conference Subcommittee, International Relations Committee, 10.30 a.m.

FEBRUARY

1	Fri.	Committee *re* Fees for Part-time Work under Local Authorities, 2 p.m.
6	Wed.	General Practice Review Committee, 11 a.m.
6	Wed.	Amending Acts Committee, 2 p.m.
6	Wed.	Assistants and Young Practitioners Subcommittee, General Medical Services Committee, 2 p.m.
6	Wed.	Compensation and Superannuation Committee, 2 p.m.
7	Thurs.	Central Consultants and Specialists Committee, 12 noon.

Branch and Division Meetings to be Held

CITY DIVISION.—At Finsbury Health Centre, Pine Street, London, E.C., Tuesday, January 29, 8.30 p.m., talk by Dr. Henry Wilson: "Nervous and Naughty Children."

DARTFORD DIVISION.—At the Embassy Ballrooms, High Street, Welling, Tuesday, January 29, 8 for 8.30 p.m., annual B.M.A. dinner of the Division.

HOLLAND DIVISION.—At Burton House, Wainfleet Road, Boston, Friday, February 1, 7.30 for 8 p.m., supper; 9.15 p.m., address by Dr. William Tegner: "The Management of the Rheumatic Patient."

LAMBETH AND SOUTHWARK DIVISION.—At Lambeth Hospital, Brook Drive, London, S.E., Sunday, February 3, 11 a.m., clinical meeting.

LEWISHAM DIVISION.—(1) At Lewisham Hospital, 390, High Street, Lewisham, S.E., Friday, February 1, 8.30 p.m., address by Dr. E. Grey Turner (Assistant Secretary, B.M.A.): "The B.M.A. Overseas"; (2) At Park Hospital, Hither Green, Lewisham, S.E., Sunday, February 3, 11 a.m., clinical meeting.

MONMOUTHSHIRE DIVISION.—At St. Mellons County Club, Saturday, January 26, 8 for 8.30 p.m., dinner. Address by Sir Clement Price Thomas: "A Surgeon's Experiences in Yugoslavia and Poland."

PLYMOUTH DIVISION.—At Freedom Fields Hospital, Plymouth, Wednesday, January 30, 8 p.m., annual meeting. Film: "Treatment of Infections of the Hand."

SOUTH BEDFORDSHIRE DIVISION.—At Luton and Dunstable Hospital, Wednesday, January 30, 9 p.m., Professor L. P. Garrod: "Antibiotics."

SOUTH-WEST ESSEX DIVISION.—At Thorpe Coombe Maternity Hospital, 704, Forest Road, Walthamstow, E., Wednesday, January 30, 8.30 p.m., general meeting.

B.M.A. FILM LIBRARY

The following films have been added to the Film Library:

Sardinian Project. By Shell Refining and Marketing Co., Ltd. Monochrome, sound, 35 min., 1949. Presented by Shell Refining and Marketing Co. Ltd.

The Modern Handling of Ankylosing Spondylitis. By Dr. Gwen Hilton. Monochrome, sound, 17 min. 1950.

Partial Gastrectomy By P. Quinet, F.R.C.S. Colour, silent, 20 min. 1950.

Examination of the Cervical Lymph Nodes. By Dr. P. Hansell. Monochrome, silent, 7 min. 1950.

Life Cycle of the Malaria Parasite. By Imperial Chemical Industries Ltd. Monochrome, sound, 23 min. 1950. Presented by Imperial Chemical Industries Ltd

*Oesophageal Speech. By Department of Health for Scotland. Monochrome, sound, 10 min. 1950.

*Some Aspects of Accessible Cancers. By Ministry of Health. Monochrome, sound, 1951. On indefinite loan from the Central Office of Information.

Part I. Skin. 25 min.
Part II. Lip, Tongue, and Mouth. 22 min.
Part III. Larynx. 21 min.
Part IV. Breast 26 min.

A re-edited copy of the film "Rehabilitation in Industry" has been presented to the Film Library by Messrs. General Motors-Vauxhall, and a sound version of the "Thoracoplasty" film is now available.

*No charge is made for the hire of these films. It is hoped that Parts V and VI, "Cervix and Uterus" and "Rectum," will shortly be available from the Film Library.

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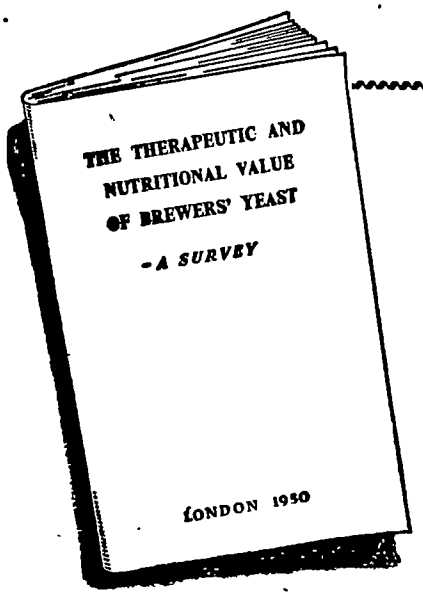

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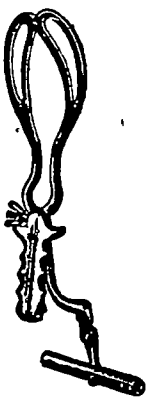
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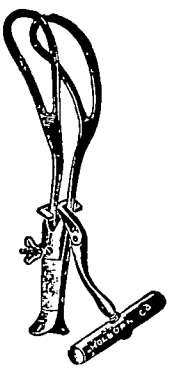
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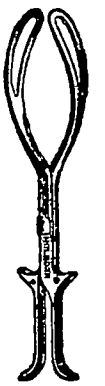
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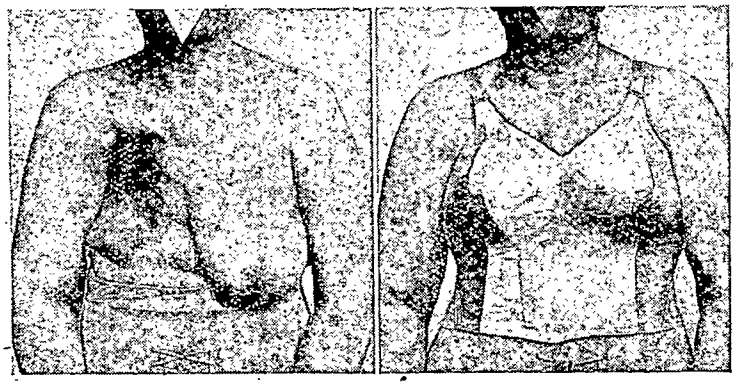

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BRISTOL: 44a, Queens Road, 8. *Tel.: Bristol 24801.*

GLASGOW: 86, St. Vincent Street, C.2. *Tel.: Central 3232.*

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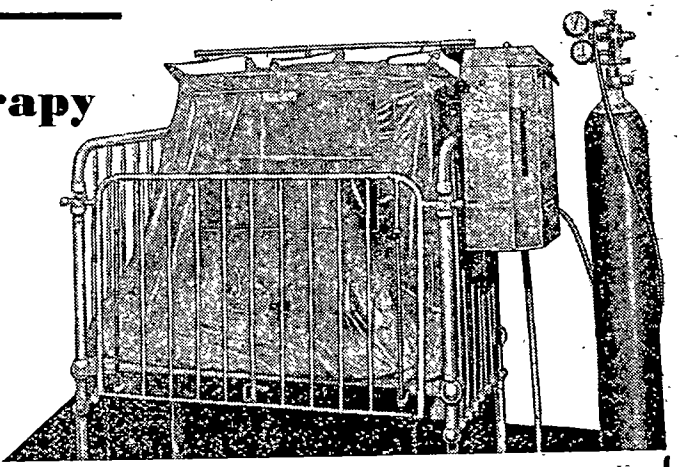

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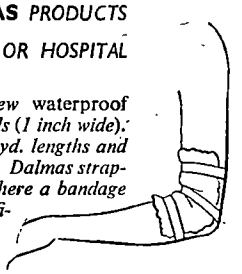

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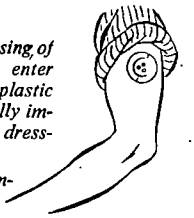

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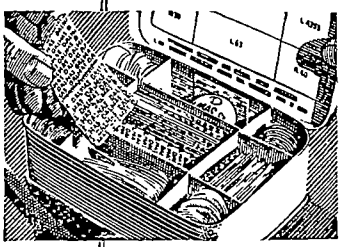

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APPOINTMENTS

Applicants should state name, address, age, nationality, qualifications, and enclose 3 copies (unless otherwise specified) of recent★ testimonials with short statement of experience and appointments held.

Applications should be sent at once if no closing date is given.

Canvassing in any form will disqualify.

★*SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

Deferment of call-up for "R" practitioners (i.e., practitioners liable for call-up under the National Service Acts) is granted at the discretion of the Central Medical War Committee and (in Scotland) the Scottish Central Medical War Committee. The Committees normally allow an "R" practitioner to hold a First House Officer post (N.H.S. salary £350 per annum) provided that he obtains it without delay. *Under present arrangements* the Committees also normally allow an "R" practitioner to hold a Second House Officer post (£400) and a Senior House Officer post (£670), provided in each case that the higher appointment is secured before the termination of the practitioner's current appointment.

"R" practitioners may not accept Third House Officer posts (£450 per annum) unless they have obtained the special permission of the C.M.W.C. or (in Scotland) the Scottish C.M.W.C.

SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

Registrar Grades, Whole-time

(*a*) *REGISTRAR:* Posts obtained normally not less than two years after registration as a medical or dental practitioner and held normally for two years: £775 per annum in the first year; £890 per annum in the second and any subsequent years.

(*b*) *SENIOR REGISTRAR:* Posts obtained normally not less than four years after registration as a medical or dental practitioner and held normally for three years: £1,000 per annum in the first year; £1,100 per annum in the second year; £1,200 per annum in the third year; £1,300 per annum in any subsequent years.

Other Grades, Whole-time

(*a*) *HOUSE OFFICER:* £350 per annum for the first post held, £400 per annum for the second post held; £450 per annum for the third and any subsequent post held; with, in each case, a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Each post shall be tenable for six months.

The Minister will be prepared to authorize, in exceptional circumstances, salaries up to £50 per annum higher than the standard rates specified above where a post cannot be filled otherwise.

(*b*) *SENIOR HOUSE OFFICER:* Posts obtained normally not less than one year after registration as a medical or dental practitioner and normally held for one year only: £670 per annum.

(*c*) *JUNIOR HOSPITAL MEDICAL OFFICER:* Officers who have held house appointments but who are not registrars and who have less responsibility than other hospital officers of non-consultant status: £700 (for an officer appointed not less than two years after registration as a medical practitioner) by £50 to £1,000 per annum.

ALL NATIONAL HEALTH SERVICE HOSPITAL APPOINTMENTS ARE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SERVICE OF HOSPITAL MEDICAL STAFF

Those intending to apply for resident appointments in the Registrar grades are recommended to make inquiries with regard to the deductions proposed for board and lodging at the time of submitting their applications, where this is not stated in the advertisement.

(19/12/51)

CLASSIFICATION

and order of appearance

Practices — Assistantships
Partnerships — Locums
Situations (Medical)

HOSPITAL APPOINTMENTS

CONSULTANTS
S.H.M.O.s
REGISTRARS
J.H.M.O.s
SENIOR HOUSE OFFICERS
HOUSE OFFICERS
CLINICAL ASSISTANTS

under appropriate specialty headings, e.g.:—

Anaesthetics	Paediatrics
Cardiology	Pathology
Chest and Tb.	Physical Medicine
Dental	Plastic Surgery
Dermatology	Psychiatry
E.N.T.	Radiology
Geriatrics	Rheumatology
Infectious Diseases	Urology
Neurosurgery	Venereology
Obstetrics and Gynaecology	Medicine
Ophthalmology	Surgery
Orthopaedics	Casualty

PUBLIC HEALTH
in alphabetical order of names of employing authorities

Industrial	Houses
Overseas	Accommodation
University	Consulting Rooms, etc.
Personal	Hotels
Notices	Cruises
Educational	Motor Cars, Hire, etc.
Lectures	Miscellaneous
Situations (Non-med.)	Homes
Pharmacists, etc.	Agents
Receptionists, etc.	

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

GLASGOW

Applications are invited from registered medical practitioners (including practitioners already on the medical list of the Council) to fill the following vacancies:

(1) **Townhead district.** The number of persons on the list is approximately 590 and the practice is suitable for a woman practitioner. It is understood that the house will not be available to the successor in the practice, but that the surgery may be available for purchase.

(2) **Southern district.** The number of persons on the list is approximately 2,190. The main part of the practice is situated in the Gorbals district and the other part generally in the Cathcart area. It is understood that the house will not be available but that the main surgery in Gorbals may be available to the successor in the practice.

Forms of application may be obtained from the undersigned, with whom applications should be lodged not later than fourteen days from the date of publication of this advertisement. Applicants should state to which vacancy the application refers.—William S. Phillips, Clerk and Finance Officer, 9, Park Terrace, Glasgow, C.3.

KENTON, Middlesex

Applications invited for vacancy, urban. List at present approximately 3,700. Residence and surgery not available. Apply, on Form E.C.16A, before February 9, 1952, to the undersigned.—F. J. Ashford, Middlesex Executive Council, Gloucester House, Gloucester Gate, N.W.1.

KIDDERMINSTER, Worcestershire

Applications invited for urban vacancy, due to retirement on March 31, 1952. List at present 3,710. Residence will be for sale. Surgery (not at residence) may be available. Closing date February 9, 1952. Apply, on Form E.C.16A, to undersigned.—V. T. Williams, Clerk, Worcestershire Executive Council, 29, Foregate Street, Worcester.

LEEDS

Applications are invited for vacancy in above area with a view to commencing practice on April 1, 1952. List 3,135. Residence and branch surgery available. Form of application (E.C.16A), available from the undersigned, should be completed and returned not later than February 11, 1952.—A. J. G. Miles, Clerk of the Leeds Executive Council, Trevelyan Chambers, 7, Boar Lane, Leeds, 1.

MANCHESTER

Applications are invited from doctors wishing to undertake general medical services in Manchester. Approximate number of persons on the list of the deceased doctor is 2,500, principally in Miles Platting and Newton Heath districts of Manchester. Applications, on E.C.16A (obtainable from address below), should be sent to the undersigned not later than seven days from publication of this notice.—H. Glass, Clerk of the Council, Ardwick Town Hall, Ardwick Green North, Manchester, 12.

PRACTICES (Offered)

EIRE. BUNGALOW ON ELEVEN ACRES, SIX rooms, bathroom, and pantry, electric light, mains water, and 'phone. Adjoins town in excellent hunting, coursing, fishing and shooting area. Practice (not audited) has been worth £700 per annum, but might be halved by transfer. Price £4,500.—Communications direct to Dr. O'Callaghan, Kanturk, Co. Cork. Phone 25.

PRIVATE PRACTICE, FREEHOLD CORNER house, residential suburb E. London.—Box P238, B.M.J.

PRACTICES (Wanted)

M.B. REQUIRES PARTNERSHIP OR SUCCESsion. Capital available for house and equipment.—Box P301, B.M.J.

REQUIRED, PRACTICE, PARTNERSHIP OR Assistantship with View. Private or with N.H.S. Ample capital for house, etc.—Box P1710, B.M.J.

W.1 PRACTICE REQUIRED BY EXPERIENCED G.P. If private, would purchase; or exchange for South Coast practice.—Box P318, B.M.J.

PARTNERSHIPS (Wanted)

Experienced practitioner, 36, seeks Partnership. Succession, or Assistantship with view. Family man, car. Capital available house purchase.—Box P337, B.M.J.

Highly qualified and experienced practitioner wishes to contact practitioner in the West End London with view to co-operation. Can bring some connexion with him. No Health Service work considered.—Replies in strict confidence to Box P230, B.M.J.

M.B., Ch.B. (Liverpool), Jewish, single, 28, hospital, G.P., R.A.M.C. experience. Car owner. Capital available house purchase.—Box P336, B.M.J.

Practitioner with own private practice London, seeks Partnership, Succession, or would consider amalgamation.—Box P335, B.M.J.

Partnership, Succession or early View. Experienced doctor. Capital for house purchase, equipment.—Box P305, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, Assistant with possible view, Bart's or Middlesex man preferred. Old-established mixed practice in East Midlands. House available.—Box 206, B.M.J.

Wanted, Trainee Assistant, April 1, male, British. Live out. Car essential. Partnership two. Apply, Drs. Philip and Hall, Maldon, Essex.

Wanted, married Protestant Assistant, industrial practice Midlands. Midwifery essential. Car owner. House available. Good salary. Scot preferred.—Box 339, B.M.J.

Wanted, early March, for mixed town, country, and colliery practice, N.E., male Assistant, preferably unmarried, view to partnership. Car provided or allowance given.—Box 323, B.M.J.

Assistantships Vacant—contd.

Wanted, Outdoor Assistant, Manchester. £1,000 including car allowance. Work light.—Box 311, B.M.J.

Assistant required near Newcastle-upon-Tyne, must be experienced and conscientious. Car essential. Good salary. Free unfurnished flat provided. —Box 338, B.M.J.

Assistant, male, industrial town Midlands, commencing £800, car or allowance £150. Free small unfurnished house. Rota system nights and Sundays.—Box 324, B.M.J.

Assistant wanted by two doctors in desirable Manchester suburb. Commence April 1. £1,000 per annum, including car allowance.—Box 322, B.M.J.

Full-time Assistant, S.E. London. Car essential. Rota. Salary by arrangement.—Box 303, B.M.J.

Part-time Assistant, with car, required for evening surgeries and visits. Must be within easy access of S.W. London suburb, for half-day and occasional week-end calls.—Box 321, B.M.J.

Trainee Assistant, either sex, near University town, North Midlands, wanted about May.—Box 306, B.M.J.

ASSISTANTS AVAILABLE

Assistantship or Locum, Indian, varied hospital and G.P. experience. Car owner.—Box 313, B.M.J.

Assistantship required, Scot, Presbyterian, St. Andrews graduate, with possible view. Free February.—Box 157, B.M.J.

Experienced woman practitioner free now, morning surgeries, visits, clinics. Car owner. Please ring Bays 5143.

Glasgow graduate, 28, desires Assistantship with View to Succession in small town within forty miles Glasgow or Edinburgh. Minimum 2,000 units. Experienced in obstetrics, trained orthopaedics, ex house physician professorial units of medicine and medical paediatrics. Ex-R.A.F. At present Assistant general practice. Ample capital available house purchase. Other interests, outdoor sports.—Box 304, B.M.J.

Portsmouth area. Experienced practitioner avail-able afternoon and/or evening surgeries or institution.—Box 312, B.M.J.

Registrar M.D., M.R.C.P., desires Part-time Work within twenty miles London, E.C.1. Unfurnished accommodation for wife, child required. Terms by arrangement.—Box 308, B.M.J.

Single woman doctor, four years' experience hos-pital, G.P., excellent testimonials, car owner, seeks Assistantship with or without View, London area.—Box 253, B.M.J.

LOCUMS (Vacant)

Locum wanted February 24 until March 1. Car provided. Southern England.—Box 340, B.M.J.

Acton Hospital, Gunnersbury Lane, W.3.—Locum Senior Surgical Registrar (Resident) required from February 9 to 26, 1952. Salary £1,000 per annum, less £100 per annum for residence. Applications to Assistant Secretary immediately. (7159)

South Western Hospital, Landor Road, S.W.9.—Locum Resident Surgical Officer (Senior House Officer Grade) required for at least four weeks commencing February 1, 1952. Apply to the Secretary, Lambeth Group Hospital Management Committee, Renfrew Road, S.E.11. (7006)

Billericay, St. Andrews Hospital. South-East Essex Hospital Management Committee.—Applications are invited from registered medical practitioners for the post of **Locum Surgical Registrar** at the above hospital. Resident. Salary £775 per annum, less £130 residential emoluments. The post, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. B. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (5616)

Brighton and Lewes Hospital Management Committee.—Immediate vacancy for **Locum Registrar in Anaesthetics** pending settlement of Registrar complement. (Resident or non-resident.) Applications, stating age, qualifications and experience, together with names of three referees, should be addressed to the Secretary, Brighton and Lewes Hospital Management Committee, c/o Royal Sussex County Hospital, Brighton, 7. (7155)

Chester (near), Meadowslea Hospital, Penyffordd. Wrexham, Powys and Mawddach Hospital Management Committee.—Applications are invited for a **resident Locum Tenens** at the above hospital to commence immediately. Salary will be at the rate of £700 to £1,000 per annum, according to experience. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, to be addressed to the Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (5647)

Grimsby General Hospital. Sheffield Regional Hospital Board.—Locum Surgical Registrar required immediately at the above hospital. Salary at the rate of £775 per annum. Apply to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. (6983)

Grimsby Group of Hospitals. Sheffield Regional Hospital Board.—Whole-time Locum Registrar (£775 per annum) in Obstetrics and Gynaecology required for the above Group of hospitals, for a period of at least one month, to commence duty on February 1, 1952. Applications to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. (6614)

Grimsby General Hospital (220 beds). Grimsby Hospital Management Committee.—Required for indefinite period, a **Locum Resident Gynaecological House Surgeon.** Apply to Administrative Officer, Grimsby General Hospital. (7007)

Hitchin, Lister Hospital. Luton and Hitchin Group Hospital Management Committee.—Locum Pathologist (S.H.M.O.) (whole-time) required now for duties under supervision of Consultant Pathologist. Apply to Medical Director, Lister Hospital, Hitchin, Herts. (6655)

Hull Royal Infirmary. Hull (A) Group Hospital Management Committee.—Locums required (Senior House Officer grade) for the following posts: One in the Casualty Department, one in Orthopaedic Surgery. Applications to Admin Officer. (6903)

Sheffield City General Hospital. Sheffield Regional Hospital Board.—Whole time Locum Pathologist required for the above hospital for a period of three to six months. Remuneration will be at the rate of 31½ or 45 guineas per week, according to status. Applications, with the names of three referees, should be sent immediately to the Secretary, Sheffield Regional Hospital Board, Old Fulwood Road, Sheffield, 10. (7005)

Winchester, Royal Hampshire County Hospital (311 beds) (Winchester Group Hospital Management Committee).—Locum Orthopaedic Registrar (Registrar grade) required for the period February 1 to April 30, 1952, inclusive. Applications to the Secretary. (6714)

LOCUMS (Available)

Experienced woman doctor free part-time G.P. work South Coast, preferably Bournemouth, Poole, Boscombe area. Excellent testimonials.—Box 314, B.M.J.

Experienced Ophthalmologist available for month of February, whole- or part-time.—Box 326, B.M.J.

English doctor, keen, reliable, available week-ends for surgeries and visits, London area.—Box 320, B.M.J.

Experienced woman doctor available Locums. Bristol area preferred. Car driver.—Box 341, B.M.J.

Experienced physician will undertake any Locum or part-time work, Bournemouth area.—Box 319, B.M.J.

Experienced woman doctor available locum, Bucks-Beds area. Own car.—Box 309, B.M.J.

G.P. seeks Week-end Duties, £3 3s. daily.—SHE 1502.

M.B. requires Locum or Part-time Work in Lon-don area.—Box 302, B.M.J.

Newly qualified practitioner wants Locum engage-ment during February, preferably hospital appointment, anywhere.—Box 315, B.M.J.

SITUATIONS (Wanted)

English specialist psychiatrist available for per-manent or temporary appointment. Highest references.—Box 310, B.M.J.

APPOINTMENTS

ANAESTHETICS

WHITTINGTON HOSPITAL
London, N.19
North-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of
WHOLE-TIME ANAESTHETIST (Consultant)

Duties mainly at the above hospital but may include work at other hospitals in the Group. Candidates should possess the Diploma in Anaesthetics and have had wide experience in modern methods of anaesthesia. This hospital consists of three contiguous hospitals which are being developed as one unit containing approximately 1,600 beds and all the usual special departments. There is a large consultant staff. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 23, 1952. Candidates are welcome to visit the hospital by direct appointment with the Medical Superintendent. (6797)

HAREFIELD HOSPITAL
Harefield, Middlesex
Thoracic Surgical Unit (78 beds)
North-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of
PART-TIME CONSULTANT ANAESTHETIST

for six half-days a week. Applications would also be considered from candidates who could give two or four half-days per week. Applicants should possess the D.A. and have had wide experience in modern methods of anaesthesia and special experience in anaesthesia for thoracic surgery. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 23, 1952. Candidates are welcome to visit the hospital by direct appointment with the Medical Director. (6798)

LLANELLY—WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the appointment of a
CONSULTANT ANAESTHETIST

to serve the Glantawe Hospital Management Committee. The successful candidate will be required to live within reasonable distance of Llanelly and be expected to take part in the anaesthetic services of the Group. Candidates should be in possession of the D.A. and have had wide experience in the specialty. Candidates are asked to state whether they wish to be considered for a whole-time or maximum part-time appointment. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates), with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advert. (7083)

NEWCASTLE REGIONAL HOSPITAL BOARD
North-West Durham Hospital Management Committee Group
Main hospitals: Shotley Bridge 520 beds, Holmside and South Moor 38 beds, Maiden Law Hospital 100 beds.
ASSISTANT CONSULTANT ANAESTHETIST

Whole-time or part-time for nine notional half-days. Two appointments may be made. Salary scale £1,700 to £2,750 whole-time, pro rata part-time. The appointee will be required to reside in close proximity to the Shotley Bridge Hospital. Canvassing will disqualify, but candidates are invited to visit the hospitals by arrangement with the Secretary of the Hospital Management Committee Shotley Bridge. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within twenty-eight days. (7008)

HOSPITALS FOR DISEASES OF THE CHEST

Applications are invited for the post of
FULL-TIME ANAESTHETIC REGISTRAR
at Brompton Hospital, S.W.3

Applications, stating age, qualifications (with dates), nationality and previous appointments held, and accompanied by copies of testimonials, should reach the undersigned not later than February 9, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (7085)

LONDON HOSPITAL, Whitechapel, E.1

Applications are invited for the post of
REGISTRAR to the Department of Anaesthetics

D.A. or D.A. standard an advantage. The appointment will be for one year in the first instance. Applications (twelve copies), giving names and addresses of three referees, should be addressed to the House Governor (from whom further particulars may be obtained) to arrive not later than Feb. 9.—H. Brierley, House Governor. (7129)

CARDIFF, UNITED, HOSPITALS AND WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for two vacant appointments of
SENIOR REGISTRAR in Anaesthetics

Applications to reach the undersigned within fourteen days of the appearance of this advertisement. The posts are for a period of four years, subject to review annually, of which two years will be served at hospitals of the Regional Board, and two years at the United Cardiff Hospital. In the case of one post, the first two years will be spent in hospitals in the vicinity of Cardiff, while in the other they will be spent outside Cardiff, probably in the Swansea area. The successful candidates will work under the supervision of the Director of Anaesthetics. Forms of application should be obtained immediately from the Secretary and Principal Administrative Officer, United Cardiff Hospitals, Cardiff Royal Infirmary, from whom further particulars are also obtainable. (7065)

CHICHESTER GROUP HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of
NON-RESIDENT REGISTRAR ANAESTHETIST

to the Group (eight hospitals). Duties mainly at Royal West Sussex and St. Richard's Hospitals, Chichester. Six visiting anaesthetists. Preference to candidates with the D.A. Salary £775 per annum first year, £890 per annum second year. National Health Service (Superannuation) Regulations apply. Application forms, to be had from Secretary, Hospital Management Committee, Royal West Sussex Hospital, Chichester, must be returned within fourteen days. Canvassing disqualifies, but hospitals may be visited. (7086)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Anaesthetics—contd.

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
SENIOR REGISTRAR in Anaesthetics
for duties mainly in the Hull "A" Group of hospitals, with additional duties as required in the Hull "B" and East Riding Groups. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than February 2, 1952. (6602)

LEEDS, UNITED HOSPITALS
Applications are invited for the post of
SENIOR REGISTRAR in Anaesthetics
for duties at the Thoracic Surgical Units of the General Infirmary, Leeds, and Pinderfields Hospital, Wakefield, which have a common Consultant staff. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Joint Medical Secretary, Joint Registrars Committee, *School of Medicine*, Leeds, 2, not later than February 9, 1952. (6972)

ROTHERHAM, MOORGATE GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
REGISTRAR (Anaesthetics)
to the above hospital, which is a recognized training hospital for the D.A. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointment (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to reach him not later than February 4, 1952. (6615)

METROPOLITAN HOSPITAL
Kingsland Road, London, E.8
(General—147 beds)
Central Group Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetist)
The appointment will be for six months only in the first instance. Salary will be at the rate of £670 per annum, less residential charges of £130 per annum. Applications, giving details of age, qualifications and experience, together with the names of three referees, should reach the House Governor by February 5, 1952. (5792)

BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
The post is recognized for the D.A. examination and is tenable for one year. Salary £670 per annum, less an appropriate deduction in respect of board residence. Applications, stating age, qualifications, nationality and experience, etc., with names of two persons for reference, should be addressed to the Secretary, Blackburn and District Hospital Management Committee, *Royal Infirmary*, Blackburn. (6656)

BRIDGE OF EARN HOSPITAL
County and City of Perth General Hospitals
Applications are invited for the post of
SENIOR HOUSE OFFICER
(Department of Anaesthetics)
The post is resident, and applicants must have been registered for not less than two years, of which twelve months must have been spent in House Officer appointments. Applications, giving details of previous experience, together with the names of three referees, should be submitted to the Medical Superintendent, County and City of Perth General Hospitals, Perth Royal Infirmary, Perth, to arrive not later than January 31, 1952. (7224)

CHELMSFORD, ST. JOHN'S HOSPITAL
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
to large surgical units, for a period of twelve *months, commencing* February 14, 1952. The appointment will include duties at the Chelmsford and Essex Hospital a short distance away. Applications, stating age, sex, qualifications, and experience, with recent testimonials, should reach the Secretary, Hospital Management Committee, Chelmsford Group, Chelmsford and Essex Hospital, London Road, Chelmsford, not later than January 29, 1952. (7251)

FARNBOROUGH HOSPITAL
Farnborough, Kent (800 General beds)
Applications are invited for the resident post of
SENIOR HOUSE OFFICER in Anaesthetics
due to commence on February 28, 1952. The post is for a period of one year in the first instance, and recognized for candidates preparing for the D.A. Salary £670 a year, less £150 a year for residential emoluments. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be sent to Administrative Officer. (6784)

CHESTER AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Anaesthetist)
The post is recognized for the D.A. The successful applicant will be required to carry out duties in conjunction with the present Resident Anaesthetist at Chester Royal Infirmary and Chester City Hospital and will require to reside at the Chester *Royal Infirmary. Salary £670 per annum*, less a deduction of £150 per annum in respect of board and lodging, etc. Applications, giving details of age, experience and qualifications, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7130)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Luton and Hitchin Group Hospital Management Committee
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
at the Luton and Dunstable Hospital. The appointment, which is vacant now, offers varied experience, and this post is recognized for the D.A. examination. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (5712)

MEDWAY AND GRAVESEND HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the appointment of
RESIDENT ANAESTHETIST
(Senior House Officer grade)
Salary £670 per annum, in accordance with the national terms and conditions of service. The appointment is for twelve months, and preference will be given to those holding the diploma in anaesthetics. Residential accommodation will be available at All Saints' Hospital, Chatham. Applications, giving full particulars of age, nationality, qualifications, and experience, together with copies of recent testimonials, to be sent to the undersigned not later than February 1, 1952.—T. Rhodes, Secretary, Medway and Gravesend Hospital Management Committee, St. William's Hospital, Rochester. (6715)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Anaesthetic Department
vacant immediately. Recognized for the D.A. National Health Service salary scale and conditions of service, with a deduction at the rate of £100 a year for residential emoluments. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible to S. G. Hill, Secretary to the Management Committee. (7009)

ORMSKIRK COUNTY HOSPITAL
Wigan Road, Ormskirk, Lancs (406 beds)
SENIOR HOUSE OFFICER (Anaesthetics)
Applications are invited from suitably qualified medical practitioners for the above appointment, normally resident. *The post is tenable for twelve* months, but a temporary application would be considered. Salary £670 per annum, less £130 per annum for residential emoluments. Applications, with full details and names of two referees, to be forwarded to the undersigned immediately.—H. E. Beck, Secretary, County Hospital, Ormskirk. (6721)

SHEFFIELD, UNITED HOSPITALS
Royal Infirmary Unit
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER IN ANAESTHETICS
Salary and conditions of service will be in accordance *with the National Health Service* scale. Applications, stating age, qualifications, and experience, to be addressed to the undersigned immediately.—Frank Hart, Superintendent, Royal Infirmary, Sheffield, 6. (7079)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds—8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer status)
which falls vacant on February 4, 1952. The post is tenable for one year at a salary of £670, less *£100 for emoluments*, and subject to the regulations of the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5257)

WARRINGTON GENERAL HOSPITAL (372 beds) and WARRINGTON INFIRMARY (172 beds)
Warrington and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
for Anaesthetic work
Required for duties at the above hospitals. The person appointed will be resident at the General Hospital. The commencing salary is £670 per annum, less £130 for full residential emoluments. *Applications, stating age, experience and qualifications*, should be sent immediately to H. L. Boot, Secretary to the Committee, c/o General Hospital, Warrington, Lancs. (7087)

ROYAL FREE HOSPITAL
Gray's Inn Road, London, W.C.1
Applications are invited from duly qualified and registered medical persons for the post of
RESIDENT ANAESTHETIST
Duties of the above post tenable for six months commencing April 1, 1952. Salary scales and conditions of service will be in accordance with those laid down by the Ministry of Health, less deduction for residence. Application forms may be obtained from the Secretary to the Board of Governors, Royal Free Hospital, Gray's Inn Road, London, W.C.1, and should be filled in and returned before March 1, 1952. (7088)

BROMSGROVE, WORCS, ALL SAINTS' HOSPITAL (468 beds)
Mid-Worcestershire Hospital Management Committee
HOUSE OFFICER (Anaesthetic duties)
Required at the above recently opened General Hospital. Resident post, vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire Hospital Management Committee, Birmingham Road, Bromsgrove. (6984)

DUNDEE ROYAL INFIRMARY
HOUSE OFFICER
in Anaesthetics as second Resident Anaesthetist
Previous experience in anaesthetics not necessary. Apply to the Medical Superintendent. (7131)

ISLE OF MAN, NOBLE'S HOSPITAL
Applications are invited for the post of
RESIDENT ANAESTHETIST
in busy hospital with over 150 beds and the usual ancillary departments. Post will provide ample and varied experience in pleasant surroundings. Salary £400 per annum, less £100 per annum for board and lodging. Duties may include acting in the *medical wards or casualty*. Appointment for six months in first instance. Applications, with copies of two recent testimonials, to the Secretary, Noble's Hospital, Douglas. (7080)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
ANAESTHETICS HOUSE OFFICER
Vacant on April 1, 1952. The appointment is for six months at a salary of £400 or £450 per annum, with a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Applicants should have had experience in the speciality. Applications to be made on forms obtainable from the undersigned and to be returned not later than February 2, 1952. —By order, F. J. Cable, Secretary to the Board of Governors. (7160)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
HOUSE OFFICER (Anaesthetics)
Vacant April 2. The hospital is recognized for the D.A. Applications, with copies of two testimonials, to Secretary. (7132)

WOLVERHAMPTON, ROYAL HOSPITAL
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (JUNIOR ANAESTHETIST)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7216)

CARDIOLOGY

WIRRAL, CALDY MANOR HOSPITAL
Caldy (41 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT HOUSE PHYSICIAN
for the above new hospital which specializes in the treatment of heart cases. The appointment will become vacant on February 1, 1952, and will be tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications, and details of experience, with names of three referees, should be sent immediately to the Secretary, North Wirral Hospital Management Committee, Leasowe Children's Hospital, Leasowe, Wirral, Cheshire. (6759)

CHEST AND TUBERCULOSIS

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for two appointments as **WHOLE-TIME CONSULTANTS in Chest Diseases** to the following Groups of hospitals respectively: (1) Lewisham, (2) Camberwell. Duties are mainly in connexion with tuberculosis clinics. Applicants must have had previous experience in chest diseases and a higher qualification in medicine, or a diploma of membership of a Royal College of Physicians is essential, and a Diploma in Public Health would be an advantage. The last day for acceptance of applications will be February 8, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1. (7010)

WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the whole-time appointment of

ASSISTANT CHEST PHYSICIAN
(S.H.M.O. Scale)

The successful applicant will be based at Machynlleth Chest Hospital in the Montgomery and Merioneth T.B. Area. Applicants should have had wide experience in tuberculosis and diseases of the chest. The successful applicant will work under the direction of the Consultant Chest Physician in the Area. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Fourteen copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates), and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of the appearance of this advertisement. (7225)

STOKE-ON-TRENT GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of

SENIOR REGISTRAR IN TUBERCULOSIS AND CHEST DISEASES

In first instance duties mainly at Cheshire Joint Sanatorium, Market Drayton (305 beds), but full facilities provided for work in other group hospitals and clinics. Experience in specialty essential. Possession of higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of application, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham 15, before February 11, 1952. Candidates may visit hospital concerned. (7226)

CHEPSTOW, MON, MEMORIAL WARDS, MINISTRY OF PENSIONS HOSPITAL

Applications are invited for the post of

JUNIOR HOSPITAL MEDICAL OFFICER
in Tuberculosis

National salary scales and conditions. The resident medical staff consists of a Senior Hospital Medical Officer and this post, while the Consultant visits regularly. Apply, with the names of three referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (7011)

VENTNOR, ROYAL NATIONAL HOSPITAL FOR DISEASES OF THE CHEST
Isle of Wight (249 beds)

JUNIOR HOSPITAL MEDICAL OFFICER
(Resident, unmarried)

Hospital has all facilities for major thoracic surgery. Applications, with names of two referees, should be sent to Physician Superintendent. (7200A)

BARNET, HERTS, CLARE HALL HOSPITAL
South Mimms (536 beds)

SENIOR HOUSE OFFICER (Surgical)

Required for the Thoracic Unit of 50 beds, including tuberculous and non-tuberculous thoracic conditions. Applications, stating age, qualifications and experience, should be forwarded immediately to the Medical Director. (7089)

MANSFIELD (near), NOTTS, NEWSTEAD SANATORIUM, Fishpool (236 beds)

Applications are invited for appointment as **RESIDENT SENIOR HOUSE OFFICER (Female)** The successful applicant may be required to undertake some work at neighbouring chest clinics, including B.C.G. vaccination. Apply, giving age, qualifications and two referees, to the Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood Hospital, near Mansfield, Notts. (5843)

NOTTINGHAM CITY HOSPITAL (833 beds)

SENIOR HOUSE OFFICER
to the Department of Thoracic Surgery

Post vacant April 1, 1952. Salary £670 per annum, less £130 per annum for residential emoluments. The appointment will be for one year. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be submitted immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (7164)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1,

or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
(Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

LANCASHIRE COUNTY COUNCIL
(Assistant Divisional Medical Officers)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,

A. MACRAE,
Secretary.

January 22, 1952.

NEWTON MEARNS, RENFREWSHIRE, MEARNSKIRK HOSPITAL
Western Regional Hospital Board

Applications are invited from suitably qualified medical practitioners for the appointment, which will be for one year in the first instance, of

SENIOR HOUSE OFFICER in Tuberculosis

The successful applicant will be required to assist in the orthopaedic wards and will reside at the hospital. Applications, stating age, qualifications and present appointment; and giving the names of three referees, should be submitted forthwith to the Secretary, Board of Management for Glasgow Victoria Hospitals, 40, St. Vincent Place, Glasgow, C.1. (7090)

GROVE PARK HOSPITAL, London, S.E.12
(Tuberculosis—401 beds)
Lewisham Group Hospital Management Committee

Applications are invited for the post of

HOUSE SURGEON
to the Thoracic Surgery Department

The appointment is vacant immediately and is tenable for six months. Salary at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications and experience, with copies of three recent testimonials or names of referees, should be sent to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (6659)

HOSPITALS FOR DISEASES OF THE CHEST

Applications are invited from registered medical practitioners, male and female, for appointment of

NON-RESIDENT HOUSE PHYSICIAN
at Brompton Hospital, S.W.3

for which there are three vacancies. The appointment is whole-time for six months, commencing April 1, 1952. The duties include work in the out-patients department as well as in the wards. Salary £400 or £450 a year, according to experience. Applications, stating age, qualifications (with dates), nationality, and previous appointments held, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, February 9, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (7091)

AYLESBURY, BUCKS, TINDAL GENERAL HOSPITAL (281 beds)

HOUSE PHYSICIAN (Male or female)

Vacant March 25, 1952. Work is generally connected with diseases of the chest (T.B. and non-T.B.) and care of some acute medical beds. Applications, with two testimonials, to the Administrative Officer by February 11. (7012)

BRAINTREE, ESSEX, BLACK NOTLEY HOSPITAL

Applications are invited for the post of **HOUSE PHYSICIAN (First, second or third post)** to the Pulmonary Tuberculosis Unit (204 beds) at the above hospital. Tenable six months from February 1, 1952. Salary in accordance with the terms of service issued by the Ministry of Health, plus £50 per annum. Applications, with copies of three recent testimonials, should be forwarded to the Secretary, Colchester Group H.M.C., 14, Pope's Lane, Colchester. (6738)

DARTFORD, BOW ARROW HOSPITAL

HOUSE OFFICER
(Specialty—Diseases of the Chest)

Salary in accordance with terms and conditions of service of hospital medical and dental staff. The appointment will be limited to a period of six months in the first instance. The Bow Arrow Hospital is a hospital of 116 beds for active treatment of early tuberculosis. Facilities will be made available for the person appointed to see general medical cases at the nearby large general hospitals. Applications, stating age, qualifications, experience and the names of two persons to whom reference may be made, should be sent to the Secretary, Dartford Hospital Management Committee, The Bow Arrow Hospital, Dartford, Kent. (7013)

LIPHOOK, KING GEORGE'S SANATORIUM FOR SAILORS
Godalming, Milford and Liphook Group Hospital Management Committee

Applications are invited for the appointment of

HOUSE OFFICER (Medical)

Salary within the range of £350 to £450 per annum, from which is deducted £100 for board, lodging, etc. Applications, stating age, qualifications, experience, nationality and the names of two referees, should be sent to the Physician Superintendent, King George's Sanatorium for Sailors, Bramshott Place, Liphook, Hampshire. (6973)

LIVERPOOL CHEST HOSPITAL (78 beds)
Mount Pleasant, Liverpool, 3
South Liverpool Hospital Management Committee

Applications are invited for the following appointments at the above-named hospital, for a period of six months with effect from April 1, 1952:

RESIDENT HOUSE PHYSICIAN
RESIDENT JUNIOR HOUSE PHYSICIAN

The terms and conditions of service will be in accordance with the regulations of the Ministry of Health, the salary being at the rate of £350 per annum for the first post held, £400 per annum for the second post held, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee, Sefton General Hospital, Liverpool, 15. (7092)

ORPINGTON HOSPITAL
Orpington and Sevenoaks Hospital Management Committee

Applications are invited for the post of

RESIDENT HOUSE PHYSICIAN
for duty on Geriatric T.B. wards

This post offers excellent opportunity for studying for higher qualifications and affords good clinical experience in diagnosis and treatment of acute and chronic geriatric and tuberculous cases. Applications, stating age, qualifications and experience, should be sent immediately to the Secretary (M.J. 293), Orpington and Sevenoaks Hospital Management Committee, Orpington Hospital, Orpington, Kent. (6790)

STOURBRIDGE (near), PRESTWOOD SANATORIUM
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

RESIDENT HOUSE OFFICER

at the above Sanatorium. Post vacant immediately. The Sanatorium consists of 200 beds at Prestwood, 35 beds at Edge View, and 60 beds at The Limes, and is for pulmonary tuberculosis. The salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Preference will be given to candidates with some previous experience in the treatment of pulmonary tuberculosis. The post is for six months in the first instance. Applications stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (9028)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

DENTAL

ST. BARTHOLOMEW'S HOSPITAL, E.C.1

A vacancy will occur on April 1, 1952, for a
RESIDENT DENTAL HOUSE SURGEON
holding a registrable dental qualification with, if possible, an additional qualification. The appointment will be for a minimum of six months, during which time the successful candidate will be able to gain experience of all kinds of dental and oral surgery. This appointment is recognized by the Royal College of Surgeons for purposes of the Fellowship in Dental Surgery. Salary will be in accordance with the scale published by the Ministry of Health for House Officers. Applications should be submitted to the undersigned not later than February 16, 1952.—C. C. Carus-Wilson, Clerk to the Governors. (7227)

LIVERPOOL, 15, SEFTON GENERAL HOSPITAL (1,028 beds, 123 cots)
South Liverpool Hospital Management Committee

Applications are invited for the appointment of
RESIDENT HOUSE SURGEON (Dental)
which will become vacant at the above-named hospital on April 1, 1952, and will be for a period of six months. The terms and conditions of service will be in accordance with the regulations of the Ministry of Health. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee. (7093)

DERMATOLOGY

GLASGOW—WESTERN REGIONAL HOSPITAL BOARD, Scotland

Applications are invited from suitably qualified medical practitioners for the following appointment:
PART-TIME DERMATOLOGIST-IN-CHARGE OF WARDS (Consultant Grading)
at Stobhill Hospital, Glasgow
The number of weekly half-days at that hospital will be not less than five. Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than thirty days after the publication of this advertisement to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (7276)

BIRMINGHAM, SKIN HOSPITAL (61 beds)
Birmingham (Dudley Road) Group of Hospitals

Applications are invited for the post of
SENIOR HOUSE OFFICER
which will become vacant on February 16, 1952. The in patient department is modern and well equipped and provides facilities for the study of skin diseases. The successful applicant will be required to assist Consultants at out-patient clinics. Applications, with copies of two recent testimonials, should be forwarded to the Secretary, H.M.C., Dudley Road Hospital, Birmingham, 18. (7094)

EAR, NOSE, AND THROAT, etc.

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
West Herts and St. Paul's Hospitals, Hemel Hempstead, Herts, and Leavesden Hospital, Abbots Langley, Herts

Applications are invited for the appointment of
PART-TIME CONSULTANT E.N.T. SURGEON
for four half days a week at West Herts Hospital, St. Paul's Hospital and Leavesden Hospital. The principal duties will be at the West Herts Hospital which is a general hospital of 169 beds including 10 for E.N.T. surgery. Applicants should hold a higher qualification and have wide experience in this specialty. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 23, 1952. Candidates are welcome to visit the hospitals by direct appointment (6799)

MAIDA VALE HOSPITAL FOR NERVOUS DISEASES, London, W.9
REGISTRAR
Required in the Ear, Nose and Throat Department for one session a week (Friday afternoon). Patients are referred to this Clinic for otological examination by the physicians on the staff of the hospital. Applications, with copies of three testimonials, should be addressed to the Secretary by February 8, 1952. (7252)

OXFORD REGIONAL HOSPITAL BOARD

Applications are invited for the post of
REGISTRAR in E.N.T. Surgery
to the hospitals of Reading Hospital Management Committee. Accommodation is available. The appointment will be for one year and eligible for extension to a second year. Applications, on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by February 9. (7014)

ROYAL NATIONAL THROAT, NOSE AND EAR HOSPITAL and INSTITUTE OF LARYNGOLOGY AND OTOLOGY
Gray's Inn Road, London, W.C.1, and Golden Square, W.1

Applications are invited for the post of
SENIOR HOUSE OFFICER
with effect from March 1, 1952. The appointment is in accordance with the terms and conditions of service for medical staff in the National Health Service, and for an initial period of six months. Applicants should have had good clinical experience in general surgery and in this speciality, and they should preferably hold a higher surgical qualification or have passed the primary examination for the F.R.C.S. Applications, giving full information as to qualifications and experience, with the names of two referees, should be sent on or before February 5, 1952.—John H. Young, House Governor and Secretary. (5731)

FARNBOROUGH HOSPITAL
Farnborough, Kent

Applications are invited for the post of
SENIOR HOUSE OFFICER
in the E.N.T. Department at this hospital. The post is for a period of one year and is recognized for candidates preparing for the D.L.O. Salary £670 a year. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be forwarded to the Administrative Officer. (6785)

MANCHESTER THROAT AND CHEST HOSPITAL, Bowdon, Cheshire (53 beds)
North and Mid-Cheshire Hospital Management Committee
SENIOR E.N.T. HOUSE OFFICER
Required to commence on or about February 15, 1952. Twelve months' appointment. This appointment is in a busy hospital staffed by Manchester Consultants and offers excellent opportunities of practical experience to suitably qualified candidates. Salary £670 per annum. Conditions as laid down in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, qualifications, etc., should be forwarded to the Secretary, North and Mid Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire (6985)

PERTH GENERAL HOSPITALS, COUNTY AND CITY OF

Applications are invited for the post of
SENIOR HOUSE OFFICER
in the E.N.T. Department at Bridge of Earn Hospital, with duties in the E.N.T. out-patient department at Perth Royal Infirmary. The post is resident, and applicants must have been registered for not less than two years, of which twelve months must have been spent in House Officer appointments. Applications, giving details of previous experience, together with the names of three referees, should be submitted to the Medical Superintendent, County and City of Perth General Hospitals, Perth Royal Infirmary, Perth, to arrive not later than January 31, 1952. (7153)

SOUTH WARWICKSHIRE HOSPITAL GROUP (No. 14)
E.N.T. SENIOR HOUSE OFFICER
Applications are invited from suitably qualified candidates for this appointment for duties mainly at the Warwick Hospital. Salary, terms and conditions of service in accordance with National Health Service terms and conditions of service. Applications, stating age, qualifications and experience, together with the names and addresses of three referees, should be forwarded to the undersigned not later than Wednesday, Feb. 13, 1952.—W. A. James, Sec. to the Management Committee, 87, Radford Road, Leamington Spa. (6962)

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL
Edmund Street, Birmingham, 3
Birmingham (Dudley Road) Group of Hospitals
TWO HOUSE SURGEONS
Vacancies occur at the above hospital (76 beds). Applications, stating age, qualifications, nationality, and experience, accompanied by copies of two recent testimonials, to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (7253)

CHELTENHAM GENERAL EYE AND CHILDREN'S HOSPITAL

Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
to the Ear, Nose and Throat Department, vacant in February, 1952. Salary £350 to £450, according to experience. Applications, stating age, qualifications, with copy of two testimonials, to be sent to the Group Secretary, General Hospital, Cheltenham. (6716)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
HOUSE SURGEON
Required in the Ear, Nose and Throat Department at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. Recognized for D.L.O. National scales and conditions. Six-monthly appointment, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8468)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee

Applications are invited from registered medical practitioners, male and female, for the post of
E.N.T. AND OPHTHALMIC HOUSE SURGEON
at the above hospital. The appointment will be subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to the number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Folkard, Sec. to the Committee. (4740)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)

Applications are invited for the post of
HOUSE SURGEON (E.N.T. Department)
Vacant March 1, 1952. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER
(E.N.T. Dept.)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7217)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full consultant staff)
CITY HOSPITAL, York
(Modern general hospital of 265 beds, with full consultant staff)
E.N.T. HOUSE SURGEON
The E.N.T. Department (which is mainly at the County Hospital) has approximately 30 beds, is recognized for the D.L.O. and offers excellent opportunities for learning the specialty. The appointment is for six months initially and is vacant immediately. Previous experience preferable but not essential. Residence available at the County Hospital. Salary £400 for second post held, £450 for third post, less £100 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (7165)

CONNAUGHT HOSPITAL, Walthamstow, E.17
CLINICAL ASSISTANT
Required in the E.N.T. Department at Connaught Hospital for one session per week, Tuesday a.m. Salary in accordance with para. 10 (b) of service conditions, i.e., £175 a year for each weekly notional half day. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, H.M.C., Forest Group (No. 11), Langthorne Road, E.11. (7015)

GERIATRICS

HALIFAX, ST. JOHN'S (GERIATRIC) HOSPITAL (Accommodating 400 patients)
Halifax Area Hospitals Management Committee

Applications are invited for the appointment of
HOUSE PHYSICIAN (Male or female)
This hospital is provided with consultant medical and ancillary services. Applications, stating age, nationality, qualifications, and experience, together with copies of three testimonials, to be forwarded to the Sec., Royal Halifax Infirmary, Halifax. (7228)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (First, second or third post)
(preferably second or third)
Required for Geriatric Unit. Resident post. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to the Secretary, Management Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date February 5, 1952. (7166)

INFECTIOUS DISEASES

COTTINGHAM, EAST YORKS, CASTLE HILL HOSPITAL
(200 beds—modern Infectious Diseases Hospital with full laboratory facilities)
WHOLE-TIME HOUSE OFFICER
(Second or third post)
Required for duties under the supervision of the Consultant in Infectious diseases. Application forms obtainable from the Secretary, Hull (B) Group Hospital Management Committee, De la Pole Hospital, Willerby, East Yorks. (7016)

PARKSTONE, DORSET, ALDERNEY INFECTIOUS DISEASES HOSPITAL (60 beds)
Bournemouth and East Dorset Hospital Management Committee
HOUSE PHYSICIAN
Required immediately. Applications to the Assistant Secretary of the hospital. (5052)

Infectious Diseases—contd.

EDINBURGH CITY HOSPITAL
HOUSE OFFICER (Male or female)
Required on March 1, 1952, for fever wards. Previous hospital experience desirable. National Health Service salary and conditions, and appointment is for six months in first instance. Applications, stating age, qualifications and experience, to the Secretary, Board's Office, City Hospital, Greenbank Drive, Edinburgh, 10. (7133)

PRESTON INFECTIOUS DISEASES HOSPITAL
Preston and Chorley Hospital Management Committee
HOUSE OFFICER
Required at the end of March at the above hospital, pleasantly situated on bus route on northern fringe of Preston. The post includes visiting duties at a nearby Chest Sanatorium (30 beds). Altogether there are 125 beds—61 fevers (most in cubicle wards) and 64 chest. The post offers excellent facilities for experience in these specialties. Residence in Lodge, suitable for married couple. Applications, stating full particulars, with copy testimonials, to be forwarded as soon as possible to the Secretary, Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Sec. (6908)

NEUROSURGERY

CARDIFF ROYAL INFIRMARY
United Cardiff Hospitals
The Board of Governors invites applications for the appointment of
HOUSE SURGEON
to the Department of Neurosurgery
Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, nationality, qualifications, experience and present appointment, together with the names of two referees, should be sent to the undersigned as soon as possible.—Arnold Tunstall, Secretary and Principal Administrative Officer, The United Cardiff Hospitals, Cardiff Royal Infirmary, Newport Road, Cardiff. (7096)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
HOUSE PHYSICIAN (Neurosurgical Unit)
Applications are invited from registered medical practitioners for the above appointment in the neurosurgical unit. Tenable for six months. This post would be suitable for candidate seeking a higher qualification as it offers excellent experience in neurology. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5634)

OBSTETRICS AND GYNAECOLOGY

LIVERPOOL, WALTON HOSPITAL
Liverpool Regional Hospital Board
Applications are invited for the post of
CONSULTANT OBSTETRICIAN AND GYNAECOLOGIST
for maximum part-time sessions. Duties will be mainly at Walton Hospital, but the successful applicant will also be required to provide cover at certain peripheral units in the Region. Applicants must possess the M.R.C.O.G. and a higher diploma in surgery would be considered an advantage. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, 19, James Street, Liverpool, 2, not later than February 16, 1952.—Vincent Collinge, Secretary to the Board. (7167)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
King Edward Memorial Hospital
(18 Gynaecological bed) and
Perivale Maternity Hospital (48 Obstetric beds)
WHOLE-TIME OBSTETRICAL AND GYNAECOLOGICAL REGISTRAR
Required (resident at Perivale, Maternity Hospital) for one year in the first instance. Post vacant March 1, 1952. Duties include work in the antenatal clinics within the Maternity and Child Welfare Service amounting to two half-days a week. Candidates are welcome to visit the hospital by direct appointment with the Administrative Officer. Application forms obtainable from and returnable to the Secretary, South-West Middlesex Hospital Management Committee, West Middlesex Hospital, Isleworth, Middlesex by February 5, 1952. (7229)

BRADFORD, ST. LUKE'S HOSPITAL
Leeds Regional Hospital Board
Applications are invited for the post of
REGISTRAR in Obstetrics and Gynaecology
Appointment to commence on April 1, 1952. The appointment will be resident and a charge of £150 per annum will be made in respect of residential accommodation. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than Feb. 2. (6663)

GLASGOW—WESTERN REGIONAL HOSPITAL BOARD, Scotland
Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:
SENIOR REGISTRAR
in Obstetrics and Gynaecology
for duties at the Royal Maternity Hospital, Glasgow, and the Royal Samaritan Hospital, Glasgow
Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than February 16, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the N.H.S. (Scotland) (Superannuation) Regulations. (7277)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
(1,250 beds)
North-West Metropolitan Regional Hospital Board
WHOLE-TIME OBSTETRICAL AND GYNAECOLOGICAL REGISTRAR
Required for one year in first instance. Candidates may visit hospital by appointment with Medical Director. Application forms, obtainable from, and returnable to, the Secretary, South-West Middlesex Hospital Management Committee, West Middlesex Hospital, Isleworth, by February 6. (7097)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the post of
REGISTRAR in Obstetrics and Gynaecology
for duties at hospitals in the Halifax Hospital Management Committee Group. Appointment to commence on April 1, 1952. The appointment will be resident and a charge of £150 per annum will be made in respect of residential accommodation. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than February 2, 1952. (6664)

SALFORD GROUP OF HOSPITALS
Manchester Regional Hospital Board
Applications are invited for the post of
RESIDENT REGISTRAR in Obstetrics and Gynaecology
with main duties at Hope Hospital, Salford. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, by February 4. (7098)

SUNDERLAND, GENERAL HOSPITAL
Newcastle Regional Hospital Board
Sunderland Hospital Management Committee Group
WHOLE-TIME REGISTRAR OBSTETRICIAN AND GYNAECOLOGIST
Salary £775 to £890. Appointment is temporary in the first instance up to August 31, 1952. Applications, with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Jesmond, Newcastle-upon-Tyne, 2, within 14 days. (7017)

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Obstetric and Gynaecological Department
(108 obstetric and 30 gynaecological beds)
Vacant early March. The post is recognized for the M.R.C.O.G. Applications, stating age, qualifications and experience, with a copy of two testimonials and the name of one referee, should be sent to Group Secretary. (7018)

NORTHERN IRELAND HOSPITALS AUTHORITY
The Authority invite applications for a post as
SENIOR HOUSE OFFICER
in Obstetrics and Gynaecology
at hospitals managed by South Belfast Hospital Management Committee. The terms and conditions of the appointment will be in accordance with the Authority's application of the Spens Report to Northern Ireland. Applications should be made on a form which may be obtained (with further particulars) from the Secretary, Northern Ireland Hospitals Authority, Friends' Provident Building, 58, Howard Street, Belfast, and will be received not later than February 14, 1952. (7168)

NOTTINGHAM HOSPITAL FOR WOMEN
(110 beds and annexe 26 beds)
Nottingham No. 2 Hospital Management Committee
Applications are invited from registered medical practitioners for a vacancy which will occur in early March for a
GYNAECOLOGICAL AND OBSTETRIC SENIOR HOUSE OFFICER
Previous experience in these subjects is required. Post recognized for M.R.C.O.G. examinations. Applications, stating age, experience, nationality, together with copies of three testimonials, should be sent as soon as possible to Miss Tweedie. (6742)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Department of Obstetrics and Gynaecology
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for appointment of
RESIDENT OBSTETRICAL OFFICER
(Senior House Officer grade)
vacant April 1, 1952. There will be additional duties at the Flete Maternity Home and the Alexandra Maternity Home, which are parts of the Department. Candidates should have had considerable experience in a Department of Obstetrics and Gynaecology. The appointment will be for a period of twelve months and is renewable. Salary £670 per annum. Terms and conditions are in accordance with the National Health Service terms. The post is recognized by the Royal College of Obstetricians and Gynaecologists for the membership examination of the College. Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees, should be sent to the undersigned. —Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (6718)

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN
United Sheffield Hospitals
Applications invited from registered medical practitioners for the resident posts of
SENIOR HOUSE OFFICER
at the above hospital, at salaries of £670 per annum. Vacancies will occur on April 1, 1952, in the Obstetric and Gynaecological Departments. Applications, stating age, qualifications, and experience, together with the names of three referees, should be forwarded immediately to the Superintendent, Jessop Hospital for Women, Leavygreave Road, Sheffield, 3. (7254)

BATH, ROYAL UNITED HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
(Gynaecology and Obstetrics)
Salary, terms and conditions of service in accordance with those published by Ministry of Health. Applications, stating age, qualifications, and experience, with three recent testimonials, to be forwarded to the Administrative Officer, Royal United Hospital, Bath.—J. Lawrence Mears, Secretary, Manor Hospital, Combe Park, Bath. (7019)

BIRKENHEAD, ST. CATHERINE'S HOSPITAL
Church Road (General Hospital, 484 beds)
Birkenhead Hospital Management Committee
Applications are invited for the following post, vacant April 1, 1952, for six months:
OBSTETRIC HOUSE SURGEON
Valuable experience in obstetric work can be gained in this post, which is approved by R.C.O.G. Apply by February 9, 1952, stating age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary of above Committee, St. James' Hospital, Birkenhead. (7169)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL
Birmingham (Dudley Road) Group of Hospitals
Applications are invited for the post of
HOUSE SURGEON (Resident)
in the Obstetrics and Gynaecology Department. The post becomes vacant on April 1, 1952. The Department, which is under the direction of a Senior Consultant Obstetrician, consists of 125 Maternity beds, with 100 Neonatal cots and 53 Gynaecological beds. This post is recognized for the M.R.C.O.G. Applications, stating age, nationality, qualifications, and experience, and accompanied by copies of three recent testimonials, should be sent to the Secretary, Hospital Management Committee, within seven days of the appearance of this advertisement. (7255)

BIRMINGHAM, MARSTON GREEN MATERNITY HOSPITAL
Berwicks Lane, Marston Green
Birmingham (Dudley Road) Group of Hospitals
HOUSE SURGEON (Obstetrics)
Required for the above hospital (100 beds). This post becomes vacant on March 1, and is recognized by the Royal College of Obstetricians and Gynaecologists for the Diploma and Membership examinations. Applications, stating age, nationality and experience, accompanied by copies of three recent testimonials, to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (6760)

BIRMINGHAM, SORRENTO AND LORDSWOOD MATERNITY HOSPITALS
Group 25 Birmingham (Selly Oak) Hospital Management Committee
OBSTETRIC HOUSE SURGEON
Six months' appointment, recognized for the D.Obst.R.C.O.G. Applications for this appointment, vacant March 1, to the Obstetrician, Sorrento Maternity Hospital, Moseley, Birmingham, 13, not later than January 30, 1952. (6856)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Obstetrics and Gynaecology—contd.

BURY ST. EDMUND'S, WEST SUFFOLK GENERAL HOSPITAL (289 beds)
West Suffolk Hospital Management Committee
HOUSE SURGEON (Second or third post) for Obstetric and Gynaecological duties
National Health Service terms and conditions of service and salary apply. Appointment initially for six months. Post vacant mid-February. Applications, including the names of three referees, to the House Governor. (6666)

FARNBOROUGH HOSPITAL
Farnborough, Kent
Applications are invited for the post of
HOUSE OFFICER
in the Obstetric and Gynaecological Department (100 beds)
The post is for a period of six months and is recognized for candidates preparing for M.R.C.O.G. Duties to commence on April 1, 1952. Salary £350 to £450 a year, according to experience, less £100 a year residential emoluments. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be forwarded to the Administrative Officer. (6786)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for post, vacant now, of
RESIDENT GYNAECOLOGICAL HOUSE SURGEON (Male or female)
for duties at the above hospital and Scarthoe Road Infirmary, Grimsby. Apply to Administrative Officer, Grimsby General Hospital. (7020)

HALIFAX, ROYAL INFIRMARY (301 beds—44 maternity)
OBSTETRICAL HOUSE SURGEON (male)
Salary according to experience. The post is recognized for the D.R.C.O.G., and is vacant March 1, 1952. Applications, stating age, qualifications, and experience, together with three recent testimonials, to be forwarded to the Secretary. (6724)

HEXHAM AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Dilston Hall Maternity Hospital (55 beds)
A vacancy will occur on March 1 next for a
HOUSE OFFICER (Obstetrics)
at the above hospital, which is recognized by the Royal College of Obstetricians and Gynaecologists. Salary £350, £400 or £450, according to experience, less £100 for residential emoluments. Applications, with names and addresses of referees, to be received by the undersigned as early as possible.—W. Stokell, Secretary, General Hospital, Hexham, Northumberland. (7170)

LIVERPOOL, 15, SEFTON GENERAL HOSPITAL (1,028 beds, 123 cots)
South Liverpool Hospital Management Committee
Applications are invited for the appointments of
TWO RESIDENT HOUSE SURGEONS (Obstetric)
which will become vacant at the above-named hospital on April 1, 1952, and will be for a period of six months. The terms and conditions of service will be in accordance with the regulations of the Ministry of Health. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee. (7099)

NEWPORT, MON, ST. WOOLOS HOSPITAL (379 beds)
Applications are invited for the post of
HOUSE OFFICER (Obstetrics and Gynaecology)
vacant February 1. The department consists of 43 obstetric and 22 gynaecological beds. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (5653)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
RESIDENT HOUSE OFFICER
Applications are invited from registered medical practitioners for the above post in the Obstetric and Gynaecological Unit consisting of 88 obstetric beds and 52 gynaecological beds. Post, tenable for six months, is recognized for D.R.C.O.G. and M.R.C.O.G. Applications, stating age, nationality, qualifications (with dates), present appointment and experience, and two recent testimonials or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6667)

ROTHERHAM, MOORGATE GENERAL HOSPITAL (366 beds, 38 cots)
RESIDENT OBSTETRICAL OFFICER (Junior) and HOUSE SURGEON
Tenable for a period of six months in the first instance. Salary £350 to £450 per annum, according to experience, from which a deduction of £100 per annum for residential emoluments will be made. Applications, stating age, qualifications, experience and nationality, with names of three referees, to be addressed to the Secretary to the Management Committee, Fern Bank, Doncaster Road, Rotherham, Yorks, as soon as possible. (6628)

ROMFORD, ESSEX, RUSH GREEN HOSPITAL (247 beds)
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE SURGEON (Woman)
for duties in the Gynaecological Unit comprising 25 gynaecological and 6 maternity beds at the above hospital. Previous experience not necessary. Post tenable for six months from February 1, 1952. Applications, stating (in order) age, qualifications (with dates), present appointment and details of experience, accompanied by copies of two recent testimonials or names of referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. Applicants may see the hospital by arrangement with the Medical Superintendent. Telephone: Romford 7711. (5620)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
HOUSE SURGEON
in Gynaecological Department
Vacant April 1. The hospital is recognized by the Royal College. Applications, with copies of two testimonials, to Secretary. (7134)

WOLVERHAMPTON, ROYAL HOSPITAL (Women's Hospital)
(Recognized for the examination of M.R.C.O.G.)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (Gynaecological and Obstetric)
Vacant March 23. Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7218)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the following appointment:
HOUSE SURGEON (Gynaecology/General Surgery)
The post, which will become vacant on February 27, will be tenable for six months and is subject to the terms and conditions of service for hospital medical staff. Applications, with copies of testimonials, should be sent to the Secretary as soon as possible. (7240A)

OPHTHALMOLOGY

WESTERN REGIONAL HOSPITAL BOARD
Scotland
Applications are invited from suitably qualified medical practitioners for the following appointment:
Whole-time ASSISTANT OPHTHALMOLOGIST
for duties in hospitals and clinics in the Stirlingshire area. Salary scale £1,300 by £50 to £1,750 per annum. Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than thirty days after the publication of this advertisement to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (7278)

MOORFIELDS WESTMINSTER AND CENTRAL EYE HOSPITAL (Westminster Branch)
High Holborn, London, W.C.1
Applications are invited from male practitioners for the post of
RESIDENT SURGICAL OFFICER (Registrar Grade)
The successful candidate will be required to take up his duties on April 1, 1952, and if recommended by the Medical Committee will be eligible for appointment as Senior Resident Surgical Officer for a period of six months from April 1, 1953, making a total period of service of eighteen months. Experience of ophthalmology is essential. Candidates are required to call upon the Consultant staff at the Westminster Branch. Forms of application are obtainable from the undersigned, to whom they should be returned with copies of not more than three testimonials, by February 18, 1952.—J. P. Heming, Secretary. (7143)

GLASGOW—WESTERN REGIONAL HOSPITAL BOARD, Scotland
Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:
SENIOR REGISTRAR in Ophthalmology based at Western Infirmary, Glasgow
Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than February 16, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the N.H.S. (Scotland) (Superannuation) Regulations. (7279)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board
Applications are invited for the following post, vacant early in February:
NON-RESIDENT WHOLE-TIME OPHTHALMIC REGISTRAR
at the Portsmouth Eye and Ear Hospital with sporadic duties at other hospitals in the Group. Preference to candidates holding a specialist qualification. Forms of application may be obtained from the Secretary, Portsmouth Group Hospital Management Committee, 35, Grove Road South, Southsea, which should be returned to him duly completed on or before February 8, 1952. Canvassing will disqualify. Candidates may visit the above hospital by arrangement with the Secretary of the Group. (6974)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee
Applications are invited for the post of
OPHTHALMIC HOUSE SURGEON
The appointment will be in the grade of Senior House Officer and is recognized in connexion with the Diploma in Ophthalmology. Applications should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (7021)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952. Salary £670 a year, less £150 a year for residential emoluments. Applications should be forwarded as soon as possible to Secretary, Mid-Kent Hospital Management Committee, 103, Tonbridge Road, Maidstone. (5359)

PERTH GENERAL HOSPITALS, COUNTY AND CITY OF
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Ophthalmology Department at Bridge of Earn Hospital, with duties in the Ophthalmology Out-patients Department at Perth Royal Infirmary. The post is resident, and applicants must have been registered for not less than two years, of which twelve months must have been spent in House Officer appointments. Applications, giving details of previous experience, together with the names of three referees, should be submitted to the Medical Superintendent, County and City of Perth General Hospitals, Perth Royal Infirmary, Perth, to arrive not later than January 31. (7154)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL, Mount Ephraim (350 beds)
Tunbridge Wells Group Hospital Management Committee
Applications are invited from registered medical practitioners for post of
SENIOR HOUSE OFFICER (Ophthalmological)
Applicants must have held appointments and have had experience in the speciality. Possession of a Diploma in Ophthalmology an advantage. Appointment for an initial period of one year, terminable on three months' notice. Applications, stating age, nationality, experience and qualifications, with names of two referees, as soon as possible to the Secretary, Sherwood Park, Pembury Road, Tunbridge Wells. (7135)

HALIFAX, ROYAL INFIRMARY (301 beds)
Applications are invited for the post of
HOUSE SURGEON (Male or female)
to the Ophthalmic and E.N.T. Departments at this busy acute general hospital. The post includes part-time casualty duty, and is recognized for the D.O. Applications, stating age, qualifications, and experience, together with three recent testimonials, to be forwarded to the Secretary. (7230)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds)
South Warwickshire Hospital Group
Applications are invited for the post of
HOUSE SURGEON
of the Ophthalmic and E.N.T. Departments
Tenure of post is six months. Salary, etc., in accordance with the number of posts previously held and the terms and conditions of service of hospital medical staff. Apply as soon as possible to Miss V. Wells, Assistant Secretary, Warneford General Hospital. (5041)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
HOUSE SURGEON
to the Senior Surgeon and Ophthalmological Department
Vacant February 1, 1952. Applications, with copies of two testimonials, should be sent to the Secretary (6719)

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY
(Recognized for the full course of instruction for admission to the D.O.M.S.)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER
Vacant now. Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7222)

Ophthalmology—contd.

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full consultant staff)

Applications are invited from registered medical practitioners for the post of

EYE HOUSE SURGEON

The post is recognized for the D.O. and is vacant now. The appointment is for six months in the first instance and can be renewed thereafter. Salary £350 for first post, £400 for second post, £450 for third and subsequent posts, less £100 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (7171)

ORTHOPAEDICS

ST. HELENS, LANCS, PROVIDENCE FREE HOSPITAL

Applications are invited for the post of

HONORARY ASSISTANT ORTHOPAEDIC SURGEON

at the above hospital. The hospital has 125 beds and an out-patients' department. Applications, giving full details of qualifications and experience and names and addresses of two referees, should be forwarded to undersigned by February 9, 1952. —William I. Livesey, Honorary Secretary, Providence Free Hospital, St. Helens. (7100)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the posts of

TWO REGISTRARS in Orthopaedic Surgery

one at Victoria Hospital, Blackpool (non-resident), and one to the Blackburn and District Group of Hospitals (resident at Blackburn Royal Infirmary). Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by February 4, 1952. (7101)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the post of

REGISTRAR in Orthopaedic Surgery

with main duties in the Wigan and Leigh Group of hospitals and also with duties at Wrightington Orthopaedic Hospital (300 beds for surgical tuberculosis). The successful applicant will be required to reside for part of his period of appointment at Wrightington Hospital and for the remainder at Astley Hospital. This appointment offers good experience in both general orthopaedic surgery and tuberculosis of the bones and joints. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with two copies of recent testimonials, to be received by February 4. (7102)

NEWCASTLE REGIONAL HOSPITAL BOARD
Hexham Hospital Management Committee Group

WHOLE-TIME ORTHOPAEDIC REGISTRAR

Appointment is temporary in first instance, up to August 31, 1952. Salary £775 to £890, according to experience. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (7022)

WETHERBY (near), YORKS, MARGUERITE HEPTON MEMORIAL ORTHOPAEDIC HOSPITAL
Thorp Arch (75 long-stay children's beds)
Leeds Regional Hospital Board

Applications are invited for the appointment of

REGISTRAR in Orthopaedic Surgery

A three-bedroomed, partly furnished house is available in the hospital grounds for which a charge of £60 per annum would be made. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than February 2, 1952. (6669)

BRADFORD ROYAL INFIRMARY

SENIOR ORTHOPAEDIC HOUSE SURGEON/ CASUALTY OFFICER

Vacant now. Salary £670, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (7136)

BRADFORD, ST. LUKE'S HOSPITAL

SENIOR ORTHOPAEDIC HOUSE SURGEON/ CASUALTY OFFICER

Vacant now. Salary £670, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7137)

BRISTOL (near), WINFORD ORTHOPAEDIC HOSPITAL (235 beds)

SENIOR HOUSE OFFICERS

Applications are invited from registered medical practitioners to fill two vacancies which will occur in April and May, 1952. Positions are tenable for twelve months. Salary £670 per annum. Apply, stating age, qualifications and experience, with copies of testimonials, to the undersigned as soon as possible.—E. N. Roper, Sec.-Administrator. (6803)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee

SENIOR ORTHOPAEDIC HOUSE SURGEON

Applications are invited for the above appointment, which is tenable for one year. Salary £670 per annum and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (5468)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute General Hospital, mainly surgical, with beds for orthopaedic, medical and other specialties)
Bury and Rossendale Hospital Management Committee

Applications are invited for the appointment of

SENIOR HOUSE OFFICER (Orthopaedic)

at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Sec. to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9580)

CARDIFF, PRINCE OF WALES ORTHOPAEDIC HOSPITAL
Cardiff Hospital Management Committee

SENIOR HOUSE OFFICER (Sole resident)

Required from February 1, 1952. Orthopaedic experience essential. Transfer to new premises probable during appointment. Application forms from the Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (6670)

ECCLESHALL (near), STAFFORD, STANDON HALL ORTHOPAEDIC HOSPITAL
Stafford Hospital Management Committee

Applications are invited from suitably qualified medical practitioners, male or female, for the post of

SENIOR HOUSE OFFICER

Salary £670 per annum, less deduction for residential emoluments. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Secretary to the Committee, 13, Foregate Street, Stafford. (6740)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee

Applications are invited for the following posts:

SENIOR HOUSE SURGEON
(Fracture and Orthopaedic Department)

Vacant February 15, 1952. Salary £670 per annum, less £165 for residence.

HOUSE SURGEON
(Fracture and Orthopaedic Department)

Vacant February 1, 1952. Salary £350 to £450, less £100 for residence.

Applications, with full particulars, to the Secretary, Hospital Management Committee. (7067)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)

TWO SENIOR HOUSE OFFICERS

Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out-patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible (6671)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)

Applications are invited from registered medical practitioners for the posts of

RESIDENT SENIOR HOUSE SURGEONS

The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

RESIDENT SENIOR HOUSE OFFICER
(Orthopaedic)

Duties to commence as soon as possible. Duties will relate mainly to accident and fracture cases, both in- and out-patients, and include orthopaedic cases. Previous experience of this type of work is essential. Salary and conditions of service in accordance with the Ministry Regulations. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (5801)

OLDHAM ROYAL INFIRMARY
Oldham and District Hospital Management Committee

Applications are invited for the appointment of

SENIOR HOUSE OFFICER (Orthopaedics)
(Resident)

in the Fracture and Orthopaedic Service at the above hospital, vacant immediately. Applications, stating age, nationality, full details of previous experience, and containing the names of two persons to whom reference may be made, should be forwarded to the undersigned. Please quote Ref. No. A/802.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (7256)

ROCHDALE INFIRMARY
(General—109 beds)
Rochdale and District Hospital Management Committee

SENIOR HOUSE OFFICER (Orthopaedic)

Applications are invited for the above position. The appointment will be for one year. Salary in accordance with the terms of service of medical staff in the National Health Service, i.e., £670 per annum. This appointment is recognized by the Royal College of Surgeons for six of the twelve months' period of surgical training required of candidates for the final fellowship examination. Applications should be forwarded to the undersigned.—S. Hodkinson, Secretary, Central Offices, Birch Hill Hospital, Rochdale, Lancs. (9956)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)

TWO SENIOR HOUSE OFFICERS (Orthopaedic)/ CASUALTY OFFICERS

required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7795)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (Orthopaedic)

The post is recognized for the F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5819)

SWANSEA, MORRISTON HOSPITAL
(450 beds)
Glantawe Hospital Management Committee

Applications are invited from registered medical practitioners for the resident appointment of

SENIOR HOUSE OFFICER

in the Traumatic and Orthopaedic Surgical Department. Salary and conditions of service will be according to the National Health Service scale. Applications, stating age, qualifications, and experience, should be addressed to the Medical Superintendent, Morriston Hospital, Swansea.—O. C. Howells, Secretary. (6861)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(12 Residents)
Taunton Hospital Management Committee

Applications are invited from registered medical practitioners for the following post:

SENIOR HOUSE OFFICER
(Orthopaedic and Traumatic Surgery)

Salary is in accordance with the National Health Service scale. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (6986)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee

Applications are invited for the vacancy of

RESIDENT SENIOR HOUSE SURGEON
to the Orthopaedic and Traumatic Department

which occurs on February 7, 1952. This is a large and busy specialty with two consultants, 64 beds, and deals with the greater part of the casualties in West Cornwall. The post is tenable for one year at a salary of £670, less £100 for emoluments, and subject to the terms and conditions published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of two recent testimonials, should be forwarded to the Administrative Assistant without delay. (4807)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Orthopaedics—contd.

TYNEMOUTH, VICTORIA JUBILEE INFIRMARY
South-east Northumberland Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of
RESIDENT SENIOR ORTHOPAEDIC HOUSE SURGEON AND CASUALTY OFFICER
Salary £670 per annum. Applications, giving full details, and with two testimonials (or the names of two referees), should be sent to the Secretary, South East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (7076)

WIGAN (near), WRIGHTINGTON HOSPITAL
Appley Bridge
SENIOR HOUSE OFFICER
Required for this 352-bedded hospital which is the Manchester Regional Orthopaedic Tuberculosis Centre. Salary £670 per annum, less deduction for residence, etc. Also
HOUSE SURGEON
Terms and conditions as per national scales. Applications to Secretary, giving qualifications and names of two referees. (5738)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
Winchester Group Hospital Management Committee
SENIOR HOUSE OFFICER
in the Orthopaedic Department
The appointment will be for six months in the first instance and will be resident. Salary at the rate of £670 per annum, less £150 for board and residence. Applications should be sent to the Secretary. (6907)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
SENIOR HOUSE OFFICER
(Fracture and Orthopaedic Dept.)
HOUSE OFFICER
(Fracture and Orthopaedic Dept.)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7219)

ST. ALFEGE'S HOSPITAL
Greenwich, S.E.10 (504 beds)
Applications are invited for the post of
HOUSE SURGEON
to the Orthopaedic and Special Department
at the above hospital, for a period of six months from an early date. Salary £350 to £450, according to experience, less £100 per annum for board and lodging. Applications, together with copies of not more than three recent testimonials, should reach the Secretary, Greenwich and Deptford Hospital Management Committee at the above hospital, as soon as possible. (7103)

AMERSHAM GENERAL HOSPITAL, Bucks (124 acute beds)
RESIDENT HOUSE OFFICER
Orthopaedic and Accident Department
Applications are invited. Duties include charge of casualty department under visiting consultant staff and care of in-patient beds. Hospital is a peripheral centre of Oxford Regional Orthopaedic Service based on Wingfield Morris Orthopaedic Hospital. Applications, with copies of three recent testimonials, to Secretary, H.M.C., St. Mary's Cottage, High Wycombe. (7023)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Orthopaedic and Traumatic)
Salary, terms and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded immediately to Secretary, St. Martin's Hospital, Bath.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (7024)

BRADFORD ROYAL INFIRMARY
Applications are invited for the appointment of
ORTHOPAEDIC HOUSE SURGEON/ CASUALTY OFFICERS
Vacant now and vacant January 31, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary (6863)

BRADFORD, ST. LUKE'S HOSPITAL
ORTHOPAEDIC HOUSE SURGEON/ CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (6864)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Vacant now. National scales and conditions Six-monthly appointment, terminable at any time by one month's notice on either side. Forms of application from the Administrative Officer. (7138).

BRIGHTON GENERAL HOSPITAL (721 beds)
Brighton and Lewes Hospital Management Committee
HOUSE SURGEON in Orthopaedics
Applications are invited for the above appointment which is tenable for a period of six months, vacant now. Salary according to national scales. Applications, stating age, qualifications and experience, together with copies of recent testimonials, should be forwarded to the Physician-Superintendent, Brighton General Hospital, Elm Grove, Brighton, 7. (7138)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
ORTHOPAEDIC HOUSE SURGEON
Vacant now. Applicants, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (5801)

DERBY, DERBYSHIRE ROYAL INFIRMARY
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
(Orthopaedic and Fracture Service)
Vacant immediately. Applications, stating full details, together with copies of two recent testimonials, should be sent as soon as possible to the Secretary, Derbyshire Royal Infirmary, Derby. (6987)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE HOUSE SURGEON
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
ORTHOPAEDIC HOUSE SURGEON
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting Ref. No. A/803, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (7257)

PEMBURY HOSPITAL
Tunbridge Wells Group Hospital Management Committee
Applications are invited for appointment of
HOUSE SURGEON TO ORTHOPAEDIC UNIT
Vacant April 1, 1952. Post, for six months in first instance, is recognized for F.R.C.S.(Eng.). Previous experience desirable. Work of Unit includes treatment of long- and short-stay cases and traumatic surgery. Applications, stating age, qualifications, experience, with three testimonials, to Surgeon Superintendent. (7258)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)
Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6675)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch) (12 Residents)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Orthopaedic and Casualty)
Salary in accordance with the National Health Service scale. The post is recognized by the Royal College of Surgeons as qualifying appointment for the Final Fellowship examination. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton H.M.C., Musgrove Park Hospital, Taunton Somerset. (7025)

WAKEFIELD, PINDERFIELDS GENERAL HOSPITAL
ORTHOPAEDIC HOUSE SURGEON
Applications invited for above appointment. The Orthopaedic Unit provides for acute and long-term patients. Salary £350, £400 or £450 per annum, according to number of posts previously held. In each case a deduction of £100 per annum for board, lodging, etc. Appointments are for six months. Address applications, with full particulars of qualifications, etc., and names and addresses of two persons for reference, to the undersigned.—G. L. Banner, Secretary, Victoria Chambers, Wood Street, Wakefield. (7231)

PAEDIATRICS

EVELINA CHILDREN'S HOSPITAL OF GUY'S HOSPITAL, Southwark Bridge Road, London, S.E.1
Applications are invited for the post of
HOUSE SURGEON
(Second or third post)
vacant on March 1, 1952. The duty for the first two months will be in the Casualty Out-patients' Department. The post is tenable for a period of six months, and is recognized for the D.C.H. Salary at the rate of £400 or £450 a year, according to experience, with a deduction at the rate of £100 a year for residential emoluments. Applications, stating age, nationality, qualifications (with dates), and accompanied by copies of three recent testimonials, should reach the hospital Secretary by the first post on Thursday, February 7. (7232)

ASHTON, HYDE AND GLOSSOP HOSPITAL MANAGEMENT COMMITTEE
HOUSE PHYSICIAN (Paediatrics)
Required immediately for duty mainly at Lake Hospital, Ashton-under-Lyne (600 beds) and District Infirmary, Ashton-under-Lyne (200 beds). Salary £350 to £450 per annum, according to experience, less £100 per annum for board and lodging, etc. Applications, giving age, nationality, qualifications and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (6631)

BATH, ROYAL UNITED HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN (Paediatrics)
Salary, terms and conditions of service are in accordance with those published by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to Administrative Officer, Royal United Hospital, Bath, as soon as possible. The hospital is recognized for the D.C.H. qualification. —J. Lawrence Mears, Secretary, Manor Hospital, Combe Park, Bath. (7026)

BIRKENHEAD, CHILDREN'S HOSPITAL (76 beds)
Birkenhead Hospital Management Committee
Applications are invited for the following posts, vacant April 1, 1952, for six months:
TWO HOUSE OFFICERS
Exceptionally good experience can be gained in these positions, which are approved by the Royal College of Surgeons for the D.C.H. Apply by February 9, 1952, stating age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary of above Committee, St. James' Hospital, Birkenhead. (7172)

BIRKENHEAD, ST. CATHERINE'S HOSPITAL
Church Road (General hospital, 484 beds)
Birkenhead Hospital Management Committee
Applications are invited for the following post, vacant April 1, 1952, for six months:
PAEDIATRIC HOUSE SURGEON
Wide experience can be gained in this post, which is approved by the Royal College of Surgeons for the D.C.H. Apply by February 9, 1952, stating age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary of above Committee, St. James' Hospital, Birkenhead. (7173)

BRADFORD CHILDREN'S HOSPITAL (102 beds)
RESIDENT HOUSE OFFICER
Post now vacant. Hospital recognized for D.C.H. Salary £350 to £450 per annum, according to experience, less £100 per annum emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary (6726)

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
PAEDIATRIC HOUSE OFFICER
Required for duties in the sick children's wards and the neonatal department. Post qualifies for D.C.H. Vacancy March 1. Apply immediately, stating age, qualifications and experience, with a copy of two testimonials, and the name of one referee, to Group Secretary, St. Helier Hospital, Carshalton, Surrey. (7027)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
to the Paediatric Department
The appointment is for a period of six months commencing March 17, 1952. The department is recognized for D.C.H. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to L. W. Pollard, Secretary, 5, King's Buildings, Chester. (7104)

Paediatrics—contd.

CARDIFF, ST. DAVID'S HOSPITAL
Cardiff Hospital Management Committee
RESIDENT HOUSE OFFICER (Paediatrics)
Required immediately. Applications, with copies of two testimonials, to Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (6963)

FARNBOROUGH HOSPITAL
Farnborough, Kent
Applications are invited for the post of
HOUSE PHYSICIAN
in the Paediatric Department
to commence on February 20, 1952. The appointment is for a period of six months and recognized for candidates preparing for the D.C.H., Salary £350 to £450 a year, according to experience, less £100 a year for residential emoluments. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be forwarded to the Administrative Officer. (6787)

AMENDED ADVERTISEMENT
HILLINGDON HOSPITAL
Near Uxbridge, Middlesex
RESIDENT PAEDIATRIC HOUSE PHYSICIAN
(Male, for the Paediatric Department)
Duties include experience in neonatal unit and paediatric out-patient clinics. Appointment recognized for D.C.H. Vacant middle February. Applications, not later than February 1, stating age, qualifications, nationality and experience, with copies of three recent testimonials, to Medical Director. (6964)

LIVERPOOL, OLIVE MOUNT CHILDREN'S HOSPITAL, Wavertree
Liverpool Region Children's Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
for a period of six months as from March 1, 1952. The successful applicant will also act as Clinical Assistant to Alder Hey Children's Hospital and this post is recognized for the D.C.H. examination. A salary of £50 per annum in excess of those set out in the terms and conditions of service of hospital medical and dental staff has been authorized. Applications, stating age, qualifications (with dates), experience and details of present and previous appointments, together with copies of three recent testimonials, should be sent to the undersigned immediately.—H. R. Mason, Secretary to the Committee, Alder Hey Children's Hospital, Liverpool, 12. (6809)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
Applications are invited for the post of
HOUSE SURGEON
with duties in the Paediatric Department. Salary £350 to £450, according to previous posts held, with deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications, and experience, together with names of two referees, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible.—A. Ashworth, Secretary to the Committee. (4813)

PEMBURY HOSPITAL
Tunbridge Wells Group Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN in Paediatric Unit
Vacant March 1, 1952. Six months' appointment and recognized for D.C.H. Previous experience as House Physician necessary. Applications, stating age, qualifications and experience, with three recent testimonials, to Surgeon Superintendent by not later than February 14, 1952. (7260)

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for D.C.H., England)
Applications are invited for the resident appointment of
HOUSE PHYSICIAN
to the department of paediatrics and certain extra duties, vacant April 1, 1952. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (7028)

SOUTHAMPTON CHILDREN'S HOSPITAL
(Recognized by Co-Joint Board for D.C.H.)
HOUSE OFFICER
Post vacant February 17. Salary, etc., as nationally advocated. Preference given to candidates intending to specialize in paediatrics. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7259)

PATHOLOGY

ROYAL CANCER HOSPITAL
Fulham Road, London, S.W.3
Applications are invited for the full-time appointment of
CONSULTANT ASSISTANT PATHOLOGIST
Candidates should have wide experience in all branches of pathology and special interest in morbid anatomy and haematology. Applications (ten copies), together with copies of three recent testimonials, should be sent to the House Governor to reach him not later than February 27. (7105)

HITCHIN, LISTER HOSPITAL
North-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME ASSISTANT PATHOLOGIST
Salary scale £1,300 to £1,750 per annum. Possession of higher qualification desirable and candidates should have wide experience in pathology with special interest in morbid anatomy. This is a general hospital of some 400 beds with the usual special departments. Applications, stating date of birth, qualifications and experience, and the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 23. Candidates are welcome to visit the hospital by direct appointment with Medical Director. (6810)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified practitioners for the whole-time, non-resident post of
ASSISTANT PATHOLOGIST (S.H.M.O. Scale)
for duties at hospitals in the Halifax Group. The successful candidate will work under the general guidance of the Consultant in charge of the department and will be required to reside in Halifax or within such distance of that town as the Board may approve. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than February 16, 1952. (6605)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time non-resident post of
ASSISTANT PATHOLOGIST
to the Group Laboratory at Withington Hospital, with main duties at Christie Hospital and Holt Radium Institute, Manchester. Experience in all branches of hospital pathology is desirable, but special interest in morbid anatomy and histology (particularly of malignant disease) would be advantageous. The successful candidate will work under the general guidance of consultants. Salary £1,300 by £50 to £1,750. Forms of application can be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than February 7, 1952. (6867)

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for two appointments as
WHOLE-TIME ASSISTANT PATHOLOGIST
to the undermentioned Groups of hospitals respectively: (1) Brighton and Lewes, (2) Medway and Gravesend. Candidates must have had general experience in pathology and the possession of a higher qualification is desirable. Salary within the scale £1,300 by £50 to £1,750. Applicants may visit the hospitals concerned. The last day for acceptance of applications will be February 8, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1. (7029)

SOUTH LONDON HOSPITAL FOR WOMEN AND CHILDREN, Clapham Common, S.W.4
South-West Metropolitan Regional Hospital Board
Applications are invited from registered women practitioners for the post of
PATHOLOGICAL REGISTRAR (Clinical)
now vacant. Applicants should have had experience of laboratory work. Canvassing will disqualify, but candidates are not precluded from visiting the hospital if they so desire. For form of application apply (enclosing stamped addressed envelope) to the Secretary, Lambeth Group Hospital Management Committee, Renfrew Road, S.E.11, to whom completed applications should be returned not later than February 9. (7030)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
NON-RESIDENT REGISTRAR in Pathology
for duties at hospitals in the Halifax Group. This post offers good facilities for training in pathology, and is normally tenable for two years, subject to satisfactory service. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than February 2, 1952. (6677)

GLASGOW—WESTERN REGIONAL HOSPITAL BOARD, Scotland
Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:
SENIOR REGISTRAR in Pathology
based at Stobhill Hospital
Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than February 16, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the N.H.S. (Scotland) (Superannuation) Regulations. (7280)

BRISTOL, SOUTHMEAD HOSPITAL
(571 beds, including 133 maternity)
Southmead General Hospital Group Management Committee
RESIDENT SENIOR HOUSE OFFICER
(Pathology)
Required for duties in connexion with Regional Blood Transfusion Service. Appointment for one year from March 1, 1952. Salary £670 per annum, less £100 per annum for board residence. Applications, on forms to be obtained from the undersigned, to be returned not later than January 31, 1952.—C. C. Hancock, Secretary, Southmead Hospital, Bristol. (7081)

LINCOLN, COUNTY HOSPITAL (200 beds)
Lincoln No. 1 Hospital Management Committee
Applications are invited for the post of
RESIDENT PATHOLOGIST
(Senior House Officer Grade)
in the area laboratory at the above hospital. Salary and conditions of service are in accordance with those laid down for hospital medical and dental staff. Salary being £670 per annum. Applications, stating age, experience and qualifications, together with copies of recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary. (6965)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Pathological)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (6762)

WATFORD, GROUP NO. 9 LABORATORY
Peace Memorial Hospital
North-West Metropolitan Regional Hospital Board
Applications are invited from registered medical practitioners for the post of
NON-RESIDENT JUNIOR PATHOLOGIST
(Senior House Officer grade)
The appointment will be tenable for a period of one year in the first instance. Previous experience is desirable, but not essential. Salary and conditions of service will be as laid down in the National Health Service regulations. Applications, stating age, qualifications, and experience, together with the names of two referees, should be sent to the Pathologist in Charge at the above named Laboratory. (6720)

PHYSICAL MEDICINE

ST. GEORGE'S HOSPITAL, S.W.1
Applications are invited for the post of
PART-TIME SENIOR HOUSE OFFICER
(three half-days per week) to the Department of Physical Medicine at this hospital. Candidates should preferably have had experience in physical medicine and should have had previous clinical experience. Applications, together with the names of two referees, must be received by the undersigned by February 6, 1952.—P. H. Constable, House Governor. (7174)

PLASTIC SURGERY

BRISTOL, FRENCHAY HOSPITAL
(448 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Plastic and Jaw Surgery Department
Two referees required. Applications to the Secretary, Frenchay Hospital, quoting "P.J.F." (7175)

PSYCHIATRY

BRITISH HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS
72, Camden Road, N.W.1
North-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
TWO PSYCHIATRISTS (Consultant)
each for two half days a week. Applicants should possess appropriate higher qualifications and have wide experience in this specialty. It will be an advantage for one of those appointments for applicants to have had experience in group therapy. Applications, stating date of birth, qualifications and experience, with the names of three referees, should reach the Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, not later than February 23, 1952. Candidates are welcome to visit the hospital by direct appointment with the Secretary of the hospital. (6812)

Psychiatry—contd.

PORTSMOUTH, ST. JAMES' HOSPITAL FOR MENTAL AND NERVOUS DISEASE (1,100 beds)
South-West Metropolitan Regional Hospital Board

Applications are invited for the whole-time appointment of

RESIDENT PHYSICIAN SUPERINTENDENT AND CONSULTANT PSYCHIATRIST

The hospital has an admission rate of over 900 cases per year, of whom 90 per cent are voluntary; there are departments of child psychiatry, delinquency and electro-encephalography, and an active out-patient department covers all branches of psychiatry. Candidates should possess the D.P.M. and a higher medical qualification. An unfurnished flat in the main block will be available at an appropriate rental. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than February 16, 1952. Applicants may visit the hospital by local arrangement. (6975)

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of whole-time or part-time sessional

CONSULTANT PSYCHIATRISTS

for child guidance work divided between (a) the Hone Clinic, Brighton (four to five sessions); (b) Heritage Craft Schools and Hospitals, Chailey (four sessions; and (c) Remand Homes at Hurstpierpoint and Hassocks (one session each). Candidates should possess a D.P.M. and preferably a higher qualification; previous extensive experience of child guidance is essential. Applicants may visit the establishments concerned. The last day for acceptance of applications will be February 8, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1. (7031)

BIRMINGHAM REGIONAL HOSPITAL BOARD

Applications are invited for the following whole-time appointments:

ASSISTANT PSYCHIATRIST
Burton-on-Trent Group

Duties at St. Matthew's Hospital, Burntwood (1,200 beds). Accommodation available for married man.

ASSISTANT PSYCHIATRIST
Mid-Staffs Mental Group

Duties at St. George's Hospital, Stafford (1,334 beds). Accommodation available. Modern admission unit with up-to-date methods of treatment including out-patients department.

Salary scale £1,300 to £1,750 per annum. Candidates should possess D.P.M. and wide experience in psychiatry essential. Appointments subject to National Health Service (Superannuation) Regulations. Fifteen copies of application, stating name, age, nationality, qualifications, present and previous appointments and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 11, 1952. Candidates for both appointments should forward 25 copies of application. Candidates may visit the hospitals concerned. (7106)

IPSWICH CHILD GUIDANCE CLINIC
East Anglian Regional Hospital Board
WHOLE-TIME ASSISTANT PSYCHIATRIST

This is a modern well-equipped and very active clinic run as part of the regional hospital service under the direction of a whole-time consultant child psychiatrist. There are branch clinics in Lowestoft and Bury St. Edmund's. Applicants should have a sound knowledge of child psychiatry and preferably possess the D.P.M. Salary will be on the scale £1,300 to £1,750. Eight copies of application, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than February 11, 1952. Applicants are invited to visit the clinic by direct arrangement with the Hospital Management Committee Secretary at the East Suffolk and Ipswich Hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (7032)

MORPETH, NORTHGATE AND DISTRICT MENTAL DEFICIENCY HOSPITAL (450 beds)
Newcastle Regional Hospital Board
WHOLE-TIME ASSISTANT PSYCHIATRIST

The person appointed will be expected to act as Deputy Superintendent. Salary scale £1,300 to £1,750. The person appointed will be required to reside near the hospital The appointee will be expected to assist the Medical Superintendent in the intra- and extra-mural work of the hospital, including out-patient clinics, visits to associated hospitals, etc. He may be required to give temporary cover at other mental deficiency hospitals in the Region during sickness and holiday periods. Appointment subject to National Health Service (Superannuation) Regulations, 1950. Candidates are free to visit the hospital by arrangement with the Medical Superintendent, from whom particulars may be obtained. Applications, with names and addresses of one to three referees, and/or one to three testimonials, should be addressed to the Regional Psychiatrist, Blythswood South, Osborne Road, Newcastle, 2, within 28 days. (7033)

BETHLEM ROYAL HOSPITAL AND THE MAUDSLEY HOSPITAL

Applications are invited from registered medical practitioners for the appointment of

SENIOR REGISTRAR

commencing on April 1, 1952, at the above Postgraduate Teaching Hospital, with which is associated the Institute of Psychiatry (University of London). Candidates should have a higher medical qualification, and experience in psychiatry is essential. The commencing salary is £1,000 a year. Deductions will be made for meals supplied and for residential amenities if provided. Opportunities for research are available. Applications, giving details of experience and the names of two referees, should be made within one week of the appearance of this advertisement. Application forms obtainable from K. J. Johnson, House Governor, Maudsley Hospital, Denmark Hill, S.E.5. (7176)

BETHLEM ROYAL HOSPITAL AND THE MAUDSLEY HOSPITAL

Applications are invited from registered medical practitioners for the appointment of

REGISTRAR

commencing on April 1, 1952, at the above Postgraduate Teaching Hospital, with which is associated the Institute of Psychiatry (University of London). Candidates with postgraduate experience in general medicine and neurology, or in psychology, will receive special consideration. The salary will be £775 a year, less a deduction of £120 a year for residential amenities if provided. Applications, giving details of experience and the names of two referees, should be made within one week of the appearance of this advertisement. Application forms obtainable from K. J. Johnson, House Governor, Maudsley Hospital, Denmark Hill, S.E.5. (7177)

ST. CLEMENT'S HOSPITAL
2a, Bow Road, London, E.3

Applications are invited for the position of

REGISTRAR in Psychiatry
(Resident or non-resident)

Unit consists of 24 observation beds and 36 beds for short-term treatment of psychoses and neuroses. O.P. facilities exist for follow-up cases. Unit visited by consultants from the London Hospital and Claybury Mental Hospital. The appointment is subject to review after one year. A local charge will be made for any residential amenities provided. Applications (three copies), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of three recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, Feb. 9. (7178)

NORWICH—EAST ANGLIAN REGIONAL HOSPITAL BOARD
SENIOR REGISTRAR in Psychiatry

Required in Mental Hospitals at Norwich (St. Andrew's Hospital, Thorpe, 1,000 beds; Hellesdon Hospital, Norwich, 800 beds). Work will include the full range of in-patient treatments at St. Andrew's Hospital and participation in the out-patient clinic. There will also be opportunities to share in the running of a long-stay geriatric annexe. A flat is available in St. Andrew's Hospital. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than February 11, 1952. Applicants are invited to visit the hospitals by direct arrangement with the Medical Superintendent of St. Andrew's Hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (7034)

SHEFFIELD, MIDDLEWOOD HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the whole-time post of

REGISTRAR (Psychiatry)

to the above hospital, which is a recognized training hospital for the D.P.M. Residential accommodation is available. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 7, 1952. (6680)

SUTTON, SURREY, BANSTEAD HOSPITAL
(for Nervous and Mental Disorders)
South-West Metropolitan Regional Hospital Board

Applications are invited for the post of

REGISTRAR

at the above hospital of 2,500 beds. Experience is available in all branches of psychiatry, including out-patient clinics, child guidance and mental deficiency. Salary £775 first year, £890 a year thereafter, less (if resident) charges for full residential amenities at the rate of three guineas per week. Applicants should apply to the Secretary, Banstead Hospital, Sutton, Surrey, for forms of application, which should be returned, duly completed, within fourteen days of the appearance of this advertisement. Canvassing will disqualify, but candidates are not precluded from visiting the hospital. (7261)

ABERGAVENNY, PEN-Y-VAL HOSPITAL
Vale of Usk Hospital Management Committee

Applications are invited for the post of

JUNIOR HOSPITAL MEDICAL OFFICER

Salary £700 to £1,000 per annum. Full residential accommodation for single person for which a deduction of £150 per annum will be made. Experience in psychiatry not necessary. Applications, stating age, sex, nationality, qualifications and present appointment, together with names of two referees, to be forwarded to the Medical Superintendent, Pen-y-val Hospital, Abergavenny, Mon., immediately. (6765)

LINCOLN, BRACEBRIDGE HEATH HOSPITAL FOR MENTAL DISEASES (1,290 beds)
Lincoln No. 2 Hospital Management Committee

Applications are invited for the appointment of

JUNIOR HOSPITAL MEDICAL OFFICER
(Resident or non-resident, male or female, married or single)

Salary and terms of service as issued by the Ministry of Health. Commencing salary £700 per annum, rising to £1,000 per annum. There is a self-contained flat available for a married officer, furnished or unfurnished, or residential accommodation for a single person. There will be scope for work at out-patient clinics and in the use of modern psychiatric methods in the wards. Previous psychiatric experience is not essential. The appointment is subject to the provisions of the National Health Service (Superannuation) Regulations. Applications, with names of three referees, should be forwarded as soon as possible to the Medical Superintendent, Bracebridge Heath Hospital, near Lincoln. (7179)

BETHLEM ROYAL HOSPITAL AND THE MAUDSLEY HOSPITAL

Applications are invited from registered medical practitioners for the appointment of

SENIOR HOUSE OFFICER

commencing on April 1, 1952, at the above Postgraduate Teaching Hospital, with which is associated the Institute of Psychiatry (University of London). Applicants should intend to take a full training in psychiatry and should have held a resident appointment in a general hospital. Experience in general medicine and neurology or in the basic sciences is an advantage. The salary will be £670 a year. Deductions will be made for meals supplied and for residential amenities if provided. Applications, giving details of experience and the names of two referees, should be made within one week of the appearance of this advertisement. Application forms obtainable from K. J. Johnson, House Governor, Maudsley Hospital, Denmark Hill, S.E.5. (7180)

ST. CLEMENT'S HOSPITAL, London, E.3
Bow Group Hospital Management Committee
SENIOR HOUSE OFFICER

Required for psychiatric unit consisting of 24 observation beds and 36 beds for the short-term treatment of psychoses and neuroses. O.P. facilities for follow-up of cases. The unit is visited by consultants from the London and Claybury Hospitals, and training facilities exist for the D.P.M. Apply, giving age, qualifications and experience, and names of two referees, to Secretary, Committee Offices, 2a, Bow Road, London, E.3. (7181)

CARLISLE, GARLANDS HOSPITAL

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER

at the above mental hospital. Salary will be £670 per annum. Furnished flat is available, for which a deduction will be made. A course of study for Part 1 of the D.P.M. is held at Newcastle-upon-Tyne and arrangements would be made for successful candidate to attend this. Appointment is subject to the National Health Service (Superannuation) Regulations and to the conditions and terms of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, and the names of two referees, should be sent to the Medical Supt. as soon as possible. (7139)

LANCASTER, ROYAL ALBERT HOSPITAL FOR MENTAL DEFICIENCY

The Royal Albert Hospital Management Committee invite applications for the post of

SENIOR HOUSE OFFICER

Salary on the approved scale. The appointment is open to a single or married person, there being residential quarters for a single applicant or a small house available for rental for a married person. Applications should be forwarded to the Medical Superintendent immediately. (7107)

WARRINGTON (near), WINWICK HOSPITAL (2,200 beds)

SENIOR HOUSE OFFICERS

Required at the above hospital, which is recognized for training for the D.P.M. All modern methods of treatment of mental illness and nervous disorders are available. Appointment subject to the terms and conditions of service of hospital medical and dental staff. Salary £670 per annum, less £180 per annum residential charges. Applications, giving full details of qualifications, experience, etc., and names of two referees, to be sent to the Medical Supt. as soon as possible. (7182)

Psychiatry—contd.

LIVERPOOL, 15, SEFTON GENERAL HOSPITAL (1,028 beds, 123 cots)
South Liverpool Hospital Management Committee
Applications are invited for the appointments of
TWO RESIDENT HOUSE PHYSICIANS
(Psychiatric)
which will become vacant at the above-named hospital on April 1, 1952, and will be for a period of six months. The terms and conditions of service will be in accordance with the regulations of the Ministry of Health. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee. (7108)

RADIOLOGY

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
CONSULTANT in Radiology
(maximum part-time sessions) for duties mainly at the Bradford Royal Infirmary and also at St. Luke's Hospital, Bradford, and other hospitals in the Bingley, Keighley, Skipton and Settle Hospital Management Committee Group. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than February 16, 1952. (6681)

WIGAN AND LEIGH HOSPITALS
Manchester Regional Hospital Board
Applications are invited for the whole-time, non-resident post of
ASSISTANT RADIOLOGIST
Applicants should possess the D.M.R.D., and have good experience in diagnostic radiology. The successful applicant will work under the general guidance of the Consultant Radiologist to this hospital centre, and will be required to live within reasonable distance of Wigan or Leigh. Salary £1,300 by £50 to £1,750 per annum. Forms of application can be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned to be received not later than February 8, 1952. (6869)

LIVERPOOL REGIONAL HOSPITAL BOARD
Applications are invited for the post of
WHOLE-TIME RADIOLOGICAL REGISTRAR
(Non-resident)
with duties at Walton Hospital, Aintree Hospital, and No. 1 Mass Radiography Unit. The post is a temporary one tenable until September 30, 1952. Forms of application from and to be returned to the Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than February 9, 1952.—Vincent Collinge, Secy. to the Board. (7233)

NEWCASTLE REGIONAL HOSPITAL BOARD
Sunderland Hospital Management Committee Group
WHOLE-TIME, NON-RESIDENT REGISTRAR RADIOLOGIST
Salary £775. Appointment is temporary in first instance, up to August 31, 1952. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (7036)

RHEUMATOLOGY

CHARTERHOUSE RHEUMATISM CLINIC
54-60, Weymouth Street, W.1
(Independent of National Health Service)
Applications are invited from registered medical practitioners for the appointment of
PART-TIME PHYSICIAN
upon a sessional basis. Candidates must have had special experience of rheumatic diseases and hold the higher medical qualifications, including the membership of a Royal College of Physicians. Applications, which should include the names of three referees, should be sent to the Secretary, Major Ellert Forbes, M.C., T.D., from whom further particulars of duties and remuneration may be obtained. (6744)

BATH, ROYAL NATIONAL HOSPITAL FOR RHEUMATIC DISEASES
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Salary, terms and conditions of service in accordance with those published by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to the undersigned as soon as possible. The hospital is recognized for Part II of the Diploma of Physical Medicine.—J. Lawrence Mears, Secy., Manor Hospital, Combe Park, Bath. (7037)

UROLOGY

ST. PETER'S, ST. PAUL'S AND ST. PHILIP'S HOSPITALS
St. Philip's Hospital, Sheffield Street, W.C.2
RESIDENT SURGICAL OFFICER
Required for St. Philip's Hospital, which is designated as a constituent hospital in the above teaching group for the treatment of male and female chronic urological cases, including children. Salary scale as for Senior House Officer. Appointment for six months to date from March 1, 1952. Applications (six copies) with six copies of two recent testimonials, to the House Governor, St. Peter's Hospital, Henrietta Street, W.C.2, by February 2, 1952. (6766)

VENEREOLOGY

NEWCASTLE GENERAL HOSPITAL
Newcastle Regional Hospital Board
REGISTRAR VENEREOLOGIST
Whole-time. Appointment is temporary in first instance, up to August 31, 1952. Salary £775 per annum. Applications, together with names and addresses of one to three referees and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, "Blythswood South," Osborne Road, Jesmond, Newcastle-upon-Tyne, 2, within 14 days. (7038)

LONDON HOSPITAL, Whitechapel, E.1
Applications are invited for the post of
SENIOR HOUSE OFFICER
to the Venereal Diseases Department
becoming vacant on March 1, 1952. The appointment will be for six months in the first instance at a salary of £670 per annum. Applications (six copies), giving full particulars, should be addressed to the House Governor to arrive not later than Feb. 11.—H. Brierley, House Governor. (7140)

MEDICINE

OXFORD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the post of
GENERAL PHYSICIAN
to the hospitals of the Northampton-Kettering area
The post will carry Consultant status and be part-time for a minimum of eight notional half-days a week. Applicants must be members or Fellows of a Royal College of Physicians. The successful candidate will be a member of the Area Department of General Medicine and will live in or near Northampton. Applicants are invited to visit the hospitals by arrangement. Applications (nine copies), stating age, qualifications, experience, and the names and addresses of three referees, should reach the Secretary of the Board (from whom further details may be obtained), 43, Banbury Road, Oxford, by February 8. (6682)

HOSPITAL FOR TROPICAL DISEASES
4, St. Pancras Way, N.W.1
(University College Hospital)
Applications invited for post of
RESIDENT MEDICAL OFFICER (Registrar grade)
vacant March 13, 1952. Salary £775 to £890 per annum, less £100 for residence. Appointment for six months, renewable. Applications, with names of two referees, to reach the Secretary, University College Hospital, Gower Street, W.C.1, by February 9, 1952. (7234)

BARNET GENERAL HOSPITAL, Barnet, Herts
Barnet Group Hospital Management Committee
Applications are invited for the post of
SENIOR MEDICAL REGISTRAR
to an Acute Unit of 50 beds
The post, which is immediately available, is temporary pending the approval of a permanent appointment by the Regional Board. Candidates should possess a higher qualification. Applications, stating age, nationality, qualifications and, experience, together with the names and addresses of three referees, should be sent to the Med. Director (5382)

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL
South-West Metropolitan Regional Hospital Board
Guildford Group Hospital Management Committee
Applications are invited for the post of
RESIDENT MEDICAL REGISTRAR
Candidates may visit the hospital by arrangement. Application forms may be obtained from the Secretary, Guildford Group Hospital Management Committee, Group Office, St. Luke's Hospital, Guildford (stamped addressed envelope), and should be returned to the Secretary, duly completed, to arrive not later than February 8, 1952. (6966)

MUSSELBURGH, MIDLOTHIAN, EDENHALL HOSPITAL
(Ministry of Pensions)
A hospital of 260 beds for the treatment of General Medical, Surgical, and Tropical cases
WHOLE-TIME SENIOR REGISTRAR (Medical)
(Resident or Non-resident)
Salary on the usual range for this grade, with a deduction for emoluments if living in. Applicants should state age, nationality, experience, qualifications (with dates), and send copies of three recent testimonials to the Director General of Medical Services, Ministry of Pensions, M.S.2, Norcross, Blackpool, Lancs. (7073)

NEWCASTLE REGIONAL HOSPITAL BOARD
Sunderland Hospital Management Committee Group
WHOLE-TIME REGISTRAR PHYSICIAN
(Non-resident male—Resident female)
Salary £775 in accordance with national terms and conditions. Appointment is temporary in first instance, up to August 31. Applications, together with names and addresses of one to three referees and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, "Blythswood South," Osborne Road, Newcastle-upon-Tyne 2, within 14 days. (7039)

OXFORD REGIONAL HOSPITAL BOARD
Applications are invited for the post of
REGISTRAR IN GENERAL MEDICINE
with a special interest in Neurology, based on Stoke Mandeville Hospital, Aylesbury, and linked with the United Oxford Hospitals. An interest in research is desirable. The appointment will be for one year in the first instance, and eligible for extension to a second year. Applications, on forms obtainable from the Secretary, Registrar Committee, 43 Banbury Road, Oxford, should reach him by February 9. (7040)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
Applications are invited for the position of
MEDICAL REGISTRAR (Non-resident)
The appointment is subject to review after one year. A local charge will be made for any residential amenities provided. Applications (three copies), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with three copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, February 9, 1952. (7183)

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited for the non-resident post of
WHOLE-TIME SENIOR MEDICAL REGISTRAR
at the Derbyshire Royal Infirmary (416 beds)
The successful applicant will be expected to carry out duties at other hospitals within the Derby No. 1 Hospital Management Committee Group. Candidates should be members of one of the Royal Colleges of Physicians. The appointment is for one year in the first instance, reviewable annually. It has been agreed in principle that the period of appointment of Senior Registrars shall be divided between Regional Board hospitals and those administered by the Board of Governors of the United Sheffield Hospitals. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to reach him not later than February 11, 1952. (6976)

LEEDS, JEWISH HERZL MOSER HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
at the above hospital (34 beds) for the treatment of both medical and surgical cases. Salary in accordance with the terms and conditions of service of hospital medical and dental staff, namely, on the scale £700 by £50 to £1,000, according to previous service in the grade, with an appropriate deduction for services provided. Self-contained flat available suitable for a married or single person. Applications, stating age, qualification, experience, etc., together with the names of three persons to whom reference may be made, to be forwarded to the undersigned not later than February 9, 1952.—J. Folkard, Secretary to the Committee, Administrative Offices, St. James's Hospital, Leeds, 9. (6988)

QUEEN MARY'S (ROEHAMPTON) HOSPITAL
London, S.W.15
(Ministry of Pensions)
A hospital of approximately 600 beds for treatment of General Medical, Surgical, Orthopaedic, Neurosurgical, Plastic, Tropical, and Limbless cases
SENIOR HOUSE OFFICER (General Medical)
(Resident or Non-resident)
Applicants should have held the usual resident appointments. Salary at an inclusive rate of £670 per annum. If living in there will be a deduction for emoluments. Applicants should state age, nationality, experience, qualifications (with dates), and send copies of three recent testimonials to the Director General of Medical Services, Ministry of Pensions, M.S.2, Norcross, Blackpool, Lancs. (7075)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE PHYSICIAN
(Senior House Officer)
required March 15. Salary £670 per annum, less £155 for residential emoluments. Applications, with details of age, qualifications, and experience, together with copies of two recent testimonials, to be submitted to M. H. Boone, Secretary. (5636)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Medicine—contd.

CROMER AND DISTRICT HOSPITAL, Norfolk
Applications are invited for the post of
RESIDENT MEDICAL OFFICER
(Senior House Officer Status)
which is now vacant, at a salary of £670 per annum, in accordance with conditions of service issued by the Ministry of Health. This is a busy general hospital of 50 beds which has a pre-convalescent annexe of 64 beds and an out-patient department where consultants in all the major specialities hold regular sessions. The appointment thus offers practical experience of an all-round kind particularly useful to those contemplating entry into general practice. Applications, stating age, qualifications, experience, sex, and the names of two referees, *should be addressed to the Secretary, Cromer Area* Hospital Management Committee, Cliff Avenue, Cromer, within fourteen days of the publication of this advertisement. (6967)

MACCLESFIELD HOSPITAL
(West Park Branch)
Macclesfield and District Hospital Management Committee
SENIOR HOUSE OFFICER in Medicine
There are 56 acute medical beds and a number of beds for chronic sick. Applications, stating age, qualifications and experience, and enclosing copies of three recent testimonials, should be forwarded immediately to the undersigned.—G. P. Siggins, Secretary, Willerby House, Cumberland Street, Macclesfield. (6989)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Medical)
Required for the above hospital. Duties to commence on or about February 5. Salary £670 per annum. If resident £150 deducted for emoluments. Conditions of service in accordance with the published conditions of the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (5637)

PRESTON ROYAL INFIRMARY
Applications are invited for the post of
SENIOR HOUSE OFFICER (Medical)
vacant early February, 1952. Applications to Secretary, Royal Infirmary, Preston. (6890)

TREDEGAR, ST. JAMES HOSPITAL
(38 beds for acute medicine, 75 chronic sick, 46 obstetrical)
RESIDENT SENIOR HOUSE OFFICER
(Male or female)
Required in March. Term of appointment twelve months. Salary £670 per annum, less an agreed deduction for full residential emoluments. Medical establishment comprises Visiting Physician, Geriatrician, and Obstetrician, together with Resident Senior Hospital Medical Officer and Junior House Officer. Apply to the Hospital Management Committee Secretary, District Miners' Hospital, St. Martin's Road, Caerphilly. (7184)

BATTERSEA GENERAL HOSPITAL
Battersea Park, S.W.11
Battersea and Putney Group Hospital Management Committee
HOUSE PHYSICIAN
(Resident)
Required for six months from February 7, 1952. Applications, stating age, nationality, qualifications, and experience, with copies of two recent testimonials, to the Admin. Officer immediately. (7072)

HACKNEY HOSPITAL, E.9 (797 beds)
Applications are invited for the appointment of
HOUSE PHYSICIAN
Six months' appointment, vacant on March 1, 1952. Applications, *together with copies of three* testimonials, should be sent to the Secretary, Hackney Group Hospital Management Committee, Hackney Hospital, E.9, not later than Feb. 12. (7118)

KING EDWARD MEMORIAL HOSPITAL, Ealing
South-West Middlesex Hospital Management Committee
HOUSE PHYSICIAN
Post vacant on March 1, 1952. Applications, stating age, nationality, and qualifications, with dates, and details of experience, together with copies of two recent testimonials, to the Secretary of the Committee, West Middlesex Hospital, Isleworth, by February 11, 1952. (7235)

PLAISTOW HOSPITAL
Samson Street, London, E.13
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE PHYSICIAN (Male or female)
(House Officer, second or third post)
for six months in the Chest and Infectious Diseases Wards. The position offers valuable experience in both groups of diseases. Candidates should send applications to the undersigned, together with copies of recent testimonials, by February 2, 1952.—M. J. Huntley, Secretary, West Ham Group H.M.C., Stratford, London, E.15. (6871)

ASHFORD (near), KENT, WILLESBOROUGH HOSPITAL, Willesborough
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE PHYSICIAN
at the above hospital. The person appointed will be required for duty in the medical wards and busy Out-patient Department under the supervision of consultants visiting four times weekly. Fully equipped Cardiographic Unit. Salary £350, £400, or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-east Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone, Kent. (7212)

AYLESBURY, STOKE MANDEVILLE HOSPITAL
(624 beds)
Applications are invited from medical practitioners who have held house appointments for post of
HOUSE PHYSICIAN
for a period of six months from February 9, 1952. Salary £400 to £450 per annum, according to experience, less £100 for board residence. The medical beds are situated at this hospital, but the House Physician will be required to attend the Royal Buckinghamshire Hospital Out-Patients' Department. Applications, giving full details, of age, nationality, *qualifications, and experience, together with copies* of two recent testimonials, should be sent immediately to the Administrative Officer, Stoke Mandeville Hospital, Aylesbury. (7041)

AYLESBURY, TINDAL GENERAL HOSPITAL
(281 beds)
HOUSE PHYSICIAN
for Acute General Medicine and Geriatrics. Vacant now. Applications, with two testimonials, to the Administrative Officer. (7042)

BARNSLEY, BECKETT HOSPITAL
HOUSE PHYSICIAN (House Officer)
Required for above hospital. Apply to Secretary, Barnsley Hospital Management Committee, 33, Gawber Road, Barnsley. (6635)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Salary, terms, and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications, and experience, with three recent testimonials, to be forwarded immediately to Secretary, St. Martin's Hospital, Bath.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (7043)

BATLEY, GENERAL HOSPITAL, Carlinghowhill
(102 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER
This hospital is a general hospital at present but will shortly specialize in orthopaedic and general surgery, ophthalmology and oto-rhino-laryngology. Applications, giving full details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Sec., 20, Oxford Rd., Dewsbury. (4420)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
at the above hospital. The duties of this post cover a wide range of medical work, i.e., general medical, skins, neurology, infectious diseases. The appointment, which becomes vacant on February 14, 1952, is for six months in the first instance. Resident. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (5639)

BIRKENHEAD HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following posts, vacant April 1, 1952, for six months:
Birkenhead General Hospital (174 beds)
HOUSE PHYSICIAN
St. Catherine's Hospital, Church Road, Birkenhead
(General Hospital, 484 beds)
TWO HOUSE PHYSICIANS
Apply by February 9, 1952, stating post and hospital concerned, age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary of above Committee, St. James' Hospital, Birkenhead. (7185)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
TWO HOUSE PHYSICIANS
Vacant end February, 1952. Applications, with full details of experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer at the hospital within seven days of the issue of this advertisement. (7263)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL
(900 beds)
Birmingham (Dudley Road) Group of Hospitals
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN
This is a six months' appointment and becomes vacant on April 1, 1952. Applications, stating age, nationality, qualifications and experience, and enclosing copies of three recent testimonials, should be sent to the Secretary, Hospital Management Committee, within seven days of the appearance of this advertisement. (7262)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE PHYSICIAN
Vacant February 14. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, *and experience, with copy testimonials, to Secretary,* Bradford Royal Infirmary. (6873)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
HOUSE PHYSICIAN
to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—*H. Wilkinson, Secretary to the* Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

CARDIFF, ROYAL HAMADRYAD GENERAL AND SEAMEN'S HOSPITAL (66 beds)
Cardiff Hospital Management Committee
RESIDENT HOUSE OFFICER (Medical)
Required at the above hospital. Applications, giving full details, to the Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (6606)

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
Applications invited for two posts of
HOUSE PHYSICIAN
One vacancy in February and one end of March. Applications, stating age, qualifications, and experience, with copy of two testimonials and the names of two referees, should be sent as soon as possible to the Group Secretary, St. Helier Hospital, Carshalton, Surrey. (7044)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE PHYSICIANS
Applications are invited from registered medical practitioners for the above posts. Vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (7161)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
The appointment is for a period of six months commencing February 17, 1952. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7109)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical, practitioners, male or female, for the post of
HOUSE PHYSICIAN
Duties attached to this post will include work with the chest unit. The appointment is for a period of six months commencing February 16, 1952. Applications, giving age, experience and qualifications, together with copies of two recent testimonials, should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7110)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
HOUSE PHYSICIAN
Required March 1 for six months' appointment. Salary in accordance with national rates. Applications, with details of age, qualifications, and experience, and copies of three testimonials, to be submitted to the undersigned immediately.—M. H. Boone, Secretary. (5640)

CREWE MEMORIAL GENERAL HOSPITAL
(108 beds, with Continuation Annexe 33 beds)
South Cheshire Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN (Male or female)
Emoluments valued at £100. Post vacant end of January. Salary and conditions of service in accordance with the terms published by the Ministry of Health. *Applications, giving details of age,* nationality, qualifications, and experience, together with copies of three recent testimonials, should be sent to the Secretary, South Cheshire Hospital Management Committee, Central Office, 540, West Street, Crewe. (6895)

Medicine—contd.

COSHAM, PORTSMOUTH, QUEEN ALEXANDRA HOSPITAL
Ministry of Pensions Unit
(A Unit of 104 beds for treatment of General Medical, Surgical, and Orthopaedic cases)
HOUSE OFFICER (Medical)
(Resident or non-resident)
Salary £350, £400 or £450 a year, according to experience. If living in there will be a deduction of £100 for emoluments. Applicants should state age, nationality, experience, qualifications (with dates), and send copies of three recent testimonials, to the Director General of Medical Services, Ministry of Pensions, M.S.2, Norcross, Blackpool, Lancs. (7236)

COVENTRY, GULSON HOSPITAL (329 beds)
Applications are invited for the post of
HOUSE PHYSICIAN (106 general medical beds)
Vacant end of February. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hosp., Coventry. (6768)

DARLINGTON MEMORIAL HOSPITAL (210 beds)
Darlington District Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN (J.H.O.—Resident)
Salary in accordance with national scale. Apply, giving age and references, to the undersigned at once.—G. W. Beckwith, Secretary. (7237)

DERBY CITY HOSPITAL
Derby Area No. 1 Hospital Management Committee
A recently built general hospital. There are seven residents. Applications are invited from registered medical practitioners, male or female, for the appointment of
HOUSE PHYSICIAN
Apply to Medical Superintendent as soon as possible. (6990)

DORCHESTER, DORSET COUNTY HOSPITAL (109 beds)
HOUSE PHYSICIAN (Male or female)
Post now vacant and tenable for six months. Applications, giving details of age, experience, qualifications, and nationality, together with copies of testimonials, to be sent to the Secretary, West Dorset Group H.M.C., Damers Road, Dorchester, Dorset, immediately. (7111)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
Applications are invited from candidates possessing some hospital experience for the position of
RESIDENT HOUSE PHYSICIAN
(to the Department of Medicine)
vacant early February. The post offers wide experience in general medicine, and is an excellent opportunity for candidiates studying for M.R.C.P. Applications, stating age, qualifications, and previous experience, should be forwarded to the Medical Superintendent. (7045)

DOVER, BUCKLAND HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
at the above hospital. The salary will be £350, £400, or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-east Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (7213)

ELLESMERE PORT HOSPITAL (50 beds)
XIII Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN (General)
The appointment is for a period of six months commencing February 24, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7112)

ENFIELD, MIDDLESEX, CHASE FARM HOSPITAL
Enfield Group Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
(Second or third post)
Required March 2, 1952, for general medical and paediatric duties. Six months' appointment. Applications, stating age, nationality, qualifications, and experience, with the names of two referees, to the Acting Medical Director of the hospital by February 2, 1952. (6727)

FALMOUTH, DISTRICT HOSPITAL
West Cornwall Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
vacant February 26, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Falmouth and District Hospital, Falmouth. (5262)

FARNBOROUGH HOSPITAL
Farnborough, Kent
Applications are invited for the post of
HOUSE PHYSICIAN
The appointment is for a period of six months and is recognized for candidates preparing for the M.R.C.P. Duties to commence on April 2, 1952, and will include care of general medical and chest beds and assistance with chest unit, chemotherapy research unit, general medical out-patients and cardiology clinics. Salary £350 to £450 a year, according to experience, less £100 a year for residential emoluments. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be forwarded to the Administrative Officer. (6788)

FARNBOROUGH HOSPITAL
Farnborough, Kent
Applications are invited for the post of
HOUSE PHYSICIAN
There are two vacancies, one commencing March 17, 1952, and the other March 24, 1952. Both appointments are for a period of six months and are recognized for candidates preparing for the M.R.C.P. Each post will include the care of some 50 general medical beds, some psychiatric beds, and work in medical out-patients and cardiology clinics. The post vacant on March 17 includes some clinical research duties. Salary £350 to £450 a year, according to experience, less £100 for residential emoluments. Applications, stating age, qualifications (with dates) and experience, accompanied by the names and addresses of three referees, should be forwarded to the Administrative Officer. (6789)

GRIMSBY GENERAL HOSPITAL (200 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
The post will fall vacant in February, and is tenable for six months. Applications, together with the names of two referees, should be sent to the Admin. Officer, Grimsby General Hospital. (6688)

HARROGATE AND DISTRICT GENERAL HOSPITAL (253 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN (Medical and Paediatric)
Immediate vacancy. Salary, according to experience, on the National Health Service scale. Applications as soon as possible to the Assistant Secretary. (4537)

HARTLEPOOLS HOSPITALS MANAGEMENT COMMITTEE
Hartlepools Hospital
Friar Street, Hartlepool (126 beds)
HOUSE PHYSICIAN, vacant February 15, 1952.
West Hartlepool, Cameron Hospital (92 beds)
HOUSE PHYSICIAN and CASUALTY OFFICER
now vacant. To be responsible for medical beds and casualty department.
Salaries and conditions in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality, and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (6758)

HASTINGS, ST. HELEN'S HOSPITAL (452 beds)
Hastings Group Hospital Management Committee
HOUSE PHYSICIAN
Post vacant January 28, 1952. National scales of salary. Applications to the Administrator at the hospital. (6991)

HAYWARDS HEATH (near), CUCKFIELD HOSPITAL
Mid-Sussex Hospital Management Committee
RESIDENT HOUSE OFFICER
Required March 1, 1952, six months' appointment. Duties mainly in the medical and obstetric departments. National salary scale and conditions. Applications, stating age, qualifications, experience, and giving names of two references, should be addressed to the Secretary of the Committee, Cuckfield Hospital, Cuckfield, Haywards Heath, Sussex, immediately. (6607)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
HOUSE PHYSICIAN (Male)
(Second or third post held)
Six months' appointment. Preference will be given to applicants who have held resident surgical and medical posts in a general hospital. Salary is at the rate of £400 to £450 per annum, less £100 for residential emoluments. Duties to commence immediately. Applications to the Secretary, Mr. P. G. Brooks, Hertford No. 1 Group Hospital Management Committee, Hertford County Hospital, Hertford, Herts. (5905)

HUNTINGDON COUNTY HOSPITAL
South-West General Hospitals Group Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (Medical)
to the above hospital. The selected candidate will be required to look after medical and paediatric cases under the direction of the consultants concerned, and may be required to give some emergency anaesthetics. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (6749)

IPSWICH, BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)
HOUSE PHYSICIAN
Required early March. House Officer grade. Post normally for six months. Applications to Secretary, Ipswich Group Hospital Management Committee, Ipswich. (7113)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE PHYSICIAN
Required February 22, 1952. Applications, with full particulars, to the Secretary, Hospital Management Committee. (7068)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
Required at the above hospital. Post vacant February 16. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (6992)

LIVERPOOL, 6, NEWSHAM GENERAL HOSPITAL (1,316 beds)
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
(Resident or non-resident)
with duties in acute and chronic medical wards. Salary in accordance with the National Health Service scale for House Officers, i.e., £350, £400 or £450 per annum, less £100 per annum in respect of residential emoluments if resident. Applications, on forms obtainable from the undersigned, to be returned within ten days of the appearance of this advertisement.—H. Blythe, Secretary, Broadgreen Hospital, Liverpool, 14. (7114)

LIVERPOOL, 15, SEFTON GENERAL HOSPITAL (1,028 beds, 123 cots)
South Liverpool Hospital Management Committee
Applications are invited for the appointments of
FIVE RESIDENT HOUSE PHYSICIANS (General)
which will become vacant at the above-named hospital on April 1, 1952, and will be for a period of six months. The terms and conditions of service will be in accordance with the regulations of the Ministry of Health. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee. (7115)

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
commencing April 1, 1952. Applications, stating age, experience, and qualifications, with copies of recent testimonials, to reach the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than January 31. (7046)

MAIDENHEAD (near), CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow
HOUSE PHYSICIAN
Required for post vacant March 31. Salary on national scale. Applications, stating age, qualifications (with dates) and experience, together with copies of two testimonials, should be sent to the Administrative Officer. (6640)

MEXBOROUGH, MONTAGU HOSPITAL (123 beds)
SANDYGATE HOUSE ANNEXE (30 beds)
RESIDENT HOUSE PHYSICIAN
Required, tenable for a period of six months in the first instance. Salary £350 to £400 per annum, according to experience, from which a deduction of £100 per annum for residential emoluments will be made. Applications, stating age, experience, qualifications and nationality, with names of three referees, to be addressed to the Secretary, Management Committee, Fern Bank, Doncaster Road, Rotherham, Yorks, as soon as possible. (6993)

PRESTON ROYAL INFIRMARY
HOUSE PHYSICIAN
(Junior House Officer Grade)
Vacant February. Applications to Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston. (7142)

IMPORTANT :— All intending applicants should read the revised NOTICE at the top of page 16

Medicine—contd.

MIDDLESBROUGH, HEMLINGTON HOSPITAL
(220 beds)
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
at the above hospital. Salary at the rate of £400 or £500 per annum. Applications, stating age, experience and qualifications, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (7264)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)
For the care of both medical and surgical cases. Appointment for six months. Duties to commence February 1, 1952. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NORTH LIVERPOOL HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments, to commence April 1, 1952:
Walton Hospital (1,351 beds)
HOUSE PHYSICIANS
Bootle General Hospital (119 beds)
HOUSE PHYSICIANS
Salary and conditions of service in accordance with National Health Service terms and conditions. Applications, on forms obtainable from the undersigned, should be made to the Medical Superintendent, Walton Hospital, Liverpool, 9, as soon as possible.—F. J. Watkins, Secretary to the Committee. (7141)

NUNEATON, MANOR HOSPITAL (139 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
(24 general medical beds)
Post vacant mid-February. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (6819)

PENZANCE, WEST CORNWALL GENERAL HOSPITAL (100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN (Male)
which falls vacant on March 6, 1952. Salary at the rate of £350 or £400 per annum, from which a deduction at the rate of £100 per annum will be made for board residence, etc. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6689)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
HOUSE PHYSICIAN
Applications are invited from registered medical practitioners for the above appointment. The post is resident and tenable for six months. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital Romford (5624)

SHREWSBURY (near), CROSS HOUSES HOSPITAL (183 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT MEDICAL OFFICER
Vacant immediately. Preference will be given to those applicants with previous obstetrical experience. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary Shrewsbury (6063)

WALLASEY, VICTORIA CENTRAL HOSPITAL
(135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6770)

SOUTH SHIELDS, INGHAM INFIRMARY
(158 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN (First or second post)
which will become vacant on March 1, 1952. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Sec. (7180)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
(Medical and Paediatrics)
vacant February 1, 1952. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5820)

STROUD GENERAL HOSPITAL
Gloucester, Stroud, and the Forest Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
Salary £350 to £450 per annum, according to experience, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, and experience, with copies of two testimonials, should be sent as soon as possible to the Secretary, Stroud General Hospital, Stroud, Gloucestershire. (7047)

WALSALL HOSPITAL MANAGEMENT COMMITTEE
Walsall General Hospital (181 beds)
HOUSE PHYSICIAN
Required at the above hospital. Post vacant February 1, 1952. Apply Secretary.
Manor Hospital (333 beds)
HOUSE PHYSICIAN (General Medicine)
HOUSE PHYSICIAN (Paediatrics)
Required at the above hospital. Posts vacant February 1, 1952. Apply Administrative Officer. These are two busy General Hospitals within easy reach of Birmingham and Wolverhampton, offering wide experience. (4901)

WOKING, VICTORIA HOSPITAL (74 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
Salary and conditions of service as published by Ministry of Health. Apply to Assistant Secretary, Victoria Hospital, Woking, Surrey. (6977)

WORKINGTON INFIRMARY (86 beds)
West Cumberland Hospital Management Committee
HOUSE PHYSICIAN
Required on February 1 for six months' appointment. Salary in accordance with national scales (£350 to £450). Applications, stating qualifications (with dates) and experience, and accompanied by copies of two testimonials, to be sent to the Secretary, Workington Infirmary, Workington, Cumberland. (5318)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full consultant staff)
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN
Appointment for six months as from March 10. Salary £350 for first post, £400 for second post, £450 for third post, less £100 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (7187)

SURGERY

KING'S COLLEGE HOSPITAL
Denmark Hill, S.E.5
Applications are invited for the appointment of
ASSISTANT SURGEON
on the staff of this hospital. The post will be in the grade of Consultant and will be part-time for about five half-days a week. Applicants must be Fellows of the Royal College of Surgeons of England, and must have had wide experience in general surgery. Applications (twelve copies), stating age, education, qualifications and experience, together with the names of three referees, should be sent to the undersigned by February 23, 1952.—S. W. Barnes, House Governor. (7188)

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of a
PART-TIME CONSULTANT SURGEON
(9 sessions a week)
to serve the Glantawe Hospital Management Committee. The successful candidate will be based at Llanelly Hospital. Candidates should be Fellows of a Royal College of Surgeons, and have had wide experience in general and traumatic surgery. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates), with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within 21 days of appearance of this advertisement. (7238)

CENTRAL MIDDLESEX HOSPITAL, N.W.10
North-West Metropolitan Regional Hospital Board
GENERAL SURGICAL REGISTRAR
including O.P. sessions and teaching
Required for one year in first instance. Vacant February 1, 1952. Whole-time, resident when on duty. Hospital may be visited by appointment with Medical Director. Application forms obtainable from and returnable to Secretary, Central Middlesex Group H.M.C., Acton Lane, N.W.10, by February 6, 1952. (7189)

NEW END HOSPITAL, Hampstead, N.W.3
(100 surgical beds)
North-west Metropolitan Regional Hospital Board
SURGICAL REGISTRAR
required for one year in first instance. Hospital may be visited by appointment with Surgeon Superintendent. Application forms obtainable from and returnable to Secretary, Archway Group Hospital Management Committee, 46, Cholmeley Park, N.6, by February 4, 1952. (7048)

CAMBRIDGE, UNITED HOSPITALS
The Board of Governors invite applications for appointment to the post of
SURGICAL REGISTRAR
(In the Grade of Registrar)
The post will be non-resident, and the holder will work mainly at Addenbrooke's Hospital. The appointment is for one year in the first instance, reviewable annually. Applications, stating age and nationality, qualifications (with dates), and experience, with copies of three recent testimonials, should be sent to the undersigned not later than February 16, 1952.—J. A. Beardsall, Secretary. (6978)

GRIMSBY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
SURGICAL REGISTRAR
to the above hospital which is approved for training for the F.R.C.S. by the Royal College of Surgeons. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 11, 1952. (6979)

LOUGHBOROUGH GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the whole-time post of
SURGICAL REGISTRAR
to the above hospital. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 11, 1952. (6980)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for three posts of
RESIDENT REGISTRAR in General Surgery
as follows: (a) Booth Hall Children's Hospital, Manchester. (b) Blackburn and District Group of Hospitals, with main duties at Victoria Hospital, Accrington. (c) Bolton and District Group of Hospitals, with main duties at Bolton and District General Hospital. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, by February 4, 1952. (7117)

ORMSKIRK COUNTY HOSPITAL
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME SURGICAL REGISTRAR
(Resident)
with duties at the above hospital. The post is a temporary one in the first instance, tenable until September 30, 1952. The post is a residential one, and a deduction will be made in respect of emoluments valued at £130. Forms of application obtained from, and to be returned to, the Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than February 9, 1952.—Vincent Collinge, Secretary to the Board. (7239)

OXFORD, UNITED HOSPITALS
Applications are invited for the post of
WHOLE-TIME REGISTRAR IN GENERAL SURGERY
The appointment is for one year and eligible for extension to a second year. Applicants must be Fellows of a Royal College of Surgeons. The successful candidate will be required to live in the Radcliffe Infirmary during take-in duty. Applications, on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by February 9. (7061)

Surgery—contd.

WREXHAM—WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the post of

SURGICAL REGISTRAR

at the Maelor General Hospital, and the War Memorial Hospital, Wrexham. The post is either resident or non-resident. The appointment will be for one year in the first instance and will be reviewed at the end of this period. The Maelor General Hospital is recognized under the regulations governing the F.R.C.S. Diploma (England and Edinburgh). Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (7084)

CHORLEY AND DISTRICT HOSPITAL, Lancs
Preston and Chorley Hospital Management Committee
RESIDENT SURGICAL OFFICER

Required February 15, 1952 (Junior Hospital Medical Officer grade). The establishment of this hospital includes two Junior House Officers. The R.S.O. works under the supervision of the visiting consultants from Preston Royal Infirmary. Applications, including names for reference, to be sent to the undersigned at the Royal Infirmary, Preston. —John Gibson, Secretary. (7265)

SOUTH-WESTERN HOSPITAL
Landor Road, S.W.9
RESIDENT SURGICAL OFFICER
(Senior Hou e Officer Grade)

required to take charge of 32 surgical beds which are under the direction of the Surgical Consultant of Lambeth Hospital, Kennington; and also to work under the Ear, Nose, and Throat Consultant at the South Western Hospital. For form of application apply to the Physician Superintendent at the hospital. (7049)

BARNSLEY, BECKETT HOSPITAL
HOUSE SURGEON SPECIALS (S.H.O.)

Required for duties mainly in Casualty Department. Some E.N.T., ophthalmic, anaesthetic and orthopaedic work. Salary £670. Apply to Secretary, Barnsley Hospital Management Committee, 33, Gawber Road, Barnsley. (5700)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge. Main Line Railway from Liverpool Street)

Applications are invited from registered medical practitioners for the resident appointment of

SENIOR HOUSE OFFICER (Surgical)

Salary £670 per annum, less £130 per annum in respect of residential emoluments. The appointment is due to commence as soon as possible, for a period of one year. Applications, stating nationality, age, qualifications, and experience, with copies of recent testimonials, or the names of referees, should be sent to the Secretary, Hertford Group Hospital Management Committee, Hertford County Hospital, Hertford, Herts. (7190)

CARMARTHEN, WEST WALES GENERAL HOSPITAL (160 beds)
West Wales Hospital Management Committee

Applications are invited for the post of

RESIDENT SURGICAL OFFICER
(Senior House Officer grade)

Appointment will be for one year and is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with national scales. Applications, stating age, qualifications, experience and names of three referees, to N. A. Ball, Secretary, West Wales Hospital Management Committee, Glangwili, Carmarthen. (5924)

CREWE MEMORIAL GENERAL HOSPITAL
(108 beds, with Continuation Annexe 33 beds)
South Cheshire Hospital Management Committee

Applications are invited for the posts of

RESIDENT SENIOR HOUSE OFFICER AND RESIDENT HOUSE OFFICER

Emoluments valued at £100 in each case. Posts vacant end of January. Salaries and conditions of service in accordance with the terms published by the Ministry of Health. Applications, giving details of age, nationality, qualifications, and experience, together with copies of three recent testimonials, should be sent to the Secretary, South Cheshire Hospital Management Committee, Central Office, 540, West Street, Crewe. (6894)

DUDLEY, GUEST HOSPITAL (154 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group
Birmingham Region

Applications are invited from registered medical practitioners for the post of

RESIDENT SENIOR HOUSE OFFICER (Surgical)

Post vacant in February. The hospital is recognized for F.R.C.S. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (7191)

DEWSBURY, STAINCLIFFE GENERAL HOSPITAL, (316 beds)

Applications are invited for the post of

RESIDENT SURGICAL OFFICER
(Senior House Officer Grade)

vacant February 8, 1952. The hospital is recognized for the F.R.C.S. and affords opportunities for excellent surgical experience. Applications, stating age, nationality, qualifications and experience, with recent testimonials, should be submitted to the Secretary, Hospital Management Committee No. 11, 20, Oxford Road, Dewsbury. (6968)

ISLE OF MAN, NOBLE'S HOSPITAL (160 beds)

Applications invited for the post of

SENIOR HOUSE SURGEON

at above hospital, an acute general hospital with a busy surgical practice and specialist visiting staff. Salary £670 per annum, with a deduction of £100 per annum for board, lodging, etc., if resident. Suitable post for man preparing for a higher surgical qualification. Applicant should previously have held a house-surgeon appointment, preferably at a teaching hospital. Post vacant at the end of March 1952. Applications, giving all relevant particulars, with copies of two recent testimonials, or names and addresses of two referees, should be forwarded to the Secretary, Noble's Isle of Man Hospital, Douglas. (7240)

MEXBOROUGH, MONTAGU HOSPITAL
(123 beds)

SENIOR HOUSE OFFICER (Surgery and Casualty)

Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience, and nationality, with names of three referees, to the Secretary, Hospital Management Committee, "Fern Bank," Doncaster Road, Rotherham, Yorks, as soon as possible. (7050)

MINEHEAD AND WEST SOMERSET HOSPITAL
(58 beds) Minehead, Somerset
Bridgewater, Minehead and Butleigh Hospital Group

Applications are invited for the appointment of

SENIOR HOUSE OFFICER

with care of surgical and medical cases at the above hospital immediately. Salary £670 per annum. One year's appointment. Appointment will be subject to a deduction of £150 per annum for residential emoluments. Applications to the Clerk, in Charge, Minehead and West Somerset Hospital, The Avenue, Minehead, Somerset. (7241)

MORECAMBE, QUEEN VICTORIA HOSPITAL
(100 beds)
Lancaster and Kendal Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
(General Surgery)

Applications are invited from registered medical practitioners for the above appointment. The post is vacant now and normally tenable for one year. The successful applicant will be attached to a specialist unit, but will be expected to relieve the Senior House Officer (Obstetrics and Gynaecology) during absence. Applications, stating age, qualifications, experience and nationality, along with the names of two referees, should be forwarded immediately to the Secretary, Lancaster and Kendal Hospital Management Committee, Royal Lancaster Infirmary, Lancaster. (6751)

MUSSELBURGH, MIDLOTHIAN, EDENHALL HOSPITAL
(Ministry of Pensions)
A hospital of 260 beds for treatment of General Medical, Surgical, and Tropical cases
SENIOR HOUSE OFFICER (Surgical)

Resident or non-resident. Applicants should have held the usual resident appointments. Salary at an inclusive rate of £670 per annum, with a deduction for emoluments, if living in. Applicants should state age, nationality, experience, qualifications (with dates), and send copies of three recent testimonials to the Director General of Medical Services, Ministry of Pensions, M.S.2, Norcross, Blackpool, Lancs. (7074)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)

Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence early in March. Salary £670 per annum and conditions of service in accordance with the conditions published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (6969)

SOLIHULL HOSPITAL, Lode Lane, Solihull
Birmingham
Group 25 Birmingham (Selly Oak) Hospital Management Committee

Applications are invited for the post of

RESIDENT SURGICAL OFFICER
(Senior House Officer)

which becomes vacant at the end of January, 1952. This is a busy general hospital, with five other resident medical staff. Applications, stating age, nationality, qualifications, and experience, together with copies of testimonials, to be sent to the Medical Superintendent within fourteen days of the appearance of this advertisement. (6857)

SCUNTHORPE, WAR MEMORIAL HOSPITAL
(269 beds)
Scunthorpe Hospital Management Committee

Vacancy mid-February for

HOUSE SURGEON (S.H.O. grade)

with duties in general gynaecology and some radiotherapy. Applications, with full details of qualifications, experience and naming two referees, to Secretary, War Memorial Hospital, Scunthorpe, Lincs. (6610)

STOURBRIDGE, CORBETT HOSPITAL (106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER (Resident, Surgical)

Post now vacant. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (9745)

STOURBRIDGE (near), WORDSLEY HOSPITAL
(450 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group
Birmingham Region

Applications are invited from registered medical practitioners for the post of

RESIDENT SENIOR HOUSE OFFICER (Surgical)

Post vacant March 15. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (7192)

STROUD GENERAL HOSPITAL
Gloucester, Stroud, and the Forest Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for appointment of

RESIDENT SURGICAL OFFICER

at the above hospital, which is a small specialist hospital of 53 beds, with a large out-patient department. Salary will be in the Senior House Officer grade, i.e., £670 per annum, with a deduction of £125 per annum in respect of residential emoluments. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent, as soon as possible, to the Secretary, Stroud General Hospital, Stroud, Gloucestershire. (7051)

SUNDERLAND ROYAL INFIRMARY (300 beds)

Applications are invited for the appointment of

SENIOR SURGICAL HOUSE OFFICER

to be resident at the above hospital (100 surgical beds). The post is recognized for the F.R.C.S. examination, and the successful applicant will be expected to rotate duties at six monthly intervals with other Senior Surgical House Officers at the hospitals in the Group. Salary £670 per annum, less emolument value. Apply immediately to the Secretary, Sunderland Area Hospital Management Committee, General Hospital, Sunderland. (7144)

WEST HARTLEPOOL, CAMERON HOSPITAL

Applications are invited for the appointment of

SENIOR HOUSE OFFICER

now vacant. To be responsible for surgical and gynaecological beds. Salary and conditions of service in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (5942)

WISBECH, NORTH CAMBRIDGESHIRE HOSPITAL
Peterborough Area Hospital Management Committee
RESIDENT SURGICAL OFFICER
(Senior House Officer Grade)

Post vacant February 9, 1952. This is a busy general hospital of 65 beds with full consultant staff, and the post offers very good all-round experience in general surgery. Applications forthwith to the Secretary, North Cambridgeshire Hospital, Wisbech. (7266)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Surgery—contd.

WORKINGTON INFIRMARY (86 beds)
Annexe (26 beds)
West Cumberland Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required immediately. Salary in accordance with national scales (£670 per annum). Applications, stating qualifications (with dates) and experience, and accompanied by copies of two testimonials, to be sent to the Secretary, Workington Infirmary, Workington, Cumberland. (5629)

CONNAUGHT HOSPITAL (118 beds)
Walthamstow, E.17
SURGICAL HOUSE OFFICER
Required for six months (including special departments). Post vacant February 27, 1952. Recognized for F.R.C.S. Applications, with full details, and copy testimonials, should be sent immediately to the Secretary, H.M.C. Forest Group, Langthorne Road, E.11. (6692)

HAMPSTEAD GENERAL HOSPITAL
The Green, Hampstead, N.W.3
Applications are invited from registered medical practitioners, male and female, for the resident post of
HOUSE SURGEON
for a period of six months from April 1, 1952. Salary in accordance with the national scales. Applications on the prescribed form, with copies of three recent testimonials, to be returned by March 10, 1952, to Administrative Officer. (7149)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications invited for appointment of
RESIDENT HOUSE SURGEON
Vacant now. Applications, stating age, qualifications, and experience, with a copy of two testimonials, and the name of one referee, should be sent immediately to the Group Secretary, St. Helier Hospital, Carshalton, Surrey. (6693)

PUTNEY HOSPITAL, Lower Common, S.W.15
Battersea and Putney Group Hospital Management Committee
Applications are invited for the following post:
RESIDENT HOUSE SURGEON
Appointment commencing early March, 1952. Applications, accompanied by copies of three recent testimonials, should be sent to the Administrative Officer not later than February 29, 1952. (7151)

ST. ANDREW'S HOSPITAL, Bow, E.3
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Two vacancies)
Applications, stating age and qualifications, should be sent as soon as possible to the Medical Superintendent, St. Andrew's Hospital, Bow, E.3. (7272)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

ST. LEONARD'S HOSPITAL
Nuttall Street, London, N.1
Central Group Hospital Management Committee
(Acute General—166 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
The appointment is for six months only, and the salary, depending upon the number of previous posts held, £350, £400 or £450 per annum. The hospital is recognized for the final F.R.C.S. (Lond.). Applications, stating age, nationality, qualifications and experience and names of two referees, to be forwarded to the Assistant Secretary of the hospital by February 11, 1952. (7242)

ST. NICHOLAS HOSPITAL, Plumstead, S.E.18
HOUSE SURGEON (Recognized for F.R.C.S.)
Vacant February 23 approximately. Salary £350 to £450 per annum, less £100 per annum for residence. Apply to Secretary, Memorial Hospital, Woolwich, S.E.18. (6729)

WANSTEAD HOSPITAL (191 beds)
Harmon Hill, E.11
HOUSE SURGEON
Post vacant March 3, 1952. Recognized for F.R.C.S. Applications, with full details, and copy testimonials, should be sent immediately to the Secretary, H.M.C. Forest Group, Langthorne Road, E.11. (6695)

ACCRINGTON, VICTORIA HOSPITAL
(112 Acute beds)
HOUSE SURGEON
Post tenable for six months. Salary £350 to £450 per annum according to previous posts held, less £100 for board residence. Applications, giving age, nationality, qualifications, etc., accompanied by copies of two testimonials, to be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (6696)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT HOUSE SURGEON (Male)
Required for wards taking general surgical cases. Six months' appointment. Vacant Feb. 20. National Health Service salary and terms and conditions of service. Applications, stating age, qualifications, and experience, with copies of up to three recent testimonials, to be sent to the Medical Director of hospital as soon as possible. (6824)

ASHTON-UNDER-LYNE DISTRICT INFIRMARY (200 beds).
Ashton, Hyde and Glossop Hospital Management Committee
HOUSE SURGEON
Salary £350 to £450 per annum, according to experience, less £100 per annum for board and lodging, etc. The post is recognized for F.R.C.S. (Eng.). Applications, giving age, nationality, qualifications and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (6642)

BANBURY, HORTON GENERAL HOSPITAL
(170 beds)
HOUSE SURGEON
Required immediately for general surgical and gynaecological beds. Four other residents. Post tenable six months in first instance. Salary from £350, according to experience. Recognized for six months' training F.R.C.S.(Eng.). Applications, stating age, nationality, qualifications and names of two referees, to the Secretary, Hospital Management Committee, Horton General Hospital, Banbury, Oxon. (4095)

BARNSTAPLE, NORTH DEVON INFIRMARY
(110 beds)
North Devon Hospital Management Committee
TWO HOUSE SURGEONS
Posts now vacant. Applications to Secretary and Finance Officer, 19, Alexandra Road, Barnstaple, Devon. (4832)

BARROW, NORTH LONSDALE HOSPITAL
Barrow and Furness Hospital Management Committee
Applications are invited for a post of
RESIDENT HOUSE SURGEON
at the above hospital (189 beds), with surgical work under control of Consultant Surgeons. This post is recognized for the F.R.C.S examinations. National conditions and salary scale (House Officer grade). Applications, stating age, qualifications, and experience, with copy testimonials, should be forwarded to the Secretary, Barrow and Furness Hospital Management Committee, 52, Paradise Street, Barrow-in-Furness. (6892)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
Salary, terms, and conditions of service in accordance with those published by Ministry of Health. Applications, stating age, qualifications, and experience, with three recent testimonials, to be forwarded to Secretary, St. Martin's Hospital, Midford Road, Bath, immediately.—J. Lawrence Mears, Secretary, Manor Hospital, Combe Park, Bath. (7052)

BEDFORD GENERAL HOSPITAL (South Wing)
HOUSE SURGEONS
These appointments are recognized for F.R.C.S., and offer exceptional opportunities for general experience in a busy acute surgical unit. These posts are now vacant. Applications, stating age, nationality, qualifications, previous appointments, together with copies of two testimonials, should be addressed to the Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton Road, Bedford. (6608)

BIRKENHEAD GENERAL HOSPITAL
(174 beds)
Birkenhead Hospital Management Committee
Applications are invited for the following posts, vacant April 1, 1952, for six months:
HOUSE SURGEON (Senior post)
HOUSE SURGEON
with some duties with the orthopaedic firm
Apply by February 9, 1952, stating post and hospital concerned, age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary of above Committee, St. James' Hospital, Birkenhead. (7193)

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN
United Birmingham Hospitals
HOUSE SURGEON.
Salary £400 or £450 per annum, according to experience. The appointment is for a period of six months. Duties commence April 1, 1952. Application forms can be obtained from the undersigned, and should be returned not later than February 2, 1952.—H. N. Lamb, House Governor, The United Birmingham Hospitals, Birmingham and Midland Hospital for Women, Showell Green Lane, Sparkhill, Birmingham, 11. (6909)

BIRMINGHAM, SELLY OAK HOSPITAL
(1,098 beds)
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited from registered medical practitioners for the posts of
HOUSE SURGEON
Applications immediately to the Medical Superintendent, Selly Oak Hospital, Birmingham, 29, giving qualifications, experience, and age, accompanied by copies of three recent testimonials. (7243)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for a
RESIDENT HOUSE OFFICER (Surgical)
(First or second post)
Salary £350 to £450 per annum, less £100 per annum for residential emoluments. Appointment to commence immediately. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent as soon as possible to the Administrative Officer. (7196)

BLACKBURN ROYAL INFIRMARY (244 beds)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
to the General Surgical Unit
The appointment will be for a period of six months in the first instance, and the salary, etc., will be in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, giving age, nationality, qualifications, etc., with copies of two testimonials, to be sent to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn, as soon as possible. (6697)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (General)
Vacant March 1, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary. (6878)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
HOUSE SURGEON
Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, should be sent to the Administrative Officer of the hospital within seven days of the appearance of this advertisement. (6880)

BRISTOL, SOUTHMEAD HOSPITAL
(571 beds, including 133 maternity)
Southmead General Hospital Group Management Committee
RESIDENT HOUSE SURGEON (Genito-Urinary)
Required for six months commencing March 1, 1952. Salary £450 to £500 per annum, according to experience, less £100 per annum for board residence. Applications, on forms to be obtained from the undersigned, to be returned not later than January 31, 1952.—C. C. Hancock, Secretary, Southmead Hospital, Bristol. (7082)

BROMSGROVE, WORCS, ALL SAINTS' HOSPITAL
Mid-Worcestershire Hospital Management Committee
TWO HOUSE SURGEONS
(for acute Surgical Wards and Casualty Department)
Required at this recently opened General Hospital which has a bed complement of 468 beds. Posts are resident, and are vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire Hospital Management Committee, Birmingham Road, Bromsgrove, Worcs. (6994)

BURNLEY, GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is vacant now, and is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. The post is recognized for the F.R.C.S. examination. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (9287)

BURTON-ON-TRENT, GENERAL INFIRMARY
(Acute General Hospital, 235 beds)
Burton-on-Trent Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
now vacant. This appointment is recognized for examination purposes for the Royal College of Surgeons, offering excellent general experience in a busy acute surgical unit. Applications, with all details and copies of recent testimonials, to J. E. Smith, Secretary to the H.M.C. (7194)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
GENERAL SURGICAL AND ORTHOPAEDIC HOUSE SURGEON
The above post, which is recognized for the F.R.C.S. Diploma, is now vacant. National Health Service salary and conditions. Applications to be addressed to the Chief Administrative Officer at the hospital. (7267)

Surgery—contd.

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical, with beds for orthopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee

Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON

Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (7162)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for
TWO HOUSE SURGEONS
The appointments are for a period of six months. Duties to commence February 20, 1952, and April 4, 1952, respectively. Applications, giving full particulars, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, King Street, Chester. (7120)

CHORLEY AND DISTRICT HOSPITAL, Lancs
HOUSE SURGEON (J.H.O. Grade)

Six months' post. National scale and conditions. Applications to be forwarded to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary. (5808)

DERBY CITY HOSPITAL
Derby Area No. 1 Hospital Management Committee

A recently built general hospital. There are seven residents. Applications are invited from registered medical practitioners, male or female, for the appointment of
HOUSE SURGEON
Apply to Medical Superintendent as soon as possible. (6995)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
RESIDENT HOUSE SURGEON

vacant end February, 1952. The post affords good experience in general surgery and casualty work. Apply to the Medical Superintendent. (7053)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for the post of
JUNIOR HOUSE SURGEON
at the above hospital. The post will become vacant at the end of March. The salary will be £350, £400, or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-east Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (7214)

DOVER, ROYAL VICTORIA HOSPITAL
South-east Kent Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE SURGEON
at the above hospital. The post is recognized by the Royal College of Surgeons. It will become vacant at the end of March. The salary will be £350, £400, or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-east Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (7215)

DUDLEY, GUEST HOSPITAL (154 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Surgical)
Post now vacant, tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (6561)

EASTBOURNE, PRINCESS ALICE HOSPITAL
(123 beds)

Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
for general surgery in a busy, well-equipped hospital. Staff of three House Officers. Salary in accordance with terms and conditions published by Ministry of Health. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, to the Sec., 29 Bedfordwell Road, Eastbourne. (7054)

EPPING, ST. MARGARET'S HOSPITAL
(485 beds)
HOUSE SURGEON

Required at the above hospital. Applications, together with copies of two recent testimonials, to be forwarded immediately to the Secretary, Epping Group Hospital Management Committee, St. Margaret's Hospital, Epping. (6700)

GLOUCESTERSHIRE ROYAL HOSPITAL
Southgate Street Unit (245 beds)
Gloucester, Stroud and the Forest Hospital Management Committee

Applications are invited for the post of
HOUSE SURGEON
at the above hospital. The post is recognized for the F.R.C.S. examination. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, nationality and experience, accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—C. J. Adams, Group Secretary. (6996)

HALIFAX GENERAL HOSPITAL (425 beds)

Applications are invited for the post of
HOUSE SURGEON (Male or female)
Salary according to experience. Applications, stating age, nationality, qualifications, and experience, with copies of three testimonials, to be addressed to the Secretary at the Royal Halifax Infirmary, Halifax. (7244)

HALIFAX, ROYAL INFIRMARY (301 beds)

Applications invited for post of
HOUSE SURGEON
at this busy acute general hospital. Salary according to experience. Applications, stating age, nationality, qualifications, and experience, and enclosing copies of three recent testimonials, to be forwarded to the Secretary. (7245)

HASTINGS GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE SURGEONS

Required at
Royal East Sussex Hospital, Hastings (150 beds)
Vacant February 6, 1952
Bexhill Hospital, Bexhill-on-Sea (62 beds)
Now vacant
National scales of salary. Applications to the Administrator of the respective hospital. (6997)

HEREFORD GENERAL HOSPITAL (154 beds)
Herefordshire Hospital Management Committee

Applications are invited from registered medical practitioners for appointment of
HOUSE SURGEON
(Casualty, E.N.T. and Fracture Departments)
Applications, with copies of two recent testimonials, should be sent to the Secretary, Hospital Management Committee, County Hospital, Hereford. (8343)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
RESIDENT HOUSE SURGEON

required at the above busy acute general hospital. Four other resident medical staff. Busy casualty and out-patient departments. Applications, stating age, qualifications, and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe, Bucks. (7055)

HERTFORD COUNTY HOSPITAL
Hertford, Herts (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus service.)

Applications are invited for the appointment of
HOUSE SURGEON (Male) (for General Surgery)
(First, second or third post held)
Six months' appointment. Salary is at the rate of £350 to £450 per annum, less £100 per annum for residential emoluments. Duties to commence immediately. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (7195)

HILLINGDON HOSPITAL
Uxbridge, Middlesex (705 beds)

Applications invited for new appointment of
HOUSE SURGEON
(General and Traumatic Surgery)
Applications, together with copies of not more than three recent testimonials, to Medical Director not later than February 4. (7056)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee

Applications are invited for the post of
HOUSE SURGEON
Vacant now. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8754)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee

Applications are invited for the post of
HOUSE SURGEON
at the Sutton Branch Hospital. Vacant February. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Admin. Officer. (5757)

HUNTINGDON COUNTY HOSPITAL
South-West General Hospitals Group Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (General Surgery)
to the above hospital. This is a busy hospital staffed by consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and the names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (6754)

ILFORD, KING GEORGE HOSPITAL
Ilford and Barking Group Hospital Management Committee

There will be vacancies for the following:
HOUSE SURGEON, February 13, 1952.
HOUSE SURGEON, March 1, 1952.
HOUSE SURGEON, March 6, 1952.
Salary will be £350 per annum minimum and maximum £450, according to experience and qualifications, less emoluments. The posts will be tenable for six months. Applications, giving full particulars, and accompanied by testimonials, should be sent to the undersigned within fourteen days of the appearance of this advertisement.—G. Austin Hepworth, Secretary, King George Hospital, Ilford. (6646)

IPSWICH, BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)
(Post recognized for Examinations of R.C.S.)
TWO HOUSE SURGEONS (General Surgery)

Posts vacant mid-February. House Officer grade appointments normally for six months. Applications to the Administrative Officer. (7197)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE SURGEON TO SENIOR CONSULTANT GENERAL SURGEON

Post recognized for F.R.C.S. Applications immediately to the Secretary, Hospital Management Committee. (7069)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

THE MEDICAL PROTECTION SOCIETY LIMITED
Unlimited Indemnity. Assets exceed £120,000
SUBSCRIPTION: £1 for first three years for newly qualified entrants, £2 for members of more than three years' standing
ENTRANCE FEE, 10/- (Remitted to those joining within 12 months of registration)
OVERSEAS INDEMNITY FOR AN ADDITIONAL SUBSCRIPTION
Full Particulars from the Secretary, Dr. A. R. FRENCH, Victory House, Leicester Square, W.C.2 Gerrard 4553 and 4814.

Surgery—contd.

ISLE OF WIGHT GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE SURGEON
St. Mary's Hospital, Newport, I.W.
but may be required to undertake duty at any hospital in the Group in emergency. Vacant now. Salary £350, £400 or £450 per annum, according to experience. National terms of service. Good residential accommodation for single person. Applications, stating age, qualifications, experience and nationality, to H. Forshaw, Chief Administrative Officer, Hospital Management Committee, St. Mary's Hospital, Newport, I.W., as soon as possible. (6826)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee
TWO RESIDENT HOUSE SURGEONS
Required at the above hospital. Posts vacant now. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (6998)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL (141 beds)
King's Lynn Area Hospitals Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
at the above hospital. Appointment will be for six months in the first instance. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Duties of the post offer valuable experience in general surgery, E.N.T. work and anaesthetics in a busy acute general hospital. Applications to be forwarded as soon as possible to the Secretary of the above Committee, St. James' Hospital, King's Lynn, Norfolk. (6609)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds)
South Warwickshire Hospital Group
HOUSE SURGEON (General Surgery)
Salary £350 per annum, less £100 per annum for residential emoluments, and in accordance with the terms and conditions of service of hospital medical staff. Apply as soon as possible to Miss V. Wells, Assistant Sec., Warneford General Hospital. (5043)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners (male and female) for the post of
HOUSE SURGEON (Genito-Urinary Surgery)
The person appointed will attend the Cystoscopic Clinic at the above hospital and the Out-patient Clinic at the teaching hospital. The appointment is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Folkard, Secretary to the Committee. (4738)

LINCOLN, COUNTY HOSPITAL (200 beds)
Lincoln No. 1 Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON (Male or female)
Post recognized for F.R.C.S. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary. (6618)

LIVERPOOL, 15, SEFTON GENERAL HOSPITAL (1,028 beds, 123 cots)
South Liverpool Hospital Management Committee
Applications are invited for the appointments of **TWO RESIDENT HOUSE SURGEONS (General)** which will become vacant at the above-named hospital on April 1, 1952, and will be for a period of six months. The terms and conditions of service will be in accordance with the regulations of the Ministry of Health. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garniet Chaplin, Secretary to the Committee. (7122)

MAIDENHEAD HOSPITAL
St. Luke's Road, Maidenhead, Berks
HOUSE SURGEON
Required immediately. Salary on national scale. Applications, stating qualifications (with dates) and experience, together with copies of testimonials, should be sent to the Administrative Officer. (6999)

MANCHESTER NORTHERN HOSPITAL
Manchester, 8 (General Hospital—116 beds)
Applications are invited for the following resident appointment, tenable for six months:
HOUSE SURGEON
Salary £350 to £450 per annum, according to experience, less £100 per annum for emoluments. Applications to be forwarded to the hospital Administrator as soon as possible. (6970)

MANCHESTER, PARK HOSPITAL, Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (General Surgery)
Applications are invited from registered medical practitioners for the above post, which is now vacant. This post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital, and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience, £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (7198)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy General Hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank Crow Hill Drive, Mansfield, Notts. (4139)

MERTHYR AND ABERDARE HOSPITAL MANAGEMENT COMMITTEE
Merthyr General Hospital (120 beds)
Aberdare General Hospital (102 beds)
Applications are invited for the posts of
HOUSE SURGEON
at either of the above General Hospitals. The appointments, which are resident, are for periods of six months. Salary in accordance with the terms of service issued by the Ministry of Health. The hospitals are acute general hospitals with the usual special departments staffed by whole-time and visiting consultants. Applications, with full particulars, should be sent to the Secretary, Merthyr and Aberdare Hospital Management Committee, St. Tydfil's Hospital, Merthyr Tydfil. (7000)

NORTH LIVERPOOL HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments, to commence April 1, 1952:
Walton Hospital (1,351 beds)
HOUSE SURGEONS (General Surgery)
Bootle General Hospital (119 beds)
HOUSE SURGEONS (General Surgery)
Salary and conditions of service in accordance with National Health Service terms and conditions. Applications, on forms obtainable from the undersigned, should be made to the Medical Superintendent, Walton Hospital, Liverpool, 9, as soon as possible.—F. J. Watkins, Secretary to the Committee. (7145)

NORTHAMPTON GENERAL HOSPITAL (487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
vacant immediately. Recognized for the F.R.C.S. National Health Service salary scale and conditions of service for House Officers. Appointment in the first instance until March 31 or September 30, 1952, to be determined at interview. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Secretary to the Management Committee. (6619)

NORTHWOOD, MIDDLESEX, MOUNT VERNON HOSPITAL AND THE RADIUM INSTITUTE
Harefield and Northwood Group Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER
(General Surgery, Urology and Ophthalmology)
Post is vacant immediately. This post is recognized in general surgery for the final F.R.C.S. Applications, accompanied by testimonials, to be sent to the Secretary and House Governor. (7268)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence on or about January 31, 1952. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

OLDHAM, BOUNDARY PARK GENERAL HOSPITAL (390 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
GENERAL HOUSE SURGEON
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference number A/801, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (7121)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (General)
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting Reference No. A/804, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (7269)

PENZANCE, WEST CORNWALL HOSPITAL (General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (Male or female)
Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6702)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)
Applications are invited for the post of
JUNIOR HOUSE SURGEON (Male or female)
resident at Blagrave Hospital, for a period of six months. Vacant immediately. Post provides opportunity for further medical studies. Salary £350 to £450, according to experience, less £100 for residential emoluments. Apply, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (8738)

ROMFORD, ESSEX, VICTORIA HOSPITAL (91 beds)
RESIDENT HOUSE SURGEON
Applications are invited from registered medical practitioners (male) for the above post, vacant from February 29, 1952. Six months' appointment. Applications, stating age, nationality, qualifications (with dates), and experience, together with copies of three recent testimonials, or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5680A)

RUGBY, HOSPITAL OF ST. CROSS
HOUSE SURGEON for General Surgery including accidents and some orthopaedics
Required February 1. Applications, stating age, qualifications, together with copy testimonials, should be addressed to the Assistant Secretary, Hospital of St. Cross, Rugby. (5778)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid Herts Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of a
HOUSE SURGEON (House Officer grade)
for one of the two surgical teams. Recognized for the F.R.C.S. Post vacant immediately and tenable for six months. Applications, together with the names of two referees, should be sent to the Secretary, Osterhills, Normandy Road, St. Albans. (6704)

SALISBURY GENERAL HOSPITAL
Salisbury Group Hospital Management Committee
Applications are invited for
RESIDENT HOUSE SURGEON
for six months from February 29, 1952. Apply immediately, naming two referees, to Secretary, H.M.C., Odstock Hospital, Salisbury. (7199)

SCARBOROUGH HOSPITAL, Yorks (163 beds)
Applications are invited from registered medical practitioners, male or female, for two posts of
RESIDENT HOUSE SURGEON (Surgical)
One post is vacant now, and the other will become vacant on February 1, 1952. The salaries are in accordance with the national scale, and the appointments will be for six months. Applications, stating age and qualifications, together with testimonials, to be sent to the Secretary. (7200)

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S., Eng. and)
Applications are invited for the resident appointment of
HOUSE SURGEON (General Surgery)
and certain extra duties. Vacant April 1, 1952. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Sec. (7057)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

Surgery—contd.

SOLIHULL HOSPITAL, Lode Lane, Solihull, Birmingham
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant immediately. This is a busy general hospital, with five other resident medical staff. Applications, stating age, nationality, qualifications, and experience, together with copies of testimonials, to be sent to the Medical Superintendent within fourteen days of the appearance of this advertisement. (6858)

SOUTH-EAST NORTHUMBERLAND HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners for
HOUSE SURGEON
posts at Tynemouth Victoria Jubilee Infirmary and Preston Hospital. Applications, together with two testimonials, should be sent to the Secretary, South East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (7078)

SOUTH SHIELDS, GENERAL HOSPITAL (670 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (First or second post)
vacant now. The appointment will be for a period of six months. The post is recognized for the F.R.C.S. (London and Edinburgh). Applications to be addressed to the Medical Supt. (5759)

SOUTH SHIELDS, INGHAM INFIRMARY (158 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (First or second post)
which will become vacant on February 14. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Sec. (7201)

SOUTHPORT, PROMENADE HOSPITAL (General)
Southport and District Hospital Management Committee
RESIDENT HOUSE SURGEON
Required immediately. Apply, with details of age, nationality and qualifications, together with copies of two testimonials, to T. Crook, Secretary, Promenade Hospital, Southport. (7273)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (General Surgery)
vacant February 1, 1952. The post is recognized for F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary (5821)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Surgery)
vacant immediately. Post recognized for F.R.C.S. examination. Applications, with copy testimonials, should be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (5822)

SUTTON-IN-ASHFIELD, NOTTINGHAMSHIRE KING'S MILL HOSPITAL
Applications are invited for the post of
HOUSE SURGEON
The hospital contains 115 surgical beds and the post offers facilities for practical training in general surgery and E.N.T. surgery. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Salary £350 to £450, according to previous posts held, with a deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary to the Committee. (4818)

TRURO, ROYAL CORNWALL INFIRMARY (General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for
HOUSE SURGEON (Male or female)
for General Surgery and Gynaecology
Post vacant March 18, 1952. The successful candidate will be responsible jointly with the House Surgeon for the 66 beds allocated to the two specialties. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, qualifications and experience, and copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5268)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointments:
TWO RESIDENT HOUSE SURGEONS
(vacant April 1, 1952)
Post is/are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

WALSALL HOSPITAL MANAGEMENT COMMITTEE
Walsall General Hospital (181 beds)
TWO HOUSE SURGEONS
Required at the above hospital. Posts vacant immediately. Apply Secretary.
Manor Hospital (333 beds)
HOUSE SURGEON
required at the above hospital. Post vacant February 1, 1952. Apply Administrative Officer. These are busy General Hospitals within easy reach of Birmingham and Wolverhampton, offering excellent experience in all branches of general surgery. (4900)

WARRINGTON GENERAL HOSPITAL (372 beds)
There are immediate vacancies for
TWO RESIDENT HOUSE SURGEONS
The hospital is modern and offers excellent experience in general surgery. Salary and conditions in accordance with national scales.—H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington. (4667)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Second or third post)
Vacant end of February. Salary according to National Health Service scale. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent to the undersigned.—Cyril Hopkinson, Administrator (5862)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
TWO HOUSE SURGEONS
Vacancy March 16 and 29 respectively. General surgery and work in E.N.T. department. Applications, with copies of two testimonials, to the Secretary. (7147)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL
HOUSE SURGEON in General Surgery
(Male or female)
Required for post vacant March 2. Post recognized for F.R.C.S. Salary on national scale. Applications, stating age, qualifications (with dates), and nationality, together with copies of recent testimonials, should be sent to the Administrative Officer (6650)

WESTON-SUPER-MARE GENERAL HOSPITAL (110 beds)
Applications are invited from registered medical practitioners for the resident appointment of
HOUSE OFFICER (House Surgeon)
Duties to commence March 1, 1952. Salary at the rate of £350 to £400 per annum, according to previous posts held, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be addressed to the Secretary, Weston-super-Mare Hospital Management Committee, c/o The General Hospital, Weston-super-Mare. (7270)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL
HOUSE SURGEON in General Surgery
Required immediately. Post recognized for F.R.C.S. Salary on national scale. Applications, stating age, experience, qualifications (with dates), nationality, together with copies of recent testimonials, should be sent to the Administrative Officer. (7001)

WOLVERHAMPTON, NEW CROSS HOSPITAL
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER
(General Surgery)
Vacant now. Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7223)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICERS
(General Surgery)
Vacant February 16. Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7220)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital, to commence immediately. Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (5668)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full consultant staff)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
which is vacant immediately and recognized under F.R.C.S. regulations. Salary £350 per annum for first post, £400 for second post, £450 for third post, less £100 for residence. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (7202)

CASUALTY

ROYAL NORTHERN HOSPITAL
Holloway, London, N.7 (285 beds)
North-West Metropolitan Regional Hospital Board
WHOLE-TIME RESIDENT SENIOR CASUALTY OFFICER (Registrar grade)
Required for one year in the first instance. Experience in practical operative surgery an advantage. The Registrar appointed would be expected to deputize for the Resident Medical Officer. Application forms obtainable from, and returnable to, the Secretary, Northern Group Hospital Management Committee, Royal Northern Hospital, London, N.7, by February 5, 1952. Candidates are welcome to visit the hospital by direct arrangement with the Assistant Secretary. (7204)

Chairman: James Fenton, CBE, MD.

MEDICAL INSURANCE AGENCY

Hon. Secretary: Henry Robinson, MD, DL, JP.

General Manager: A. N. Dixon, ACII

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NEWCASTLE-UPON-TYNE: 16 Saville Row.

GLASGOW: 134 St. Vincent Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.

Casualty—contd.

YORK, CITY HOSPITAL
(Modern general hospital of 265 beds, with full consultant staff)

Applications are invited from registered medical practitioners for the post of

CASUALTY OFFICER AND ORTHOPAEDIC OFFICER

The post is graded Junior Hospital Medical Officer. Salary £700 by £50 to £1,000 per annum. Residence is available for which a charge of £153 per annum will be made. Arrangements can be made for the person appointed to be non-resident or partly resident. Post vacant immediately. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (7203)

EVELINA CHILDREN'S HOSPITAL OF GUY'S HOSPITAL
Southwark Bridge Road, London, S.E.1

There is a vacancy for a

NON-RESIDENT, PART-TIME CASUALTY OFFICER

for five morning sessions weekly. The appointment is for six months from March 1, 1952, and for the purpose of salary is graded as Senior House Officer. Applications, accompanied by copies of three recent testimonials, should reach the hospital Secretary not later than first post on Thursday, February 7, 1952. (7274)

KING EDWARD MEMORIAL HOSPITAL, Ealing
South-West Middlesex Hospital Management Committee

SENIOR HOUSE OFFICER

Required immediately at King Edward Memorial Hospital for duty in the casualty and fracture departments. Resident at Clayponds Hospital, South Ealing, and in charge of beds there. Applications, stating age, nationality, qualifications (with dates) and details of experience, together with copies of two recent testimonials, should be sent to the Secretary of the Committee, West Middlesex Hospital, Isleworth. Closing date February 5, 1952. (7148)

DONCASTER ROYAL INFIRMARY
Doncaster Hospital Management Committee

CASUALTY OFFICER

Applications are invited from registered medical practitioners for the above whole-time post, in the grade of Senior House Officer, in accordance with the terms and conditions of service for hospital medical and dental staff. Salary at the rate of £670 per annum, from which a deduction at the rate of £130 per annum will be made for residential emoluments. Applications, stating age, education, qualifications and details of present and previous appointments (with dates), and giving names and addresses of three referees, should be forwarded to the undersigned immediately.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (6706)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee

Applications are invited from registered practitioners for appointment of

CASUALTY OFFICER

The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (7163)

HALIFAX, ROYAL INFIRMARY (301 beds)

Applications are invited for the post of

RESIDENT SENIOR HOUSE OFFICER (Male)

for duty in Casualty and Orthopaedic Departments. Applications, stating age, nationality, and experience, together with copies of three testimonials, to be forwarded to the Secretary. (7246)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds)

SENIOR HOUSE OFFICER
(Casualty and Orthopaedic Surgery Department)

required March 1. Salary £670 per annum, less deduction of £150 for board residence. One year tenure first instance. Post recognized for F.R.C.S. Busy out-patient department. Full consultant staff. Duties include control of four other residents. Applications, with testimonials, to Secretary, St. Mary's Cottage, High Wycombe, Bucks. (7058)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee

RESIDENT CASUALTY OFFICER

Required to commence duties immediately. Senior House Officer grade. Salary in accordance with the terms and conditions of service for hospital medical and dental staff, £670 a year, less £130 in respect of residential emoluments. Applications, together with copies of three recent testimonials, to be sent to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (5520)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee

Applications are invited from registered practitioners for the post of

SENIOR HOUSE OFFICER

to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary (5418)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds)
South Warwickshire Hospital Group

Applications are invited for the post of

RESIDENT CASUALTY OFFICER

This incorporates the House Surgeon to the Orthopaedic and Traumatic Injury Department and a small amount of V.D. work. The salary is that of Senior House Officer, i.e., £670 per annum. Terms and conditions of service in accordance with those laid down for hospital medical staff. Apply as soon as possible to Miss V. Wells, Assistant Secretary, Warneford General Hospital. (5045)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee

Applications are invited for the appointment of either

RECEIVING ROOM OFFICER

Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or

CASUALTY OFFICER

Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant.

Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

NOTTINGHAM, GENERAL HOSPITAL

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER (Casualty)

Duties to commence as soon as possible. Salary £670 per annum, less £150 emoluments. Terms and conditions of service as published by the Ministry. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (4819)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

RESIDENT SENIOR HOUSE OFFICER

for the Area Accident and Orthopaedic Department vacant now. Duties, which include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROTHERHAM, DONCASTER GATE HOSPITAL
(155 beds)

SENIOR HOUSE OFFICER
duty in Casualty, E.N.T. and Eye Departments

Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (6612)

ROTHERHAM, DONCASTER GATE HOSPITAL
(155 beds)

SENIOR HOUSE OFFICER
(Casualty and Orthopaedic)

Salary £670 per annum, less £140 per annum residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (7002)

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S., England)

Applications are invited for the resident post of

SENIOR HOUSE OFFICER
(Casualty Department)

Vacant April 1, 1952. Applications, giving full details of age, nationality, qualifications, present and previous appointments, with dates, and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary (7059)

WORCESTER ROYAL INFIRMARY (300 beds)

Applications are invited for the post of

CASUALTY OFFICER

The post is of Senior House Officer status, becomes vacant on May 23, and is tenable for one year. Conditions are in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of three testimonials, to be sent by February 18 to the Secretary, from whom further particulars can be obtained. (7240B)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group 15 Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for appointment of

CASUALTY OFFICER
(Resident or non-resident)
(Senior House Officer status)

Duties to be from 9 a.m. to 5 p.m. each day, except Saturday, which should be 9 a.m. to 1 p.m., and the applicant may be required to do one week-end's duty in each month. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7123)

BATTERSEA GENERAL HOSPITAL
Battersea Park, S.W.11
Battersea and Putney Group Hospital Management Committee

CASUALTY OFFICER
(Resident—House Officer Grade)

Required for six months from February 25, 1952. Applications, stating age, nationality, qualifications, and experience, with copies of two recent testimonials, to the Admin. Officer immediately. (7071)

KING EDWARD MEMORIAL HOSPITAL, Ealing
South-West Middlesex Hospital Management Committee

HOUSE OFFICER (First, second or third post) to Casualty, Orthopaedic and Fracture Departments

Vacant now. Applications, stating age, nationality, qualifications (with dates) and details of experience, together with copies of two recent testimonials, to the Secretary of the Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date February 5, 1952. (7149)

PUTNEY HOSPITAL, Lower Common, S.W.15
Battersea and Putney Group Hospital Management Committee

Applications are invited for the following post:

CASUALTY OFFICER AND E.N.T. HOUSE SURGEON (Non-resident)

Appointment commencing early March, 1952. Applications, accompanied by copies of three recent testimonials, should be sent to the Administrative Officer not later than February 29, 1952. (7152)

ST. NICHOLAS HOSPITAL
Tewson Road, Plumstead, S.E.18

CASUALTY OFFICER

Vacant February 3. Six months' appointment. Salary £350 to £450 per annum, according to experience, less £100 per annum for residence. Apply to Sec., Memorial Hosp., Woolwich, S.E.18. (6774)

BANBURY, HORTON GENERAL HOSPITAL
(170 beds)

CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON

Required immediately. Post tenable six months in first instance. Salary from £350, according to experience. Applications, stating age, nationality, qualifications and names of two referees, to the Secretary, Hospital Management Committee, Horton General Hospital, Banbury, Oxon. (4100)

BURY ST. EDMUND'S, WEST SUFFOLK GENERAL HOSPITAL (289 beds)
West Suffolk Hospital Management Committee

HOUSE SURGEON
for Casualty and Orthopaedic duties

Post recognized for Fellowship of Royal College of Surgeons. National Health Service terms and conditions of service and salary apply. Appointment initially for six months. Post vacant mid-February. Applications, including the names of three referees, to the House Governor. (5631)

HASTINGS, ROYAL EAST SUSSEX HOSPITAL
(150 beds)
Hastings Group Hospital Management Committee

CASUALTY HOUSE OFFICER

Post now vacant. National scales of salary. Applications to be sent to the Administrator at the hospital. (7003)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee

Applications are invited for the post of

CASUALTY OFFICER

Vacant now. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for residential emoluments. The post will be tenable for six months and terminable by one month's notice either side. Forms of application from the Administrative Officer. (6325)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee

CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN

Busy Casualty Department. Good scope for medical experience. Applications immediately to the Secretary, Hospital Management Committee. (7070)

PRESTON ROYAL INFIRMARY (400 beds)

CASUALTY OFFICER (House Officer grade)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (5917)

Casualty—contd.

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
CASUALTY HOUSE SURGEON
Post now vacant. National salary and conditions of service. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6447)

SOUTH SHIELDS, INGHAM INFIRMARY
(158 beds)
Applications are invited from registered medical practitioners for the post of
CASUALTY OFFICER "SPECIALS" HOUSE SURGEON (First or second post)
which is now vacant. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Secretary. (7205)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER
(Junior Casualty Officer)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7221)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

PUBLIC HEALTH

(See Important Notice page 19)

BIRMINGHAM, CITY OF, EDUCATION COMMITTEE
Applications are invited for appointment of
ASSISTANT SCHOOL MEDICAL OFFICER
in the School Health Service
Candidates must have had at least three years' experience in the practice of their profession subsequent to obtaining a registrable qualification. Salary £850 by annual increments of £50 to £1,150 per annum. Previous experience in local Government service may be taken into account. Travelling expenses allowed. Forms of application (to be returned not later than Monday, February 11), together with further information, obtainable from the undersigned on receipt of a stamped, addressed foolscap envelope. Communications should be endorsed "Assistant School Medical Officer." Canvassing will disqualify.—E. L. Russell, Chief Education Officer, Education Office, 74/5, Broad Street, Birmingham, 15. (6896)

CHESHIRE COUNTY COUNCIL
Urban District of Nantwich
Rural District of Nantwich
MEDICAL OFFICER OF HEALTH AND DIVISIONAL MEDICAL OFFICER
Applications are invited from registered medical practitioners holding a Diploma in Public Health, or similar registered qualification, for the above permanent whole-time appointment. The salary attaching to the appointment is £1,561 7s. 3d. by £55 13s. 7d. to £1,784 1s. 9d. by £32 9s. 1d. to £1,915 18s. 2d. Candidates must possess administrative ability and have a sound knowledge and experience of the public health services. The person appointed will not be permitted to engage in private practice. The appointment will be subject to the Local Government Superannuation Act, 1937, and the successful applicant will be required to pass a medical examination. Applications, marked "M.O.H.," stating age, qualifications and experience, together with the names of three persons to whom reference may be made, should be delivered to the Clerk of the Nantwich Divisional Health Committee, Stapeley House, Stapeley, Nantwich, not later than Saturday, February 23, 1952.—Arnold Brown, County Medical Officer; F. E. Davenport, Clerk of Nantwich Divisional Health Committee. (7211)

CROYDON, COUNTY BOROUGH OF
DEPUTY MEDICAL OFFICER OF HEALTH AND DEPUTY SCHOOL MEDICAL OFFICER
Applications are invited for this appointment from male registered practitioners with a Diploma of Public Health, and previous experience in a Public Health Department. The duties will be partly administrative, and partly clinical. Salary £1,470 per annum, rising by annual increments of £100, and a final one of £50 per annum, to a maximum of £1,720 per annum. Applications, on forms obtainable from the Medical Officer of Health, 45, Wellesley Road, Croydon, must be returned to him by February 2, 1952. No living accommodation is offered. Canvassing will disqualify.—E. Taberner, Town Clerk. (6887)

COVENTRY EDUCATION COMMITTEE
ASSISTANT SCHOOL MEDICAL OFFICER and ASSISTANT MEDICAL OFFICER OF HEALTH
(Male)
Applications are invited for the above post from registered medical practitioners, preferably under 40 years of age. The possession of a Diploma in Public Health will be an advantage. The duties are mainly in connexion with the medical inspection and clinic treatment of school children, and such other duties as the School Medical Officer may from time to time direct. The salary payable will be £850, rising by annual increments of £50 to a maximum of £1,150 per annum. In deciding the commencing salary, account will be taken of previous experience and qualifications. The post is superannuable, the successful candidate will be required to pass a medical examination and to contribute to the Coventry Municipal Officers' Widows' and Orphans' Pensions Fund. Applications (no forms provided), stating age, qualifications and experience, and enclosing copies of two recent testimonials, should reach the undersigned as soon as possible.—W. L. Chinn, Director of Education, The Council House, Coventry. (7004)

CUMBERLAND COUNTY COUNCIL
MILLOM RURAL DISTRICT COUNCIL
Applications are invited for the mixed appointment of
MEDICAL OFFICER OF HEALTH
Millom Rural District Council, and
ASSISTANT COUNTY MEDICAL OFFICER
at a salary within the range of £1,192, rising by six increments to £1,500 under the Industrial Court award (2321), plus travelling, subsistence, etc., allowances. Applicants should be registered medical practitioners holding a Diploma in Sanitary Science, Public Health or State Medicine. Further particulars and forms of application may be obtained from the County Medical Officer, 11, Portland Square, Carlisle, to whom applications should be submitted before February 14, 1952.—G. N. C. Swift, Clerk of the County Council. W. N. Kitchin, Clerk to the Millom Rural District Council. (6713)

MIDDLESEX COUNTY COUNCIL
County Health Department
SENIOR ASSISTANT MEDICAL OFFICER
(Female)
Required initially in Area 10 (Twickenham, Feltham, Staines and Sunbury). Responsible for some of the administrative work in health visiting, midwifery, home nursing and day nursery services, and some clinical work. Must be prepared, if required, to undertake also duties of Medical Officer of Health or Deputy of one or more of the County Districts in Area, in which case salary would be amended as appropriate nationally negotiated scale. Established, pensionable, whole-time post. Subject to medical assessment and prescribed conditions. Salary as Whitley Council, £1,150 by £50 to £1,400 per annum inclusive. Previous service in same grade would be considered in determining commencing salary. Applications (no forms), stating age, qualifications, experience, two referees, to Area Medical Officer, Elmfield House, High Street, Teddington, by February 16 (quoting K.394 B.M.J.). Canvassing disqualifies.—C. W. Radcliffe, Clerk of the County Council. (7156)

MIDDLESEX COUNTY COUNCIL
County Health Department
DEPUTY AREA MEDICAL OFFICER
Required, initially in Area 8 (Hayes/Harlington, Ruislip-Northwood, Uxbridge, Yiewsley/West Drayton) for administrative and clinical duties mainly in connexion with National Health Service and Education Acts. Must be prepared, if required, to undertake also duties of Medical Officer of Health or Deputy of one or more of the County Districts in Area, in which case salary would be amended in accordance with appropriate nationally negotiated scale. Degree or Diploma in State Medicine or Public Health and practical experience of public health administration essential. Whole-time, established. Subject to medical assessment and prescribed conditions. Salary £1,200 by £50 to £1,500 per annum inclusive. Applications, stating age, qualifications, experience, two referees, to Area Medical Officer, Local County Offices, High Street, Uxbridge, by February 23 (quoting K.364 B.M.J.). Canvassing disqualifies.—C. W. Radcliffe, Clerk of the County Council. (6897)

READING, COUNTY BOROUGH OF
Applications are invited from duly qualified registered medical practitioners for the post of
ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER
The duties will be mainly in connection with the Maternity and Child Welfare Service and the School Health Service, but the person appointed will be expected to carry out such duties as may be allotted to him by the Medical Officer of Health. There is opportunity for experience in the Clinical Departments of the local hospitals. The salary will be on an appropriate step of the scale, £850 by £50 to £1,150 per annum, according to experience and qualifications. Further particulars can be obtained from the Medical Officer of Health, Town Hall, Reading, to whom forms of application should be returned not later than three weeks after the appearance of this advertisement.—G. F. Darlow, Town Clerk. (7250)

NORTHUMBERLAND COUNTY COUNCIL
Applications are invited from registered medical practitioners for the appointment of an
ASSISTANT COUNTY MEDICAL OFFICER
to undertake duties in connexion with maternity and child welfare. Salary will be in accordance with the scale £850, rising by annual increments of £50 to £1,150 per annum, previous experience being taken into consideration in determining the commencing salary. Travelling and subsistence allowances will be paid in accordance with the Council's scale when the officer appointed is required to be away from the normal centre which, in this case, will be Blyth. The appointment is subject to superannuation, and will be determinable by three months' notice on either side. The successful candidate will be required to pass a medical examination. Forms of application may be obtained from the undersigned, and must be returned, accompanied by names of three referees, not later than January 31, 1952.—John B. Tilley, County Medical Officer, County Hall, Newcastle-upon-Tyne, 1. (6888)

ROTHERHAM, COUNTY BOROUGH OF
Health Department
Applications are invited from registered medical practitioners for the appointment of
ASSISTANT MEDICAL OFFICER OF HEALTH and ASSISTANT SCHOOL MEDICAL OFFICER
at a salary within the scale £850 per annum by annual increments of £50 to a maximum of £1,150. The duties will chiefly concern school health and child welfare services. Forms of application and conditions of appointment may be obtained from the Medical Officer of Health, Municipal Offices, Rotherham, and must be returned to the undersigned, endorsed "Assistant Medical Officer," within 14 days of the appearance of this advertisement. Canvassing will disqualify.—John S. Wall, Town Clerk, Municipal Offices, Rotherham. (6982)

SMETHWICK, COUNTY BOROUGH OF
Applications are invited from registered medical practitioners for the post of
ASSISTANT MEDICAL OFFICER OF HEALTH and ASSISTANT SCHOOL MEDICAL OFFICER
The duties will consist mainly of work in connexion with maternity and child welfare and school medical inspection. The duties will also include such other public health work as the Medical Officer of Health may direct. Salary will be on the scale £850 per annum, rising by £50 annually to a maximum of £1,150 per annum. The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. The appointment will be subject to two months' notice on either side. The officer appointed may, if desired, be offered the tenancy of an unfurnished flat. Forms of application may be obtained from the Medical Officer of Health, Public Health Department, Hales Lane, Smethwick, to whom they should be returned within two weeks of the publication of this advertisement.—E. L. Twycross, Town Clerk, Council House, Smethwick. (7157)

STOKE-ON-TRENT, CITY OF, EDUCATION COMMITTEE
Applications are invited from fully qualified registered medical practitioners for the post of
WHOLE-TIME ASSISTANT SCHOOL MEDICAL OFFICER
Salary scale £850 to £1,150 per annum by annual increments of £50. The duties will consist of routine medical inspection in schools and clinic work. Experience in refraction work is desirable. The appointment is subject to the provisions of the National Health Service (Superannuation) Regulations and is terminable by one month's notice on either side. The successful candidate will be required to pass a medical examination. Forms of application, which may be obtained from the undersigned, should be completed and returned as soon as possible.—H. Dibden, Chief Education Officer, Town Hall, Hanley, Stoke-on-Trent. (6971)

INDUSTRIAL APPOINTMENTS

NATIONAL COAL BOARD, DURHAM DIVISION.—Applications are invited from registered practitioners for a full-time appointment as a **Medical Officer** in the Durham Division of the National Coal Board. The duties will embrace the normal functions of Industrial Medical Officer. The successful candidate will be allocated to an area and will be responsible for the organization and supervision of the medical and first-aid services at the collieries in that area. Candidates should have had experience in general practice and/or in the field of preventive and industrial medicine. Knowledge of the coalmining industry, though not essential, will be an advantage. Salary will be within the range of £1,250 to £1,900, according to qualifications, age, and experience. Applications, giving full particulars of age, qualifications, experience, in chronological order, present post and salary, together with the names of three referees, or three testimonials, should be sent to the Establishments Officer, National Coal Board, "D" Floor, Milburn House, Newcastle-upon-Tyne, 1, within fourteen days of the appearance of this advertisement. Original testimonials should not be sent.

Industrial Appointments—contd.

NATIONAL COAL BOARD. EAST MIDLANDS DIVISION.—Group Medical Officer. Staff vacancy No. 165. Applications are invited from registered medical practitioners for a full-time post as Group Medical Officer in the East Midlands Division of the National Coal Board. Candidates should have a good clinical background, including some experience of general practice. Experience in the field of preventive and/or industrial medicine will be an advantage, as will a knowledge of the coal mining industry. The salary range for this appointment is £1,250 to £1,900 per annum and the successful applicant will enter this range at a point appropriate to his qualifications and experience. Applications, giving full particulars of age, qualifications and experience and two references, should be sent not later than fourteen days after publication of this advertisement to the Secretary, National Coal Board, East Midlands Division, Sherwood Lodge, Arnold, near Nottingham. Envelopes and applications to be marked "S.V. 165." Original testimonials should not be sent. (7158)

NATIONAL COAL BOARD, NORTH-WESTERN DIVISION.—Applications are invited for the two posts of **Medical Officer** to the No. 2 (Wigan) Area and the No. 3 (St. Helens) Area). The work will include making underground visits to collieries. Candidates should have experience in the field of preventative and industrial medicine; knowledge of the coalmining industry will be an advantage. Salary will be according to qualifications and experience, within the range of £1,250 to £1,900. Applications, giving age, education, qualifications, experience, present appointment and salary, together with the names of two referees, should be sent to the Divisional Establishment Officer, National Coal Board, 40, Portland Street, Manchester 1, by February 11, 1952. (7247)

FACTORY DOCTORS
FACTORIES ACTS, 1937 and 1948

The following appointment as Appointed Factory Doctor under the Factories Acts, 1937 and 1948, is vacant: Linlithgow, in the County of West Lothian. Applications, which should be received not later than February 9, 1952, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

OVERSEAS

CAPE TOWN, South Africa

A medical practice of long standing in a delightful suburb. Afrikaans not necessary. Doctor's home included in the sale. This practice will suit a gentile doctor. For particulars write H. Andrews, P.O. Box 3186, Cape Town, South Africa.

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

ALBANY HOSPITAL, Albany, N.Y.

Residency in tuberculosis available at Albany Hospital, Albany, New York, associated with Albany Medical College, beginning July 1, 1952, for a period of twelve months. Salary ranges from $1,800 to $2,400. (9920)

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

ALBANY HOSPITAL, Albany, N.Y.

Internships and residencies available in Albany Hospital, Albany New York, 750-bed general hospital, directly associated with Albany Medical College House officers receive appointments in medical school. Salaries range from a minimum of $300 a year for interns to $1,400 a year for residents. Details on request. (9695)

DANBURY HOSPITAL
Danbury, Connecticut, U.S.A.

Medical and Surgical Residents as well as **four to six Assistant Residents and House Officers** are wanted in a newly reorganized 200-bed hospital in Southern New England. Certified specialists head the services of internal medicine, surgery, X-ray, paediatrics and sub-specialities. Hospital is approved by the A.M.A. Honorarium $250.00 plus food and lodging (monthly). For applicants unable to provide own transportation at this time, arrangements can be made for loans to be deductable from the monthly honorarium paid by the hospital. Student visa only necessary. Address, Administrator (7271)

GREY HOSPITAL, Greymouth, New Zealand
PATHOLOGIST

Applications from registered medical practitioners with training and experience in pathology are invited for the above position. Commencing salary at rate of £1,260 to £1,660 (N.Z.) per annum, according to qualifications and experience. A new laboratory is in course of erection. The position is non-resident and housing will be appointee's own responsibility. Annual leave and sick leave are prescribed in regulations. Reasonable travelling expenses incurred by an overseas appointee will be refunded up to £150 for single man and £400 for married man accompanied by dependent relatives. The appointment is terminable by three months' notice on either side. Applicants are advised to obtain further particulars from the office of the High Commissioner for New Zealand, 415, Strand, London, W.C.2. Applications (by air mail) close with the undersigned on March 31, 1952.—W. H. J. Watson, Managing Secretary, Grey Hospital Board, Greymouth, New Zealand. (6757)

HIS MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom, with one or more years' experience after qualification, are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH

for general medical and health duties. A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan medical service. Appointment is available (a) on probation for permanent establishment, (b) on employment from the National Health Service, and (c) on short term contract with gratuity (a) **Permanent terms.** Subject to three years probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore) Note. Doctors with more than one year's approved experience after age 25 (including service in His Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g. F.R.C.S., M.R.C.P., D.P.M., D.A., etc.) (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malayan salary on leaving Malaya at the end of their engagements. Emoluments as under (a) including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their Colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service, renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a) including incremental credit for experience and higher qualifications as in note under (a) In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e. those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates which are lower than those in the United Kingdom Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No 27215/242/51). (5187)

SOUTH GEORGIA

Wanted immediately, **Doctor for a Whaling Station at South Georgia.** Higher qualifications necessary. Salary £100 per month, board and lodging provided Applications to Medical Superintendent, Chr. Salvesen and Co., 29, Bernard Street, Leith.

OTAGO HOSPITAL BOARD
Dunedin Hospital and University of Otago

Applications are invited for the position of

HALF-TIME OPHTHALMIC SURGEON
to the Department of Ophthalmology at Dunedin Hospital

Salary, commencing at a rate between £800 to £1,000 per annum, according to qualifications and subsequently according to the Hospital Employment Salary Regulations shortly to be issued. Salary will commence on assuming duty at Dunedin Hospital. Full details may be obtained on application to the office of the High Commissioner for New Zealand, 415, The Strand, London, or to the office of this *Journal*. Applications, stating age, qualifications, postgraduate experience, accompanied by copies of testimonials, a certificate of health and radiological certificate and testimonials, will be received by the undersigned until 10 a.m. on February 20.—W. A Williamson, Secretary, Otago Hospital Board, P.O. Box 453, Dunedin. (6902)

UNIVERSITY APPOINTMENTS

CRICHTON ROYAL FELLOWSHIPS

The Board of Management of the Crichton Royal have established three Fellowships for the training of specialists in psychiatry, each carrying a salary of £670, less a deduction of £150 for the usual residential emoluments. Two of these Fellowships will fall vacant on April 1, 1952. The Fellows receive training in all branches of clinical psychiatry, including work in out-patient and child guidance clinics, by the senior members of the medical staff. The Fellowships are tenable for one year but may be prolonged for another year Previous general hospital experience essential. Application form and syllabus are obtainable from the Physician Superintendent, Crichton Royal, Dumfries. (6779)

NUFFIELD FOUNDATION

The Nuffield Foundation invites applications from citizens of the United Kingdom for

FELLOWSHIPS AND SCHOLARSHIPS IN DENTISTRY

To help the advancement of teaching and research on dental health and disease, the Foundation is prepared to award a number of Fellowships (i) to enable selected men and women with dental qualifications to receive such additional training in pure and applied science as is desirable to fit them for an academic career in dentistry, and (ii) to enable selected university graduates in medicine and science to receive training that will qualify them to undertake teaching and fundamental research on dental health and disease. The Foundation is also prepared to award a limited number of Scholarships to assist students of outstanding ability attending a university dental school to devote one or two years to further studies of the basic sciences. Applications for fellowships should be received by March 1 annually and for scholarships by June 30 annually Copies of the conditions of both fellowships and scholarships and the application forms are obtainable from the Secretary, The Nuffield Foundation, 12 and 13, Mecklenburgh Square, London, W.C.1.—L. Farrer-Brown, Secretary of the Nuffield Foundation. (7124)

UNIVERSITY OF BELFAST

Applications are invited for a

LECTURESHIP IN PHYSIOLOGY

at the Queen's University of Belfast. Salary £1,300 by £50 to £1,750, plus provision for superannuation. Initial placing on the scale is dependent on experience and qualifications. The lecturer will have special responsibility for dental students. A dental qualification is not necessary. Applications should be received by March 30, 1952 Particulars from G. R. Cowie, M.A., LL.B., Secretary. (7248)

UNIVERSITY OF SHEFFIELD

Applications are invited for the

J. G. GRAVES MEDICAL RESEARCH FELLOWSHIP

of £1,300 a year, tenable normally for three years The Fellow is required to carry out full-time medical research in one of the Departments, clinical or other, of the University of Sheffield, or in a teaching hospital associated with the University. Applications (six copies), indicating the line of research proposed by the applicant, and including the names and addresses of three referees, and, if desired, copies of not more than three testimonials, should reach the Registrar, The University, Sheffield, 10 (from whom further particulars may be obtained), by February 23, 1952. Official application forms are not provided In certain circumstances an appointment to a Junior Fellowship at a lower stipend is not excluded.—A W. Chapman, Registrar. (7249)

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

PERSONAL

AIR AMBULANCE TRANSPORT, MORTON Air Services, Ltd., Croydon Airport and Bristol Airport.—Croydon 7171-3. Bristol 26751. Night, Wallington 7832.

NOTICES

APPLICANTS ARE ADVISED NOT TO SEND original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

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OBSTETRICS (D.OBST.R.C.O.G.). FEBRUARY 11 to 16. All day. West Middlesex Hospital, Isleworth. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

GENERAL MEDICINE (M.R.C.P.). FEBRUARY 4 to March 14, 5 to 8.30 p.m. daily. Lectures, clinical cases, pathology, X-rays. Whittington Hospital (Archway Wing). Limited. Apply Fellowship of Postgraduate Medicine, 60, Portand Place, London, W.1. Langham 4266.

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A course lasting twelve weeks, suitable for graduates wishing a refresher course, or to specialize in medicine, begins on March 31, 1952. These courses consist of 320 hours' instruction, comprising lectures, clinical demonstrations and ward visits. A similar course begins on September 29, 1952. Fee £31 10s.

Additional instruction in Clinical Paediatrics is arranged in conjunction with the course in Medicine, for which there is a small fee; the numbers are limited.

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A three months' course in Applied Anatomy, Physiology, Pathology, Bacteriology and Biochemistry will begin on June 30, 1952. This course is suitable for postgraduates wishing to take the Primary Fellowship examination, as a final preparation in these subjects. Considerable basic knowledge is highly desirable prior to taking this course. Fee £31 10s.

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The nineteenth Fortnight General Refresher course for N.H.I. practitioners will start on May 5, 1952. Fee for graduates not claiming expenses from Government sources, 10 guineas.

Applications for enrolment should be addressed to Director of Postgraduate Studies, Surgeons' Hall, Edinburgh, 8. Applicants for courses, except general practitioners, should supply particulars of qualifications and postgraduate experience.

COURSE IN THERAPEUTICS
AT THE
INSTITUTE OF ORTHOPAEDICS
FEBRUARY 18–26, 1952

MONDAY, FEBRUARY 18—TOWN SECTION		
10.00–11.00	Rest	MR. H. J. BURROWS
11.15–12.30	Movement	MR. H. J. BURROWS
12.45	Lunch	
2.00–3.00	Manipulation	MR. R. Y. PATON
TUESDAY, FEBRUARY 19—COUNTRY SECTION		
10.00–11.00	Orthopaedic Appliances	MR. J. A. CHOLMELEY
11.15–12.15	Orthopaedic Appliances	MR. W. TUCK
12.45	Lunch	
2.00–4.00	Clinical Demonstration	MR. H. J. SEDDON
4.00	Tea	
WEDNESDAY, FEBRUARY 20—COUNTRY SECTION		
10.00–11.00	Plaster-of-Paris Technique	MR. F. J. HEDDEN
11.15–12.30	Chemotherapy	DR. F. H. STEVENSON
12.45	Lunch	
2.00–3.45	Clinical Demonstration	MR. A. T. FRIPP
4.00	Tea	
4.15–5.15	Chemotherapy	DR. C. H. LACK
THURSDAY, FEBRUARY 21—TOWN SECTION		
10.00–12.30	Principles in Treatment of Fractures	MR. D. TREVOR
12.45	Lunch	
2.00–3.00	Operative Exposure of Bones and Joints	MR. J. I. P. JAMES
3.00–4.00	Operative Surgery of the Hand	MR. J. I. P. JAMES
4.00	Tea	
4.15–5.15	Plastic Surgery in Orthopaedics	MR. D. N. MATTHEWS
FRIDAY, FEBRUARY 22—TOWN SECTION		
10.00–12.30	Use and Abuse of Metal for Internal Fixation	MR. K. I. NISSEN
12.45	Lunch	
1.45–2.45	Arthodesis	MR. V. H. ELLIS
3.00–4.00	Arthroplasty	MR. P. H. NEWMAN
4.00	Tea	
SATURDAY, FEBRUARY 23—TOWN SECTION		
10.00–11.30	Plastic Surgery in Orthopaedics	MR. D. N. MATTHEWS
MONDAY, FEBRUARY 25—TOWN SECTION		
10.00–12.00	Clinical Demonstration (Nerve injuries clinic)	MR. D. M. BROOKS
12.45	Lunch	
2.00–4.00	Pathological Demonstration	DR. A. D. THOMSON
4.00	Tea	
TUESDAY, FEBRUARY 26—COUNTRY SECTION		
10.00–12.00	Tendon Transplantation	MR. D. M. BROOKS
12.45	Lunch	
2.00–4.00	Treatment of Poliomyelitis	MR. H. J. SEDDON
4.00	Tea	

The fee for the course (including lunch and tea) is 10 gns. Early application should be made to the Dean at 234, Great Portland Street, London, W.1. (5766)

SPECIAL COURSE IN CARDIOLOGY

to be held at the INSTITUTE OF CARDIOLOGY, National Heart Hospital, Westmoreland Street, W.1.
FEBRUARY 25–MARCH 7, 1952

		9.30 a.m.	11 a.m.	2 p.m.
Mon.	Feb. 25	Radiology in Heart Disease DR. MAURICE CAMPBELL	Rheumatic Heart Disease DR. PAUL WOOD	Clinical Demonstration DR. GRAHAM HAYWARD
		10.15 a.m.		
Tues.	„ 26	Ward Teaching		Clinical Demonstration DR. PAUL WOOD
Wed.	„ 27	Clinical Demonstration DR. WALLACE BRIGDEN		Clinical Demonstration DR. MAURICE CAMPBELL
		9.30 a.m.	11 a.m.	
Thurs.	„ 28	Neurotic Heart Disease DR. D. EVAN BEDFORD	Congenital Heart Disease I DR. GRAHAM HAYWARD	Clinical Demonstration DR. D. EVAN BEDFORD
Fri.	„ 29	Principles of Auscultation DR. AUBREY LEATHAM	Disorders of Rate and Rhythm I DR. WILLIAM EVANS	Clinical Demonstration DR. WILLIAM EVANS
Mon.	Mar. 3	Heart Disease in Pregnancy DR. MAURICE CAMPBELL	Pulmonary Hypertension DR. PAUL WOOD	Clinical Demonstration DR. GRAHAM HAYWARD
		10.15 a.m.		
Tues.	„ 4	Clinical Demonstration DR. AUBREY LEATHAM		Clinical Demonstration DR. PAUL WOOD
Wed.	„ 5	Ward Teaching		Clinical Demonstration DR. MAURICE CAMPBELL
		9.30 a.m.	11 a.m.	
Thurs.	„ 6	Syncope DR. D. EVAN BEDFORD	Congenital Heart Disease II DR. GRAHAM HAYWARD	Clinical Demonstration DR. D. EVAN BEDFORD
Fri.	„ 7	Ischaemic Heart Disease DR. WALLACE BRIGDEN	Disorders of Rate and Rhythm II DR. WILLIAM EVANS	Clinical Demonstration DR. WILLIAM EVANS

The fee for this course is £12 12s. Applications to be addressed to the Dean, 35, Wimpole Street, W.1. (7125)

ANAESTHETICS.—A COURSE OF 40 LECtures in Anaesthetics will be given at the College from March 24 to April 4, 1952. Fee £15 15s. A series of Tutorials in Anaesthetics will be held during the same period and will consist of ten one-hourly sessions commencing 5.30 p.m. Fee £10 10s. For further details, apply to the Secretary, Faculty of Anaesthetists, Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C.2. (HOLborn 3474).

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330-332, Gray's Inn Road, London, W.C.1
(University of London)

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in association with St. Peter's, St. Paul's and St. Philip's Hospitals
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March 3 to April 30, 1952

The course will include systematic lectures and demonstrations, covering the whole subject, out-patient clinics and weekly ward rounds. Fee for the course is 12 guineas. Applications to the Dean, Institute of Urology, c/o St. Paul's Hospital, Endell Street, W.C.2. (6834)

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King George V Hospital for Diseases of the Chest, Godalming, Surrey
February 27, 28, and 29. June 4, 5, and 6. October 1, 2, and 3.

Red Cross Sanatoria of Scotland (Tor-na-Dee and Glen o'Dee)
March 19, 20, and 21. May 21, 22, and 23. October 15, 16 and 17.

The fee for each course is three guineas, and applications should be sent to the Secretary, Tuberculosis Educational Institute, Tavistock House North, Tavistock Square, London, W.C.1. (6731)

UNIVERSITY OF ST. ANDREWS
Diploma in Public Health
Diploma in Public Dentistry
The University of St. Andrews offers Courses leading to the Diploma in Public Health and the Diploma in Public Dentistry and these courses will be resumed in October, 1952, provided sufficient enrolments are received. Full particulars as to the courses, fees, etc., may be obtained from the Secretary of the University, but applications for admission should be made to the Dean of the Faculty of Medicine, Medical School, Dundee.—David J. B. Ritchie, Secretary, The University, St. Andrews. (7275)

LECTURES

GRESHAM COLLEGE, BASINGHALL STREET, London, E.C.2.—Four lectures by Professor H. Hartridge, M.A., M.D., Sc.D., M.R.C.P., F.R.S. (Gresham Professor in Physic), on **"The Physiology of the Brain,"** Monday to Thursday, January 28 to 31. The lectures are free and begin at 5.30 p.m. (7209)

UNIVERSITY OF LONDON.—A LECTURE ON "The Physiopathology of Glucose Excretion by the Human Kidney" will be given by Professor P. Govaerts (Brussels) at 5.30 p.m. on January 31 at Westminster Medical School (Meyerstein Lecture Theatre), Horseferry Road, S.W.1. Admission free, without ticket.—James Henderson, Academic Registrar. (7208)

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Bon Secours Hospital, Cork, Eire.—Laboratory Technician required. Applicants must be either Associates or Fellows I.M.L.T. Salary £500 by £20 to £600. Applications, stating age, experience, with two recent testimonials, to Pathologist at above address.

King Edward Memorial Hospital, Ealing. South-West Middlesex Hospital Management Committee. Applications are invited for the post of **Histological Technician.** Vacant February 4, 1952. Candidates should be Associates of the Institute of Medical Laboratory Technology holding a Diploma in Histology, but consideration will be given to candidates holding the Intermediate Diploma. Salary and conditions in accordance with Whitley Council scales. Applications, in writing, stating age, experience and names of two referees, to the Pathologist in charge at the hospital. (7150)

Northern Ireland Hospitals Authority.—Applications are invited from suitably qualified persons for the post of **Senior Medical Laboratory Technician** for duty in the Authority's Londonderry Laboratory. Salary £495 per annum, rising by annual increments of £20 to £555 per annum, and thence by one further increment of £25 to a maximum of £580 per annum. Candidates must be qualified and experienced technicians who are University graduates or hold the Fellowship of the Institute of Medical Laboratory Technology (or equivalent qualification). Applications, stating age, qualifications and experience, together with the names of two persons from whom confidential reports may be sought, to be received by the Secretary, Northern Ireland Hospitals Authority, 58, Howard Street, Belfast, not later than February 15, 1952. The persons appointed will be officers of the Northern Ireland Hospitals Authority and their salaries will be subject to deductions for superannuation under regulations made under the Health Services Act (Northern Ireland), 1948. It is the Authority's policy to give preference to candidates who have served in His Majesty's Forces in war-time. Canvassing, either directly or indirectly, will be an absolute disqualification. Any approach to a member of the Authority or a member of a Committee of the Authority, in writing or otherwise, by or on behalf of any applicant will be regarded as canvassing. (7210)

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St. John's Hospital, Stone, Aylesbury.—The post of Secretary to the Physician-Superintendent at this mental hospital will become vacant on March 1, 1952. Candidates must have experience in personal confidential secretarial work, and absolute accuracy in shorthand-typing. Knowledge of medical terms an advantage, but not essential. There are two assistant shorthand-typists. Salary in accordance with Grade "C," £335 by £15 to £425 per annum. Post subject to National Health Service (Superannuation) Regulations, and successful candidate will be required to submit a satisfactory medical certificate. Residential accommodation available at a reasonable charge. Applications, with particulars and names and addresses of two referees, should be sent to the Physician-Superintendent forthwith. (7060)

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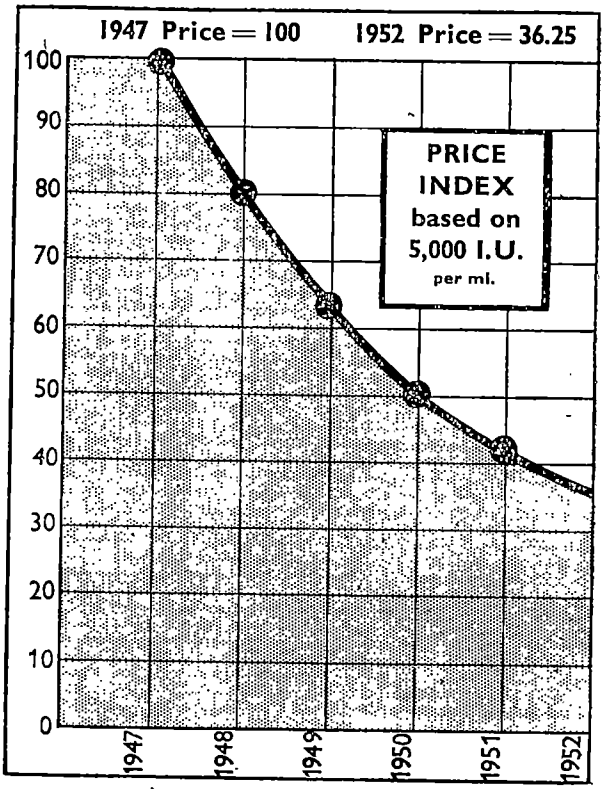

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY FEBRUARY 2 1952

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BY

RENÉ LERICHE, M.D., F.R.C.S.(Hon.)
Professeur au Collège de France

I should like to call your attention to the possibility of influencing cerebral circulation by very simple methods in cases of cerebral vascular accident caused either by embolism or by thrombosis. I shall not concern myself here with head injuries justifying surgical intervention at the site of the haemorrhage, but will refer only to medical cases in which coma can be alleviated in a few minutes and the extent of the hemiplegia considerably reduced.

I should like, too, to tell you about the hypothesis that has guided me in my clinical researches on this matter for 25 years. I started from the same general pathological principle which I tried to verify in other parts of the body : autonomic dysfunction—that is, a vasomotor disturbance—usually precedes, often causes, and practically always accompanies such a vascular accident.

In the case of the cerebral circulation, I presupposed that isolated spasm could exist, comparable to that which may be observed in the limbs. And particularly I thought that such a spasm would always accompany the occurrence of an embolism or thrombosis, causing around the ischaemic area perifocal zones of diminished circulation.

I knew that the then prevailing ideas did not take into consideration the possibility of vasomotor reactions in the cerebral arteries. It was claimed, with a certain degree of finality, that the brain circulation was protected from vasomotor fluctuations by some extracranial regulating system. About 1920 I undertook to investigate this question. In various clinical conditions, working mostly on war-wounded who had undergone brain surgery, I performed what I called an "internal carotid sympathectomy" ; in other words, I removed as much as I could of the tunica adventitia of the internal carotid, starting from its bifurcation. Immediately the artery would contract ; then the retinal vessels diminished in calibre and the retinal pressure dropped. After a few hours a vasodilatory reaction would be observed, evidenced by dilatation of the same retinal vessels with rising of the retinal pressures. Simultaneously the flattened trephine scars would be seen to swell. When dealing with patients with Jacksonian epilepsy due to war injuries, I would first perform this internal carotid sympathectomy under local anaesthesia, then immediately after, still under local anaesthesia, widely open the skull to excise the arachnoid cortical scar tissue. The cortical vessels of those patients were so constricted that it appeared to me that this operation should provide a means of ensuring preliminary haemostasis in brain surgery, and at the time I reported a number of operations performed in this fashion. Denervation of the carotid body gave the same results.

This substantiated the idea that the small brain arteries had their own vasomotor control. Moreover, it was histologically confirmed that the pia mater and intracerebral arterioles had a double innervation of myelinated and amyelinated fibres. This was not consistent with a total functional inactivity. At any rate, from that time on it seemed to me that it was possible to modify the activity of the cerebral blood vessels by surgical intervention, and I should like to give you two examples of what can be accomplished.

Effects of Resection of a Thrombosed Common Carotid Artery and of Pericarotid Sympathectomy in Certain Intracranial Conditions

Case 1

A 35-year-old man was sent to me in 1941 on account of a painful paralysis of the brachial plexus. Because of considerable dysarthria he had great difficulty in telling me how he was wounded by a bullet which entered through the left side of his neck and came out below the scapular region. His arm was paralysed immediately. Picked up by the Germans, he discovered that he could no longer talk. He had complete aphasia, no hemiplegia, but very unpleasant tingling sensations in the right leg. He was repatriated on account of his wound, and when I saw him I noted the following three points:

1. Complete paralysis of the deltoid, supraspinatus, infraspinatus, biceps, triceps, pronator, and supinator muscles. The movements of the hand were normal. I supposed that there must have been an injury of the upper branches of the brachial plexus. The patient complained of acute pains in the arm.

2. A considerable degree of dysarthria ; his voice was smothered, non-bitonal, and there was a slight hemiplegia on the right side.

*Being a lecture delivered at the Institute of Neurology, London, on July 3, 1951.

3. In the neck region a long scar extended over the site of the carotid junction, suggesting a carotid lesion. The most careful palpation could detect no carotid beat. It was my impression that the aphasia must have been caused by sudden ischaemia of the brain. I therefore examined the other side and found a slight but unmistakable hemiplegia with hyperaesthesia of the abdominal wall and a definite Babinski sign.

The hospital neurologist concurred in the diagnosis of definite signs of a pyramidal lesion. Examination by the laryngologist showed a paralysis of the hemilarynx with hemianaesthesia, but the difficulty of speech was ascribed to a central lesion. I therefore decided to perform a double exploratory operation: one to verify the condition of the left carotid, and another to explore the left brachial plexus.

Nineteen months after the initial injury I found the common carotid in a mass of scar tissue. In its lower part, and up to the bifurcation, the artery was like a cord filled throughout with scar tissue. Lower down, the artery had the shape of a spindle ending at the site of the obliteration, which began about 2 in. (5 cm.) from the clavicle, and a blood stream seemed to circulate from the external to the internal carotid. The vagus nerve was oedematous, and in the middle of it was a cicatricial neuroma. I injected procaine hydrochloride and resected the whole of the obliterated carotid segment. Histological examination showed an organized thrombosis.

In the evening some improvement of speech could be observed as well as a retrocession of the pain in the neck and shoulder. From this time the patient's condition continued to improve; speech became easier, and the signs of hemiplegia decreased. I shall make no mention of the laryngeal condition, of the second operation on the brachial plexus, or of the arthrodesis of the shoulder which was rendered necessary by paralysis of the deltoid.

When the patient was seen several years later his speech was almost normal and he had regained an important part of his movements. He could carry out his agricultural activities almost normally, and was married.

This case shows clearly the influence of resection of the thrombosed carotid on an old focus of cerebral ischaemia. Nothing is changed in the circulatory mechanism after the arteriectomy, and yet a great proportion of the symptoms attributable to a central lesion have decreased in a short time. This can be explained only by modifications of the vasomotor conditions comparable to those observed after performing an arteriectomy on a limb. It was my impression that the carotid had not been cut by the bullet, but had only been bruised. The endothelium had probably been torn, as I have observed on several occasions in arteries of the limbs. A spasm had certainly occurred at once, since the aphasia was immediately present. Then thrombosis set in. The circulation was re-established by a reversal of the blood stream into the external carotid, so that the ischaemia was of short duration. A zone of ischaemic necrosis resulted —at the margin of which perifocal circulatory disturbances manifested themselves—and disappeared after the arteriectomy.

Case 2

A priest was wounded on May 25, 1940. While crawling to the front lines he suddenly felt a shock, tried to stand up, and fell unconscious. He remained several days without being able to talk or move, and his hospital notes contain the following observations: "Right hemiplegia with aphasia, amnesia, visual disturbances, and meningeal reaction." When he became conscious again he could only utter some inarticulate sounds. During the next few weeks there was some improvement, and after two months he began to read and was able to make some movements. But he could not keep his attention on anything, and most of the time he could not understand what he was reading or what he was being told.

I saw him six months later, in January, 1941. About 2 in. (5 cm.) from the sternum, inside the carotid line, I found the entrance scar of the bullet, which had gone out at the back, near C 6. Carotid pulsation was present. There was evidence of a regressing right hemiplegia. The patient walked with a circular swing. He could only move his hand slowly and with difficulty. The reflexes were exaggerated, and a facial weakness was present. There was also a left Claude Bernard syndrome and a lesion of the lower branches of the brachial plexus with atrophy of the thenar and hypothenar muscles. There was anaesthesia of the C 8–T 1 territory. He had stuttering dysarthria. Ideation was slow, with lapses. The patient could not make conversation and could not follow a lecture. He forgot things, and was unable to say mass through lack of memory.

In view of the presence of carotid pulsation I felt that the ischaemia must be due to a spasm. I decided to try an infiltration of the left stellate ganglion. The result was extraordinary; in a few minutes speech improved, and ideation became easier. The rhythm of the conversation was entirely changed, and this improvement persisted until the next day.

During the next few days 11 injections were made in the stellate ganglion, all with favourable results, so that the patient was soon able to say mass again. In view of this, on January 17 I decided to operate. Under local analgesia the carotid was exposed; this artery was not obliterated, and pulsations were present above and below the scar area. At this point, however, it was immobilized by sclerosis of the tunica adventitia, which was removed entirely up to the bifurcation. The same evening the patient could speak much more easily and stated that he could think almost normally. After a few more days I noted that the improvement of both speech and ideation was maintained. Moreover, there was a definite improvement of hand movements, especially of the index and middle fingers, which could be moved independently; this had been impossible. Walking was unchanged. After 10 days the patient went home delighted with the results obtained.

Eight years later he wrote me: "I take part in discussions and in all conversations. My speech is still improving. Reading remains 50% slower than it was. My right leg is almost normal. I can ride a bicycle 30 to 40 kilometres without fatigue. My memory is quite fair, though not completely restored."

This case is very instructive. The results of the first injection in the stellate ganglion were really dramatic. In less than one minute speech was transformed, and so was ideation. All this can be accounted for only by vasomotor modification of the brain arteries, and indicates that functional disturbances were added to the original ischaemic lesion. The pericarotid sympathectomy had the same permanent results. I cannot find any other explanation than that of an arrested activity of some of the brain vasoconstrictors.

It appears, therefore, that perverted circulation in the neighbourhood of a zone of ischaemic necrosis of the brain can be modified by working on some organ outside the brain.

Local Vasomotor Autonomy of the Cerebral Arteries

To the above I wish to add some clinical observations which seem to indicate that there exists a sort of autonomy of the vasomotor vessels of the brain, although this is not a recognized fact in physiology. Pathological physiology will sometimes reveal possibilities of reactions which experimentation cannot demonstrate. At a time when the methods of haemostasis had not yet been perfected, it was possible to observe in the course of some surgical procedure, or when clipping a vessel, a sudden local vasodilatation evidenced by congestion and an immediate oedema which would hide everything from view. Similarly, in cases of trauma of the brain, small haemorrhagic zones may be observed at a distance from the site of the traumatic lesion, and

sometimes even in the brain stem or in the bulb, which can only be due to diapedetic haemorrhage of vasomotor origin.

This shows that vasomotor reactions in the brain are not always of extracerebral origin and that they may be the consequence of a local injury.

Localized or Clinical Spasms

Observation on patients suffering from disturbance of the cerebral circulation, especially those who probably have had a stroke, reveals some facts which can be interpreted only as resulting from a local spasm of the brain arteries.

First, one will occasionally find in patients suffering from high blood pressure a disappearance of the transient manifestations following a cerebral vascular accident, which cannot be accounted for by anything but excessive vasoconstriction. All of a sudden aphasia will be present, sometimes with paraesthesia of an arm or leg; then everything disappears without leaving any trace, and this for a long period. At times such manifestations will precede a stroke by several months, or even several years. In one case in which the symptoms had lasted several hours a stellate-ganglion block cleared the aphasia in a few seconds.

There are cases, too, in which coma occurs only after hours of slight paralysis. Recently I saw a 42-year-old physician who woke up one morning with a left facial paresis. He attended to his business the whole morning, had lunch as usual, carried out his customary activities in the afternoon, and went out in his car; but towards the end of the day he experienced some difficulty in driving. After he got home, paralysis progressively invaded his arm, then his leg, and finally he became comatose. The coma lasted until the next morning. He recovered from it, but the hemiplegia persisted.

These facts led me to think that in cases of accidents to the brain vessels there always is added to the thrombosis, or to the embolism, a vasomotor reaction which enlarges the field of ischaemic disturbances producing coma.

Attempts at Section of the Cervical Ramifications in Hemiplegia

On the basis of this hypothesis, in 1925 I performed a section of the communicating cervical ramifications on a patient suffering from hemiplegia. There was considerable improvement. Royle had already performed an identical operation, but his object had been to relieve the contraction, whereas my own objective was to modify the circulation. I have always expounded the principle that surgery of the sympathetic system is above all concerned with vasoconstriction.

Subsequently I made three other such operations with appreciable results. In 1936, in a case of Wallenberg (Babinski–Nageotte) syndrome with hemiparesis and hemianaesthesia, the presence of grave angina pectoris attacks induced me to perform a stellectomy. The heart attacks disappeared and there was at the same time considerable improvement of the hemiparesis, ataxia, and lateropulsion. The improvement still persisted after a year.

Attempts at Treatment of "Strokes" by Stellate-ganglion Block

In 1932 I had obtained remarkable results by performing a stellate-ganglion block in a case of hemiplegia due to birth traumatism in a young boy. This fact, added to previous observations, gave Fontaine and myself the idea of trying to treat strokes due to embolism by infiltration of the stellate ganglion. We had an occasion to do this on May 5, 1936.

On that date I was called at 8 a.m. to see an obese woman who, a week before, had undergone hysterectomy for a voluminous fibroma and who had suddenly become comatose. She did not respond to any form of stimulation. Her breathing was very irregular. Death appeared imminent. An injection was immediately made in the stellate ganglion (approximately an hour after the onset of the symptoms) on the left side, as the right limb seemed more inert than the left one. After five minutes breathing became more even and the pulse slower. Half an hour later the coma subsided and the patient responded to stimulation by groaning. In the afternoon her condition was completely changed: her breathing was no longer stertorous, and the pulse was regular. Hemiplegia still persisted, but the aphasia seemed to be regressing. The next day another injection was given, as a result of which the patient was able to speak slowly but very distinctly, without stuttering. She was also able to move her fingers very slightly. Two more injections were made in the stellate ganglion during the following days, and after each one the motility was improved. After a week speech was clear. The limbs were gradually regaining their movements, although these were still slow and spastic, and there was a persistent Babinski sign. In spite of this the hemiplegia was obviously regressing.

At the beginning of June the patient got out of bed; she dragged her leg in walking. The movements of her right arm were clumsy and slow, and she could not raise her arms above the level of the shoulders. Improvement continued during the next few weeks, and the movements of the fingers became easier.

On August 3 she was sent home with only faint traces of her hemiplegia and a perfectly normal cerebral function.

Undoubtedly the stellate-ganglion block saved this patient and promoted favourable progress. We made the mistake, both Fontaine and I, of not continuing the infiltrations, and perhaps, too, of not having given her two a day. This would probably have shortened her convalescence.

A few months later we were presented with a new case of cerebral embolism in a 56-year-old woman following removal of a uterine polyp. On the third day after the operation there appeared a slight facial paralysis with aphasia and right hemiplegia. Respiration and pulse were normal. An injection was immediately made in the stellate ganglion; half an hour later the patient could, with difficulty, pronounce a few words—she could slightly move her fingers. In the afternoon the improvement became more pronounced: speech, though still difficult, was intelligible. The movements were slow and feeble, but nevertheless present. The next day another infiltration was made, bringing about further improvement. The movements were easier and speech was improving. The next day, except for a slight difficulty in talking and some weakness of the movements on the right side, no trace of the accident to the brain was left. It would have been impossible to know that three days previously the patient had complete hemiplegia. Her reflexes had become normal again—and the recovery lasted.

These two observations were published in the *Revue de Chirurgie* in December, 1936. They did not make much impression in spite of the fact that we had suggested applying this method in cerebral vascular accidents and pointed out that it could occasionally be of great help in cases of hemiplegia of old standing, could improve speech in cases of aphasia, and could reduce the spasticity.

In 1938 Mackey and Lawrence Scott reported in the *British Medical Journal* (vol. 2, p. 1) a group of 19 cases of apoplexy treated by stellate-ganglion block. Nine of the patients showed improvement. Most of the failures were in cases of severe cerebral haemorrhage in old people; it should be noted, however, that Claude Bernard's syndrome was not always present, as it should be if the anaesthetic really reaches the stellate ganglion.

In 1948 Geza de Takats and Gibert tried this method on 25 patients who had had a stroke a few hours before. In 19 cases the results were favourable.

In August, 1950, Naffziger and Adams published in the *Archives of Surgery* (vol. 61, p. 286) a report covering 225 cases, for which a total of 700 stellate-ganglion blocks were

made; 155 of these patients had acute cerebral vascular accidents—thrombosis, embolism, or vasospasm—and 70 suffered from acute neurological deficiency due to trauma or brain surgery. The results were classified as good when recovery was complete, fair when there was only partial recovery, and poor when there was no immediate or subsequent improvement.

In the first group, comprising 155 cases, the result was good in 91 (59%), fair in 37 (24%), and poor in 27 (17%). In the second group, comprising 70 cases, the result was good in 30 (43%), fair in 30 (43%), and poor in 10 (14%). The authors' conclusion is that the stellate-ganglion block should have a definite part in the treatment of cerebral vascular disturbances.

My own experience is less extensive than Naffziger's. The following, however, is the procedure I should advise in such cases:

Make the infiltration as soon as possible on the opposite side to that of the paralysis. Begin with 10 ml. of 1% procaine. Make another injection of 20 ml. six hours later; then continue with one infiltration a day for fifteen days. There seems to be some advantage in occasionally giving the injection on the side of the paralysis and even in associating a lumbar infiltration with the stellate-ganglion block.

I might add that some physicians have observed a modification of the electrocardiographic curve following stellate-ganglion block; moreover, as I reported long ago, it also modifies the spinal fluid pressure.

Recently, A. de Souza Pereira, in view of the favourable results obtained by stellate-ganglion block 50 hours after the occurrence of an embolism, resected the middle-ganglion and the intermediate and upper part of the stellate ganglion, thereby obtaining a marked improvement in the patient's condition. Encouraged by this result, de Souza Pereira treated a number of hemiplegias of more or less long standing by sympathetic block followed by sympathectomy. He sometimes obtained progressive improvement—dramatic in some cases, slight in others—some patients regaining useful movements, while others were scarcely benefited. In order to clarify these facts further, de Souza Pereira experimented on dogs.

After tying the two internal carotid branches, he performed an arteriography, then a sympathectomy, and finally followed this by another arteriography. It was easy to observe on the arteriogram how the circulatory track was enlarged by the operation.

He then used the same method of arteriography to study the effects of ganglionectomy on man. The interruption in the sympathetic chain caused an increase in the blood circulation. Lubsen had already, in 1941, come to the same conclusion, but it was his impression that unilateral ganglionectomy, while increasing the blood flow on the operated side, diminishes it on the opposite side. It therefore appears from this that the intervention should be bilateral.

At the present stage of research, however, I do not believe that a sympathectomy should be performed too soon—I mean immediately after the stroke—on the human being. The stellate-ganglion block seems sufficient to give the desired results.

For the time being I would perform a sympathectomy only on patients who, after one or several cerebral episodes, live in terror of the future—perhaps with good reason. I have operated on this indication eight times during the past fifteen years. Because of the war I lost track of six of my patients. Here is one case report, however, which will make it possible to judge the efficacy of the method.

A man aged 49 had had mild diabetes for a long time. On November 6, 1948, while talking, he suddenly stuttered and could not finish his sentence. After a few seconds his malaise disappeared and he was able to talk again, but he had the impression that his left side was all cold, numb, and senseless. His movements were awkward, slow, and difficult. His blood pressure was 230/90 mm. Hg. From that time onwards the patient could walk only with difficulty, dragging his leg; the movements of his arm and leg were slow and incomplete, and the whole left side felt numb. He was forced to reduce his business activities considerably. He had difficulty in expressing himself and often had fits of dizziness.

He came to see me at the beginning of June, 1949. I noticed some difficulty of speech and the remnants of a left hemiplegia. Both arm and leg had lost considerable strength; there was hypoaesthesia of the left side, but not total anaesthesia. A feeling of constriction above the left knee annoyed him very much.

His blood urea was 28 mg. per 100 ml.; blood sugar 108 mg. per 100 ml., blood pressure 170/90 mm. Hg. An arteriography showed normal arteries.

On June 30, under local analgesia, I performed a section of the roots of the vertebral nerve on both sides. As usual the operation was followed by intense cephalalgia, which disappeared after a few days.

Twenty months later the patient came to see me for an arteritis of the leg. He stated that a few weeks after the operation he was able to resume his professional and family life, having regained his faculty of speech. He now spoke at a normal speed, without hesitation, and finished all his sentences. It would have been impossible to guess that he had a past history of disturbances of speech. Both arm and leg had regained normal strength; all movements were easy, though there persisted a feeling of numbness and the feeling of constriction above the knee was still present. Everything else was normal. His blood pressure was 170/90 mm. Hg.

Another patient, operated on in similar clinical circumstances a few months ago, is very much satisfied with the results obtained so far.

In all these cases I did not do a ganglionectomy but merely a section of the vertebral nerve roots at the upper pole of the stellate ganglion, as this suppresses most of the constrictors of the basilar artery.* The future will tell what the true value of this operation is. It must be remembered, however, that this operation, which should always be performed bilaterally, in either one or two stages, is followed for a few days by intense cephalalgia, probably due to meningeal congestion. This operation should perhaps be resorted to as a complement to the classical surgical treatment of patients having high blood pressure with cerebral manifestations, and also, perhaps, of those who have severe visual disturbances.

Stellate-ganglion Block in Old Hemiplegias

In cases of long-standing hemiplegia we must for the present be content with the results obtained from repeated stellate-ganglion blocks.

Since 1935 I have tried the stellate-ganglion block in a great variety of cases of hemiplegia. I began with those in which the patients complained of pain, and have generally succeeded in suppressing or at least attenuating the pain. Then I extended this form of treatment to patients whose condition was comparatively recent. Since 1945 I have treated over 100 patients by repeated infiltrations (from 12 to 36). It is impossible for me to give statistics and percentages, owing to the fact that the cases treated varied considerably in severity, extension, and duration. The general impression, however, is that the more recent the case the greater the chance of success; yet it is possible to obtain favourable results after several years. At all stages of the disease a number of failures must be expected: the result can be either insignificant or negative.

In some patients changes will indicate a functional share in the establishment of symptoms. For example, a 45-year-old woman stricken with aphasia was able to say a few

*A report on this operation was published in *Arch. ital. Chir.*, 1938, **52**, 659.

words within the hour following the stellate-ganglion block; then she gradually sank back into mutism.

Approximately one-third of the patients have a feeling of relief, are less contracted, and are more supple; and many walk very much better after a week. This improvement may be temporary, and sometimes the former condition will re-establish itself when the infiltrations are stopped. Or the improvement may be permanent, especially if the patient is determined to collaborate.

An example of this is the case of a 42-year-old physician who had had hemiplegia for 18 months, with a blood pressure of 200/100 mm. Hg, and had walked with difficulty, using a stick; the arm movements were incoordinate. After 39 stellate-ganglion blocks on the opposite side to that of the paralysis he can walk without his stick, and is now planning to resume some of his activities.

In another case, a man who could not hold a pencil in his contracted hand could, after 16 infiltrations, carry for fifteen minutes a basket filled with fruit.

Possibly these patients who can still be improved by delayed stellate-ganglion blocks could be benefited by sympathectomy. In my opinion they represent 25% of the cases I have treated, but I must say that for reasons of humanity I have made an attempt in some very old cases—of four to five years' duration. Let us hope that in the future such patients will be treated at an earlier stage. We must think of the despair of these unfortunate people abandoned without hope to their terrible fate.

Pierre Stricker, a neurosurgeon from Mulhouse, after performing a stellate-ganglion block for a two-year hemiplegia and seeing the patient resume his occupation, has since 1942 treated several cases of hemiplegia by repeated infiltrations of the upper cervical ganglion, and has just recently published some case reports which fully confirm those recorded above.

A recent attempt has been made to treat hemiplegia by carotico-jugular anastomosis. This operation does not seem to increase the number of arteries visible on the angiogram: the blood is mostly diverted into the veins, which become dilated, especially in the bulbar region.

According to the results of our experiments, the simplest and most efficient method seems to consist in giving emergency stellate-ganglion block treatment in cases of embolism and thrombosis, and, for patients who have missed this early chance, to resort to treatment which may vary from infiltration to resection of the thrombosed carotid and the various methods of sympathectomy—section of the vertebral nerve roots or ganglionectomies.

Conclusion

These are the facts and comments I wish to submit. I do not think that I have unduly emphasized the extent of the results obtained.

If it is true, as I have read, that there are each year in the United States 500,000 cases of apoplectic strokes and hemiplegia, I feel that a method which makes it possible to diminish the importance of these accidents deserves some consideration. There is, moreover, another side to the question—the tragedy brought into the life of those who survive the stroke by the persistence of hemiplegia and particularly aphasia. A famous American magazine some months ago very clearly described the facts which I have just stated, and gave the principles and results of the stellate-ganglion block. Since then I have received 200 letters, from different countries of the world, expressing the despair of those whom we call, without conscious irony, "cured apoplectics."

Anyone reading such distressing messages cannot fail to wish for the development of a method which would considerably minimize the gravity of the accident.

FURTHER OBSERVATIONS UPON THE DIAGNOSIS OF DEAFNESS IN YOUNG CHILDREN

WITH PARTICULAR REFERENCE TO THE MAKING OF RECOMMENDATIONS FOR SPECIAL EDUCATIONAL TREATMENT

BY

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Since our first description of the peep-show technique for pure-tone audiometry in children under the age of 6 years (Dix and Hallpike, 1947), the equipment has been in regular use at weekly clinics at the National Hospital, Queen Square. In the course of this work certain developments have taken place.

In the first place, the mechanism of the equipment has been greatly improved and reconstructed in a simple and readily reproducible form. Secondly, we have had the opportunity during the examination of the considerable number of subjects involved—350 in all—of becoming familiar with certain technical and psychological difficulties which may arise in the course of the testing procedure, and have been able to formulate effective means of recognizing and overcoming these difficulties.

Furthermore, in the course of these investigations we have been asked to make recommendations, upon the basis of our findings, for the special educational treatment (S.E.T.) of the children in accordance with the well-known classification of deaf children proposed by the Board of Education (1938) in its special report. Here certain interesting difficulties have been encountered. Finally, we have been able in a number of cases to carry out a follow-up with a view to assessing the validity of our educational recommendations.

The publication of the present communication has, therefore, the following aims: (1) to give a detailed account of the mechanical improvements in the apparatus; (2) to describe the psychological and other difficulties which may arise in the course of the test procedure and the methods of overcoming them; (3) to describe and discuss our clinical material and test results; (4) to describe and discuss the problems arising in connexion with the making of recommendations for S.E.T.; and (5) to give the results of our follow-up.

Apparatus—1. The Child's Equipment

The general lines of the tests and of the peep-show equipment are best illustrated by two diagrams reproduced from our original paper (Figs. 1 and 2). The test procedure depends upon the conditioned response of the subject to a series of short pure-tone stimuli delivered from a loudspeaker. These pure-tone stimuli are synchronized with the

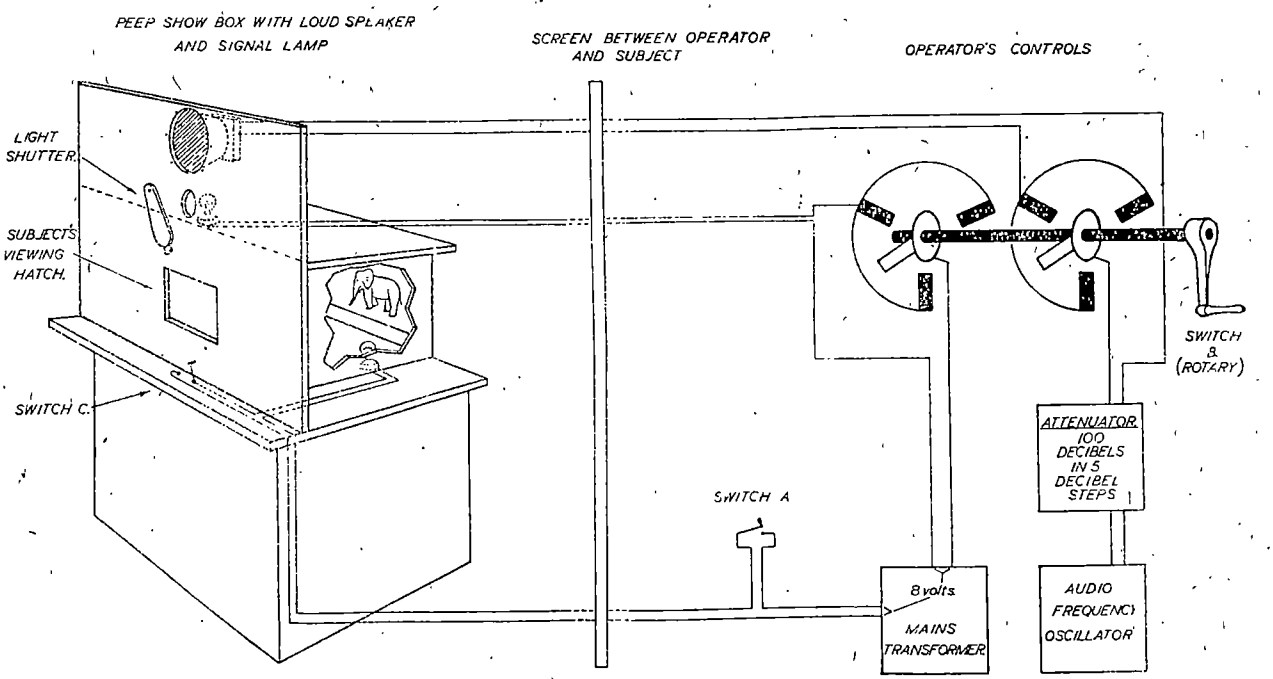


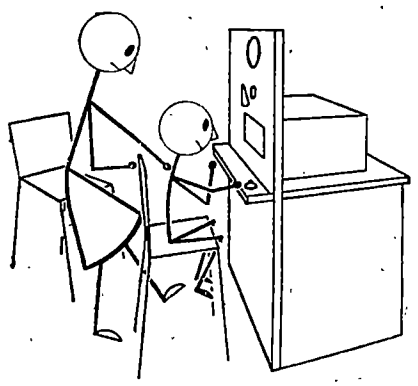
FIG. 1.—Diagram of the peep-show test apparatus.

flashes of a signal lamp. The child sits in front of the wooden box shown in Fig. 1, within which are displayed a series of attractive pictures. In order to be seen, these pictures have first to be illuminated by the child by the pressing of a button. Thereafter he inspects them through a viewing aperture. This press-button mechanism works only when the synchronized light/sound stimuli are being delivered. The stimulation mechanism is under the control of the tester, who observes the child closely from behind a screen. The pure-tone stimuli are variable in frequency in fixed octave intervals from 256 to 4,096 c.p.s. The intensity is calibrated in decibels above the threshold of hearing of a normal subject with his head in the position of the test subject. During the test an instructor is seated on the subject's right hand, and performs the important functions of controlling the child, encouraging him to co-operate in the test, and of changing the picture by the operation of a simple mechanism when necessary.

The test begins with the instructor focusing the child's attention on the viewing orifice. When the tester observes that this has been accomplished he applies the double signal, and the instructor at once presses the button, illuminates the picture, and encourages the child to inspect it. When this has been done the tester withdraws the signal and the picture disappears. After this demonstration has been repeated two or three times the child soon learns to press the button and illuminate the picture when, and only when, the double signal is being given. As soon as this reflex has been established the next step is to eliminate the light signal in the front of the box. This the instructor does by closing a simple shutter over the light. The test is then continued, using the interrupted sound stimuli only. In subjects without hearing this elimination of the light signal makes further response impossible; on the other hand, in subjects with sufficient hearing to detect the sound signal the elimination of the synchronized light signal makes no difference to their response and they continue to react to the sound signal alone. The intensity of the sound signal is then reduced progressively until a threshold reading is obtained. In Fig. 3 is shown a photograph of the equipment in its present form, as seen by the subject.

In order to gain his fullest co-operation it is important that the child should regard the peep-show as some attractive toy or game, and the design of the apparatus has thus been kept as simple and as small as possible. The box is painted in a gay colour with decorations carefully calculated to make the viewing-hatch the centre of attraction. This should be on the child's eye level as he sits comfortably in front of the box. The signal lamp is placed close enough above the viewing hatch to be included within the child's field of vision when he is inspecting this hatch. It should also be rather dull and inconspicuous in comparison with the brilliantly illuminated picture. Furthermore, the mechanism of its elimination—that is, by closure of a simple shutter—should be obvious to the child.

The child's press-button mechanism should be of the simple bell-push variety; it needs to be of comfortable size, easy to work, and conveniently situated for operation by his right hand. Anything in the nature of a hand-rest in the vicinity of the bell-push is better avoided, as this usually results in the child keeping his hand very near or on the switch, and his responses are thus made more difficult to observe. Two



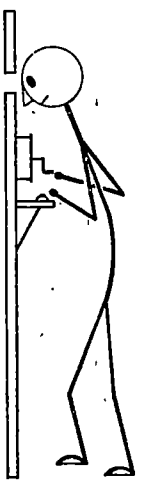


FIG. 2.—The apparatus in use.

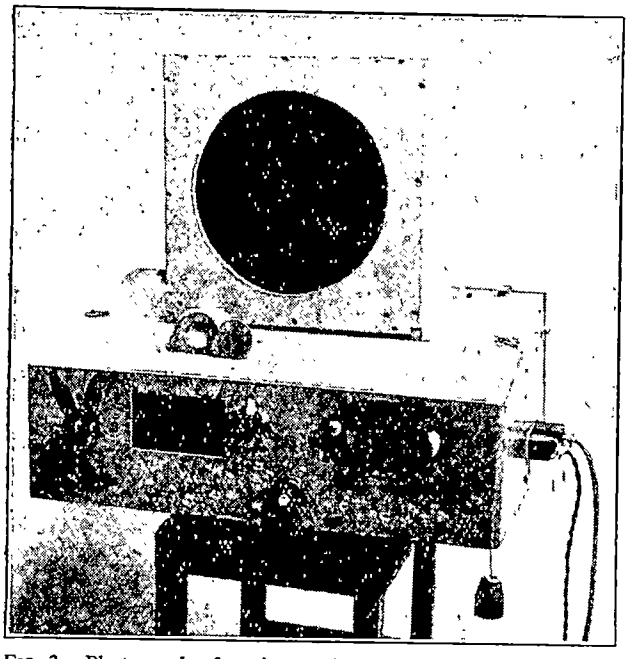


FIG. 3.—Photograph of equipment in its present form as seen by the subject.

small pilot lights are provided in the side of the box which faces the tester. These indicate to him the proper functioning of the signal lamp and the illumination of the pictures. The viewing aperture is closed by glass, which serves the purpose of preventing the child interfering with the picture. In addition, the reflections from the glass make it difficult for the child to see anything of the unilluminated picture. Details of the internal mechanism of the apparatus are given in Fig. 4.

2. The Pictures

It is important that the pictures should be brightly coloured and of suitable size. The size used is 7½ by 6½ in. (19 by 16.5 cm.). We find the pictures most easily obtainable from suitable magazines and books. They are mounted on thin aluminium plates made up into magazines of 25 to 30, which are loaded into the back of the apparatus at the beginning of a test. It is important to select pictures suitable for the age and sex of the subject, and this can easily be arranged. They are changed from time to time in the course of the test; this is done by the instructor by a simple string mechanism which operates very rapidly and quietly. It is seldom that more than 25 pictures are required for a full audiometric test.

3. The Tester's Equipment

That part of the equipment used by the tester—that is, the tone generator, interrupter switches and their associated circuits—has not been substantially modified from that described in our original paper. The output of a beat-frequency oscillator is led by way of a 60-decibel attenuator (input attenuator) to a power amplifier and thence through a 40-decibel attenuator (output attenuator) to a 12-in. (30.5-cm.) moving-coil loudspeaker. This arrangement of attenuators has been found necessary for the maintenance of background noise at a level insufficient to constitute a stimulus. This is, of course, a matter of great practical importance. For example, the deafness in certain subjects may be confined to the higher frequencies, with normal or near-normal hearing within the chief frequency range of 50 cycles mains' hum. Unless measures are taken with such subjects to keep the hum level below signal level at normal threshold intensity throughout the range of test frequencies, spurious responses will be obtained at the high frequencies to the hum alone and an apparently normal audiogram will result.

By far the greatest part of the background noise arises from the amplifier, and its elimination could thus be effected by introducing all the attenuation needed between the amplifier and the loudspeaker. This, however, would be impracticable, as the power dissipated would call for resistance elements of gross physical dimensions.

Our own arrangement of the attenuation has proved quite adequate in fulfilling the need for a background noise level which is well below the signal level at normal threshold intensity throughout the test frequency range. With this arrangement, threshold determinations up to 60 decibels above the normal threshold are made by variation of the input attenuator alone, with the output attenuator set at its full attenuation of 40 decibels. For the higher intensity levels the output attenuation is reduced.

Interrupter Switches.—These are operated by hand. We have tried automatically operated switches, whereby it is possible to apply sound stimuli at a uniform rate, free from onset transients. In practice, however, we have seldom found that such transients, which arise from a simple rotatory switch in the output of the amplifier, have any significant disadvantage. Moreover, the use of such a switch simplifies the apparatus, and accordingly facilitates variations by the tester of the interruption rate and duration of the stimuli. Such variations are very important for the avoidance of monotony in the test procedure.

Test Procedure and its Difficulties—1. Management of the Children

Experience has demonstrated the vital importance of the correct management of the children both before and during the test. Careful attention must be paid to the following details.

Preparation

It is essential that the children should not be presented for the test when tired, hungry, or otherwise unfit. They are therefore always seen by appointment after a carefully worded letter of instructions has first been sent to the parents; without such precautions children may be presented in a rather peevish and fretful state, which makes accurate testing impossible.

FIG. 4.—Internal mechanism of the apparatus.

Preliminary Interview

This is of great importance. It is a mistake in the course of this interview to attempt any examination of the ears, nose, and throat. Also, the avoidance of white coats by the examiners is of definite assistance in many cases. One examiner plays with the child with a few simple toys on a table, while the second examiner takes the history from the parents. No other spectators should be present at this stage of the interview. In its course, both examiners are able, by observing the child's performance and reactions, to gain some useful impressions both of the state of his intelligence and of his hearing. An electrically operated Klaxon horn is placed behind the child, concealed from him by a screen. This can be operated by one or other of the examiners in the course of the interview and, if heard by the child, nearly always evokes a well-marked reaction which can easily be observed. In the case of a very shy or nervous child rapid co-operation can often be obtained by first allowing him to observe another child playing with the toys.

This interview should not occupy more than 5 to 10 minutes, and it is necessary in its course for the examiners to be convinced, first, that the intelligence of the child is sufficient for the peep-show procedure, and, secondly, that his friendly co-operation has been obtained. The part played in this interview by the examiner in charge of the child, in thus gaining his confidence and introducing him to the test, is certainly a vital one. It is not, however, a very difficult role, and should certainly be within the powers of any intelligent person with a liking for children, given reasonable experience. In the course of this interview it is possible also to pick out certain classes of children who are obviously unsuited for the test, and to recognize certain others who may require special management.

Types of defect which render children unsuitable for the test include:

Mental Defects.—A normal mental age of 3 years is required for the peep-show procedure. The toys and games used in the interview are matched to this level of mental attainment. Any striking inability to manipulate the toys nearly always indicates a mental age of less than 3 years. In such children we always proceed with the peep-show test, but seldom find this possible to carry out.

Visual Defects.—The peep-show procedure is impossible without a visual acuity sufficient for the appreciation of the pictures. This point is carefully checked during the interview.

Motor Defects.—Children with paralysis or severe ataxia may be unable to co-operate in manipulating the press-button switch.

Before proceeding to the test the child's mother is carefully warned of the need to remain quite quiet during the course of the test, and that she should content herself, if referred to by the child, with the adoption of an encouraging demeanour. On no account should she give the child any instruction, in particular "not to touch."

2. Management of the Test

General Considerations.—The intensity regulation of the initial sound stimulus is a matter of some importance. Thus a child with a considerable degree of residual hearing may be disturbed by an initial sound signal of 100 decibels. It is generally possible in the course of the preliminary interview to obtain some indication whether the hearing loss is very slight or very severe, and the initial intensity is regulated accordingly. In general this is set at 80 decibels.

Manipulation of the Pictures.—Once the test is under way and the child has been brought to the point at which he illuminates the picture himself, it is important to allow him sufficient time to inspect it before withdrawing the signal and so eliminating the illumination. The changing of the pictures should be done by the instructor as unobtrusively as possible in order not to deflect the child's interest from the viewing-hatch to the picture-changing mechanism. The frequency with which a picture needs to be changed depends very much on the character of the child. With an attentive or enthusiastic subject the same picture may maintain his interest for some time.

The duration of the test procedure seldom exceeds 12 to 15 minutes. This applies to rather difficult cases and to cases with relatively little hearing loss in which a large number of responses are required. In co-operative children with severe hearing losses the test procedure may be shorter than five minutes.

3. Difficulties

These fall into two main groups: first, difficulties which occur at the start of the test; and, secondly, difficulties which occur in the course of the test.

Difficulties Arising at the Start of the Test

These occur with certain types of children and may make it impossible to get the test procedure under way at all. The types of children concerned may be described under the following headings:

Timid and Apathetic Children.—Most of these appear to be children with an unhappy or unnatural home background. Some had been brought up by foster parents, others in institutions; others, again, appeared to have suffered from the effects of parental severity: all conditions which seemed to have had the effect of destroying natural curiosity and enterprise. The timid children would do nothing without first gaining the approval of the instructor or parent, and great patience and perseverance were needed to elicit in such a child the necessary spontaneous responses. It has often proved most helpful to allow a child of this kind to watch another operating the peep-show. In the apathetic children spontaneous responses occur, but only with sound intensities well above threshold. This is a serious cause of incorrect threshold readings, with exaggeration of the apparent deafness. A failure of interest on the part of the child and a lack of uniformity in his responses generally indicate this difficulty, which may also be accentuated by the use of unsuitable pictures. We have on a few occasions found it necessary to make repeated observations on children of this kind before arriving at a reliable estimate of their deafness, sometimes without the presence of the parents.

The Restless Child.—Certain restless and enterprising children persist, at any rate at the beginning of the test procedure, in pressing the bell-push at random without any signal being given. This situation requires careful management on the part of the tester, who must give the signal at a moment when the child is in an expectant attitude but not apparently preparing to make such a random movement. This is of great importance. Thus, in the case of a deaf child, unable to hear the sound signal, if this is given at a moment which coincides with a random movement the child will be rewarded by seeing the picture. He will not, however, appreciate that this is a reward for a correct response to an audible signal; and, being thus encouraged to indulge in further random movements, will speedily be confused and discouraged from further co-operation. Certain interested children may persist in keeping their finger on or near the button between signals. This, of course, makes observation of the responses very difficult, and must be corrected by removing the child's hand. This must be done gently and with great tact, since in certain cases it appears to discourage the child from further co-operation.

Difficulties During Course of Test

Once the child's spontaneous response to the dual signal has been obtained, the light-shutter is closed and the sound signal is applied alone. Here we reach the crucial part of the test procedure. In favourable cases, and these are the majority, no difficulty arises. The child responds without hesitation to the sound signal and thus leaves the examiners in no doubt that it has been heard. In certain children, however, in whom the preliminary interview has established the likelihood of a fair amount of residual hearing, the

child may give no definite response to the sound signal alone. The difficult situation which then arises may be analysed as follows:

(i) The child hears the sound signal, but for some reason does not understand the need to respond to it in the absence of the light signal. A little experience with the test almost always makes this situation clear. Thus, at the moment of the sound signal the child will nearly always move his hand in an arrested response, or he may look inquiringly at the instructor. Such a movement accurately synchronized with the signal will generally be apparent to the tester on careful scrutiny. If this is detected the child can then be encouraged openly to press the bell-push, when the test generally proceeds without further difficulty.

(ii) Certain children may hear the sound signal but refuse to press the button until they have first satisfied themselves of the coexistence of the synchronized light signal. Such a child will respond at once to the sound signal by first opening the light shutter. On seeing the light he will proceed at once to press the button and illuminate the picture. This sequence of responses does not, of course, invalidate the test, and need not at once be checked.

(iii) Certain children respond very slowly. Indeed, the response to the sound signal may be delayed for as long as 8 to 10 seconds. The cause for this is obscure; nevertheless, this delayed response may occur quite constantly without change of the delay interval, and may be relied upon.

(iv) Certain totally or very severely deaf children may have given a false impression to the examiners at the preliminary interview of having a considerable degree of hearing. Most of these children are highly intelligent, have remarkably good speech, and may be good lip-readers. The faulty assessment of their hearing at the preliminary interview thus occasioned may result in the peep-show procedure being begun with the sound signal of insufficient intensity. Failure to respond on elimination of the light signal may then indicate a degree of deafness which is quite correct but, nevertheless, surprising to the examiners. This situation is met by reverting to the double signal with much higher sound intensities.

4. Procedure After the Test

After completion of the test procedure a detailed examination of the ears, nose, and throat is carried out. The report of our findings, which is finally sent to the appropriate educational authority, comprises information upon the following points: (1) the cause and pathology of the deafness; (2) the prognosis; (3) the possibility of relieving the deafness by means of treatment; (4) the degree and audiometric character of the deafness; and (5) the possibility of alleviating the deafness by means of hearing-aids. Finally, recommendations are made for S.E.T. as fully discussed below.

Our examination findings, taken in conjunction with previous otological reports, have made it clear in most cases that the deafness is due to some neurolabyrinthitis or other irreversible pathological process occurring during gestation or in early post-natal life. In such cases clear advice is given that no treatment is likely to effect improvement and that further deterioration of hearing must eventually be expected. In other children otolaryngological examination may make evident the possibility that the deafness is due, at any rate in part, to some catarrhal otitis likely to be improved by treatment. It is, of course, of the greatest importance to recognize such a cause for the deafness and to advise appropriate surgical treatment—for example, removal of tonsils and adenoids, and insufflation of the Eustachian tubes. When this course is advised it is wise to postpone a final estimate of the deafness and any recommendations relating to S.E.T. until the treatment has been completed and a further audiometric test made. We have observed a number of children of this kind with very severe deafness due in part to an inner ear affection, but with obvious catarrhal changes in the tympana associated with enlarged tonsils and adenoids. Removal of the tonsils and adenoids has in these cases greatly reduced the degree of the deafness and substantially modified the character of S.E.T. recommended.

Clinical Material and Test Results

We have investigated with the peep-show a total of 350 children with a view to determining the possible part played by deafness in the production of backwardness in speech and in other ways. The age distribution of these children was as follows:

Age	No.	Age	No.
2 years	10	5 years	61
3 ,,	80	6 ,,	44
4 ,,	68	Over 6 years	87

Of this total, the tests were successful in 302 and unsuccessful in 48. The latter group is discussed first.

Unsuccessful Tests.—The causes of failure are shown in Table I. It will be seen that failure to carry out the tests was attributable in 45 cases to some obvious mental, visual, or motor defect. The three unexplained cases of failure all occurred in our earlier experiences with the peep-show, before the present equipment came into use.

TABLE I

Age Group (Years):	2	3	4	5	6	Over 6	Total
Mentally defective	1	9	13	3	1	8	35
Too young and/or slightly backward	2	3					5
Visual defect: unable to see picture		2		1			3
Paralysis: unable to press button		1					1
Psychological abnormality					1		1
Unexplained failure of test		2		1			3
Total	3	17	13	5	2	8	48

Successful Tests.—In 42 of the 302 cases successfully tested by the peep-show technique it was impossible for a variety of reasons to proceed to recommendations for S.E.T. for backwardness due to deafness alone. Some of the children were in need of preliminary treatment for disorders of the ears, nose, or throat likely to be concerned with their deafness, while others required special management for other defects. These 42 cases are classified in Table II.

TABLE II

Age Group (Years):	3	4	5	6	Over 6	Total
Preliminary treatment needed for ears or nasopharynx	4	6	6	4	2	22
Mentally defective or retarded	1	1	3	1	8	14
Epilepsy			1		1	2
Psychologically abnormal			1		1	2
Paralysis					2	2
Total	5	7	11	5	14	42

Problems Arising in Connexion with the Making of Recommendations for S.E.T.

In the remaining 260 cases in which the test was successful the question arose of making recommendations for S.E.T. Our chief aim in endeavouring to bring about an improvement in the technique of pure-tone audiometry in these children has, of course, been to establish the pure-tone audiogram as a more efficient basis for such recommendations, and in this we have followed the pioneer work of the Ewings, of Manchester, whose well-known publications constitute a notable landmark in the history of this difficult subject (Ewing, 1930). Due emphasis is also laid upon this point in the report of the committee of the Board of Education, in which it is pointed out that deafness assessment is the most important single factor in determining the character of the S.E.T.

A further passage worthy of quotation appears on page 42 of the committee's report: "The analysis of the acuity of hearing by examination with the pure-tone audiometer forms a scientific basis for the provision of a hearing-aid or the teaching of speech to a child with defective hearing . . . records of the hearing of their children should be available to teachers of Grade II and Grade III children." Our primary aim has been to make such records available to educational authorities after solving the technical difficulties of obtaining them. We have, in addition, extended the scope of our reports in most cases to the making of specific recommendations for S.E.T. on the basis of the committee's well-known classification of deaf children. Here, of course, considerable difficulties have arisen, as the problems involved in the making of such recommendations extend clearly beyond the domain of auditory capacity alone and must ideally include, as duly emphasized in the committee's report, an expert assessment of speech development, vocabulary, mental capacity, lip-reading ability, and a number of other faculties which it is proper to describe as lying beyond our scope.

No great difficulties have been encountered in assessing the mental capacity, and we can certainly say that the behaviour of our subjects, under the conditions of our preliminary interview and during the test itself, has seldom left us in any doubt about the presence or absence of any significant degree of such mental defect. Furthermore, following their recognition by ourselves, such defects have always been confirmed in a subsequent expert examination by a child psychologist. This applies to all of the 49 children specified as mentally defective in the preceding Tables.

In the assessment of speech defects, vocabulary, and lip-reading ability our difficulties have, of course, been much greater. In nearly all of our subjects the speech defects were obvious ones, due, as shown by the clinical history and subsequent audiometry, to a failure of speech development resulting from deafness occurring within the first two to three years of life. We have attempted no precise analysis of its characteristics.

For the purposes of recommendations for S.E.T. our material might be summarized as consisting with few exceptions of children of normal or near normal mental capacity suffering from failure of speech development due to deafness in infancy of which the audiometric characteristics have been reliably determined. We have divided them upon an audiometric basis into groups which correspond fairly closely to those of the well-known classification of deaf children recommended in the report of the committee of the Board of Education (1938).

Our audiometric classification is as follows:

Average Decibel Loss for 1,024 and 2,048 c.p.s.

Group I	Less than 30 decibels
" II	30–40 "
" III	40–80 "
" IV	80–100 "
" V	Greater than 100 decibels

Groups I, II, IV, and V are discussed first.

Group I.—This corresponds on the whole to Grade I of the Board of Education, with a slightly lower hearing-loss limit—30 instead of 35 decibels. All 17 of these were backward children, and 11 exhibited speech defects attributed to causes other than deafness.

Group II.—This corresponds approximately to the higher audiometric strata of Grade IIA of the Board of Education.

Groups IV and V.—These correspond to the Board of Education's Grade III. In both we emphasize that hearing-aids should be tried. We indicate that these are likely to help in Group IV, but unlikely to help in Group V.

Group III.—This group is an important one—in the first place on account of its size, the total number of subjects being 133. It is important, too, on account of the difficulties of which we have been conscious in accurately assigning all the subjects concerned to one or other of the Board of Education's educational grades. In most cases the amount of the audiometric loss, taken in conjunction with the mental capacity and our very rough estimate of speech development, has made appropriate a provisional assignment to Grade IIB. Our recommendation in these cases has been for education as a partially deaf child in a school where hearing-aids are available. In certain children of our audiometric Group III we have been aware of the possibility that backwardness in speech development, vocabulary, lip-reading, etc., might well necessitate education in a school for the deaf—that is, that their educational grading should be III and not IIB. Such a differentiation, however, has not lain within the scope of our own examination, and we have in these circumstances thought it appropriate to make a provisional recommendation in accordance with the higher grading, IIB.

Results.—The audiometric classification of our material is given in detail in Table III, in which our audiometric grades are set off against the grades of the Board of Education to which they approximately correspond.

TABLE III

Grading and Educational Management of Deaf Children as Recommended by Board of Education* (1938)		Authors' Audiometric Grading	Age Groups (Years) of Subjects						
			2	3	4	5	6	>6	Total
Grade I (decibel loss <35).—Children with defective hearing who can nevertheless without special arrangements of *any kind* obtain proper benefit from the education provided in an ordinary school—elementary, secondary, or technical		Group I (decibel loss <30)	0	1	4	4	4	4	17
Grade II (decibel loss 35–60).—Children whose hearing is defective to such a degree that they require for their education special arrangements or facilities but not the educational methods used for deaf children without naturally acquired speech or language. These facilities range from a favourable position in an ordinary school class-room to attendance at a special class or school	*IIA.*—Those children within Grade II who can make satisfactory progress in ordinary classes in ordinary schools provided they are given some help, whether by way of a favourable position in class, by individual hearing-aids, or by tuition in lip-reading	Group II (decibel loss 30–40)	0	1	4	1	2	6	14
	IIB.—Those children within Grade II who even with the help of a favourable position in the class, individual hearing-aids, or tuition in lip-reading fail to make satisfactory progress in ordinary classes in ordinary schools	Group III (decibel loss 40–80)	1	21	18	28	23	42	133
Grade III (decibel loss >60).—Children whose hearing is so defective and whose speech and language are so little developed that they require education by methods used for deaf children without naturally acquired speech or language. This grade includes the totally deaf		Group IV (decibel loss 80–100)	2	10	6	4	1	8	31
		Group V (decibel loss >100)	4	25	16	8	6	6	65
	Total		7	58	48	45	36	66	260

* The Board of Education was superseded in 1945 by the Ministry of Education. The "ordinary" schools referred to in the report and in the present paper are now known as primary or secondary schools.

Follow-up

With a view to ascertaining the practical value of the peep-show test procedure in prescribing the educational management of these deaf children, we have recently followed up a number of our cases. We selected 40 children whose ages fell into the following groups:

Age	No.	Age	No.
3 years	14	6 years	5
4 ,, ...	11	Over 6 years ..	2
5 ,, ...	8	Total	40

In 35 of these cases it was possible to carry out the test successfully; in five this was impossible. In one the failure of the test was attributed at the time to defective vision due to a congenital cataract which made it impossible for the child to see the picture. In the other four cases the failure was attributed at the time to mental defectiveness, and this diagnosis was confirmed when we came to follow them up. In 33 of the 35 successful cases recommendations for S.E.T. were made as follows:

Group II	1 case
,, III	14 cases
,, IV	4 ,,
,, V	14 ,,

In each of the groups specified above, the intelligence of the children was normal or near normal. The remaining two children were successfully tested but were not recommended for S.E.T. on account of suspected mental defect, later confirmed. In the course of the follow-up, reports were obtained in all 40 cases from the teachers and others in charge of the children's education. The information obtained from this follow-up is set out below under the headings of the four groups, with illustrative case histories. Groups II, IV, and V are considered first.

Group II

The single child in this group had been educated, in accordance with our recommendation, in an ordinary school.

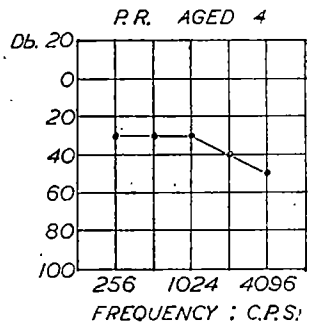


FIG. 5.—Audiogram of P.R.

P. R., a girl aged 4, had been at nursery school for one year. Her teacher thought she was a little deaf since measles six months previously. Examination: Repeated nursery rhymes; intonation fair. Played intelligently; responded to hooter. Ears, nose, and throat healthy. Fig. 5 shows her audiogram. Recommendation: To continue at ordinary school in front row. For retest of hearing in a year's time. *Follow-up:* Recommendation accepted by school M.O. Teacher's report (two years later): "Quite up to standard; no hearing-aid used."

Group IV

In all four children in this group our recommendations for education in a special school for the deaf had been accepted, and in three admission had been secured at the time of the follow-up, with satisfactory reports of progress. In particular, hearing-aids were found to be useful.

J. H., a boy aged 4, began to speak at 16 months but made very little progress after admission to a sanatorium at that age for tuberculous glands. Now responds only to loud voices. Examination: Appeared to have no speech. Played intelligently; responded to hooter. Ears, nose, and throat healthy. His audiogram is shown in Fig. 6.

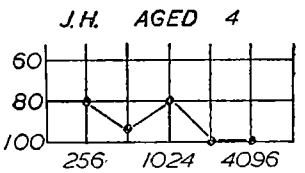


FIG. 6.—Audiogram of J. H.

Recommendation: Special school for severely deaf. Hearing-aid likely to help. Follow-up: School M.O. recommended admission to special unit for deaf children attached to ordinary school. "Medresco" hearing-aid supplied. Teacher's report (one year later): "Makes good use of his remaining hearing. Benefits from hearing-aid; intelligent, and progressing well."

The audiograms of the other three children in Group IV are shown in Fig. 7.

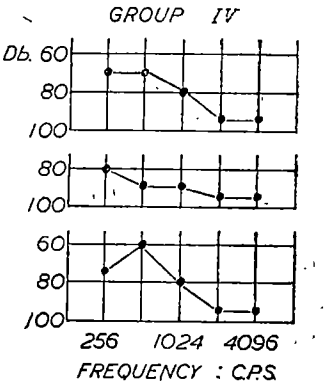


FIG. 7.—Audiograms of other three children in Group IV.

Group V

All 14 children in this group had been educated in accordance with our recommendations in special schools for the deaf. Satisfactory progress was reported by the school authorities in all. In only two was a hearing-aid reported to be of any value.

J. M., a girl aged 4, talked at 14 months. Speech has not progressed since meningitis at 3 years 8 months. Repeats nursery rhymes, etc., but intonation faulty. *Examination:* Would not speak. Played intelligently; no response to hooter. Ears, nose, and throat healthy. Fig. 8 shows her audiogram. Recommendation: Special school for deaf. Hearing-aid unlikely to help. Follow-up: School M.O. recommended admission to day school for partially and totally deaf children where group hearing-aids used. Teacher's report (one year later): "Has settled down very nicely. Remembers a certain amount of language she had before her illness. 'S,' 'N,' and 'T' sounds are missing. Lip-reading very good. Hears nothing with amplifier."

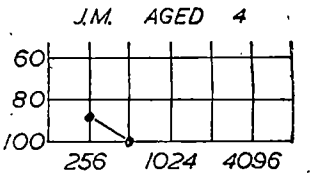


FIG. 8.—Audiogram of J. M.

In addition to J. M., seven other subjects in Group V had some residual hearing. Their audiograms are given in Fig. 9.

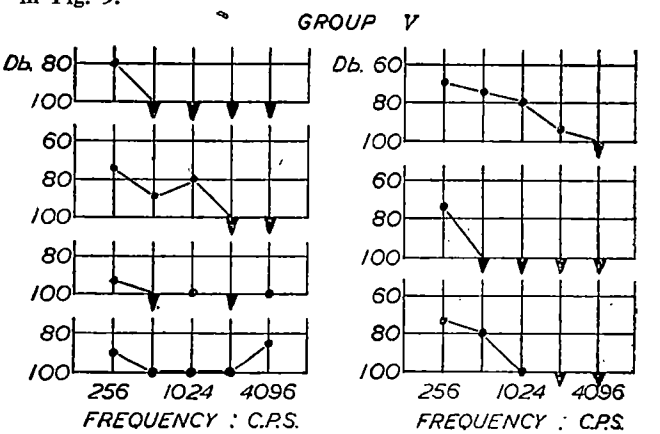


FIG. 9.—Audiograms of seven other children in Group V.

Group III

All of the 14 children in this group had been recommended by ourselves for education as partially deaf children, in accordance with a Board of Education grading of IIB.

In three cases the school M.O.s had preferred an educational grading of IIA and in two others a grading of III. In all five of these subjects the appropriate educational

arrangements had been in force for some time at the period of our follow-up. In the other nine subjects our educational grading of IIB was accepted by the school M.O.s. At the time of the follow-up, however, five were still awaiting admission to schools for the partially deaf, and four of these were meanwhile continuing attendance at ordinary schools. Case histories of three subjects in Group III are appended.

M. R., a boy aged 3, had meningitis at 13 months. Says "mummy" and "daddy," but little else. Mother thinks he is slightly deaf. *Examination:* Would not speak. Played intelligently. Brisk response to hooter. Nose and throat healthy. Tympanic membranes dull and retracted. His audiogram is shown in Fig. 10. Recommendation: Special school for partially deaf, hearing-aid to be used. Follow-up: School M.O. recommended tuition with hearing-aid by teacher of deaf. Case reviewed two months later, when progress justified recommendation for education in ordinary school. To sit in front row and use aid. Report of teacher of deaf: "With hearing-aid after nine months could repeat three-word phrases perfectly. Now wears aid whole of working hours unless playing rough game. Hope he will attend partially deaf unit when 5."

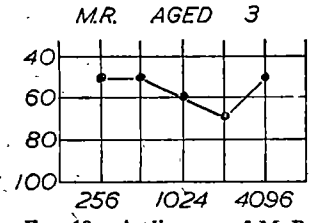


FIG. 10.—Audiogram of M. R.

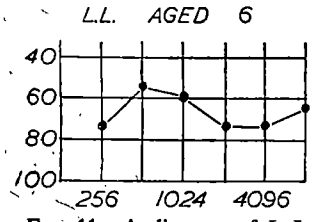


FIG. 11.—Audiogram of L. L.

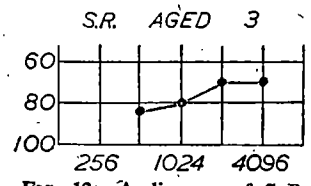


FIG. 12.—Audiogram of S. R.

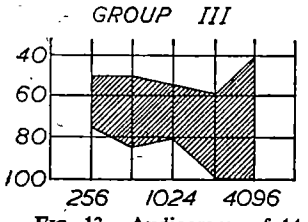


FIG. 13.—Audiograms of 14 children in Group III, lying within the shaded area.

L. L., a girl aged 6, had measles at 2 years. Talked very late. Articulation poor. At school one year. Teacher and mother think she is a little deaf. Examination: Intonation poor. Played intelligently. Responded to hooter. Ears, nose, and throat healthy. Fig. 11 shows her audiogram. Recommendation: Special school for partially deaf. Hearing-aid to be used. Follow-up: School M.O. accepted recommendation. Medresco aid supplied. To continue at ordinary school while awaiting admission. Teacher's report 16 months later: "Progress in past nine months largely due to quickness in imitating child sitting next to her. Good at manual work and knitting. Can hear story only if very close to teacher." Mother reported that the hearing-aid was very useful at school.

S. R., a girl aged 3. Maternal rubella second to third month of pregnancy. Babbles constantly. Says "mum" and "no"; no other words. Mother does not think she is deaf. *Examination:* No speech. Very shy, but played intelligently. Responded to hooter. Ears, nose, and throat healthy. Fig. 12 shows her audiogram. *Recommendation:* Special school for partially deaf. Hearing-aid to be used. *Follow-up:* School M.O. recommended school for deaf. Medresco aid supplied. Teacher's report (two years later): "Too severely deaf to be taught language except as deaf child. Benefits from aid. Very strong voice. Lip-reading better than speech. Progress satisfactory."

The audiograms of the 14 children in Group III lie within the shaded area in Fig. 13. In 9 of these cases Medresco aids had been supplied and were reported as useful. In two cases no aid had yet been tried. Of the remaining three cases, in which an aid had been tried without benefit, two of the subjects were mentally backward in addition to their deafness and could not manage the aid for this reason, while the third had recently been supplied with spectacles and found both devices too much to manage.

Discussion

The results of our investigation call for particular consideration under the following headings: (1) the accuracy of the audiometric test results; (2) the practical relationship between these test results and the ability of the subjects to understand connected speech; and (3) the validity and practical value of educational recommendations made upon the basis of our examination findings, of which the most important is the pure-tone audiogram.

Accuracy of the Audiometric Test Results

The most convincing evidence of the accuracy of the test results is that which we have derived as examiners from our personal observations of the several hundred children whom we have had the opportunity of observing during the course of the tests, in particular the alacrity of their responses and the repeatability of the threshold values. It has also been possible in a few children to carry out pure-tone audiograms by means of conventional audiometer tests in addition to the peep-show test. In these cases we have found that the peep-show readings give results which correspond very closely to the readings obtained for the better ear with the conventional audiometer. Fig. 14 shows the pure-tone audiogram and peep-show test results in a particularly co-operative child aged 5.

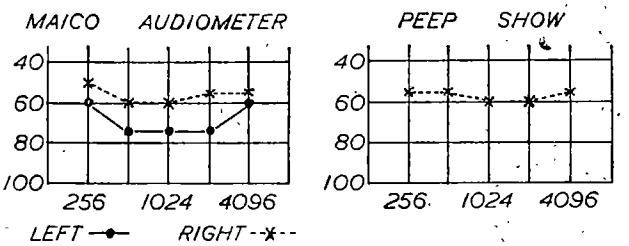


FIG. 14.—Pure-tone audiogram and peep-show test in a co-operative child aged 5.

Some comment is perhaps called for upon the fact that with the peep-show audiogram we have contented ourselves with a measurement of binaural hearing capacity. This we have done, as it is the unaided hearing capacity which determines the child's disability and therefore the character of the S.E.T. required. Furthermore, the conditions of our examination make impossible the extra expenditure of time which would be needed for the separate testing of the two ears. It is, of course, helpful to have this additional information, particularly when hearing-aids are to be used, and a modification of the peep-show procedure which makes this possible has recently been described by Denmark (1950). Telephone receivers were employed, and the procedure was used for deaf subjects in the Liverpool School for the Partially Deaf, where more time is available for the examination than is possible under the conditions of our own tests.

It is necessary also to add that, given particularly favourable circumstances—that is, opportunity for prolonged or repeated examinations with particularly co-operative or intelligent children—it is often possible in children under the age of 6 years to obtain very serviceable pure-tone audiograms by means of the conventional pure-tone audiometric procedure, using telephone receivers. Such conditions, however, rarely occur in our own clinic.

Relationship Between the Pure-tone Audiogram and Hearing Capacity for the Conversational Voice

The problem involved here is a well-known one and needs to be considered in relation to the pathology of the deafening disease. Dix, Hallpike, and Hood (1949) discuss the matter in some detail and give results of pure-tone and speech audiometric tests carried out in a large number of adult subjects suffering from a variety of deafening diseases. The conclusions reached may be stated as follows: that in the case of simple conductive deafness—that is to say, due to disease of the conducting mechanism of the ear, in particular the middle ear—pure-tone audiometric losses are related to the hearing loss for connected speech in the comparatively simple manner which was fully described in our previous paper (Dix and Hallpike, 1947).

When, however, the deafness is of the so-called perceptive type, arising from disease of the inner ear or cochlear nervous pathways, the relationship of the pure-tone audiometric loss to the hearing capacity for speech is more obscure; in general the latter is likely to be greater than that predictable from the pure-tone audiogram.

The term "perceptive deafness," however, is a comprehensive one and includes a variety of pathological processes affecting quite different nervous elements of the cochlear mechanism, and in other papers (Dix, Hallpike, and Hood, 1948; Dix and Hallpike, 1950) it has been shown that failure of speech comprehension is a particular characteristic of perceptive deafness due to disease processes affecting the hair cells of Corti's organ. On the other hand, in perceptive deafness due to lesions affecting the fibres of the eighth nerve or the physical constitution of the fluids of the inner ear speech comprehension may be relatively good and is much assisted by hearing-aids as in the case of conductive deafness due to middle-ear lesions. It is quite clear, therefore, that the practical relationship between the pure-tone audiogram and hearing capacity for speech cannot be discussed intelligently without reference to the pathological processes concerned.

In the case of young children much less can be said of the pathological processes responsible for deafness, as in very few of them is it possible to carry out reliable bone-conduction tests, still less up-to-date investigations such as loudness recruitment tests, upon which we have come to rely as a diagnostic index of active hair-cell disease. There is, however, a good deal of collateral evidence that in many of our own subjects the deafness has been due to some affection of the inner ear and eighth nerve—that is, a neuro-labyrinthitis occurring during gestation or early post-natal life. While hair-cell damage is known to be one of the features of the pathological processes involved, other features, such as cochlear-nerve degeneration and physical changes in the labyrinthine fluids, are also known to occur, and it seems to us that these latter factors are likely, at any rate in part, to be the cause of the residual deafness which was present at the time of our examination. Certainly it must be said that tinnitus, which is a particular feature of active hair-cell disease, is not as a rule complained of by deaf children. For these reasons, therefore, it seems unwise to assume for the present that the perceptive deafness of children is necessarily of the so-called uncompensated type in which hearing for the conversational voice is relatively bad, unrelated to the pure-tone audiogram, and difficult to correct by means of hearing-aids.

It is hoped to make the pathological processes involved in the deafness of children the subject of a further communication.

Validity and Practical Value of the Educational Recommendations

The evidence obtained from our follow-up, although not comprehensive in view of the small number of subjects involved, nevertheless provides good support for the validity of our educational recommendations in respect particularly of Groups IV and V. Some difficulty has arisen in the case of the 14 subjects comprising our Group III, in only nine of whom had it been found advisable to accept our recommendation for an educational grading of IIB. In the case of the remaining five subjects an educational grading of III had been preferred, mainly on account of severe speech defects, and it seems necessary to say that in this group pure-tone audiometric findings need to be reinforced for the purpose of educational recommendations by a more elaborate evaluation of speech development than anything we have attempted. It may be supposed that such an examination might ideally be carried out by a competent authority—for example, a teacher of the deaf—as an immediate complement to our own examination of the hearing, and of the ears, nose, and throat. Here, however, certain difficulties arise, and much must obviously depend upon the practical circumstances of the case. It would appear, for instance, that in many subjects a final assessment of suitability, particularly in respect of speech development, etc., can best be made by the headmasters of the special schools for which the children are recommended.

If this be the case, and if these headmasters require such interviews as a matter of routine for the purpose of making assessments, then it would seem that provisional recommendations for S.E.T. made upon the basis which we adopted have much to be said for them, provided always that the error rate involved is as low as that shown by our follow-up.

In other respects the aims of our examination procedure would seem to be satisfactory, as also the claim that can be made for its results—namely, that it is possible, by its means as perhaps by no other, to put at the disposal of the educational authorities concerned information upon the causes and character of the deafness, in particular the pure-tone audiogram, which must continue to provide in their hands an essential basis for the educational treatment of deaf children.

Summary

In a previous communication (Dix and Hallpike, 1947) a description was given of the peep-show equipment and its use in the diagnosis of deafness in young children. The advantages of the equipment are summarized again as follows: (1) Pure-tone audiograms greatly facilitate the making of recommendations for S.E.T. in deaf children. They are obtainable by means of the peep-show procedure in nearly all subjects of normal intelligence within the age group 3 to 6 years. (2) The test is carried out rapidly and nearly always in the course of a single interview. The length of the examination, including a preliminary interview for case-taking, seldom exceeds half an hour. (3) The technique is simple and does not require long or difficult training on the part of the examiners. (4) Stress is laid upon the well-known practical advantage of the pure-tone audiogram in facilitating subsequent observations upon the progress of the deafness. (5) The examination provides a useful measure of the subject's mental capacity.

These claims have been substantiated by tests carried out in the course of the past four years on some 350 cases. In the course of this work certain improvements have been made in the mechanism of the equipment, and a full description of these improvements is given.

Certain technical and psychological difficulties which may arise during the testing procedure are discussed. Particulars are given of the means we have found most effective for overcoming these difficulties.

The results obtained in 350 cases are described. In 260 of these, educational recommendations were made upon the basis of the pure-tone audiometric findings. For this purpose we have employed a classification based

upon the audiometric findings which is closely related to the educational grading of deaf children prescribed by the Ministry of Education.

The validity of the audiometric findings and of the educational recommendations based thereon was investigated in the course of a follow-up of 40 children, the results of which are described and discussed.

Consideration is also given to the relationship between the pure-tone audiogram and the hearing capacity for the spoken voice. Emphasis is laid upon the fact that this relationship depends essentially upon the pathology of the deafening disease.

It seems justifiable to assume that in the majority of deaf children pure-tone audiometry provides a useful measure of hearing capacity for speech.

It is a pleasure to acknowledge the great help that we have received in the course of this work from a number of our colleagues. Dr. J. L. Dunlop, county medical officer, Hertfordshire, and Mr. Henry Sharp, aural surgeon, Hospital for Sick Children, Great Ormond Street, have referred many patients to us for examination. Mr. R. Bolam, of the staff of the Otological Research Unit, devised and constructed the mechanism of the present peep-show, which has now stood the test of several years' hard work. Mr. Bernard Adams kindly designed and executed the decorations. Miss A. E. Young, aural almoner, Hospital for Sick Children, and many teachers of the deaf and other school authorities have all rendered great assistance. Finally, Dr. J. L. Burn, medical officer of health, Salford, Mr. Terence Cawthorne, and Dr. J. E. A. Underwood of the Ministry of Education, have all read the manuscript and made valuable suggestions.

The peep-show equipment has been constructed by Marconi Instruments, Ltd., upon the basis of our specifications and was recently put on the market by them.

REFERENCES

Board of Education (1938). *Report of the Committee of Inquiry into Problems Relating to Children with Defective Hearing.* H.M.S.O., London.
Denmark, Frank G. W. (1950). *J. Laryng.*, **64**, 357.
Dix, M. R., and Hallpike, C. S. (1947). *British Medical Journal*, **2**, 719.
——— (1950). *Proc. roy. Soc. Med.*, **43**, 291.
——— and Hood, J. D. (1948). Ibid., **41**, 516.
——— (1949). Ibid., **42**, 527.
Ewing, A. W. G. (1930). *Aphasia in Children.* Oxford University Press, London.

Rabies incidence has been declining steadily in Israel since the start of the intensive nation-wide campaign in October, 1950, according to Dr. Martin M. Kaplan, chief veterinary officer of the World Health Organization, who recently returned from a visit to that country. The Israel anti-rabies campaign, which is being waged with the assistance of W.H.O., includes, among other measures, a mass vaccination of dogs with a new vaccine which has proved harmless to them and seems to give a greater immunity of longer duration than other vaccines so far produced. The number of rabies cases in animals has dropped from an average of 100 a year before the start of the campaign to 10 (one bull, one jackal, and eight unvaccinated dogs) in the course of the past 15 months. All dogs in Israel have been registered, and vaccinated animals have received suitable identification. All stray dogs are being destroyed, while newborn animals are vaccinated when they reach 6 months of age. Vaccination is compulsory and free of charge. Although it is still too early to determine to what extent vaccination alone has brought about the fall in rabies incidence in animals, Dr. Kaplan believes that the concentrated attack has played an important part in this matter. The drop is mirrored also in the decline in human deaths from rabies, which were none in 1951, whereas they numbered 20 between 1948 and 1950. In addition the number of people receiving Pasteur treatments following dog bites, which averaged 4,000 a year before the start of the campaign, has been cut to about one-half.

HABITUAL ABORTION

FURTHER OBSERVATIONS ON THE PROPHYLACTIC VALUE OF PROGESTERONE PELLET IMPLANTATION

BY

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Recently we (Bishop and Richards, 1950) reported on a series of 45 patients with a history of habitual abortion who had received an implant of progesterone during the pregnancy under consideration. The results, which are shown in Table I, were commented upon by Dr. Richard Doll as follows: "Provided the 'normal' incidence of spontaneous abortion is of the order of 10% and the incidence of abortion due to recurrent factors is not much less than 0.1%, it is reasonable to conclude that the present figures indicate an effect of treatment. Should, however, the true incidence of 'recurring' abortion be of the order of 0.01%, the present results could easily be attributed to chance."

TABLE I.—*Results of First Series (45 Cases)*

No. of Successive Abortions Immediately Preceding the Treated Pregnancy	No. of Patients	Outcome of Treated Pregnancy		Percentage Successful Results
		Success	Failure	
A. Primary Habitual Abortion				
2	20	18	2	90
3	8	7	1	88
4 or more	5	3	2	60
B. Secondary Habitual Abortion				
2	8	6	2	75
3	1	1	0	100
4 or more	3	3	0	
C. Primary and Secondary Habitual Abortion Combined				
2	28	24	4	86
3	9	8	1	89
4 or more	8	6	2	75

The Biological and Medical Committee of the Royal Commission on Population (1949) concluded that "the proportion of all pregnancies ending in spontaneous abortion may be placed between the relatively narrow limits of 7 and 11%." Javert (1948), analysing 56,803 pregnancies, found the incidence of primary habitual abortion—that is, three or more consecutive spontaneous abortions beginning with the first pregnancy—to be 0.3% and the incidence of secondary habitual abortion to be 0.2%. Malpas (1938), studying about 6,000 pregnancies, found the incidence to be 1.4%, and Bishop (1937), analysing 2,687 case histories from the Guy's Hospital Maternity Service, found that 0.4% of women had more than one initial idiopathic abortion at less than five months, and that 0.1% had three initial idiopathic abortions. Since the publication of our paper, Ripman (1951) has analysed 2,474 case histories from the Guy's Hospital Maternity Service and has excluded the last recorded pregnancies in order to diminish the error due to incomplete information concerning these last pregnancies. He has found an overall abortion rate

of 10.5%, but there were not enough cases in the series to provide evidence of the incidence of, or the prognosis in, "habitual abortion."

The results of our first series of 45 cases were open to the criticism that there were only 13 cases of primary habitual abortion and four cases of secondary habitual abortion, with three or more previous abortions, which had been treated with pellet implantation, and, although in 14 (82%) of these treatment had been successful, this represented a rather small series upon which to base any firm conclusions. For this reason we have now analysed a further series of 40 cases.

Material

This series represents *all* the cases coming under our definition of "habitual abortion" treated by us with progesterone pellet implantation at Chelsea Hospital for Women since June, 1950, with the exception of five cases, discussed in detail below. Direct information concerning the outcome of the treated pregnancy was obtained in each of these cases.

We have defined "habitual abortion" as "idiopathic" abortion before the end of the fifth month of pregnancy occurring on two or more consecutive occasions immediately preceding the pregnancy in which pellet implantation has been used. Abortion is regarded as "idiopathic" if no recognized organic cause has been found. "Primary" habitual abortion refers to the condition in which all previous pregnancies have resulted in abortion. "Secondary" habitual abortion indicates that one or more previous pregnancies have proceeded beyond the 28th week.

The implantation was carried out as early in pregnancy as possible, in many cases as soon as the pregnancy test was positive or symptoms as well as a missed period made it reasonably certain that the patient was pregnant. The majority of patients received implants before the eighth week and almost all of them before the 10th week. Six 25-mg. pellets of progesterone were introduced beneath the deep fascia of the thigh by means of a trocar and cannula by the technique previously described (Bishop, 1949). No other treatment or precautionary regime was prescribed.

Results

TABLE II.—*Results of Present Series (40 Cases)*

No. of Successive Abortions Immediately Preceding the Treated Pregnancy	No. of Patients	Outcome of Treated Pregnancy		Percentage Successful Results
		Success	Failure	
A. Primary Habitual Abortion				
2	16	14	2	88
3	6	4	2	67
4 or more	6	3	3	50
B. Secondary Habitual Abortion				
2	9	7	2	78
3	2	1	1	67
4 or more	1 (6 miscarriages)	1	0	

A successful result is defined as one in which the pregnancy proceeded to 28 weeks, but in this series all the patients "successfully" treated, in fact, had live babies. One of the patients treated for primary habitual abortion who had had four or more previous abortions, and whose current pregnancy was unsuccessfully treated with progesterone-pellet implantation, had had more than 15 miscarriages. On the other hand, the successfully treated case of secondary habitual abortion with four or more previous abortions had actually had six sequential miscarriages since her previous full-term pregnancy.

Cases Not Included in the Series

One patient had had an eight-weeks miscarriage in July, 1939. In January, 1944, she had a full-term normal delivery, having been treated with progesterone injections during this pregnancy. In August, 1945, there was an abortion at just over four months, and in March, 1946, a miscarriage occurred at six weeks. In both these pregnancies progesterone was administered by injection. In August, 1949, a live child was born following a pregnancy in which a progesterone implant was carried out by us at Chelsea Hospital for Women. The case was therefore included in our previous series. Since then the patient has had another live child, born in July, 1951, after a pregnancy which was again treated with an implant. Because of the previous successful pregnancy this case no longer falls under our definition of "secondary habitual abortion."

Four other cases are not included in this series because in each case the pregnancy immediately preceding that under consideration was one in which a progesterone implant had been administered, the pregnancy proceeding to a successful termination.

The following Table gives the combined results of the two series:

TABLE III.—*Combined Results (85 Cases)*

No. of Successive Abortions Immediately Preceding the Treated Pregnancy	No. of Patients	Outcome of Treated Pregnancy		Percentage Successful Results
		Success	Failure	
2	53	45	8	85
3	17	13	4	76 } 72
4 or more	15	10	5	67 }

Discussion

The calculations most often quoted in estimating the "spontaneous cure rate" are those of Malpas (1938) and Eastman (1947). These are shown in Tables IV and V.

TABLE IV.—*Malpas's Figures*

No. of Previous Abortions	Spontaneous Cure Rate of a Subsequent Pregnancy
1	50 to 78%
2	9 ,, 62%
3	7 ,, 27%
4	0·3 ,, 6%

TABLE V.—*Eastman's Figures*

No. of Cases	Previous Abortion	Will Abort from Accidental Causes	Will Abort from Recurrent Causes	Total Abortions	% Will Abort	Spontaneous Cure Rate
100,000	0	9,600	400	10,000	10·0	—
10,000	1	922 (9·6% of above figure)	400 (same 400)	1,322	13·2	86·8
1,322	2	88 (9·6% of above figure)	400 (same 400)	488	36·9	63·1
488	3	8 (9·6% of above figure)	400 (same 400)	408	83·6	16·4

It will be seen that our proportion of successful results for patients with a history of two previous abortions is 85%, whereas the spontaneous cure rate of Malpas and Eastman is in the region of 63%. It is, however, in groups in which three or more previous abortions have been recorded that the true definition of "habitual abortion" operates. Malpas calculates the expected spontaneous cure rate for three previous abortions at 7 to 27%, and for four at 0.3 to 6%. Eastman calculates the spontaneous cure rate for three previous abortions at 16%. Our figures for three previous abortions are 76%, and for more than three previous abortions 67%. The combined figure for a series of 32 treated cases having had three or more previous abortions is 72% successful results. This is significantly greater than the calculations of Malpas and Eastman. It is of the same order as the results of Smith (1948), who reported 60 patients with a history of three, four, or five previous abortions, of whom 46 (77%) were successfully treated with stilboestrol in doses increasing from 5 mg. daily at the sixth week to

115 mg. daily at the 35th week. We suggested in our previous paper that the essential therapeutic mechanism may have been the same in our series of cases as in that of Smith—namely, that we were providing extrinsically the progesterone which was intrinsically lacking in these cases of early habitual abortion, whereas Smith was stimulating, by means of extrinsically administered oestrogen, the secretion of placental hormones and especially progesterone.

It may be observed that the dose of progesterone administered by implantation appears to be small. It has not been easy to determine the rate of absorption of implanted progesterone, because the pellets are apt to extrude if implanted superficially. Bishop and Folley (1951) were able to study the rate of absorption of only four pellets of 50 mg. of progesterone implanted in female patients, and found that 40% of each pellet was absorbed in just over 40 days. This indicates, for what it is worth, that progesterone is one of the more rapidly absorbed hormones when administered by pellet implantation. Calculating from the findings of Bishop and Folley, we think it probable that the long cylindrical-shaped 25-mg. pellet which we have been using is fairly rapidly absorbed and may not remain effective for more than about a month. Nevertheless, if these early habitual abortions are due to a progesterone deficiency which operates during the second and third months of pregnancy, possibly by leading to an inadequate decidual reaction which endangers the safe embedding of the early ovum, administration of a constant though transient exogenous supply of progesterone by implantation may carry the patient over the critical period when abortion is mostly likely to occur.

One is of course always conscious of the possibility that the particular pregnancy under consideration may have gone to term without therapeutic aid. It is for this reason that we sought statistical advice both in regard to our original series and in respect of the present series. (Dr. Doll again is of the opinion that our results are of significance provided that the incidence of true habitual abortion is not much less than 0.1%.) One cannot, however, altogether exclude the psychological factor. Many habitual aborters and their husbands or relatives are highly strung and need reassurance that all will be well in the present pregnancy. Possibly the psychotherapeutic effect of an implant, as opposed to a series of injections or tablets by mouth, may in some cases supply the necessary confidence to enable the patient to retain the embryo during those early critical days.

Bevis (1951) has studied a series of 32 cases of habitual abortion (three or more previous abortions), of which 26 (81%) gave birth to live children. These patients received no treatment which we would regard as effective, though they were advised to rest at the time the menses would have been due. They were, however, submitted to elaborate investigation, including glucose-tolerance tests, estimation of basal metabolic rate, and fortnightly estimation of urinary pregnanediol. It is true that some of Bevis's cases did not come under observation until the 12th week of pregnancy—that is, when the early abortion hazard had been overcome. Nevertheless, if one is to accept his results at their face value—and we are in no position to say that one should not—and if one is also to agree with the calculations of Eastman and Malpas, one must logically conclude that 81 minus 16%—namely, 65%—of patients who have experienced more than three early abortions have done so for psychological reasons and that any procedure which is likely to gain their confidence may well prove successful. There is of course an obvious way of settling the question whether a progesterone implant is endocrinologically or merely psychologically therapeutic—namely, to treat alternate cases with implants of progesterone and an inert compound such as cholesterol.

We would, however, repeat the observation which we made in our first paper, that our results do not indicate that progesterone-pellet implantation in the dosage used is harmful in cases of habitual abortion.

Summary

A further series of 40 cases with a history of two or more miscarriages before the end of the fifth month of pregnancy, immediately preceding the treated pregnancy, were given an implantation of six 25-mg. pellets of progesterone.

Previously a series of 45 cases was reported upon From this combined series of 85 cases 32 patients had experienced at least three miscarriages occurring before the end of the fifth month of pregnancy. Twenty-three patients (72%) produced live children during the current pregnancy in which the progesterone-pellet implantation was performed. This represents a significantly higher success rate than that expected from the calculations of Malpas and Eastman.

The results of Bevis (80% success rate with three or more previous miscarriages) in patients who received no effective endocrine therapy but were submitted to a series of elaborate investigations are discussed in the light of the possible psychotherapeutic effect of any procedure likely to gain the patient's confidence.

We should like to record our thanks to Dr. Richard Doll, of the Statistical Research Unit, Medical Research Council, for his interest and comments on this series of cases, and to members of the staff of Chelsea Hospital for Women and to other gynaecologists and doctors who have referred the patients in this series to us for implantation.

REFERENCES

Bevis, D. C. A. (1951). *Lancet*, **2**, 207.
Bishop, P. M. F. (1937). *Guy's Hosp. Rep.*, **87**, 362.
—— (1949). *Practitioner*, **163**, 437.
—— and Richards, N. A (1950) *British Medical Journal*, **2**, 130.
—— and Folley, S J. (1951). *Lancet*, **2**, 229.
Eastman, N. J. (1947). In J. V. Meigs and S. H. Sturgis's *Progress in Gynaecology*, p. 262. Heinemann, London
Javert, C. T. (1948). *N.Y. St J. Med.*, **48**, 2595.
Malpas, P (1938) *J. Obstet Gynaec. Brit Emp.*, **45**, 932.
Papers of the Royal Commission on Population (1949). Vol. IV, Reports of the Biological and Medical Committee. p 4 H.M.S.O., London.
Ripman, H. A. (1951). *Guy's Hosp. Rep*, **100**, 121.
Smith, O. W. (1948). *Amer. J. Obstet. Gynec.*, **56**, 821.

ACUTE POLYARTHRITIS WITH PULMONARY CONSOLIDATION AND PLEURAL EFFUSION

BY

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Although numerous examples of "rheumatic pneumonia" and "rheumatic pleurisy" have been recorded, many observers are sceptical of the specific nature of these conditions, chiefly because in most reported cases severe cardiac damage has been present. The following cases are of interest because, although the probable diagnosis was acute rheumatism with pulmonary manifestations, no evidence of cardiac involvement could be detected, although eventually a mitral systolic murmur appeared in one.

Case 1

A man aged 37 was admitted to hospital on July 1, 1950, because of a rapid deterioration in his general condition. Fourteen days before admission his knee-joints had become painful, red, and swollen, and later his ankle-joints, wrists, interphalangeal joints, elbow-joints, and shoulder-joints became similarly affected. His health had been good until December, 1949, when he had rheumatic fever; he made a complete recovery and resumed work in February, 1950. His mother, aged 67, was crippled with rheumatoid arthritis.

On admission the wrists, interphalangeal joints, knees, and ankles were red, swollen, and extremely painful and tender, and the shoulder-joints and elbows were painful on movement. The skin was warm and moist. The patient appeared gravely ill; his colour was ashy-blue, he was slightly dyspnoeic at rest, and he had an anxious expression. His temperature was 100.4° F. (38° C.), pulse 108, and respirations 22. Over the lower lobe of the left lung the percussion note was dull, the respiratory murmur bronchial and loud, and the vocal resonance increased. Numerous medium moist crepitations could be heard over the left lower lobe. Clinical and electrocardiographic examination revealed no significant cardiac involvement at any stage. His general condition began to improve on July 5. A chest radiograph on July 7 revealed left basal consolidation with overlying pleural thickening or a small effusion. The heart was of normal size. Aspiration on July 10 produced 60 ml. of a sterile, straw-coloured fluid containing roughly equal numbers of polymorphs and lymphocytes; no tubercle bacilli were found on direct examination, culture, or guinea-pig inoculation. Signs of consolidation in the left lower lobe began to disappear on July 12, and a radiograph on the 14th showed that the condition had almost cleared up; crepitations were present, however, until August 11. Cough was slight throughout, and was always non-productive of sputum.

Calcium aspirin, 150 gr. (10 g.) daily, was given from July 1 to 9, but, although it relieved joint pains, the temperature did not settle, varying between 97 and 103° F. (36.1 and 39.4° C.). Penicillin, 600,000 units daily, was started on July 9, and the temperature, which had fallen on the previous day, settled, although there were subsequent minor elevations. Penicillin was stopped on July 18. After stopping the aspirin on July 9 the joints again became swollen and painful, and it was reinstituted on July 12, with marked benefit; it was finally discontinued on September 27. Blood examination on July 4 showed: R.B.C., 5,500,000; Hb, 90%; W.B.C., 7,000 (polymorphs 82%, lymphocytes 18%); no malaria parasites; and on July 8: W.B.C., 6,500 (polymorphs 78%, lymphocytes 20%, monocytes 2%); no malaria parasites. Blood cultures on July 10, 11, and 13 were negative.

A throat swab on July 6 was negative for *B. diphtheriae* and haemolytic streptococci; there was a predominant growth of *Str. viridans* and a light growth of pneumococci. Serological tests on serum taken on July 13 were negative for typhoid fever, paratyphoid A and B, brucellosis, and typhus. Serum taken on August 29 was tested at Colindale Virus Reference Laboratory; complement-fixation tests for influenza A and B, Q fever, and the psittacosis-L.G.V. (lymphogranuloma venereum) group were negative, and there was no significant agglutination of *Streptococcus M.G.* or significant titre of cold agglutinins. W.R. and gonococcal complement-fixation tests on July 6 were negative. The erythrocyte sedimentation rate (E.S.R.) on July 4 was 114 mm. in the first hour and 120 mm. in the second hour (Westergren method). The corresponding rates on July 10, 13, 24, and August 14 were 108 and 118, 90 and 98, 15 and 38, and 8 and 18 mm., respectively. A bronchogram on August 17 showed a normal left bronchial tree. The patient was discharged on October 14. He was well apart from occasional stiffness of the ankle-joints after exercise.

Comment.—The general aspect of the patient—cyanotic, dyspnoeic, and anxious, coupled with the arthritis—suggested bronchial carcinoma with mediastinal compression and joint manifestations, but the course of the illness ruled this out. Woodland (1947) and others have described cases of pulmonary tuberculosis with associated arthritis, but the clinical features made this diagnosis untenable, and investigation of the pleural fluid revealed no evidence of tuberculosis. There was no cough, sputum, pain in the side, or polymorphonuclear leucocytosis as in bacterial pneumonia. Because of the persistent crepitations at the left base an acute exacerbation of a mild bronchiectasis was considered in spite of the absence of a suggestive previous history, but bronchography showed a normal bronchial tree. Serological investigations did not incriminate any of the virus or rickettsial groups tested. Certain fungi, especially coccidioidomycosis, may cause pulmonary lesions and arthritis; in endemic areas skin tests with specific antigen and complement-fixation tests are of diagnostic value, but they were not considered necessary in the present case. High antistreptolysin titres have been noted in rheumatic fever (Boisvert, 1940; Bunim and McEwen, 1940) and a rising titre of antistreptolysin is reported by some as of diagnostic value. Antistreptolysin titres were not ascertained in this case. The final diagnosis was acute rheumatism with rheumatic "pneumonia" and pleural effusion.

Case 2

An obese male schoolteacher aged 42 was admitted to hospital on March 1, 1951, with a diagnosis of acute rheumatism. Eight days before admission he felt "shivery" and experienced a sensation of stiffness in the shoulders, elbows, wrists, and right knee. The right knee subsequently became swollen and painful.

On admission his temperature was 98.4° F. (36.9° C.), pulse 90, and respirations 30. His blood pressure was 150/90. Examination revealed limitation of movement of the right hip and left elbow and shoulder, and reddening and tenderness over the first left metacarpo-phalangeal joint. The patient's mental state was peculiar; he prattled childishly in answer to questions, described past trifling ailments in great detail, and claimed that he was unable to sit up or move in bed. No evidence of organic disease of the nervous system could be found. Apart from the above findings, examination was essentially negative. The temperature rose to 100° F. (37.8° C.) on March 2 and remained elevated and swinging. There was profuse sweating. Blood examinations on March 2, 5, and 12 showed: W.B.C., 12,000–20,000; 90% polymorphs. Lumbar puncture on March 5 produced a clear fluid not under pressure; cells 2 per c.mm.; total protein, 26.4 mg. per 100 ml.; sugar, 65 mg. per 100 ml.

On March 8 numerous crepitations were heard over the left lower lobe and the percussion note was impaired. There was a slight productive cough, and culture of sputum yielded a moderate growth of *Staph. albus* and *Str. viridans*. A chest film on the same day was reported as showing left lower lobe consolidation. The appearances suggested that there might also be some overlying fluid, and although the physical signs indicated only consolidation, aspiration on March 12 produced half a pint (284 ml.) of straw-coloured fluid from the left thorax.

By March 21 crepitations could no longer be heard over the left lower lobe and the percussion note was resonant over the left lung, but examination revealed signs of a large right pleural effusion. Half a pint (284 ml.) of straw-coloured fluid was aspirated from the right thorax, though much more could have been removed. A chest *x*-ray film on March 23 showed clear lung fields and only a slight haziness in the right cardiophrenic angle.

Several therapeutic agents were administered: chloramphenicol, 500 mg. six-hourly, from March 4 to 22; penicillin, 300,000 units four-hourly, from March 8 to 13; and "sulphatriad," 1 g. four-hourly, from March 12 to 17. These drugs had no effect on the temperature, which swung between 100 and 102° F. (37.8 and 38.9° C.) and had no apparent effect on the migratory arthritis or mental upset, although these symptoms had improved somewhat by March 19. On March 22 sodium salicylate, 120 gr. (8 g.) daily, was started, and other medication discontinued. The temperature fell to normal on the 23rd and remained normal except for rises to 99° F. (37.2° C.) on March 31 and April 8, and the arthritis at once improved and soon cleared up. The mental upset speedily disappeared. The E.S.R., which was 90 mm. in the first hour and 114 mm. in the second hour on March 23, slowly fell. It was 75 and

98 mm. on March 30, 56 and 88 mm. on April 6, 60 and 80 mm. on April 13, and 15 and 45 mm. on April 27.

On April 6 a soft systolic murmur, best heard at the mitral area and at the lower left border of the sternum, was heard for the first time, and this murmur was still present on May 1. At the latter date the general condition of the patient was excellent. There was no evidence of cardiac insufficiency at any time.

The following investigations were negative: examination of the urine for blood, albumin, sugar, bile, cells, casts, and culture for organisms; blood culture on March 7, 8, and 16; W.R. and Kahn tests on March 2 and 14; culture of faeces for dysentery and typhoid groups on March 6; serological examination for typhoid, paratyphoid, and abortus on March 6 and 20; Schuffner test for *L. icterohaemorrhagiae* and *L. canicola* on March 8; sputum for tubercle bacilli on several occasions; direct examination and culture of pleural fluid for pyogenic organisms; direct examination, culture, and guinea-pig inoculation of pleural fluid for tubercle bacilli. The blood urea was within normal limits during the course of the illness. An electrocardiogram on April 27 showed no abnormality.

Comment.—As the patient had haematemesis from a duodenal ulcer in 1939 and again in 1948, and the chest *x*-ray film on March 8 showed a rather high left diaphragm, the underlying condition was thought to be either a left subphrenic abscess or a bronchial carcinoma with secondaries in the brain. The first diagnosis had to be abandoned when screening on March 14 showed that the diaphragmatic elevation was due merely to gas in the stomach and intestine, and the second diagnosis was disproved by the course of the illness.

Discussion

Broadly speaking, the cases of rheumatic "pneumonia" reported fall into two main clinical groups, though many cases show features of both, and the pathology appears to be the same. In the first group the lower lobes, oftener the left, are affected, the consolidation is usually extensive, and its duration, though sometimes only a week or two, may be a matter of months. In the second group the consolidation tends to be focal, multilobular, evanescent, and migratory, though if the infection is severe the lungs may become so widely involved that death results.

Cheadle (1888), Naish (1928), Muirhead and Haley (1947), and Van Wijk (1948) have described cases which belong to the first group, and most of Rabinowitz's (1926) cases seem to come into this category. Examples of the second group of cases in which the consolidation tends to be focal and multilobular have been described (Coburn, 1933; Neubuerger *et al.*, 1944; Griffith *et al.*, 1946; Jensen, 1946; Mossberger, 1947; Seldin *et al.*, 1947; Levy *et al.*, 1948; Gonzalez, 1949). In severe cases death ensued with widespread pulmonary involvement, but in milder cases the lesions tended to be migratory and ephemeral. Cough with a tenacious blood-stained sputum has been noted by several authors, including Paul (1928), Muirhead and Haley (1947), and Seldin *et al.* (1947), and the latter observers found the sputum on occasion contained frank blood. Griffith *et al.* (1946) found a blood-stained sputum in the severer cases. *X*-ray films showed cloudy opacities which tended to disappear and reappear in the same or other situations. Similar migratory opacities have been noted in asthma (Harkavy, 1941), angioneurotic oedema (Vaughan and Hawke, 1931; Cole and Korns, 1933), periarteritis nodosa (Weir, 1939; Elkeles, 1944), and in Löffler's syndrome (Löffler, 1932). Arthritis and pulmonary manifestations without evidence of carditis have been reported by Jensen (1946) and Van Wijk (1948).

Salicylate therapy appears to have little effect on the course of rheumatic "pneumonia." Cheadle (1888) and Seldin *et al.* (1947) stated that pyrexia was unaffected by salicylates, though Naish (1928) mentioned that in cases receiving salicylates there was little rise in temperature. Levy *et al.* (1948) found that neither salicylates nor penicillin had any effect. Some observers have considered that the pathological changes may be due to congestion as a result of heart failure, but Epstein and Greenspan (1941) did not find the characteristic, if non-specific, pathological picture in the lungs of patients dying with pulmonary congestion as a result of hypertension, coronary thrombosis, or mitral stenosis without active rheumatic infection. Gregory and Rich (1946), by injecting rabbits with foreign protein, were able to produce changes in the lung similar to those seen in "rheumatic pneumonia." They considered that an anaphylactic angiitis affecting mainly the capillaries is the essential lesion in the rheumatic lung, and that all the other findings can be explained on this basis.

In interpreting the pathological changes found in the lungs in acute rheumatism observers have differed in their estimation of the part played by cardiac insufficiency, many believing that this is the principal factor. Cases of rheumatic fever showing arthritis and pulmonary manifestations without carditis are therefore of interest, though in the absence of a specific test it is then difficult to be certain of the diagnosis of rheumatic fever. The first case described here falls into this category, and, although cardiac involvement was eventually detected in the second, there was never evidence of failure. Pulmonary manifestations in rheumatic fever may be very misleading; Griffith *et al.* (1946) state that some of their cases were diagnosed as "atypical pneumonia" until cardiac involvement became apparent.

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REFERENCES

Boisvert, P. L. (1940). *J. clin. Invest.*, **19**, 65.
Bunim, J. J., and McEwen, C. (1940). Ibid., **19**, 75.
Cheadle, W. B. (1888). *Lancet*, **1**, 861.
Coburn, A. F. (1933). *Amer. J. Dis. Child.*, **45**, 933.
Cole, J., and Korns, H. M. (1933). *J. Allergy*, **5**, 347.
Elkeles, A. (1944). *Brit. J. Radiol.*, **17**, 368.
Epstein, E. Z., and Greenspan, E. B. (1941). *Arch. intern. Med.*, **68**, 1074.
Gonzalez, R. E. (1949). *Arch. Hosp. univ., Habana*, **1**, 75.
Gregory, J. E., and Rich, A. R. (1946). *Bull. Johns Hopk. Hosp.*, **78**, 1.
Griffith, G. C., Phillips, A. W., and Asher, C. (1946). *Amer. J. med. Sci.*, **212**, 22.
Harkavy, J. (1941). *Arch. intern. Med.*, **67**, 709.
Jensen, C. R. (1946). Ibid., **77**, 237.
Levy, H. B., Coffey, J. D., and Anderson, C. E. (1948). *Pediatrics*, **2**, 688.
Löffler, W. (1932). *Beitr. Klin. Tuberk.*, **79**, 368.
Mossberger, J. I. (1947). *J. Pediat.*, **30**, 113.
Muirhead, E. E., and Haley, A. E. (1947). *Arch. intern. Med.*, **80**, 328.
Naish, A. E. (1928). *Lancet*, **2**, 10.
Neubuerger, K. T., Geever, E. F., and Rutledge, E. K. (1944). *Arch. Path.*, **37**, 1.
Paul, J. R. (1928). *Medicine*, **7**, 383.
Rabinowitz, M. A. (1926). *J. Amer. med. Ass.*, **87**, 142.
Seldin, D. W., Kaplan, H. S., and Bunting, H. (1947). *Ann. intern. Med.*, **26**, 496.
Van Wijk, E. (1948). *Acta paediat.*, **35**, 108.
Vaughan, W. T., and Hawke, E. K. (1931). *J. Allergy*, **2**, 125.
Weir, D. R. (1939). *Amer. J. Path.*, **15**, 79.
Woodland, R. J. T. (1947). *Lancet*, **2**, 540.

K. Hellmann, of the M.R.C. Climatic and Working Efficiency Unit, raises an interesting physiological point in a recent issue of *Nature* (January 19, p. 113). As is well known, the sweat glands of the skin receive an innervation from the sympathetic nervous system, but, unlike other organs under sympathetic control, are not brought into action also by adrenaline but only by pilocarpine and acetylcholine; and they are inhibited by atropine. Hellmann has been studying the cholinesterase of the sweat glands in the pad of the cat's foot by a series of histochemical tests which enable him to display the distribution of enzyme activity throughout a tissue section, and to define the enzyme's specificity of action. He finds that the enzyme is present in the terminal nerve fibres, and disappears when these degenerate, and also that its specificity differs from that of the true cholinesterases hitherto found in nerve fibres, which specialize in the hydrolysis of acetylcholine. This leads him to suggest that the sympathetic cholinergic transmitter may not be acetylcholine after all, but some allied substance.

THE DURATION OF THE ACTION OF DIFFERENT INSULINS

BY

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This investigation was undertaken to compare the different insulins under the same experimental conditions, and to ascertain the duration and, if necessary, the character of the action of new insulins brought on the market. The textbooks on insulin do not supply any data on the duration of action (Grevenstuk and Laqueur, 1925; Hill and Howitt, 1936; Geiling *et al.*, 1937; Jensen, 1938; Joslin, 1946).

Experimental Method

The experimental conditions are of great importance. In the first place, it would seem desirable to investigate the action of insulin in human beings, and so avoid the necessity of adapting the results obtained with test animals. Besides, the experimental conditions of this investigation would not be suitable for animals. It would, of course, have been advisable to use diabetic patients, but for various reasons this was not possible.

The subjects were young healthy student volunteers, whose blood sugar was investigated under standardized conditions, as follows. They were asked to lie down from 11 p.m. the night before—that is, seven hours previous to the experiment—and also during the experiment, in order to eliminate the influence of exercise on the blood sugar. From 6 a.m. onward on the day of the experiment they ate 50 g. of mashed potatoes (about 10 g. of carbohydrate) and drank 30 ml. of water every hour, until the experiment was finished —that is, until the average blood sugar had returned to its original level. Every hour the blood sugar was determined according to the Hagedorn-Jensen method. The values at 7 a.m. and 8 a.m. were used as a starting-point. At 8 a.m. 20 units of insulin was injected subcutaneously, a different brand of insulin being given to each group of test persons. One group which did not receive any insulin served as controls.

In all, 10 different insulins were tested. The accompanying Chart shows the number of persons in each group from whom the average was calculated. This method was chosen because it eliminates all other factors which might influence the blood-sugar level (Himsworth, 1934; Martin *et al.*, 1940). As fasting might decrease the blood sugar, food to a standardized amount was given each hour, to prevent the rise in blood-sugar level which would occur with a larger food intake and which might simulate the end of the action of the insulin. On this matter Peck (1942) states: "There have been only a few published reports of clinical investigations of protamine-zinc insulin which have taken advantage of the invaluable procedure of measuring the rate of insulin action against a known constant carbohydrate intake."

With the present method one finds a constant average blood-sugar level in healthy people, so that any decrease of this level may be attributed to the insulin. If diabetic patients are examined under these conditions a 24-hour rhythm is found in the blood sugar (Gerritzen, 1942). This makes it very difficult, if not impossible, to judge whether the decrease is in consequence of the 24-hour rhythm or whether it should be attributed to insulin. Besides, it is impossible to find enough diabetic subjects in whom to calculate the average blood-sugar level after the administration of insulin.

The hourly intake of 10 g. of carbohydrate diminishes the hypoglycaemia, and this would meet the objection that

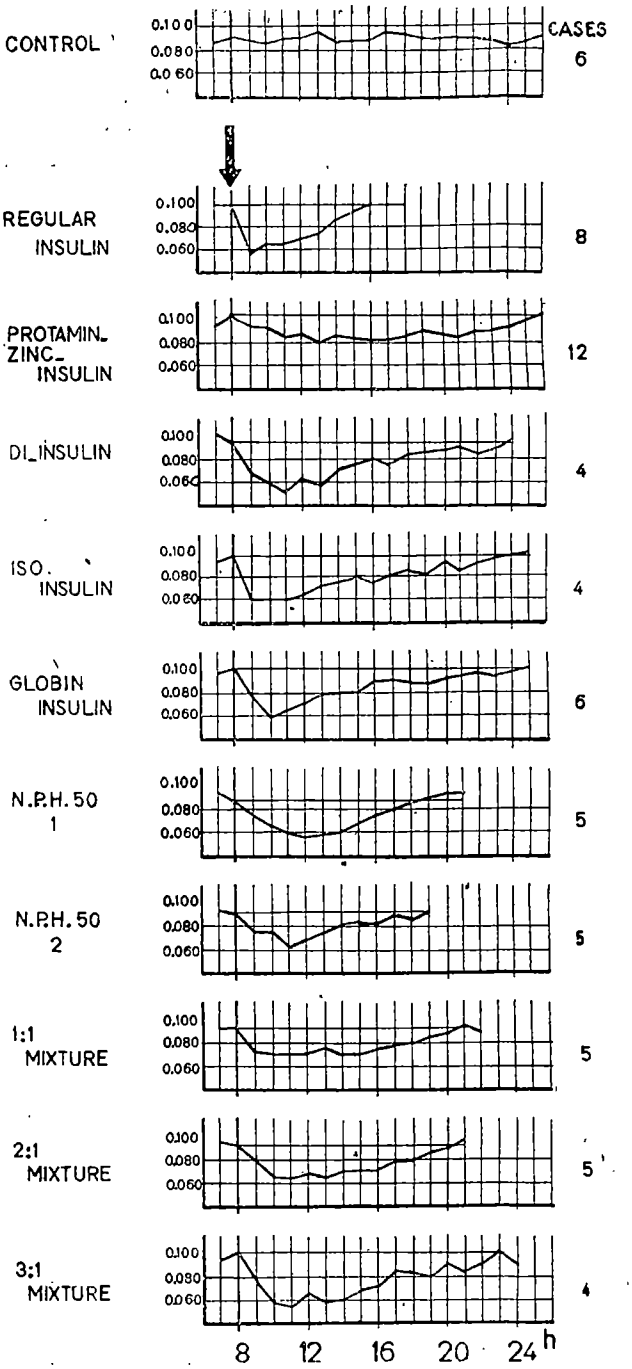

Chart showing duration of action of various insulins.

with a strong decrease of the blood sugar a regulating mechanism, with adrenaline as its principal component (Drury and Greeley, 1939), might become active and thus render evaluation of the action of insulin impossible. During my experiments only minor hypoglycaemic symptoms occurred, and, as expected, without any close relation to the level of the blood sugar.

In addition to the duration of action of equal doses (20 units) of various insulins, it was my intention to find out whether there were any differences in the character of their action (de Jongh, 1924). While assuming that the resorption of insulin in diabetic persons does not in any way differ from that in normal individuals, I think that the differences in action in the latter may also apply to diabetics. In other words, that the order of succession in the duration of the action, as demonstrated in this experiment with healthy

individuals, may also be supposed to exist in diabetic patients. It is obvious, of course, that the actual figures characterizing the duration of the action of insulin in this experiment need not apply to diabetics. However, if, under the conditions of this experiment, it is found that regular insulin is effective for eight hours, this result would agree fairly well with the data in the literature (Scott and Dotti, 1932; Lawrence, 1938; Martin *et al.*, 1940; Peck, 1942; Colwell, 1947), and one would not be far out in accepting the figures as applying to diabetics.

Results

In the control group no significant deviation was found between the average blood sugar values at different hours. There was a significant deviation between the blood-sugar values of the different test persons, calculated according to the F-test (Davies, 1949), the standard error of which was 6.9 units if the blood-sugar values are expressed in percentages to the third place of decimals. In the group receiving insulin there was no significant increase of this standard error in comparison with the control group.*

Control Group.—The average blood-sugar level does not show any oscillations, and may be considered constant.

Regular Insulin (Organon).—The blood sugar reaches its lowest point after one hour and returns to its starting point in eight hours.

Protamine-zinc Insulin (Organon).—Contrary to the many data in the literature, I find for P.Z.I. a duration of action of 18 hours. No evidence was found of a duration of 48 hours or longer. The lowest point is reached in five to eight hours.

Di-insulin (Novo).—Duration of action, 16 hours. The greatest decrease in blood sugar is during the first three hours.

Iso-insulin (Novo).—Duration of action 17 hours. Rapid decrease of sugar in the first hour. The steep decrease within the first hour leads to the assumption that this preparation contains regular insulin, but, according to Hallas Möller, this is not the case.

Globin Insulin (Burroughs Wellcome).—Action is identical with that of di-insulin.

(1) *N.P.H. 50 (Organon).*—Duration of action, 11 hours. Lowest point after four hours.

(2) *N.P.H. 50 (Lilly).*—Duration of action, 11 hours. Lowest point after three hours.

Insulin Mixtures (Organon).—The impression is gained that the duration of action of the mixture depends on the regular insulin content only so far as the decrease during the first three hours is greatest with the mixture containing most regular insulin—the 3:1 mixture—and that thereafter the blood sugar takes longer to come back to the starting-point than with the 2:1 and the 1:1 mixtures. This would explain the longer duration of the action with a higher regular insulin content.

I am indebted to Miss S. P. I. Hoogeveen for the accurate blood-sugar determinations, and to Mr. F. H. Stieltjes for the statistical calculations. I am grateful also to the 64 students who voluntarily served as test subjects. This experiment was made possible by a grant from Messrs. Burroughs Wellcome and Co.

*An analysis of variance is effected with the control group, globin insulin 1:1 mixture, 2·1 mixture, and 3:1 mixture according to Fisher (1937). The χ^2 test (Bartlett test 3), applied to all error variances, showed that the inclusion of the 1:1 mixture in the calculations led to very uncertain results; otherwise this experiment had a very low error variance. The χ^2 test was employed to find whether there was an individual variance of reaction to insulin, as this would only result in an increase of the error variance. There remains, therefore, a reasonable chance that there are no individual differences of reaction to insulin. This implies that there is a reasonable possibility that, by increasing the number of test persons, more definite results might be obtained.

REFERENCES

Aitken, R. S. (1938). *Lancet*, **1**, 669.
Colwell, A. R. (1947). *Med. clin. N. Amer.*, **31**, 327.
Davies, O. L. (1949). *Statistical Methods in Research and Production*, pp. 60, 113.
Drury, D. R., and Greeley, P. O. (1939). *Amer. J. Physiol.*, **127**, 581.
Fisher, A. R. (1937). *Design of Experiments*, p. 57. Edinburgh.
Geiling, E. M. K., Jensen, H., and Farrar, G. E., jun. (1937). In *Handbuch der experimentellen Pharmakologie*, by A. Heffter *et al.*, **5**, 197. Berlin.
Gerritzen, F. (1942). *Acta med. scand.*, **111**, 212.
Grevenstuk, A., and Laqueur, E. (1925). *Ergebn. Physiol.*, **23**, II Abt., p. 1.
Hill, D. W., and Howitt, F. O. (1936). *Insulin*. London.
Himsworth, H. P. (1934). *J. Physiol.*, **81**, 29.
Jensen, H. F. (1938). *Insulin, its Chemistry and Physiology*. London.
de Jongh, S. E. (1924). *Biochem. J.*, **18**, 833.
Joslin, E. P. (1946). *Treatment of Diabetes Mellitus*, 8th ed., p. 363. Philadelphia.
Lawrence, R. D. (1938). *Lancet*, **1**, 669.
Martin, H., Drury, D. R., and Strouse, S. (1940). *Arch. intern. Med.*, **66**, 78.
Peck, F. B. (1942). *Proc. Amer. Diabetes Ass.*, **2**, 67.
Scott, E. L., and Dotti, L. B. (1932). *Arch. intern. Med.*, **50**, 511.

BIBLIOGRAPHY

The following bibliography is, of course, not complete, but will serve readers who wish to obtain information on the action of the different insulins

Protamine-zinc Insulin

Aitken, R. S. (1938). *Proc. roy. Soc. Med.*, **31**, 1217.
Himsworth, H. P. (1937). *British Medical Journal*, **1**, 541.
Kerr, R. B., and Best, C. H. (1937). *Amer. J. med. Sci.*, **194**, 149.
Lawrence, R. D. (1938). *Proc. roy. Soc. Med.*, **31**, 1217.
—— (1939). *British Medical Journal*, **1**, 1077.
—— and Archer, N. (1937). Ibid., **1**, 487.
MacBryde, C. M., and Roberts, H. K. (1943). *J. Amer. med. Ass.*, **122**, 1225.
Martin, H. E., and Greeley, P. O. (1942). *Amer. J. med. Sci.*, **203**, 402.
Masenthal, H. O. (1944). *J. Amer. med. Ass.*, **125**, 483.
Wilder, R. M., and Wilbur, D. L. (1937). *Arch. intern. med.*, **59**, 329.

Iso-insulin and Di-insulin

Boulin, R., Uhry, P., and Nepveux, F. (1947). *Bull. Soc. méd. Hôp. Paris*, **63**, 41.
Brull, L., Drury, A., Lambrechts, A., Lefebvre, L., Piersotte, J., and Toussaint, C. (1947). *Rev. méd. Liège*, **2**, 631.
Gerritzen, F. (1948). *Ned. Tijdschr. Geneesk.*, **92**, 471.
Hallas-Möller, K. (1945). *Chemical and Biological Insulin Studies*.
—— and Hey, A. (1944). *Ugeskr. Laeg.*, **106**, 565.
Hey, A. (1945). Ibid., **107**, 901.
Kestermann, E., and Thöne, H. (1949). *Med. Klinik.*, **44**, 934.
M'Lady, P. (1948). *Klin. Med., Wien*, **3**, 207.
Slessor, A. (1947). *Lancet*, **1**, 820.

Globin Insulin

Andrews, G. B., and Groat, W. A. (1940). *N.Y. St. J. Med.*, **40**, 913.
Bailey, C. C., and Marble, A. (1942). *J. Amer. med. Ass.*, **118**, 683.
Bauman, L. (1939). *Amer. J. med. Sci.*, **198**, 475.
—— (1939). *Proc. Soc. exp. Biol., N.Y.*, **40**, 170.
—— (1940). *Amer. J. med. Sci.*, **200**, 299.
Duncan, G. G., and Barnes, C. E. (1941). *Amer. J. med. Sci.*, **202**, 553.
Gabriele, A. J., and Marble, A. (1949). *Amer. J. digest. Dis.*, **16**, 197.
Jackson, R. L., and McIntosh, C. B. (1945). *Amer. J. Dis. Child.*, **70**, 307.
Lawrence, R. D (1943). *British Medical Journal*, **2**, 103.
Marks, H. E. (1940). *Med. Clin. N. Amer.*, **24**, 649.
Martin, H E., Simonsen, D. G., and Homann, N. H. (1944). *Amer. J. med. Sci.*, **208**, 321.
Mosenthal, H O (1944). *J. Amer. med. Ass.*, **125**, 483.
Peck, F. B. (1947). *Med. Clin. N. Amer.*, **31**, 343.
Rabinowitch, I. M., Fowler, A. F., Bensley, E. H., Gordon, A. L., and Mountford, M. (1947). *Canad. med. Ass. J.*, **56**, 595.
Reiner, L., Searle, D., and Lang, E. H. (1939). *Proc. Soc. exp. Biol., N.Y.*, **40**, 171.
Roberts, J. T., and Yater, W. M. (1947). *Ann. intern. Med.*, **26**, 41.
Trasoff, A., Borden, Ch., and Mintz, S. S. (1945). *Amer. J. digest. Dis.*, **12**, 313.
Wauchope, G. M. (1948). *British Medical Journal*, **2**, 191.

N.P.H. 50

Gabriele, A. J., and Marble, A. (1949). *Amer. J. digest. Dis.*, **16**, 197.
Kirkpatrick, N. R. (1949). *Proc. Mayo Clin.*, **24**, 365.
White, P. (1949). *J. Amer. med. Ass.*, **141**, 312.

Insulin Mixtures

Colwell, A. R. (1947). *Diabetes Mellitus in Medical Practice*. Chicago.
—— and Izzo, J L. (1943). *J. Amer. med. Ass.*, **122**, 1231.
—— —— and Stryker, W. A. (1942). *Arch. intern. Med.*, **69**, 931.
Graham, G (1938). *Lancet*, **1**, 669.
Hildebrand, A. G., and Rynearson, E. H. (1943). *Arch. intern. Med.*, **72**, 37.
Lawrence, R D. (1938). *Acta med. scand.*, Suppl. 90, 32.
Peck, F B (1943). *Ann. intern. Med.*, **18**, 177.
—— (1947). *Med. Clin. N. Amer.*, **31**, 343.
Sparks, M I., and John, H. J. (1943). *Ohio St. med. J.*, **39**, 226.
Sprague, R. G (1949). *Ann. intern. Med.*, **31**, 628.
Wauchope, G. M. (1940). *Lancet*, **1**, 962.

The Ministry of Health has reminded local authorities (circular 5/52 of January 21) that they have powers to find and pay for temporary homes for mental defectives when these patients cannot be looked after by their families—for example, during illness in the house, or in holiday periods.

TREATMENT OF HYPERTENSION BY ORAL METHONIUM COMPOUNDS

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For almost two years we have used methonium compounds in the treatment of hypertension, and during this time have examined their action upon nearly 100 patients, of whom a fair cross-section have been followed up and observed in detail.

Hexamethonium, pentamethonium, and hexamethylene *bis*-dimethylethyl ammonium ("M. & B. 1863") in bromide, chloride, iodide, and tartrate salts have been used. Our chief aim has been to establish, where possible, control of the hypertension and relief of symptoms mainly by the oral dosage of one of these compounds.

Since the original clinical investigations of the effect of pentamethonium and hexamethonium upon the cardiovascular system (Arnold and Rosenheim, 1949; Arnold, Goetz, and Rosenheim, 1949), a series of reports have appeared upon their therapeutic application. Smirk and Alstad (1951), giving these drugs chiefly parenterally, have described the precise control of pressure which is obtainable. Saville (1950), Turner (1950), and Mackey and Shaw (1951b), together with Campbell and Robertson (1950), have, with oral administration, obtained a reasonable depression of the blood pressure of many of their cases, accompanied by a clinical improvement comparable at times to that seen when the drug is given parenterally. The action is much less constant and less apparent when assessed by the effect upon the pressure, and Locket, Swann, and Grieve (1951) have recorded that in their series there was little effect upon the pressure of out-patients.

We have treated hypertensive patients with methonium compounds when their response to dietary limitation and sedation was unsatisfactory, and by careful examination have excluded patients with hypertension of remedial origin. Renal disease was not regarded as a contraindication, and several cases of chronic nephritis with hypertension and severe symptoms were treated.

It is known that most patients with hypertension may be maintained symptom-free by severe dietary restriction and sedation in hospital, but it is equally recognized that often when these patients return home or to work there follows a reversal of improvement both in symptoms and in blood pressure. In the absence of any treatment of the underlying cause of the hypertension there is every indication for an out-patient therapeutic measure which would enable these patients to be maintained in reasonably good health, with an arrest of progress of their symptoms and signs.

We gave methonium compounds intravenously, intramuscularly, subcutaneously, and orally, and tended to use parenteral routes for investigation and the oral route for treatment. Latterly we employed combined oral and subcutaneous administration when the pressure response to oral administration was unsatisfactory. Parenteral dosage consisted in the cautious administration of 10–15 mg. of hexamethonium bromide initially, with increase in quantity and frequency until up to 300 mg. in divided doses was given daily. Oral dosage begins with a single tablet, followed by a progressive increase in frequency and quantity to a maximum of 12–16 tablets a day. Tablets of comparable methonium content were used—that is, a 250-mg. tablet of hexamethonium bromide, which is equivalent to a 350-mg. tablet of the bitartrate and to 125 mg. of M. & B. 1863 bromide.

At no time was more than 4 g. of hexamethonium bromide given daily, as activity is not proportional to dosage beyond this level, other than a possible local effect upon the bowel. Clinical results are tabulated in three groups.

1. Essential Hypertension

This group comprised most of our cases, their ages ranging from 29 to 67 years. All had a diastolic pressure above 115 mm. Hg. Of these patients 35 who could conveniently attend for regular examination were observed at short intervals for a period of 4–18 months, the average duration of treatment being 12 months. Hexamethonium was used in 25 and M. & B. 1863 in 10, in both bromide and bitartrate salts.

In every case methonium treatment was preceded by at least 14 days' rest in bed, with sedation and dietary limitation. Cases were selected for treatment only when the response was either disappointing or absent.

Effect upon Signs and Symptoms

The incidence of the signs and symptoms of 16 male and 19 female patients with essential hypertension are reproduced in Table I.

Results are expressed by the classification of Wagener and Keith (1939), which is a clinical assessment and is also of some prognostic value.

TABLE I

Symptoms	Incidence	Signs	Incidence
Headache	29	Cardiac enlargement	10
Lassitude	24	Left ventricular preponderance	16
Vertigo	13	Orthopnoea	8
Dyspnoea	26	Cardiac asthma	1
Palpitation	10	Congestive cardiac failure	3
Precordial discomfort	9	Albuminuria	2
Angina pectoris	3	Previous cerebral vascular disorders	6
Encephalopathy	6	Fundal changes:	
Mental deterioration	8	Grade I	8
		Grade II	20
		Grade III	3
		Grade IV	4

TABLE II.—*Number in Each Group by the Classification of Wagener and Keith Before and After Treatment*

Group	Before Treatment	After Treatment
I	—	1
II	2	23
III	29	10
IV	4	1

Table II shows the change in grading after treatment—that is, a marked reduction in symptoms and signs. Clinical improvement was obtained in 23 out of 35 cases, with results

similar to those recorded by Smirk and Alstad (1951). Most striking was the relief of headache, and this could be obtained in some patients with a dosage too low to influence systemic blood pressure. Regression of papilloedema, when present, and organization of exudates and haemorrhages were noted. Dyspnoea was markedly reduced, and over a period of months reduction in size of the heart was seen when enlargement was present before treatment. The most remarkable effect was the return of most of these patients to a state of normal activity, either to work or to domestic duties. There were a number of failures. Two young adults with a symptomless hypertension were treated prophylactically without producing a fall in pressure. One patient developed a hypertensive encephalopathy during treatment, and in another two cases there was a possible extension of a recent cerebral thrombosis. One patient with severe headaches and a previous cerebral thrombosis had no relief of headache despite a satisfactory fall in pressure.

Effect upon the Blood Pressure

The assessment of the long-term effect of hexamethonium on the blood pressure is difficult. We found that in many cases it is possible to produce by oral and by parenteral administration of the methonium compounds a fall much greater than is seen during rest in bed alone, and this fall bears no relation to that obtainable during profound sedation such as the sodium amytal test. When these drugs were used parenterally it was possible to obtain low levels of pressure, as Smirk and Alstad (1951) have described. Treatment was mainly by the oral route, which differs from parenteral administration in that the response is much slower, single doses producing a much less definite effect. It is generally necessary to administer the drugs for several days, during which time a fall in the pressure is observed in favourable cases, either beginning immediately or after several days, suggesting a cumulative effect. During this initial period of treatment one-third of the patients had diastolic pressures of under 100 mm. In a further one-third the effect upon the pressure, while considerable, was not so pronounced, and in the remaining one-third the systolic and diastolic pressures fell less than 20 mm. The fall was generally greater in the systolic than in the diastolic pressure. An increase of dosage does not produce any greater response, but the addition of parenteral administration was usually effective in producing lower pressure levels.

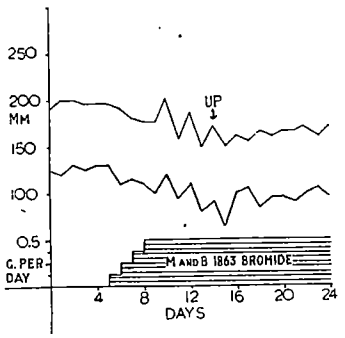

FIG. 1.—Typical response of blood pressure to M. & B. 1863.

The maximum effect is found about the seventh to fourteenth day of treatment. A typical response is recorded in Fig. 1.

The blood pressures of out-patients show an initial progressive rise, and the drug loses some of the original effectiveness during the first weeks of treatment. Subsequently tolerance does not appear to increase for a period of one to two months, and this not in all patients. Tolerance developed more rapidly to M. & B. 1863 than to the other compounds. Withdrawal of treatment for a period of a few weeks or less is usually followed by some loss of this tolerance, and resumption must be cautious. While tolerance to pentamethonium and hexamethonium was interchangeable, this did not always apply to tolerance developed to M. & B. 1863 and hexamethonium. Locket, Swann, and Grieve (1951) have attributed much of the effect upon pressure to the high concomitant dosage of bromide. In six cases we substituted for hexamethonium bromide similar tablets of potassium bromide with the same bromide ion content, and found a steady rise in pressure and recurrence of symptoms identical with results obtained by drug withdrawal. Further, hexamethonium bitartrate was found to be as effective therapeutically as hexamethonium bromide.

Fig. 2 shows the effect of hexamethonium bromide and bitartrate upon the blood pressure.

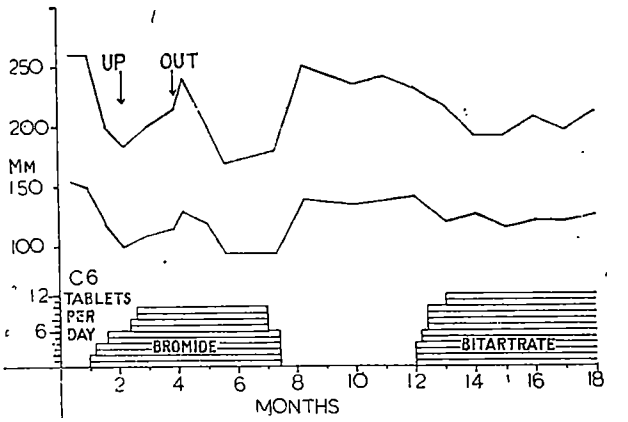

FIG. 2.—Effect of hexamethonium bromide and bitartrate on blood pressure.

2. Chronic Nephritis

Table III records the effect of hexamethonium bromide upon five patients with chronic nephritis with marked hypertension, impairment of renal function, and fundal changes. In each case some reduction of pressure has been possible, with good alleviation of symptoms and signs. Poor renal function in these cases was not a contraindication to treatment. Renal pathology, however, was unaltered, and two of these patients died during treatment—one from cardiac failure and the other from uraemia.

3. Malignant Hypertension

Two young patients with progressive hypertension and grave signs and symptoms were treated, their initial progress having been recorded previously by Campbell and Robertson (1950).

Case 1.—A married woman aged 22 was found in the third month of her pregnancy to have marked hypertension, which was unaltered when pregnancy was terminated at the

TABLE III

Age and Sex	Before Treatment			Treatment with Hexamethonium							
				Renal Function							
	Initial B.P.	Symptoms	Signs	Alb. (Esbach)	Volhard–Fishberg max. Conc.	Volhard–Fishberg max. Dil.	Blood Urea mg./100 ml.	Average B.P.	Dosage g./day	Symptoms	Signs
41 F. ..	275/150	Severe	Severe	2	1018	1012	65	200/125	3·5	Minimal	Moderate
39 M. ..	220/140	,,	,,	Tr.	1015	1002	35	205/120	3	,,	,,
22 F. ..	225/165	Minimal	Minimal	1	1010	1002	30	210/135	2	Absent	Minimal
46 M. ..	260/180	Severe	Moderate	1	1010	1010	30	250/150	3	Moderate	Moderate
15 F. ..	230/130	,,	Severe	2	1010	1010	130	180/110	2·5	,,	,,

fifth month owing to a steady rise in pressure, with dimness of vision and increasing headaches. During the subsequent three months in hospital her condition deteriorated, with increasing blood pressure and the appearance of albuminuria, and the prognosis seemed to be very poor. Hexamethonium bromide in an average daily dosage of 2 g. was administered for six weeks, producing a fall in pressure from 220/135 to 140/90, with disappearance of headaches, visual improvement to normal, and regression of fundal changes from grade IV to grade II. During the past year she has been keeping house and leading a full life with no treatment whatsoever. However, during this period her albuminuria has tended to increase and her blood pressure rose steadily, reaching 180/105, so we decided to make a further attempt to modify her blood pressure. Marked sensitivity to hexamethonium was found, and, because of hypertensive vertigo, continuous administration does not appear at present to be advisable. It seems likely that the course of the disease has been modified, and that she has been given a useful extension of life.

Case 2.—This patient was a man aged 30, whose early treatment has previously been described. Subsequent progress was less favourable in that there was no arrest of his progressive renal lesion, but his general condition before death, which occurred eight months after the beginning of treatment, was good enough to permit of his discharge and even return to employment. Death was occasioned by uraemia, and the post-mortem findings were those of malignant hypertension.

Side-effects and Toxicity

The unselective action of the methonium compounds in producing a generalized interruption of the autonomic nervous system entails effects other than upon the blood pressure. Reference to this in the production of constipation and paralytic ileus has been made in the literature, particularly by Campbell and Robertson (1950), Bourne and Hosford (1951), and Mackey and Shaw (1951a), and transient effects upon accommodation and salivation have been described. The side-effects of M. & B. 1863 have not been significantly different in any respect.

No abnormal sensitivity to the initial dosage of methonium compounds orally was encountered, but early in our work two sudden circulatory collapses followed 100 mg. of hexamethonium bromide parenterally as a first dose.

During the earlier part of this investigation two patients developed bromide rashes and one-third of those treated had bromide retention accompanied by drowsiness, fatigue, depression, and muscular weakness. Substitution of the bitartrate of chloride salts resulted in the disappearance of these symptoms with no diminution of therapeutic response, as already recorded by Campbell and Robertson (1951).

Overdosage of one of the methonium compounds produced a circulatory collapse.

A woman aged 59 had a blood pressure of 210/170 when first seen, and this pressure fell to 220/120 after four weeks in bed. She had severe symptoms of hypertension, and treatment with hexamethonium bromide in amounts up to 2 g. a day produced a fall in her pressure to 115/95. She was sent home to attend as an out-patient, and during the next two months the average levels of pressure were 160/100. She was readmitted comatose with a pressure of 55/30, probably due to a gross self-administered overdosage. The response to continuous adrenaline infusion was transient and death ensued in a few hours.

Discussion

Our experience of the clinical application of the methonium compounds in hypertension accords with the early observations reported from this unit (Campbell and Robertson, 1950) and with the observations of Turner (1950), Saville (1950), and Mackey and Shaw (1951b). It has been possible to alleviate or to remove symptoms and to effect a disappearance or marked regression of physical signs, resulting in reasonable health, compatible in most cases with the patient's return to useful activity and employment. No limitation has been imposed by age or severity of illness.

We are particularly interested to note that our clinical results were very similar to those obtained by Smirk and Alstad (1951), who used a more elaborate method of parenteral administration to obtain continuously lower levels of pressure than we sought. In fact, in our series we found that reduction of pressure to even 140/90 was not always well tolerated by patients who had a long history of hypertension. They complained of listlessness and fatigue.

Previous observations have been in general agreement in regard to the clinical improvements obtainable by oral dosage, but Locket, Swann, and Grieve (1951) have not reproduced the effects upon the blood pressure described. We have observed that, during treatment, blood pressures are very labile in many patients—downwards in response to erect posture and upwards in response to emotion and anxiety. Paton (1951) has noted the difference between the effect of methonium compounds and sympathectomy, the former blocking both the sympathetic and the parasympathetic components of the autonomic nervous system, so that there is a paralysis of the compensating mechanisms which normally maintain the constancy of the blood pressure; and procedures and drugs affecting the blood pressure will produce an exaggerated response. We have found it necessary to allocate a definite weekly time of attendance at the wards, where pressures are taken regularly by the hospital staff, who are known to the patients, in circumstances providing a reasonable period of observation. Failure to observe these precautions may have led to the disappointing results obtained by some workers, in direct contrast to the pressure records made during the careful and prolonged investigation by Mackey and Shaw (1951b).

Smirk and Alstad (1951) have declared that the optimum therapy in hypertension is the establishment of low levels of pressure; and Platt and Stanbury (1950), in the assessment of sympathectomy, have used as their criterion a fall of 20 mm. in the basal diastolic pressure. We have attempted rather to obtain a moderate but definite reduction over a long period in the blood pressure of these patients compared with their pressure when first seen. White, Dimond, and Williams (1950) have surveyed the morbidity and mortality over a three-year period among 100 patients with hypertension, half of whom had been subjected to sympathectomy. They found a much higher morbidity in the control series, and at the end of three years 16% of the sympathectomized patients were dead, as compared with 58% of the controls. They point out that this is more impressive evidence of the beneficial effect of this therapeutic measure in certain cases than is the usual method of studying the effect on blood pressure alone in cases in which important complications do not exist.

Ellis (1942) has emphasized that hypertension in itself does not constitute in general a serious limitation to life expectation, but, once signs and symptoms develop, a threshold has presumably been exceeded and the prognosis is altered.

From experience with hexamethonium administered orally it seems possible that a rather lower average of pressure, with relief of symptoms and some regression of signs, may enable a proportion of hypertensive patients to return to this asymptomatic category with its more favourable prognosis. Keith, Wagener, and Barker (1938) have examined the life expectation of patients with hypertension grouped in the categories we have used, and find that 30% of group I, 42% of group II, 78% of group III, and 98% of group IV do not survive four years. Most of our patients have fallen within group III, and in up to two years of continuous observations there have been no deaths other than the one occasioned by overdosage.

Summary

Methonium compounds have been in use for up to two years, and the treatment of an unselected group of

35 patients with hypertension and severe symptoms and signs is described. These compounds were used orally with variable results upon the blood pressure, but in 23 of the 35 patients there was a good symptomatic improvement with regression of the signs.

Hexamethonium also produced a symptomatic improvement in five patients with severe chronic nephritis and two with malignant hypertension.

We are grateful to Dr. E. Robertson for his work during the early part of this trial and to other members of the hospital staff for their assistance. Mr. E. J. Baines, of the New Products Division of May & Baker Ltd., kindly made available the supplies of the compounds used.

REFERENCES

Arnold, P., Goetz, R. H., and Rosenheim, M. L. (1949). *Lancet*, **2**, 408.
—— and Rosenheim, M. L. (1949). Ibid., **2**, 321.
Bourne, G., and Hosford, J. (1951). Ibid., **1**, 527.
Campbell, A., and Robertson, E. (1950). *British Medical Journal*, **2**, 804.
—— —— (1951). *Lancet*, **1**, 797.
Ellis, A. (1942). Ibid., **1**, 1.
Keith, N. M., Wagener, H. P., and Barker, N. W. (1938). *Trans. Ass. Amer. Phys.*, **53**, 81.
Locket, S., Swann, P. G., and Grieve, W. S. M. (1951). *British Medical Journal*, **1**, 778.
Mackey, W. A., and Shaw, G. B. (1951a). Ibid., **1**, 1205.
—— —— (1951b). Ibid., **2** 259.
Paton, W. D. M. (1951). Ibid., **1**, 773.
Platt, R., and Stanbury, S. W. (1950). *Lancet*, **1**, 651.
Saville, S. (1950) Ibid., **2**, 358.
Smirk, F. H., and Alstad, K. S. (1951). *British Medical Journal*, **1**, 1217.
Turner, R. (1950). *Lancet*, **2**, 353.
Wagener, H. P., and Keith, N. M. (1939). *Medicine*, **18**, 317.
White, P. D., Dimond, E. G., and Williams, A. (1950). *J. Amer. med. Ass.*, **143**, 1311.

M. & B. 1863, A HOMOLOGUE OF HEXAMETHONIUM, IN TREATMENT OF HYPERTENSION

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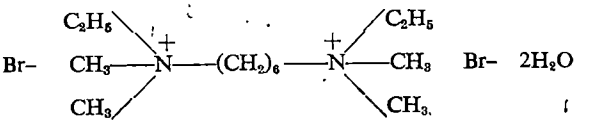
Following work by Paton and Zaimis (1949), Organe, Paton, and Zaimis (1949), and Arnold and Rosenheim (1949), pentamethonium and hexamethonium compounds have been used for the investigation and treatment of hypertension and peptic ulceration (Kay and Smith, 1950, 1951). It has been the experience of some (Freeman, 1950; Locket, Swann, and Grieve, 1951; Banton, 1951) that the oral administration of these in hypertension may fail to produce and maintain a lower blood pressure. Smirk (1950, 1951) and Frankel (1951) have suggested that, therapeutically, hexamethonium bromide should be given subcutaneously, much as insulin is given, the patient being instructed to inject an appropriate dose once or twice daily, or even more frequently.

Bromidism (Rosenheim, 1951; Holt and Litchfield, 1951; Locket *et al.*, 1951; Campbell and Robertson, 1951; Sommerville and Allan, 1951), cerebral thrombosis (Locket *et al.*, 1951; C. F. J. Cropper, 1951, personal communication), coronary thrombosis and death (Hirson and Kelsall, 1951; Locket *et al.*, 1951) have been recorded with these drugs, and in our opinion injection by the patient himself in doses adequate to produce any fall in blood pressure can be an extremely dangerous procedure.

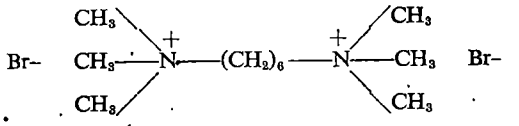
In a previous paper (Locket *et al.*, 1951) we expressed the view that much of the subjective improvement recorded in these patients was due to sedation, reassurance and its consequent relief of anxiety, and possibly other measures instituted, such as a salt-free diet. We did not feel, in view of the natural history of essential hypertension, that any of the symptomatic improvement could reasonably be attributed to the oral administration of the methonium compounds when used by us. Ayman (1930) pointed out that all methods of treatment of hypertension have in common the "enthusiastic treatment of a worried patient," and to this he attributed most of their success.

Through the good offices of Dr. R. Forgan, Messrs. May and Baker Ltd. have kindly provided us with a supply of hexamethonium bitartrate, and also an analogue of hexamethonium known at the moment as "M. & B. 1863." The chemistry of this new compound and related derivatives is described by Barber and Gaimster (1951) and the pharmacology by Wien and Mason (1951). It was originally issued as the bromide salt, but now as the bitartrate. Experimentally it is two to four times as active as hexamethonium bromide (C6) as a ganglion-blocking agent, and therefore might be expected to work in smaller dosage by mouth, with possibly a more sustained action. The formulae given below show the relation between M. & B. 1863 and C6.

M. & B. 1863



Hexamethonium Bromide



For our trials M. & B. 1863 was issued in tablets of 125 mg. of the bromide or 175 mg. of the bitartrate, for oral use only; it was also available in solution for injection.

Most patients have received the drug by mouth only, but a few have had increasing subcutaneous or intramuscular injections of hexamethonium bromide or M. & B. 1863. After 48 hours these have been given oral M. & B. 1863. The dose of this compound was increased until a fall in blood pressure occurred or side-effects prevented any further increase. Most of our cases received no M. & B. 1863 from midnight to 6 a.m.

This communication is mainly based on a detailed analysis of our results in the treatment of 14 patients, both as in-patients and as out-patients. Since completing this review, however, we have also given M. & B. 1863 to many others, both as in-patients and as out-patients. We do not feel that these later results have differed in any way from those obtained in the 14 recorded cases. In all we have used the drug in more than 40 cases.

These results and conclusions relate to the long-term treatment of hypertension. We have found that a small intravenous dose (5 mg. of M. & B. 1863) will produce a most dramatic amelioration of dyspnoea in pulmonary oedema and "cardiac asthma" due to left ventricular failure in hypertension (not associated with coronary thrombosis). The results in some cases were infinitely better than when

using morphine and oxygen, and also were more sustained. So-called hypertensive encephalopathy, however, did not respond to this treatment (see for example Case 3 in this paper). This emergency use of the drug is not discussed further here.

The group of 14 patients is made up of two cases of severe rapidly progressive hypertension (albuminuria, papilloedema, slight diminution in renal function), one case of severe hypertension and papilloedema of at least five years' duration, three cases of chronic nephritis with high or very high diastolic pressure, a case of essential hypertension with superimposed toxaemia of pregnancy, and seven cases of essential hypertension with severe subjective symptoms, one associated with diabetes mellitus and hypertensive encephalopathy and the others with recurrent attacks of left ventricular failure and/or hypertensive encephalopathy. All these 14 patients had diastolic pressures of over 120 mm. Hg when treatment was begun, and all but three had diastolic pressures over 150 mm. Hg; in several cases the diastolic pressure frequently exceeded 180 mm. Hg.

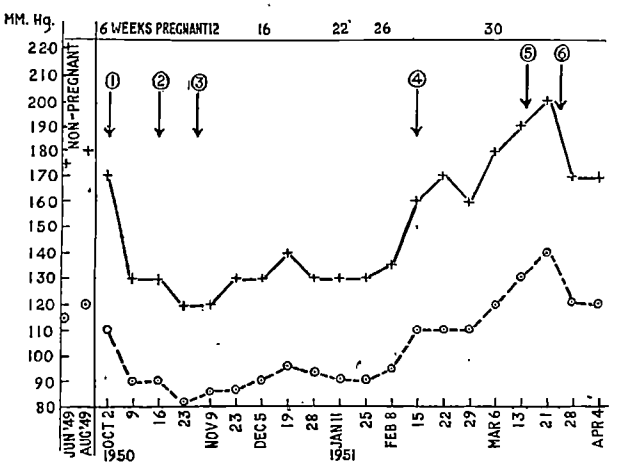
Details are given of four of these cases, as they seem to be of particular interest.

Case 2

A married woman aged 39 had had essential hypertension for many years, with three stillbirths due to superimposed toxaemia of pregnancy. When she became pregnant for the fourth time she was given injections of pentamethonium bromide (C5) at six weeks, and later put on to oral C5. During the middle trimester of pregnancy her blood pressure fell to normal levels, but at the seventh month hypertension reappeared. The oral C5 was increased with no effect on her hypertension. She was then—when her blood pressure had risen to 190/130—given oral M. & B. 1863, and the dose was rapidly increased until she was receiving 250 mg. every one and a half hours. She felt very well, but her blood pressure steadily rose. The foetus was apparently very small for the state of pregnancy.

In spite of increasing doses of M. & B. 1863, and after a further week of treatment, the foetus died. The patient's high blood pressure was maintained for 48 hours until delivery of the macerated foetus and placenta occurred, and it then fell to the previous hypertensive level. At no time did the serum bromide exceed 50 mg. per 100 ml. There was no papilloedema at any stage, and the patient at all times felt very fit and well. During the last six weeks of her illness she remained in bed.

Comment.—In this case it is interesting to note the physiological fall in blood pressure in the middle trimester of pregnancy, and the failure of injected and oral C5 and oral M. & B. 1863 to keep the blood pressure within normal limits. (See accompanying Graph.)



Blood-pressure record of Case 2. (1) On admission to hospital, complete rest in bed. (2) Pentamethonium bromide started. (3) Patient discharged to antenatal clinic on pentamethonium bromide. (4) Readmitted to hospital, complete rest in bed. (5) M. & B. 1863 started. (6) Foetal death *in utero*.

The marked tendency of the blood pressure to fall in the middle trimester of pregnancy in the normal and hypertensive patients (Hare and Karn, 1929; Reid and Teel, 1939; Chesley, Annitto, and Jarvis, 1947; Browne, 1947) and in pregnant hypertensive animals (Page and Ogden, 1939) is quite well known, but we feel it should be emphasized in view of the use of the methonium compounds.

Case 3

A married woman aged 40, one of three cases developing definite papilloedema and albuminuria while receiving hexamethonium bromide or M. & B. 1863 orally, developed recurrent attacks of paroxysmal nocturnal dyspnoea and hypertensive encephalopathy while taking 4 g. of hexamethonium bromide daily. At this time her blood pressure, when she attended the out-patient department, was found to be 260+/180 mm. Hg, and she was immediately readmitted to hospital. After 48 hours of subcutaneous hexamethonium at two-hourly intervals she was given oral M. & B. 1863, and eventually received 250 mg. three-hourly. She was then allowed up. Her blood-pressure level persisted at 180–200/120 mm. Hg, and except for slight episodes of giddiness she felt relatively well.

In the out-patient department two weeks later her blood pressure was 260+/160 mm. Hg, but she felt very well. However, during the 48 hours before attending she had had a recurrence of occipital headache. Intractable constipation alternating with bouts of diarrhoea had been very troublesome. She still had albuminuria and papilloedema and a presystolic gallop. After some weeks her condition began to deteriorate, with no change in her blood pressure, though the dose was increased to 375 mg. seven times daily. She was readmitted in coma with a diastolic pressure averaging 180 mm. Hg, and, though a fall in her blood pressure was produced by intravenous M. & B. 1863, she died 36 hours after admission. In spite of papilloedema, albuminuria, and some diminished renal function, necropsy revealed arteriolosclerosis but no evidence of malignant hypertension.

Case 4

A man aged 60 developed papilloedema, albuminuria, and a higher diastolic pressure (160 to 190 mm. Hg) while receiving 8–10 g. of hexamethonium bromide daily. There was no improvement in his condition at all to increasing doses of M. & B. 1863, and his average blood pressure was actually higher on that drug than it was without it.

Case 6

A married woman aged 35 had active chronic nephritis and severe menorrhagia. Her blood urea was 137 mg. per 100 ml.; standard urea clearance, 20–28% of average normal; urine albumin, 2–4 parts per litre; haemoglobin, 47%; blood pressure, 240–260/130–140 mm. Hg. M. & B. 1863, 125 mg. four-hourly, produced anorexia, nausea, and vomiting, but the diastolic blood-pressure level appeared to have been reduced by 20 mm. Hg. The dose was reduced with relief of her symptoms. The blood pressure did not rise. The urea clearance showed a steady fall, the albuminuria remained constant, and the blood urea rose to more than 270 mg. per 100 ml.

The patient's condition continued to deteriorate slowly, though with cessation of her menorrhagia the haemoglobin increased to 70%. The drug was then discontinued, and during the next six weeks her urea clearance rose by about 10% and her blood urea fell by more than 100 mg. per 100 ml. After a further month, during which she apparently remained fit, her blood urea began to rise again, and two months later she died in uraemic coma. Necropsy revealed chronic nephritis.

Discussion and Review of Results

In this series we did not meet with any case of bromide intoxication or bromide rash. The serum bromide level did not exceed 60 mg. in any case receiving the bromide salt.

Severe constipation was a more pronounced feature than in our past experience with pentamethonium and hexamethonium bromide and hexamethonium bitartrate. However, three patients attending the out-patients department complained of diarrhoea, which would follow several days' intractable constipation. Nausea and vomiting were complained of in six cases and were severe enough to necessitate a reduction in dosage in four cases.

In three patients the mean blood pressure was actually higher whilst the drug was being taken, and in many cases higher peaks of diastolic pressure occurred than during the control period. Increase in lability of the blood pressure was very marked. It was, however, difficult to decide whether this was due to the drug or was a normal feature of the disease.

One patient whose diastolic pressure rose to 170 mm. Hg on 2.0 mg. of M. & B. 1863 three-hourly showed a marked fall when given 250 mg. two-hourly. This fall was associated with gross deterioration in his physical condition and sense of well-being. A spontaneous thrombosis of his axillary artery developed. At this period he had a prothrombin time of 22 seconds (control, 13.5 seconds). Discontinuation of the drug relieved his general malaise, and his blood pressure rapidly rose to its previous level, but in a few days he had obvious congestive heart failure. Routine treatment of his heart failure eventually resulted in great improvement and a "maintained fall in blood pressure." Repeated electrocardiograms, including full unipolar chest leads, showed no evidence of coronary thrombosis, his blood culture was negative, and neither clinically nor radiologically was there any evidence of chronic rheumatic heart disease.

One female patient, in spite of more than five months' continuous treatment with intramuscular and oral hexamethonium bromide, and later with M. & B. 1863, developed what appeared clinically to be the phase of malignant hypertension.

Two out of three chronic nephritic patients whose very high diastolic pressure possibly contributed to their poor renal condition showed some reduction of blood pressure: in one (Case 6) this was associated with deterioration in the renal condition; the other patient was a chronic nephritic with acute exacerbation who was admitted with pulmonary oedema, and whose condition followed the usual course in these cases.

Seven of 14 patients receiving M. & B. 1863 had the same feeling of well-being as those receiving hexamethonium bromide, and this was not related in any way to the fall in blood pressure; in fact, a fall of any significant degree was often associated with a feeling of ill-health.

Five patients showed an unequivocal fall in blood pressure compared with the immediate pre-drug level. One of these died later from severe hypertension while receiving massive doses of the drug; another improved subjectively and objectively on discontinuing the drug, but later died in uraemic coma. In the third case the fall in pressure was associated with marked deterioration of the patient's condition and did not prevent the onset of heart failure a few days later. In the fourth case it was merely the usual result of subsidence of an acute exacerbation of nephritis in a chronic nephritic. The fifth case might represent a genuine therapeutically induced fall in blood pressure, but when followed up in the out-patient department she showed a quick return to her pretreatment level in spite of the continuance of oral therapy.

In several out-patient cases subcutaneous M. & B. 1863, given twice daily, had to be abandoned because of persistent complaints of ill-health and syncope.

We would like again to point out the curious fact that many authorities claim a high incidence of relief of symptoms in hypertension—usually essential or malignant hypertension—with the treatment they propose, without relating this improvement to any fall in blood pressure—for example, the "rice treatment" (Kempner, 1949; Gounelle, Teulon, and Chéroux, 1950)—and Sodi-Pallares and Espino-Vela (1951) quote P. B. Camponovo and J. Masello as demonstrating 31% successful results using vitamin K as a hypotensive agent, with 69% of cases claiming subjective improvement without any fall in blood pressure. Chris (1951), in a follow-up of 35 selected patients submitted to sympathectomy, found that, whereas 25% have maintained a fall in blood pressure, some 66% had been relieved of incapacitating symptoms without any relation to the fall in blood pressure.

Using preparations of *Veratrum viride*, Hite (1946) found that 60% of his patients showed a fall in blood pressure; Freis and Stanton (1948) found a fall in blood pressure in 87%, and subjective relief in 79%, and Wilkins, Stanton, and Freis (1949) had similar results. Coe, Best, and Kinsman (1950), however, found the drug unsatisfactory: most of their patients failed to show a fall in blood pressure; and 64% noted subjective improvement on the drug and 60% on a placebo. McNair, Griffith, and Elek (1950), using a higher dose than Freis and Stanton, did not find any significant fall in blood pressure; and Barrow and Sikes (1951), using a purified extract, found that in only 20% was there a fall in blood pressure which might have been significant. Saville (1950), in her communication on pentamethonium bromide, rather dismisses the blood-pressure effects of the drug, but emphasizes its ability to relieve symptoms; and Turner (1950) wondered whether it might not be better to assess the effect of the drug by the patient's symptomatic relief.

It would seem as though any treatment produces a fall in blood pressure in some 20% to 30% of patients and a symptomatic improvement not related to a fall in blood pressure in 50% to 75% of cases.

It has been suggested in correspondence with one of us (S. L.) that the dosage we have used is too large. Paton (1951, personal communication) would put the odds against this causing therapeutic failure as 1,000 to 1, though there is evidence in animals that tetraethyl-ammonium, by promoting the secretion of adrenaline, may swamp its own ganglion-blocking effect. Experimentally, an increase of the dose of hexamethonium increases its ganglion-blocking effect or its duration, or both. Also, the excretion of these drugs in the urine shows that only a small amount is absorbed from the alimentary canal.

We have not emphasized the symptomatic improvement that can occur in many of these cases. We feel that in the present state of our knowledge of hypertension it would be catastrophic to stress the value of a potentially dangerous drug for the treatment of a disease in which symptomatic improvement often occurs with a placebo. We do not feel that we can accept any result as satisfactory without objective evidence of improvement.

It has been suggested that the small quantity of drug absorbed orally may produce a partial ganglion block which relieves the patient without a fall in blood pressure. Sympathetic vasoconstrictor impulses are not the cause of essential hypertension. Inhibition of these impulses is used as a purely non-specific hypotensive mechanism. In a disease in which, so far as we know, the mechanical effect of the hypertension leads to vascular, cerebral, renal, and myocardial changes that are the cause of the symptoms, it is hard to imagine how relief of the symptoms can be produced without any fall in blood pressure or objective evidence of improvement in the patient, unless these symptoms which are relieved are not due primarily to the raised blood pressure. The supposition of partial ganglion block leads to the rather absurd postulation of the disease state of essential hypertension with hypertensive symptoms without rise of blood pressure. In our opinion it is useless to make these assumptions without producing objective evidence of the suggested underlying changes. We feel that, in hypertension, the value of a drug of this kind—namely, one which blocks the ganglia—can be assessed only by its effect on the blood pressure, and, when hypotension is present, by its relief of symptoms.

TABLE I.—*Case "Pop"*

	M. & B. 1863														
Date:	30/4	3/5	4/5	5/5	7/5	8/5	9/5	10/5	11/5	12/5	13/5	14/5	15/5	16/5	17/5
Dose in mg.	120	100	0	50	0	500	500	500	1,000	1,000	1,000	1,000	1,750	2,500	3,500
Route of administration	i.m.	s.c.		s.c.		p.o.	p.o.	p.o.	p.o.	p.o.	p.o.	p.o.	p.o.	p.o.	p.o.
Amount excreted in 24 hours (mg.)	112	51	5·5	15	0	9	11	21	11	42	43	47	40	149	91
% excreted in 24 hours	93	51		30		1·8	2·2	4·1	1·1	4·2	4·3	4·7	2·3	5·9	2·6

TABLE II.—*Case "New"*

	M. & B. 1863					C6				C5			
Date:	16/5	18/5	19/5	20/5	21/5	22/5	23/5	24/5	25/5	26/5	27/5	28/5	29/5
Dose in mg.	60	105	0	100	0	140	0	295	0	250	0	300	0
Route of administration	s.c.	s.c.		s.c.		s.c.		s.c.		s.c.		s.c.	
Amount excreted in 24 hours (mg.)	19	233	15	93	44	40	28	214	81·3	140	55	193	123
% excreted in 24 hours	32			93		28		73		56		64	

	M. & B. 1863															
Date:	30/5	31/5	1/6	2/6	3/6	4/6	5/6	6/6	7/6	8/6	9/6	10/6	11/6	12/6	13/6	14/6
Dose in mg.	105	0	0	150			1,000	0	0	0	0	0	0	2,000	0	0
Route of administration	s.c.			s.c.			p.o.							p.o.		
Amount excreted in 24 hours (mg.)	120			49; 94·6*	45; 0*	14; 10*	17·3; 7·4; 5; 0†	6·0	trace	6·2	0	0	0	219; 168·5; 130·7; 372·3†	110	27
% excreted in 24 hours			14·8				1·4							44·5		

* Excretion during 12-hour periods. † Excretion during 6-hour periods. i.m.=intramuscularly. s.c.=subcutaneously. p.o.=by mouth. C6=hexamethonium. C5=pentamethonium.

TABLE III.—*Case "Ho"*

	M. & B. 1863										C6						C5
Date:	4/5	8/5	9/5	10/5	11/5	12/5	13/5	14/5	15/5	16/5	17/5	18/5	19/5	20/5	21/5	22/5	23/5
Dose in mg.	1,875 (15 tabs)	95 (1·9 ml.)	0	220 (4·4 ml.)	330 (6·6 ml.)	0	120 (2·4 ml.)	0	180 (3·6 ml.)	0	100	0	180	0	180	0	270
Route of administration	p.o.	s.c.		i.v.*	i.v.*		s.c.		s.c.		s.c.		s.c.		s.c.		s.c.
Amount excreted in 24 hours (mg.)	143	194	50	430	308	122	99	32	230	32	119	22	360	8	103	14	177
% excreted in 24 hours	7·6				94		82								57		66

* Intravenous drip.

TABLE IV.—*Five Cases Treated with M. & B. 1863*

	Case "Free"			Case "Hins"			Case "Web"						Case "Con"		Case "Han"
Date:	18/5	19/5	22/5	18/5	19/5	22/5	18/5	19/5	20/5	21/5	22/5	23/5	30/4	16/5	8/5
Dose in mg.	1,000	0	50	1,000	0	30	1,000	1,000	1,000	1,000	0	0	1,400	3,500	1,760
Route of administration	p.o.		s.c.	p.o.		s.c.	p.o.	p.o.	p.o.	p.o.			p.o.	p.o.	p.o.
Amount excreted in 24 hours (mg.)	1·9	10	4	338	11	7	47	39	46	67	40	12	336	176	13·0
% excreted in 24 hours	0·2		8	33·8		22	4·7	3·9	4·6	6·7			24	5	0·74

The difference between our results and those of authors who used the drug only by injection (Smirk, 1950) may be due to the fact that in our previous communication (Locket *et al.*, 1951) and in the present one we have depended mainly upon oral administration of the hexamethonium derivatives. However, our experience with continuous intravenous drip and subcutaneous and intramuscular administration of the methonium compounds does not make us feel any more optimistic about our ability to produce a sustained lower blood pressure unless the injections are given at very frequent intervals and the patients are kept *immobile and erect.* The answer to the different immediate results may lie in the inadequate absorption of the methonium compounds when given by mouth (Milne and Oleesky, 1951).

The different rates of absorption of the drug and the different percentages absorbed when given by different routes form one of the factors accounting for the variability of results. Some of these results are briefly discussed by Wien and Mason (1951). One thing is certain after consideration of these figures—namely, that it is entirely impossible to predict the percentage absorbed or the rate of absorption when the drug is given orally. Even were it possible to predict the response to any given dose "absorbed" by any route and thus to grade the response, it would be impossible to do this with the oral method. The figures in Tables I–V illustrate this better than words, and make it impossible for one to understand how any clinicians can obtain consistent results when giving the drug by mouth, and how they can claim even to adjust the response by alteration in the oral dose.

Thus Table IV shows that Case "Free" with clinical uraemia excreted only 0.2% of the oral and 8% of the subcutaneous dose, yet Case "Hins," with just as advanced renal disease, excreted 33.8% of the oral and 22% of the subcutaneous dose. Case "Con," with simple hypertension, excreted 24% of 1,400 mg. and only 5% of 3,500 mg. given orally. Case "New" (Table II) excreted 1.4% in 24 hours of a single oral dose of 1,000 mg. and 2.1% of the dose in

TABLE V.—*Three Cases Treated with C6 Bitartrate*

	Case "Dub"	Case "Simp"	Case "Saw"
Date:	18/5	20/5	3/5
Dose in mg.	5,950	2,000	3,500
Route of administration	p.o.	p.o.	p.o.
Amount excreted in 24 hours (mg.)	734	119	396
% excreted in 24 hours	12·3	5·9	11·3

four days, whereas she excreted 44.5% in 24 hours of a single dose of 2,000 mg. given orally and 56.4% in three days. This latter dose was associated with syncope, ileus, and urinary retention. Case "Pop" (Table I) showed a daily excretion of 1.1% to 4.7% of 1,000 mg., but 5.9% of 2,500 mg. and 2.6% of 3,500 mg. given in single doses orally. Subcutaneous administration usually showed excretion figures of 80% in 24 hours, but even these varied from 30% or less to over 80% in the same patient.

When the daily excretion figures exceeded the dose administered, it was because of delay in excreting a dose of drug often given many days earlier. The figures quoted in this paper can be repeated many times from other records.

This failure and delay in absorption might account for the disparity of our results with groups receiving the drug by injection only (Smirk, 1950; Restall and Smirk, 1950), as we have found that the drug is removed from the blood almost as fast as it is injected. It was impossible, with the methods available to us at the time, to estimate blood levels of the methonium compounds, even when blood samples were taken whilst the drug was given by intravenous drip. This failure in intestinal absorption would not account for the difference between our results and those of the series receiving the drug only or mainly by mouth (Campbell and Robertson, 1950; Frankel, 1951).

We have produced an unequivocal maintained fall in blood pressure in one patient treated with oral hexamethonium bromide (and quoted in our earlier communication) and one patient treated with M. & B. 1863, and there were also four doubtful cases with M. & B. 1863—this out of a total of more than 90 patients treated with the drugs, mainly orally, and in spite of the fact that many of our hexamethonium bromide series of patients have now had this drug or M. & B. 1863 for more than a year.

In view of the dangers associated with injection of the drug and the poor and very variable absorption when given by mouth, we consider that further trial of the methonium compounds at present available should be restricted to hospital patients receiving it by injection. Further, that oral use of the drugs is of little value, and, with variable absorption associated with the possible storage of large amounts of the drug in the inert bowel, it might be extremely dangerous in patients not treated in hospital. We have a fair amount of evidence to suggest that oral administration of the drug always causes some degree of intestinal stasis before any reasonable amount of absorption can occur (see Case "New" in Table II). This ileus may be associated with a persistent hypotension because of delayed passage of the drug along the gut and therefore continuance of absorption. There does not appear to be any record of ileus occurring unless the methonium compound is given by mouth, and all recorded fatal cases of this condition were associated with oral administration of the drug.

In conclusion, we ourselves have abandoned the oral use of these compounds in the treatment of any variety of hypertension. We feel that at the moment a regime of rest in bed, sedation, and a salt-free diet is still the safest and most universally applicable method of treatment. However, the continued investigation of the methonium compounds under strict clinical control in hospital centres where there is a full appreciation of the natural variation of hypertension in those diseases in which it occurs is, in our opinion, more than ever necessary in order to obtain a complete picture of the possible restricted field where their administration may be of value.

Summary

M. & B. 1863, an analogue of hexamethonium, was tried orally in several severe cases of hypertension due to essential or malignant hypertension, toxaemia of pregnancy, or chronic nephritis. In none of these cases had there been previously an appreciable fall in blood pressure on rest in bed and ancillary treatment without the hexamethonium derivative.

These detailed results, discussed in the light of more extensive experience, were no more satisfactory than with oral pentamethonium bromide or hexamethonium bromide or bitartrate.

Spontaneous thrombosis of the axillary artery occurred in one patient receiving M. & B. 1863, and another patient apparently developed malignant hypertension while taking it by mouth.

Rest and M. & B. 1863 in combination appeared to produce a fall in blood pressure in five patients: two with chronic nephritis, one of whom is now dead; one in whom the fall in blood pressure was associated with marked general malaise and giddiness followed by congestive heart failure; and two in whom there was, later, a recurrence of symptoms and increase in blood pressure, with death in one case.

In a case of toxaemia of pregnancy associated with essential hypertension, in spite of the proved lability of the blood pressure, intramuscular pentamethonium bromide, oral pentamethonium bromide, and oral M. & B. 1863 failed to produce any improvement or prevent death of the foetus for the fourth time.

Absorption, blood levels, and excretion of the methonium compounds are briefly discussed.

We are grateful to Drs. R. Wien and D. F. J. Mason, of the biological division of May & Baker Ltd., for numerous estimations of the urine content of methonium compounds; to our ward sisters for loyal co-operation in this work; and to Drs. J. Lister, J. Angus, L. G. Collins, R. G. Davies, and A. R. Taylor, without whose help nothing could have been done. We would also like to thank Mr. R. E. Frizzell, our chief pharmacist, for his help and advice, and Messrs. May & Baker Ltd. for the supply of the drug that made this investigation possible. The skilled biochemical assistance of Mr. T. Baker and secretarial assistance of Mrs. E. D. Price have relieved us of many a burden and enabled this work to be completed. Owing to shortage of space more detailed protocols and tables of these 14 cases have had to be omitted, though they are available.

REFERENCES

Arnold, P., and Rosenheim, M. L. (1949). *Lancet*, **2**, 321.
Ayman, D. (1930). *J. Amer. med. Ass.*, **95**, 246.
Banton, A. H. (1951). *Lancet*, **1**, 527.
Barber, H. J., and Gaimster, K. (1951). *J. Pharm. Pharmacol.*, **3**, 663.
Barrow, J. G., and Sikes, C. R. (1951). *Amer. Heart J.*, **41**, 742.
Browne, F. J. (1947). *British Medical Journal*, **2**, 283.
Campbell, A., and Robertson, E. (1950). Ibid., **2**, 804.
—— —— (1951). *Lancet*, **1**, 797.
Camponovo, P. B., and Masello, J. (1951). Quoted by Sodi-Pallares and Espino-Vela (1951).
Chesley, L. C., Annitto, J. E., and Jarvis, D. G. (1947). *Amer. J. Obstet. Gynec.*, **53**, 851.
Chris, S. M. (1951). *British Medical Journal*, **1**, 665.
Coe, W. S., Best, M. M., and Kinsman, J. M. (1950). *J. Amer. med. Ass.*, **143**, 5.
Frankel, E. (1951). *Lancet*, **1**, 408.
Freeman, Z. (1950). *British Medical Journal*, **2**, 1496.
Freis, E. D., and Stanton, J. R. (1948). *Amer. Heart J.*, **36**, 723.
Gounelle, H., Teulon, H., and Chéroux, R. (1950). *Bull. Soc. méd. Hôp. Paris*, **66**, 327
Hare, D. C., and Karn, M. N. (1929). *Quart. J. Med.*, **22**, 381.
Hirson, C., and Kelsall, A. R. (1951). *Lancet*, **1**, 586.
Hite, W. K. (1946). *Illinois med. J.*, **90**, 336.
Holt, M. C., and Litchfield, J. W (1951). *Lancet*, **1**, 347.
Kay, A. W., and Smith, A. N. (1950). *British Medical Journal*, **2**, 807.
—— —— (1951). *Gastroenterology*, **18**, 503.
Kempner, W. (1949). *Ann. intern. Med.*, **31**, 821.
Locket, S., Swann, P. G., and Grieve, W. S. M. (1951). *British Medical Journal*, **1**, 778.
McNair, J. D., Griffith, G. C., and Elek, S. R. (1950). *Amer. Heart J.*, **40**, 382.
Milne, G. E., and Oleesky, S. (1951). *Lancet*, **1**, 889.
Organe, G., Paton, W. D. M., and Zaimis, E. J. (1949). Ibid., **1**, 21.
Page, E. W., and Ogden, E. (1939). *Amer. J. Obstet. Gynec.*, **38**, 230.
Paton, W. D. M. (1951). *British Medical Journal*, **1**, 773.
—— and Zaimis, E. J (1949). *Brit. J. Pharmacol.*, **4**, 381.
Reid, D. E., and Teel, H. M. (1939). *Amer. J. Obstet. Gynec.*, **37**, 886.
Restall, P. A., and Smirk, F. H. (1950). *N.Z. med. J.*, **49**, 206.
Rosenheim, M. L. (1951). *Lancet*, **1**, 347.
Saville, S. (1950) Ibid., **2**, 353.
Smirk, F. H. (1950) *N.Z. med. J.*, **49**, 637.
—— (1951). *Amer. Heart J.*, **42**, 530.
Sodi-Pallares, D., and Espino-Vela, J. (1951). Ibid., **41**, 626.
Sommerville, J., and Allan, J. (1951). *British Medical Journal*, **1**, 864.
Turner, R. (1950) *Lancet*, **2**, 358.
Wien, R., and Mason, D. F. J. (1951). *Brit. J. Pharmacol.*, **6**, 611.
Wilkins, R. W., Stanton, J. R., and Freis, E.D. (1949). *Proc. Soc. exp. Biol., N.Y.*, **72**, 302.

Medical Memorandum

A Case of Schönlein-Henoch (Anaphylactoid) Purpura Treated with A.C.T.H.

The anaphylactoid nature of the syndrome associated with the names of Schönlein and Henoch was first suggested by Osler (1914). It is now generally agreed that sensitization to the haemolytic streptococcus is the basis of the pathology. Histologically the lesion consists of an inflammation involving the terminal arterioles. The presenting symptom in any individual case is determined by the site of the arterioles most severely affected. Gairdner (1948) has pointed out the similarity between the arteriolar lesion in anaphylactoid purpura and the lesion seen in larger vessels in periarteritis nodosa.

A.C.T.H. is of proved value in a variety of allergic states—asthma, drug sensitivities, hay-fever, giant urticaria of unknown origin, contact dermatitis, etc. (Bordley *et, al.*, 1949). In periarteritis nodosa improvement has occurred during the administration of A.C.T.H. (Goldman *et al.*, 1950; Stillman, 1950; Shick *et al.*, 1950). The renal lesion in the Schönlein–Henoch syndrome is indistinguishable clinically from that of acute nephritis in which modification of the course of the disease has been reported following the administration of A.C.T.H. (Farnsworth, 1950). There were reasons, therefore, to expect that the hormone might prove of value in anaphylactoid purpura, which has features common both to the allergic states and to periarteritis nodosa.

The following is a report of a case of Schönlein–Henoch syndrome treated with A.C.T.H.

CASE REPORT

A boy aged 3½ was admitted to the Derbyshire Hospital for Sick Children on November 23, 1950. Some five weeks previously he had had a sore throat, with pyrexia and cervical adenitis. Ten days later a purple rash appeared on the thighs and buttocks and he had a persistent severe colicky abdominal pain. Fresh crops of spots occurred prior to his admission, and he had painful swellings of the knees, right hand, and axilla, and painless swellings of the forehead and nose.

On admission his temperature was raised. He had widespread raised purplish macules on the limbs and buttocks and some true purpura. The right wrist was swollen, and at the base of the nose there was a diffuse area of oedema. Tonsils were enlarged but not acutely inflamed. No other abnormal physical signs were seen.

Laboratory Investigations.—Blood count: Hb, 83%; red cells, 3,780,000; white cells, 8,000 (eosinophils 4%, neutrophils 38%, old metamyelocytes 5%, leucocytes 47%, monocytes 6%); platelets, 426,000. Bleeding and clotting times normal; prothrombin time, 19 seconds; E.S.R., 12 mm. in first hour. The urine contained a small amount of albumin, a few granular casts, red cells up to 12, and white cells up to 6 per high-power field of centrifuged deposit. Blood urea, 29 mg. per 100 ml. Stools contained occult blood.

The abdominal pain continued, and fresh crops of the exanthem appeared at intervals of a few days. The stools and urine showed increasing amounts of blood.

Treatment.—A.C.T.H., 5 mg. six-hourly, was started on December 8. On the 19th it was increased to 10 mg. six-hourly, and on the 22nd to 15 mg. six-hourly. Treatment was discontinued on December 27. A total of 640 mg. of the hormone was therefore given over a period of 19 days. During that time the child received a low salt diet and potassium chloride, 0.5 g. daily. Daily blood-pressure readings and eosinophil counts were made. Spot blood-sugar estimations were carried out at the same time daily, and electrocardiograms were taken twice weekly. The eosinophil count fell from 4% of 8,000 cells to zero in two days, and did not rise again above 1.5% during treatment. The blood pressure, blood sugar, and electrocardiogram remained normal. There was no increase in weight or any personality change.

PROGRESS

Fresh crops of purple macules developed on December 12, 16, and 22. Severe abdominal pain occurred on December 17 and 22, though there were a few days when pain was not present. The albuminuria showed no improvement. On December 12 the Addis count showed: red cells, 99,000,000; white cells, 10,000; granular casts, 2,100,000; hyaline casts, 100,000. On the 18th the Addis count showed: red cells, 324,000,000; white cells, 65,000; granular casts, 4,400,000; hyaline casts, 1,540,000.

After the cessation of treatment the abdominal pain became gradually less severe and the stools were clear of occult blood for the first time on February 10, 1951. Fresh crops of the exanthem continued to occur until he was discharged from hospital on February 12, and he has had further relapses since. Frank haematuria occurred after treatment and since discharge. One relapse on February 28 was associated with an attack of follicular tonsillitis. An intercurrent urinary infection caused by a penicillin- and sulphathiazole-resistant strain of *Bact. coli* cleared on streptomycin.

When last seen in April, 1951, he had no rash, joint swelling, or abdominal pain. The urine contained a large amount of albumin, and the centrifuged deposit showed numerous granular casts, about 100 red cells per high-power field, and moderate numbers of blood casts. The child's general condition was good and he had gained 2½ lb. (1.1 kg.) in weight since discharge.

COMMENT

The course of the illness was typical of that usually seen in a moderately severe case of the Schönlein–Henoch syndrome. There is nothing to suggest that A.C.T.H. modified the course of the disease in any way. During treatment fresh crops of the skin lesion occurred, the abdominal pain persisted, and the urinary findings deteriorated.

While this child was being treated another case in which A.C.T.H. had been used was reported (Stefanini *et al.*, 1950). Their case, that of a boy of 3 years, was comparable with mine, but the dosage employed was smaller. During 14 days of treatment with 5 mg. of A.C.T.H. thrice daily his abdominal pain subsided, but some fresh skin lesions appeared and the red cells persisted in the urine. Further skin lesions and abdominal pain occurred six days after the cessation of treatment. This child was also left with albuminuria, haematuria, and cylinduria five months after treatment. There is little doubt that the failure to respond was not due to a failure of the hormone to stimulate the adrenal cortex, since the eosinophils disappeared from the blood in my case and a personality change occurred in the case reported by Stefanini *et al.*

It is considered that so long as the hormone remains in short supply its further use in this condition is not justified.

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REFERENCES

Bordley, J. E., Carey, R. A., Harvey, A. McG., Howard, J. E., Kattus, A. A., Newman, E. V., and Winkenwerder, W. L. (1949). *Bull. Johns Hopk. Hosp.*, **85**, 396.
Farnsworth, E. B (1950). *Proc. Soc. exp. Biol., N.Y.*, **74**, 57.
Gairdner, D. (1948). *Quart. J. Med.*, **17**, 95.
Goldman, R., Adams, W. S., Beck, W. S., Levin, M., Bassett, S. H., and White, A (1950). *Proc. First Clinical A.C.T.H. Conference*, p. 437. Philadelphia.
Osler, W. (1914). *British Medical Journal*, **1**, 517.
Shick, R. M., Baggenstoss, A. H., and Polley, H. F. (1950). *Proc. Mayo Clin.*, **25**, 135.
Stefanini, M., Roy, C. A., Zannos, L., and Damshek, W. (1950). *J. Amer. med. Ass.*, **144**, 1372.
Stillman, J. S. (1950). *Proc. First Clinical A.C.T.H. Conference*, p. 445. Philadelphia.

Reviews

ANY QUESTIONS?

Any Questions? A Selection of Questions and Answers published in the *British Medical Journal*. (Pp. 240. 7s. 6d.) London: British Medical Association. 1951.

This book, as every reader of the *Journal* knows, has been compiled from the answers given to "Any Questions?" over the last eight years. The difficulties in running a column of this kind are great. The editor must have a panel of experts who are not only knowledgeable but tactful. From reading between the lines it is apparent that a certain proportion of the inquiries relate to the questioners or, even more difficult, to their wives. What treatment would be beneficial in a case of inoperable carcinoma of the stomach? It is no good to answer, None. Moreover, the general body of readers of the *Journal* take a delight in finding the experts at fault and reporting their errors in the correspondence columns. Few of the questions can be answered without a careful check, and access to a large reference library is necessary. Some of the questions are about common knowledge, but at other times extensive research may be required for an answer, particularly to questions in the paramedical fields. However, the problems which most often induce recurrent hunger for information in practising doctors are everyday things which are not well discussed in textbooks and are not included in the standard descriptions of disease, such as sore mouths, cleaning of medicine bottles, sexual disappointments, and morbid human behaviour.

The series has been so successful that repeated demands were received for a selection of the answers to be published. In this first book they have been fairly evenly apportioned over the whole field of medicine, so that there is something to everyone's taste. However, one misses any of the answers to psychiatric problems, which are perhaps the favourite of connoisseurs of "Any Questions?", varying, as they do, so inexplicably from the cold douche to the attitude of *tout pardonner*. It is to be hoped that this will be remedied in the further volumes which are promised. The book does not pretend to be a medical dictionary but rather a breviary for occasional reading. It is not to be read at one sitting, or its abrupt transitions, as from "Dynamite Headache" to "Leopard Injuries," may be confusing. It is small enough and cheap enough to be carried in the pocket and read during those periods of waiting which come to all of us, however busy our days.

L. J. WITTS.

GLUTEAL EVOLUTION

Cold Spring Harbor Symposia on Quantitative Biology. Volume XV. (Pp. 425; 53 figures and 3 plates. $7.) Cold Spring Harbor, New York: The Biological Laboratory, 1950.

Much of this book is, inevitably, either a summary of known facts or a publication of new ones which may ultimately throw light on the central problem. But one article makes what may be an outstanding contribution to the problem of human evolution. Whether the Australopithecines were our ancestors or not, they make it highly probable that our ancestors started walking, and thus liberated their hands, before their brains reached human size. Washburn points out that in monkeys the gluteus maximus is smaller than the gluteus medius, and that even in the great apes it is an abductor of the thigh. In man, thanks to a shortening and bending back of the ilium, it has become an extensor, and is essential for the erect posture. The view that gluteal evolution preceded cerebral and was a prerequisite of it may be as humiliating to our pride as was Darwin's theory to that of our great-grandparents; but it may be true. Only less revolutionary is the opinion of the systematist Mayr that, if man and his relatives were classified on the same principle as insects, only three species would be recognized, *Homo sapiens*, including modern and Neanderthal man, *H. erectus*, including *Pithecanthropus* and *Sinanthropus*, and *H. transvaalensis*, including the Australopithecines. At no time, in Mayr's view, was there more than one human species. Schultz's review of the comparative anatomy of man and the apes contains many points which should interest anatomists.

Most of the book deals with human populations and their genetics. Kemp's statistics on congenital diseases in Denmark are the most accurate available for any human community. Neel discusses the fascinating problem of Cooley's anaemia, almost confined to Italians and Greeks, and sickle-cell anaemia, a peculiarity of negroes. Their inheritance is fairly well understood, but we do not understand why natural selection has not eliminated them. If we did we should know a good deal more about congenital disease in general, about human evolution, and about the possibility of negative eugenics.

The British haematological school was well represented by Race and Mourant, the latter of whom bases a racial history of the Mediterranean peoples on their blood groups and types. The longest paper in the book is a still more ambitious attempt by Birdsell to base a history of the Australian natives on their blood characters, measurements, hair colour, and presence of supernumerary molars (in one case a fifth). Posterity will decide whether he has made a real advance in method or raised a pyramid of speculation on a rather narrow basis.

Students of human variation will find data on topics including the numbers of circumvallate papillae, the pattern of the superficial anterior thoracic veins, supernumerary and missing teeth, osteoporosis in ancient Greece, and the variability of the great apes. Classical anthropometry is less stressed than it would have been twenty years ago, and perhaps less than it will be twenty years hence. Several papers, including one by Sheldon, deal with the highly controversial topic of somatotyping.

The standard of printing is very low for the price of the book. But the book does give a wide view of a variety of important problems, and no anatomist or anthropologist will be the worse for dipping into it.

J. B. S. HALDANE.

VARICOSE VEINS

The Treatment of Varicose Veins and their Complications. By Stanley Rivlin. (Pp. 56; illustrated. 10s. 6d.) London: William Heinemann Medical Books. 1951.

This small book is based on the author's essay which was awarded the Hunterian Society's Gold Medal in 1950. In the first half of the book he discusses the anatomy, classification, symptoms, and signs of varicose veins, and in the second half the various aspects of treatment. This has meant a considerable degree of compression in some directions and omission in others, and an over-simplification of many of the problems. The author believes that the "immediate" cause of varicosities is a congenital maldevelopment of the valves at the junctions between the superficial and deep veins of the legs. The clinical examination of all possible types of valvular incompetence is therefore described in great detail, and is very fully illustrated. But factors other than purely developmental ones may be involved. In women veins tend to appear at three periods of life—in adolescence, in the first two or three months of pregnancy, and occasionally at the menopause—all of which are periods of endocrine stress. The hereditary factor in varicose veins is undoubted, but where does it operate?—on the venous valves, on the vein walls, or via the endocrine system? It is possible, by taking too purely a mechanical view, to over-simplify the problems and to narrow the range of treatment. In any case, in practice the presence of much subcutaneous fat only too often makes the interpretation of clinical tests very difficult by masking many varicosities.

The treatment recommended is by means of ligations at sites of venous backflow, retrograde injections, and subsequent injections if required. The author is critical of injection treatment in the presence of venous backflow, but

there are certainly many borderline cases where intensive injection treatment may be very effective if carried out thoroughly, and it may avert operation.

The author discusses ulceration in some detail, but covers eczema and phlebitis in a few lines. It is certain that complicated cases in which ulceration, eczema, and phlebitis are all present call for the greatest resourcefulness and skill, since they will not respond to simple methods. It should be made clear that "elastoplast" types of adhesive dressings should never be used on patients with eczema. The second sentence of the book refers to "Celus"; surely "Celsus" is intended.

REGINALD T. PAYNE.

CORROBORATION IN PSYCHO-ANALYSIS

Essays in Applied Psycho-analysis. Volume II. By Ernest Jones, M.D., F.R.C.P. Essays in Folklore, Anthropology, and Religion. International Psycho-analytical Library No. 41. (Pp. 383. £1 1s.) London: The Hogarth Press. 1951.

This second volume of collected essays in applied psycho-analysis differs from the first in a number of ways. It is concerned exclusively with themes of folklore, anthropology, and religion, a fact which to some extent restricts its general appeal. And, whereas in the first volume the author applied psycho-analytical findings to a variety of cultural fields and problems, in the most important papers in this collection he is more concerned to corroborate psycho-analytical findings by assembling and correlating a vast quantity of anthropological observations. This is not at all surprising when one recalls that his two important essays on the symbolic significance of salt and on the Madonna's Conception through the ear were written between 1912 and 1914—at a time, that is, when psycho-analytical findings about the Oedipus complex provided at the same time a source of profound scepticism and a focus for the most strenuous opposition.

These two essays, together with shorter papers on "The Sexual Ignorance of Savages" and "A Study of the Holy Ghost Concept," are permanent witnesses to Dr. Jones's anthropological acumen and industry as well as to his gifts of exposition. The other essays are in fact mainly expository and to a certain extent propagandist. But the volume as a whole demonstrates convincingly not only that psycho-analytical methods are capable of vitalizing anthropological research, but also that anthropological research is essential to corroborate those psycho-analytical surmises and reconstructions which cannot be supported by direct analysis of case-material.

EDWARD GLOVER.

CLINICAL PATHOLOGY

Panton and Marrack's Clinical Pathology. 6th ed. By H. B. May, M.A., M.D., M.R.C.P., and J. R. Marrack, M.A., M.D. (Pp. 512; 44 illustrations. £1 10s.) London: J. and A. Churchill. 1951.

A book on clinical pathology may be anything from a side-room primer to a vast compendium in which are described in detail every recognized diagnostic test and even such things as the life histories of uncommon helminths. "Panton and Marrack" strikes a happy mean, and in its new and much revised form comprises separate main sections on haematology, chemical pathology, and bacteriology; histology has been eliminated except for a chapter on methods. Outside experts have contributed material on highly specialized subjects; these include fungi and animal parasites. In the section on parasites the use of the term "natural size" in legends to illustrations may mislead: it seems to suggest, for instance, that a hookworm ovum is about the size of a coffee bean.

The later chapters on how to examine specimens and to investigate common clinical states (why no mention of Vincent's infection under "sore throat"?) are perhaps the most useful, since they belong most properly to the subject and are not to be found elsewhere. In view of the book's size and the inclusion of ten colour plates among its many illustrations, the price is reasonable.

L. P. GARROD.

BOOKS RECEIVED

Review is not precluded by notice here of books recently received

The Management of Fractures, Dislocations, and Sprains. By J. A. Key, B.S., M.D., and H. E. Conwell, M.D., F.A.C.S. 5th ed. (Pp. 1,232. 115s.) London: Henry Kimpton. 1951.

Autobiography of a Schizophrenic. (Pp. 64. 5s.) London: J. Baker. 1951.

Leprosy. By Sir Leonard Rogers, K.C.S.I., C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S., I.M.S., and E. Muir, C.M.G., C.I.E., M.D., F.R.C.S.Ed., Addendum to the 3rd ed. (Pp. 16. 2s. 6d.) Bristol: John Wright. 1951.

Sons and Daughters. By R. Pilkington. (Pp. 214. 18s.) London: George Allen and Unwin. 1951.

Guy's Hospital, 1725-1948. Edited by H. A. Ripman. (Pp. 176. 18s. 6d.) London: Gazette Office, Guy's Hospital. 1951.

The Practice of Endocrinology. Edited by R. Greene, M.A., D.M., M.R.C.P. 2nd ed. (Pp. 389. 65s.) London: Eyre and Spottiswoode. 1951.

Diabetes Control. By E. L. Bortz, M.D. (Pp. 264. 25s.) London: Henry Kimpton. 1951.

Soviet Genetics. By A. G. Morton, B.Sc., Ph.D. (Pp. 174. 15s.) London: Lawrence and Wishart. 1951.

Isotopes in Biochemistry. Edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch. (Pp. 288. 27s. 6d.) London: J. and A. Churchill. 1951.

Hypertension. Edited by E. T. Bell, M.D. (Pp. 573. 60s.) London: Geoffrey Cumberlege. 1951.

Marriage. By K. Walker, F.R.C.S. (Pp. 136. 8s. 6d.) London: Secker and Warburg. 1951.

The Development of Reasoning in Children with Normal and Defective Hearing. By M. C. Templin. (Pp. 143. 24s.) London: Geoffrey Cumberlege. 1951.

Surgery of the Stomach and Duodenum. By C. E. Welch, M.D. (Pp. 349. 65s.) London: Interscience Publishers Limited. 1951.

A General Zoology of the Invertebrates. By G. S. Carter. 3rd revised ed. (Pp. 421. 35s.) London: Sidgwick and Jackson. 1951.

Vitamins. By L. J. Harris, Sc.D., D.Sc., Ph.D., F.R.I.C. (Pp. 244. 15s.) London: J. and A. Churchill. 1951.

Medical Bacteriology. By Sir Lionel Whitby, C.V.O., M.A., M.D., F.R.C.P., D.P.H., and M. Hynes, M.D., M.R.C.P. 5th ed. (Pp. 544. 22s. 6d.) London: J. and A. Churchill. 1951.

Ugo Benzi. By D. P. Lockwood. (Pp. 441. 60s.) London: Cambridge University Press. 1951.

The Genetics of Micro-Organisms. By D. G. Catcheside. (Pp. 223. 21s.) London: Sir Isaac Pitman. 1951.

Calendar of the Pharmaceutical Society of Great Britain, 1951-52. (Pp. 308. 12s. 6d.) London: The Pharmaceutical Press. 1951.

History of Medicine in Ireland. By J. Fleetwood, M.B., D.P.H. (Pp. 420. 21s.) Dublin: Browne and Nolan. 1951.

Adelaide Hospital Centenary Book. (Pp. 131. No price.) Dublin: The Parkside Press. 1951.

Pathological Firesetting (Pyromania). By N. D. C. Lewis and H. Yarnell. (Pp. 437. $10.) New York: Coolidge Foundation. 1951.

Équilibre Minéral et Santé. By J. Favier. (Pp. 403. 800 francs.) Paris: Librairie le François. 1951.

Advances in Tuberculosis Research. Edited by H. Birkhaüser and H. Bloch. Vol. 4. (Pp. 308. 43.70 Swiss francs.) Basle: S. Karger. 1951.

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SYMPATHECTOMY FOR CEREBRAL ISCHAEMIA

Many of the earlier experimental studies of the vasomotor control of cerebral blood vessels had negative results, and physiologists were obliged for many years to admit that no certain evidence of the existence of functioning vasomotor nerves could be found. Perhaps the chief reason for this was the confusing passive alteration in size of cerebral vessels which occurred through changes in systemic blood pressure. Anatomists, however, could show that sympathetic fibres supplied the vessels, and they found it difficult to believe that they were functionless. More recent physiological work has shown that these nerve fibres can in fact alter the diameter of cerebral blood vessels. Forbes and Wolff[1] observed the vessels on the brain surface through glass windows in the skulls of experimental animals and found that stimulation of the cervical sympathetic caused constriction and of the vagus dilatation. Other workers have confirmed these findings, and it is now generally agreed that the cerebral vessels are under vasomotor nervous control, though to a lesser degree than the small vessels of the limbs.

Many attempts have been made to help patients with cerebral lesions by operations on the sympathetic nerve supply to the brain. Penfield[2] has observed cessation of arterial pulsation in the brain during epileptic seizures, and as long ago as 1889 Alexander,[3] of Liverpool, performed a sympathectomy for the relief of epilepsy. Further work on epilepsy was disappointing, and White,[4] after a careful trial, concluded that the operation was without benefit. Vasomotor factors are believed to play a large part in migraine because of the visual cortical effects that occur and because the experimental work of Clark and his colleagues[5] showed that changes in the dural vessels could cause headache. The route taken by the nervous factors initiating the vascular changes is still uncertain. They probably do not travel by the cervical sympathetic chain, for White's efforts to treat migraine by procaine block or sympathectomy have been disappointing. He advises, however, that procaine injection of the stellate ganglion should be tried. If it is unsuccessful, ligation of the middle meningeal and temporal arteries combined with partial section of the trigeminal root should be performed in severe cases. Operations for the relief of the fainting attacks and convulsions which occur in some individuals through mechanical stimulation of an abnormally sensitive carotid sinus have met with more definite success than those for epilepsy or migraine. Their aim has been to eliminate the general vasodilator and cardiac depressor impulses which, arising in the carotid sinus, cause cerebral ischaemia through a fall in blood pressure.

Professor Leriche, whose imaginative approach to neurovascular surgery is as fresh and stimulating as ever, writes in this issue of his experience in the treatment of cerebral thrombosis and embolism. He has treated his patients by cervical sympathectomy, stellate ganglion block (which he prefers), and in some cases by carotid periarterial denervation or resection of damaged segments of the carotid artery. He has been guided here, as in his approach to arterial disease elsewhere, by the concept of reflex nervous activity causing spasm of the vessels in the region of a damaged artery. Such a damaged arterial segment should be excised, or, if this is not possible, regional sympathetic denervation carried out. This concept is, as Leriche says, difficult to test experimentally. The beneficial results of sympathectomy can be explained in other ways than by release of spasm. Normal vasomotor tone in the collateral vessels around an area of thrombosis may be lessened, or an increased amount of blood may flow through the collaterals because the more distal vessels become dilated. Edholm and his colleagues[6] have shown that the resting blood flow in limbs with thrombosed arteries may actually be increased rather than diminished, as would be expected if spasm existed in the collaterals. Pickering,[7] in a general review of vascular spasm, warns against its too easy acceptance as an explanation of symptoms of disease. He believes that transient cerebral symptoms in hypertensive patients may be better explained by organic obstruction, such as would occur with arteriolar necrosis or thrombosis followed by the rapid development of a collateral circulation. Sympathectomy would be expected to assist such a process by dilating the collateral vessels.

1 *Arch. Neurol. Psychiat., Chicago*, 1928, **19**, 1057.
2 *Ann. intern. Med.*, 1933, **7**, 303.
3 *The Treatment of Epilepsy*, Edinburgh, 1889.
4 *The Autonomic Nervous System*, 1941, New York.
5 *Arch. Neurol. Psychiat., Chicago*, 1936, **35**, 1054.
6 *Clin. Sci.*, 1951, **10**, 361.
7 *Lancet*, 1951, **2**, 845.
8 *Surgery*, 1949, **26**, 452.
9 *British Medical Journal*, 1938, **2**, 1.
10 *J. Amer. med. Ass.*, 1948, **138**, 659.
11 *Arch. Surg., Chicago*, 1950, **61**, 286.

Spasm has often been invoked as an explanation of the shrinking in an arterial trunk seen below the site of lodgment of an embolus and of the ischaemia which results in the limb distal to it. Kinmonth and Simeone[8] have shown that passive changes in the diameter of large vessels due to variations in blood pressure may cause arterial shrinking that may be mistakenly interpreted as "spasm." Constriction of smaller peripheral vessels due to surgical shock may be similarly misinterpreted.

Whatever the exact nature of the disordered vascular physiology accompanying cerebral vascular accidents, the fact that there is nervous vasomotor control of the cerebral vessels is now established, and sympathectomy may therefore be expected to assist the circulation of blood in them, probably in the same way as it does in the limbs. The physiological basis for periarterial sympathectomy has been questioned in the past, and it is now generally agreed that it is anatomically unsound and without functional effect in the limbs. Improvement reported in the past from the operation can be accounted for by the general vasodilatation which may result from any non-specific operation. The vasomotor nerve distribution to viscera is, however, different from that to the limbs. The sympathetic supply to the hollow abdominal viscera runs with the main arteries and is distributed with their branches, and periarterial sympathectomy is capable in this situation of having a peripheral effect. A similar state exists in the sympathetic nerve supply to the brain, which runs with the carotid and vertebral arteries to be distributed with them to their terminal branches. There is, therefore, a sound anatomical basis for Leriche's attempts to influence brain circulation by section of vertebral nerves and pericarotid sympathectomy.

The results of stellate ganglion blocks for cerebral vascular accidents have also been reported by Mackey and Scott[9] in Britain and by de Takats[10] and Naffziger[11] in the U.S.A. Like Leriche's pioneer work, they are sufficiently favourable to encourage further trial of the technique. If this could be undertaken with objective methods of assessing the changes in vascular and neural function, such as by electroencephalography or estimation of the cerebral blood flow, it would help in judging the clinical improvement brought about by the operation and in studying the underlying physiological changes.

Surgery and physiology owe a debt to Professor Leriche for the way in which he has so often inspired new experiments and the trial of new methods. His article on the cerebral circulation is as stimulating in its thought and vivid in its writing as his many valuable contributions in the past.

PREPARING THE CASE

Some of our correspondents have complained recently about the "delay" in bringing the general practitioners' claim to adjudication. Costs continue to rise, and running their practices becomes an ever more expensive proposition; their plea is therefore understandably for help as soon as possible, and they add to it the fear that their team of negotiators may be unaware of their present needs or lacking in the effort required to meet them. There are several sound reasons which influence the date of the adjudication, and though they were foreseen and have been reported it seems desirable to summarize them here.

The first is that an essential part of the evidence of what remuneration general practitioners actually received from the Government in the year ending March 30, 1950, was made available to the negotiators only last December. As the chairman of the General Medical Services Committee stated at the Annual Conference of Local Medical Committees,[1] it was then known that the Ministry of Health was proposing to use this evidence—though the negotiators do not admit its relevance to the size of the pool—and he added that there were certain implications of it which had to be challenged. It might be thought that these Doctors' Remuneration Tables, as they are called, would be numerical evidence free from any ambiguity. Such is not the case. So diverse and complex are the economics of general practice that minute scrutiny of all evidence of this kind is needed lest unjustified conclusions are drawn from it. The value of this was shown when a similar set of tables, prepared by the Ministry two years ago, was conclusively criticized by the negotiators, and the Ministry had to agree that the figures could not be used. As we pointed out then,[2] "so ineffectual was the method of inquiry that its results were worthless." To ensure that similar errors shall not now be allowed to vitiate the doctors' case, expert opinion has again been brought in to study the new figures in detail.

The second reason for delay is the need to obtain up-to-date figures of doctors' practice expenses and of the earnings of other professional men. It was only a week ago that the Inland Revenue authorities could make available the results of an inquiry into practice expenses for the financial year 1950–1, and again their interpretation needs close study. The latest figures for earnings in other professions have had to be obtained largely from private sources, since many of them are never published, and professional organizations have been generous in meeting the negotiators' requests.

The main reason now why adjudication is not started to-morrow is that a legal case has to be made out. The profession itself wisely insisted on bringing its case before a judge and on its being presented by counsel. One of our correspondents wrote,[3] "One would prefer rather to present the picture of our invidious position with a few bold strokes without nearly so much detail." That may well be so, but the law demands hard facts and figures, for judges do not come to conclusions until they have had all the available evidence. Had it been possible to reach a broad agreement with the Government by means of negotiation there would have been no need for a detailed presentation of the case. The course of events over the last three years has shown only too plainly that such an agreement is impossible, and it is for this reason that the profession first asked for arbitration and finally agreed with the Government to accept the present form of adjudication. The result is that the negotiations are far from the procedure common enough in industry when trade union leaders meet employers' representatives to argue about wages. The procedure of adjudication resembles an action at law rather than bargaining round the table, and the course of it is now largely in the hands of legal advisers.

Nor is it merely a question of briefing counsel with some telling figures to show how doctors have been left behind in the struggle to keep abreast of the inflationary wave. Both general practitioners and the Government have agreed that the Spens Report is to be the yardstick of their remuneration. The relation of what doctors are now receiving to what the Report says they should receive, and to what other professional people receive, is evidence that will be contested in detail at every point by the Government side with all its formidable resources. Having this in mind, Dr. Wand emphasized at the Annual Conference that counsel should be given time to study the brief. He referred also to that imponderable feature of the case which is none the less part of it—namely, the status of the profession. To dwell on this without the facts of expenses and receipts would be fruitless, but as a corollary to them it must be presented. Here again full briefing is required, and, as the Conference agreed, "counsel should know all that lay behind the figures which went to make their case . . . all these cannot be learned by any counsel from a paper brief or from one or two interviews."

Especially to those much in need of relief time has dragged slowly. But the importance the Government attaches to the case is shown by the fact that it is to be represented by the Attorney-General, and a false step now or incomplete briefing on any point would be disastrous. The profession cannot take the risk of hurrying through such heavily mined territory. At every stage the negotiators—all busy men in medical practice—have consulted the profession and have deserved and retained its confidence. The time taken in coming to a conclusion is no grounds for withdrawing it.

[1] *British Medical Journal Supplement*, November 10, 1951, p. 197.
[2] *British Medical Journal*, July 8, 1950, p. 93.
[3] *British Medical Journal Supplement*, January 26, p. 33.

DIAGNOSIS OF DEAFNESS IN CHILDREN

A child unable to hear speech from birth may well hear and respond to sounds louder than speech. With its parents it will also attempt, with varying success, to interpret visually what it cannot hear. Thus it is not always easy to appreciate that a young child is unable to hear speech. Until quite recently it was unusual for a child to be suspected of deafness until it was found at the age of 2, or often later, to be backward in learning to speak. Even then the continued dumbness was often attributed to causes other than deafness, for it was not always realized that if a child is unable to hear speech then it will not learn to speak, since speech is ordinarily acquired by hearing and imitating. At one time it was fashionable to talk about "word deafness" and to regard the inability to hear and speak as being due to some disturbance within the central nervous system rather than to a defect in its listening outpost in the ear. This led to many of the children being treated as psychological or psychiatric problems. Fortunately it is now generally appreciated that the site of the lesion responsible for word or speech deafness in children who have never learnt to speak is almost always the internal ear.

The early recognition of deafness in children, its educational management, and the training of special teachers of the deaf all owe much to the pioneer work of Professor and Mrs. Ewing, of the department of education of the deaf at Manchester University. Thanks to them, parents and teachers are more than ever before alive to the possibility and consequences of a child being born deaf, and, as a result, children suspected of being deaf are now brought to the doctor much sooner than formerly—often before they could learn to speak even with normal hearing. But the doctor's task is still difficult: he faces the problem—and it is a very real problem—of finding out if the child really is deaf and, if so, exactly how deaf it is, particularly in terms of speech. Herein lies the crux of the problem—to measure or to estimate the potential hearing for speech in a child who does not know what speech sounds like.

With most workers in this field the exploration of a young child's sense of hearing is still more of an art than a science, for it entails observation of the child's response, if any, to loud noises, musical sounds, and loud or ordinary speech. By such methods, and with the exercise of great skill and not a little patience, observers with special training can gain an impression of the amount of residual hearing in a young deaf child. It is difficult, however, to express the result of such an examination in a scientific way, as can be done with older children and adults. In them the threshold of hearing for pure tones within the range of speech frequencies is measured with a pure-tone audiometer and the result expressed in chart form on an audiogram. This well-established form of hearing test offers a convenient and accurate picture of the hearing, from which it is possible in many cases of deafness to estimate the hearing for speech. Much of the difficulty in exploring the hearing of young children has been due to the fact that, under the age of 7, a child will not ordinarily give a consistent response to pure tones near its threshold of hearing. Miss M. R. Dix and Mr. C. S. Hallpike[1] in 1947 described their peep-show technique of pure audiometry in which young children were conditioned to respond to pure tones. In this way they were able to plot a pure-tone audiogram for deaf children, often as young as 2. These conditioning tests demand great care on the part of the examiner and, of course, the full co-operation of the child. The latter can best be ensured if the test avoids the use of headphones or other apparatus to be worn by the child, and includes as part of the conditioning procedure a certain degree of pleasurable anticipation. These conditions are provided by the peep-show technique. The child is entirely free to concentrate on hearing the pure-tone sound signal. From previous experience the child knows that only when it hears the sound signal will pressing on a push-button light up the peep-show and enable it to see the pictures.

Dix and Hallpike, in a further paper in this week's *Journal* (p. 235), now give their experiences of this test on 350 children, and they also report on the after-history of many of them in so far as this shows how the educational recommendations based on the audiometric findings have worked out in practice. The procedure of the test has been simplified, and in a single interview of half an hour or less they are able to obtain an accurate picture of the threshold hearing for pure tones within the range of speech frequencies in young children who are hard of hearing and of average intelligence. The resulting audiogram reveals in a graphic and readily appreciable way any potential hearing for speech. This audiogram, combined with a general assessment of the child's intelligence, enables the observer in a short, single interview to offer advice on the education of the deaf child that has proved to be of great assistance to educational authorities, to whom such children have always been a problem. In cases where it can be clearly demonstrated that there is some residual hearing, the nature of the audiogram may encourage the use of a hearing-aid: this may do much to improve the child's speech and may eventually lead to the child being educated with hearing children. Thus, though it is seldom possible to help young deaf children medically, with the information offered by the peep-show audiometer test it is possible to give constructive advice to parents and education authorities on the possible benefit of a hearing-aid and on the most appropriate form of special education.

[1] *British Medical Journal*, 1947, **2**, 719.

ILLEGITIMATE CHILDREN

The position of children to-day is stronger under the law of the land than it has ever been before. But illegitimate children, who represent about 5% of total live births, though sharing in most of the legal and social advances, are still subject to strangely anachronistic disabilities and difficulties. The principal Act is still the Bastardy Laws Amendment Act of 1872,[1] and subsequent amendments have not brought it into line with modern thinking and knowledge. The report[2] of the Joint Committee of the British Medical Association and the Magistrates' Association on the law relating to the illegitimate child (summarized on page 271) rightly urges that the Government should set up a committee of inquiry to investigate the present law and recommend amendments to it. In the present century there have been only two legal enactments which have substantially helped illegitimate children: the Births and Deaths Registration Act of 1947, which provided for the shortened form of birth certificate, and the Legitimacy Act of 1926, which enabled children born before marriage to become legitimate on the subsequent marriage of their parents. But the proviso in the Act that neither parent should have been married to a third party at the time of the child's birth excludes many children from its benefits. The result, as the report points out, is that the children of fornication, but not the children of adultery, can become legitimate. The only course in these cases is for parents to adopt their own child, a procedure which strikes many of them as strange and unnatural.

The law relating to maintenance is in a muddle, to the detriment of the single mother who tries to keep her child. For the 10% of mothers who successfully apply

[1] *Lushington's Law of Affiliation and Bastardy*, 1951, London.
[2] *The Law in Relation to the Illegitimate Child*, 1952. Published by the B.M.A., price 6d.
[3] *The Fortnightly*, June, 1950.
[4] *Illegitimate Children and Their Parents*, 1951. Published by the National Council for the Unmarried Mother and Her Child.
[5] *Legal Position of the Illegitimate Child*, 1939, Geneva.

to the Courts the maximum award is £1 a week, whereas the children's allowance which can be ordered under the Married Women (Maintenance) Act of 1949 is 30s. Moreover, if the father dies owing payments, no claim can be made against his estate, however wealthy he may have been, for past debts or future maintenance. Under the National Assistance Act the unmarried mother has to maintain her child unless there is a court order against the father. But the number of court orders granted each year is only about one-tenth of the number of illegitimate births. Although the figures cannot be directly related, the proportion probably gives a fair picture of the general situation. Very little is known of how the single mother manages, especially when her child grows older. One interesting study, based on case histories obtained by the National Council for the Unmarried Mother and Her Child, was published not long ago by Dr. Agatha Bowley.[3] Local authorities have powers under Section 22 of the National Health Service Act and under Part 111 of the National Assistance Act, but many of them absolve themselves from responsibility by making grants to voluntary organizations to help them carry on schemes which undoubtedly have been helpful in the past but which often have not been considered in relation to to-day's needs.

The social handicaps of illegitimate children are now infinitely less than they were, but lack of means to support the child is still responsible for many unwilling decisions to offer children for adoption. The gap between the infant mortality rates (deaths in the first year of life) of legitimate and illegitimate children continues, though it has narrowed: in 1948 the rates were 33 per thousand live births for legitimate and 45 for illegitimate children, and in 1949 32 and 45 respectively. But, as Lena Jeger[4] has pointed out, the neonatal figures (deaths in the first month of life) are closer: in 1948 they were 19.3 for legitimate and 27.4 for illegitimate children. This may suggest that the troubles come more from rearing a child single-handed than from prenatal or confinement difficulties. But research on this theme is limited by the fact that separate figures are not published by the Registrar-General after the children reach the age of 1, and the literature is scanty. The publication of the present report should call much-needed attention to the difficulties which may beset unmarried parents and their children. In view of the complications which arise from variations in the laws of different countries, the United Nations might well bring up to date the League of Nations' authoritative report on the subject.[5]

INTRAVENOUS PROCAINE FOR PAIN RELIEF

A study of the use of intravenous procaine for the relief of pain has recently been published in the form of a report to the Council on Pharmacy and Chemistry of the American Medical Association.[1] The report—which is the work of Dr. H. K. Beecher, professor of anaesthetics in the Harvard Medical School, and his colleagues—begins by pointing out that "since 1947 almost 50 publications have appeared which report that many varieties of pain, as well as oedema, muscle spasm, itching, symptoms of asthma, and certain eye diseases, have been relieved by intravenous procaine." As these were not controlled trials, the authors have studied the effect of procaine in relieving post-operative pain in 53 patients, comparing the effect of the intravenous infusion of procaine with that of a similar infusion of saline on the one hand and with that of morphine given by intravenous injection on the other. They conclude that procaine certainly has some analgesic action. Saline alone relieved 20% of the patients in the group, while procaine relieved 40%. Morphine, however, relieved 70%. Procaine caused unpleasant symptoms in some patients: thus in one the injection of 75 mg. in four minutes induced generalized clonic convulsions. The commoner symptoms were dizziness, nausea, vomiting, and general numbness. The main conclusion of the report is that intravenous procaine "has no place in the treatment of pain."

It is a little surprising that this report should be necessary, since few doctors would think of giving a continuous intravenous infusion of any drug when several analgesics are available which can be given as a single injection. The report does not deal with the use of procaine for the other conditions mentioned in its first sentence quoted above. Procaine has been shown to have an antihistaminic action,[2] though a weak one, and therefore it may be beneficial in oedema, in the treatment of itching, and in some forms of bronchospasm. Procaine likewise has an effect on skeletal muscle like quinine and therefore will relieve muscle spasm. However, for any of these conditions intravenous infusion is a very inconvenient and troublesome route of administration.

LIBEL AND SLANDER

Collision with the law of defamation is not an occupational hazard for medical men in the way that it is for authors, publishers, the press, and even for lawyers. None the less, even doctors may fall foul of it, and with more and more reports on patients being called for it is as well that the writers of the reports should know what the law of defamation is. In the past it has been principally criticized on the grounds that it restricts full reporting and honest criticism of matters of public interest, exposes authors and their publishers to unfair risks, and encourages gold-digging actions. The weight that such criticism carries is shown by the fact that Parliament made actions for libel and slander share with actions for breach of promise of marriage the invidious distinction of exclusion from the Legal Aid Scheme. It is as if sufferers from a disease regarded by public opinion as slightly disreputable were excluded from treatment under the National Health Service.

The real problem in reform is to hold a fair balance between the right of the individual that his reputation

[1] *J. Amer. med. Ass.*, 1951, **147**, 1761.
[2] Burn, J. H., *British Medical Journal*, 1950, **2**, 691.

[1] Defamation (Amendment) Bill. H.M.S.O., London.

shall be protected and the interest of the public that it shall be properly informed. Parliament has not found it a problem easy of solution, and has indeed made no attempt to deal with it by statute since the last century. It took the Porter Committee nine years to publish its report (in 1948), and it was not until Mr. H. Lever, Labour Member for the Cheetham Division of Manchester, got first place in the recent ballot for private Members' Bills that a Bill[1] largely based on the proposals of the Porter Committee has been introduced.

The most profound proposal in the Bill is concerned with what may be called "unintentional libel." As the law now stands, if reasonable people understand a defamatory statement to refer to the man who complains of it, it does not matter that the author or publisher did not intend to defame or even to refer to him. Few would quarrel with this principle, but it can fairly be considered hard that an author who has had the misfortune to create a disagreeable character who can reasonably be identified with X, of whom he has never heard, should be liable to be mulcted in heavy damages in circumstances in which no blame can be ascribed to him, and in which the cause of the damage to X's reputation is really an unhappy coincidence. The present Bill proposes that in this situation the defendant shall be immune from liability in damages so long as he publishes a correction and apology.

The Bill further deals with the defence of "justification." It has always been a complete answer to an action for defamation that the words complained of are "true in substance and in fact"—rightly so, for it is not the function of the law to protect a reputation which is not deserved. But the defence has been an onerous one to establish, because it is necessary to prove that all that has been complained of is substantially true. If it is written of John Smith that he is a thief and a swindler, the writer's defence will fail if he proves that Smith has been convicted of obtaining money by false pretences but does not prove that he has been convicted of larceny. The proposal to cure this is that, if the words complained of make more than one distinct charge, the defence of justification will succeed if it proves so substantial a part of the charges that those not proved do not add materially to the injury to the plaintiff's reputation: that is, the writer need only prove John Smith's conviction for false pretences provided the jury thinks that a swindler is as bad as a thief.

The Bill proposes to extend and clarify the situation in which newspapers can plead the defence that what they have published is a fair and accurate report of proceedings before the Courts and in other public and "quasi-public" bodies. There is also a proposal to cure some of the anomalies which have arisen from the manful efforts of the Common Law of England—which in theory existed complete from the times of the Angevin kings and is declared only through the mouths of His Majesty's judges in whose bosoms it resides—to cope with the problems posed by the Electronic Age. Sound broadcasts and television are to be treated as libel, not slander, whether they are made impromptu or from a written script.

RIFT VALLEY FEVER IN SOUTH AFRICA

The news, reported by Mundel and Gear,[1] that Rift Valley fever has broken out in South Africa raises many interesting questions both for the medical man and the veterinarian. Rift Valley fever was first described in 1931 by Daubney, Hudson, and Garnham[2] when an outbreak on the shores of Lake Naivasha in the Rift Valley in Kenya attacked sheep, cattle, and man. The infection was found to be due to a virus. Some years previously, in 1912, Montgomery[3] had described from the same area an outbreak of a disease attacking sheep and causing necrosis of the liver: at that time it was not recognized that a virus was the cause.

A mouse protection test carried out on sera from various parts of Africa gave evidence in a survey in 1936 that the virus had almost certainly infected persons living in the Southern Sudan, Uganda, and French Equatorial Africa but not in West Africa.[4] The virus of Rift Valley fever was later duly isolated in Uganda from wild mosquitoes captured in a forest area, but no epizootic or epidemic has ever been known to occur in that country.[5] Now in recent months an epizootic has occurred in South Africa. The first evidence of the disease was obtained from a farm near the Palmietfontein Airport just outside Johannesburg, where a bull died with necrosis of the liver. A virus producing the same lesions in mice as Rift Valley fever was isolated from the tissues of the bull at necropsy and from the blood of three veterinary surgeons and two attendants who suffered from illness after the necropsy.

It was at first considered likely that the infection had been introduced by air, as the airport receives traffic daily from Central Africa, including Kenya. Doubt was thrown on this suggestion when it was found that a widespread epizootic involving sheep and lambs had occurred in the Orange Free State and the Western Transvaal, preceding the death of the Johannesburg bull. Although there is no record of Rift Valley fever ever before having occurred in South Africa, it should be possible to settle the question definitely, for Findlay and Howard[6] have recently shown that immune bodies remain for at least 20 years in the blood of those once infected. The question also arises, What happens to the virus of the fever when it is not, at rare intervals of approximately 20 years, causing epizootics in Africa? A possible clue, which requires following up in larger animals, is the fact that in mice the virus is adsorbed by the larval form of a tapeworm which is normally parasitic in the liver.

We record with regret the death in Colombo on January 23 of Sir Frank Gunesekera, who besides being a well-known general practitioner was also the Deputy President of the Ceylon Senate.

1 *S. Afr. med. J.*, 1951, **25**, 797.
2 *J. Path. Bact.*, 1931, **25**, 229.
3 *Rep. Dept. Agric. Kenya for* 1912–13, 1913. Government Printing Office, Nairobi
4 Findlay, G. M., Stefanopoulo, G. J., and MacCallum, F. O., *Bull. Soc. Path. exot.*, 1936, **29**, 986.
5 Smithburn, K. C., Haddow, A. J., and Gillett, J. D., *Brit. J. exp. Path.*, 1948, **29**, 107.
6 *Arch. Virusforsch.*, 1951, **4**, 411.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

THE PROS AND CONS OF IMMUNIZATION—II

BY

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In the previous article I discussed the principles of artificial immunization, and, despite the attendant risks, it was thought that, whenever immunization was safe, practicable, and effective, prevention was preferable to cure. In this paper the procedures and indications for inducing active or passive immunity in individual infections are discussed.

Diphtheria

Protection against diphtheria may be produced by passive or active immunization or by a combination of the two methods. Passive immunization used to be practised frequently when a case of diphtheria occurred in a family and it was necessary to protect the other susceptible children as quickly as possible. Nowadays, when most children are actively immunized in infancy, passive protection is rarely needed. When the need does occur in a family or residential nursery or school, all contact children are given an intramuscular injection of 500 units of refined diphtheria antitoxin contained in 0.5 ml. or less, while active immunization of children up to the age of 7 years is begun immediately, or after two weeks when the temporary protection from the antitoxin has been largely lost. Any contact children over 7–8 years who have not been immunized within the past two years should be Schick tested 12 hours or so before receiving the antitoxin. If they are Schick-positive and give a history of previous immunization they should be given one dose of a suitable prophylactic, or two doses at a month's interval if there is no such history. If a child gives a pseudo-positive response (an erythematous reaction with the control material as well as with the Schick toxin) he should not be injected with any diphtheria prophylactic, as he may react severely to it; instead, he should be retested after three to six months.

Active immunization is best carried out in infancy, preferably around 6 months of age, when antibody derived from the mother will have disappeared and the child is less likely to suffer from psychological trauma as some older children do when given repeated injections. Probably the best diphtheria prophylactic for use in this country is P.T.A.P. (purified toxoid aluminium phosphate precipitated), which has a uniformly good antigenic potency and produces the minimum of local reaction. It is not yet, however, generally available as a free issue, whereas A.P.T. (alum-precipitated toxoid), another very good prophylactic, is. Two doses of these prophylactics should be given into the deep subcutaneous tissue in amounts of 0.3 ml. of A.P.T. or 0.5 ml. of P.T.A.P., with an interval of not less than four weeks between the two injections. This interval may be extended to six months or more. The resulting immunity lasts for two to four years in most children, and if this primary immunizing course has been given in the first year of life a further injection should be given about the age of 5 years, when the child goes to school, or earlier if convenient. For this booster dose one of the less powerful prophylactics like T.A.F. (toxoid-antitoxin floccules), 0.5 ml., may be used. Some authorities recommend a second booster dose towards the end of school life, but this is not essential unless the individual is likely to be going to a country where diphtheria is still uncontrolled.

It is most desirable that a high proportion, around 70–80%, of pre-school- and school-children be protected against diphtheria if this infection is to be effectively controlled. Many parents know the disease only by name and may require a good deal of persuasion to have their children immunized against what is to them a rather hypothetical danger. The family doctor must therefore be prepared with good reasons to persuade the doubters of the value and safety of immunization against diphtheria. Even so, we must admit that certain of the more invasive strains of *Corynebacterium diphtheriae*—for example, the gravis and intermedius types—may break through some degree of antitoxic immunity. It is therefore advisable that throat swabs should be taken for bacteriological examination from any patients with exudative tonsillitis or pharyngitis.

Smallpox

Smallpox in its typically virulent form has not occurred as an epidemic disease in this country for many years, although a modified form called alastrim was prevalent in the years between the two great wars. However, localized outbreaks of smallpox occur from time to time and often cause great alarm and much administrative anxiety and expense before the public can be assured that the danger is past. The main worries about such sporadic outbreaks are that the primary case, arriving perhaps by air from the Middle or Far East, may be so mild and atypical as to be missed, that the disease can be highly infectious in the early stages, and that only a small proportion of our population have any degree of immunity against the infection. The tragic deaths from smallpox in recent years of student nurses and others who had never been vaccinated, the upheavals in communities where outbreaks have occurred, and the risks of primary vaccination during school or adult life are part of the arguments that may be used to convince parents of the advisability of having children vaccinated in the first year of life, when severe reactions or complications are very rare.

Vaccine lymph may be obtained from the nearest public health laboratory by sending the appropriate request form, or, if there is urgency, by telephonic request. The potency of the lymph deteriorates quickly if it is kept at room temperature, and therefore the vaccination should be done as soon as possible after the lymph has been received; failing this, the lymph should be stored in a refrigerator and used within two weeks. Primary vaccination may be done at 3–6 months of age, either by scarification or by the multiple pressure technique. In the former method the skin is cleaned with soap or ether and a single linear scratch ¼ in. (0.6 cm.) long is

made on the epidermis with a Hagedorn needle or other suitable instrument through a drop of lymph. In the multiple pressure method the lymph is first spread over an area of about ⅛ in. (0.3 cm.) square, and with a large flat-sided needle a series of some 20–30 pressures are made on the skin through the lymph (for details, see *Any Questions?** 1951, p. 139). The upper arm or in girls the ankle area are the sites of choice; the thigh should not be used.

Opinions vary about the advisability of covering the vaccination immediately with a dressing; the important point is that the lymph should be allowed to dry before the vaccination site is covered in any way. A dressing may be applied after four to five days, when the vesicles begin to appear, and in the later stages the lesion may be dusted with an antiseptic powder. In older children or adults, in whom the reaction may be more severe, the arm should be rested in a sling. If there is no response the vaccination should be repeated after a week, and it may be repeated a second time if there is still no reaction. Natural immunity in a child of 3–6 months is very rare.

In those who have been vaccinated before, one or other of two reactions different from typical vaccinia may occur. In the "accelerated reaction" vesicles appear early (within two to three days), and the lesion reaches its maximum intensity in four to five days, indicative of some degree of immunity. In the "immune reaction"† a raised itchy reddened lesion, without vesiculation, appears within one to two days, and fades quickly; this reaction, regarded as an allergic phenomenon, may or may not indicate a good degree of immunity. If in doubt the vaccination should be repeated a week later with fresh lymph.

Primary vaccination gives immunity to smallpox for a period of seven to ten years, and ideally every person should be vaccinated in the first year of life and again about the tenth year of life. It is essential that any individual who may run the risk of intimate exposure, such as hospital staff and emigrants to certain countries, should be vaccinated or revaccinated before they are exposed to this risk.

Whooping-cough

Whooping-cough, or pertussis, comes next to measles in its high incidence in the child community. About 40–50% of children have been attacked by the age of 5 years, and about 70% by the age of 10–12. The infection, caused by *Haemophilus pertussis*, is most severe in infancy. Nearly half the deaths occur in the first six months and about two-thirds within the first year of life, but whooping-cough may be serious in any child up to 3 years of age, causing a protracted debilitating infection with the risk of secondary lung complications. If prophylactic vaccination is to be used, therefore, it should be given to children as early as possible, and preferably within the first six months of life. With an effective antigen the antibody response is apparently as good in infants aged 3–6 months as in older infants. Recent experience in America and the results of controlled vaccine trials in this country indicate that a considerable degree of protection can be given to young children by two or three injections of pertussis vaccine.

There may, however, be considerable variation in the protective value of different vaccines, and unfortunately there is as yet no generally accepted animal test by which pertussis vaccines can be assayed. Pharmaceutical firms preparing pertussis vaccine are now well aware of the requirements for the production of good vaccines, and if a doctor is in doubt about the particular brand of vaccine to use he may be able to obtain advice from his medical officer of health. British vaccines are usually prepared in strengths of 10,000 to 20,000 million organisms per ml., and it is customary to give three deep subcutaneous injections of 0.5 ml. at intervals of three to four weeks. Immunization should be begun, if possible, about the second or third month of life, and at present should probably not be offered to children over 3–4 years unless there are special indications. Injections of pertussis vaccine should not be given to a child with a history of convulsions or within three weeks after vaccination. With effective vaccines immunity lasts for at least two years, and a booster dose need only be given if there are special indications for it—for example, a child aged 3 vaccinated in infancy and intimately exposed to the risk of infection.

Combined Diphtheria and Whooping-cough Immunization

It would be an obvious advantage to combine diphtheria and pertussis immunization so as to reduce the number of injections to be given to the infant. Diphtheria toxoid and pertussis vaccine have been combined as one prophylactic and the evidence indicates that the specific antibody response to each of these prophylactics is not thereby impaired. If the pertussis vaccine is known to give good protection the combined prophylactic may be given in three doses, beginning about the sixth month of life. If, however, there is doubt about the protective value of the pertussis vaccine it is wiser not to give combined immunization, since failure of the pertussis vaccine may antagonize parents against immunization in general. There is the further risk of post-inoculation poliomyelitis, which is particularly associated in this country with injections of combined diphtheria and pertussis prophylactic.

Measles

As the virus of measles has not so far been cultivated artificially, there is no method of producing active immunity to this infection by injection of a virus vaccine. Human serum containing antibody to the measles virus may, however, be used either to give complete protection or to modify the attack in a child who has been exposed to the risk of infection. Serum from a convalescent case would be most suitable but is difficult to obtain, since measles is not often seen in young adults who might be asked to donate blood for this purpose. Adult serum, prepared from small pools of donors to reduce the risk of homologous serum jaundice, has been mostly used, but cannot be guaranteed to give complete protection unless injected in very large doses. However, if adult serum is fractionated so as to obtain the antibody-containing globulin (gamma-globulin) in concentrated form, attenuation or complete protection may be obtained with doses of 1–3 ml.

Gamma-globulin is not generally available in this country and the practitioner will usually have to aim at producing a modified attack by giving to the exposed child 10 ml. of adult serum, obtainable from the nearest public health laboratory, as early as possible after

*Obtainable from the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, price 7s. 6d. (postage 6d.)

†It is suggested that this term be discarded and replaced by "maximum local reaction (non-vesicular) on second/third day."

exposure. When it is remembered that the rash in measles does not appear until the fourth day of the disease, a child who has been in contact with an unsuspected case during the previous two to three days may already be incubating the infection for four to five days before any serum can be given. Attenuation can only be expected if serum is given before the sixth or seventh day of incubation, counting the rash as the fourth day. Modified measles, characterized usually by a discrete or sparse rash without catarrhal symptoms, minimizes the risk of complications, and will give the affected child considerable, but perhaps not complete, protection against subsequent attack.

Whole citrated blood from one of the parents is sometimes used. The blood (10–15 ml.) is drawn into a syringe containing 1–2 ml. of 2.5% sodium citrate, and is immediately injected intramuscularly into the child. Apart from the large amount of blood, which causes an unsightly haematoma, there may be some risk in this procedure of producing rhesus sensitization unless rhesus typing can be done beforehand.

Rubella, Mumps, and Poliomyelitis

Practitioners often ask about the possibility of protecting contacts against these infections by the use of convalescent serum or gamma-globulin. In the case of rubella a woman in the first two to three months of pregnancy who is exposed to attack may, if she develops the infection, give birth to a child with serious congenital defects such as deafness or blindness. The only protective measure that has so far proved effective is the injection of a large dose of gamma-globulin prepared from the serum of convalescent cases of rubella; such material is not likely to be available. Similarly, gamma-globulin prepared from mumps convalescent serum has given some protection against secondary orchitis in young male adults. Convalescent serum gives no protection against poliomyelitis or against paralysis in a case in the pre-paralytic stage.

Tuberculosis

The possibility of using a vaccine of tubercle bacilli to give some protection against tuberculosis to susceptible members of a family or a community exposed to the risk of infection has in recent years become a practical proposition. Killed vaccines were found to be ineffective, but the use of a living attenuated and practically non-virulent bovine strain, called B.C.G. (Calmette–Guérin bacillus) after the French originators, has now become accepted in many countries as a method of protection against tuberculosis. The vaccine may be given, by intradermal injection or scarification, to infants born into a tuberculous family, to susceptible adolescents about the time they leave school, and to medical students and student nurses who may be unduly exposed to the risk of infection.

In the older groups a tuberculin test should first be done to find out whether or not the individual has already latently acquired an infection, and only if the test is negative should B.C.G. vaccine be given. As it is a culture of living organisms the vaccine must be used within 10 days or so of its preparation, and the inoculated individual should be tuberculin tested six to eight weeks after vaccination to find if he or she has now become tuberculin-positive. The positive reactor has ordinarily a greater resistance to tuberculous infection than has the negative reactor. B.C.G. vaccine is at present distributed on request to hospitals and chest clinics where there are specialists in tuberculosis. Any doctor who wishes to use the vaccine should get in touch with the nearest centre where a specialist is likely to be available, or he may apply directly to the Ministry of Health on Form B.C.G. 1.

Enteric Fever

Vaccination against the typhoid-paratyphoid group of fevers is not ordinarily recommended in civilian practice except for nurses going to fever hospitals and for those going abroad to countries where the infection is still prevalent. The vaccine consists of killed cultures of typhoid, paratyphoid A, and paratyphoid B bacilli in the proportion of 1,000 million, 500 million, and 500 million organisms per ml. respectively, and is given in two subcutaneous doses of 0.5 ml. and 1 ml. at an interval of seven to ten days. If the vaccine is "alcohol-treated" to preserve the Vi (or virulence) antigen of Felix the doses should be 0.25 ml. and 0.5 ml. Children under 1 year of age do not need to be vaccinated; the dose for children aged 1–5 years should be about one-third of the adult dose, and for children aged 5–15 years one-half. Immunity, which is by no means absolute, may be expected to last for about two years. Booster doses are given yearly to those likely to be exposed to the risk of infection.

Local or constitutional reactions may occur after an injection of T.A.B. vaccine, which should be given late in the afternoon and the patient advised to go early to bed, taking 5–10 gr. (0.32–0.65 g.) of aspirin if need be.

Scarlet Fever

Scarlet fever is to-day a mild infection distinguishable from streptococcal tonsillitis only by the presence of an erythematous rash. The rash is caused by an exotoxin produced by certain strains of *Streptococcus pyogenes*, and this toxin (which cannot be satisfactorily converted to toxoid) has been used to immunize susceptible individuals against scarlet fever. Because four to six injections of increasing doses of toxin are needed, because local and systemic reactions are not infrequent, and because scarlet fever is so mild and readily amenable to antibiotic therapy, active immunization against this infection is not practised nowadays except perhaps for administrative reasons—for example, among nursing staff in a fever hospital. Passive protection of intimate contacts in a family or institution by an injection of the refined scarlatinal antitoxin has also been mostly discarded.

Influenza and the Common Cold

Epidemics of influenza are caused by viruses which can be cultivated artificially on the chick embryo; there are two main types, called A and B. Vaccines of these two types, given in one injection shortly before exposure, have given a considerable degree of protection against the homologous virus infection. The obstacles to the large-scale use of influenza virus vaccine are the uncertainty of foretelling an epidemic of influenza; the difficulty, when an epidemic occurs, of identifying the infecting strain in time to prepare sufficient vaccine; and the apparently short duration of the artificially induced immunity. Efforts are being made to overcome some of these difficulties, and suitable vaccines may become available, particularly for the protection of those in important posts—for example, nursing staff and medical men—at the onset of an epidemic. As outbreaks usually occur in the early spring, the best time to give the prophylactic vaccine is in November or December.

The common cold is also believed to be due to a virus which, unlike the influenza virus, cannot be cultivated artificially. Therefore at present there is no hope of a common cold virus vaccine. Some individuals, however, seem to suffer unduly from secondary bacterial infections—sinusitis, bronchitis, and the like—after an attack of the common cold, and for these subjects mixed stock or autogenous bacterial vaccines have been recommended in the form of a prophylactic course of injections in the late autumn.

Yellow Fever and Cholera

Vaccination against these tropical infections is required only for travellers to or through certain countries where these diseases are endemic. Inoculations with the living yellow fever virus vaccine are given at certain specified centres named in the list set out in the "Notes to Travellers" issued at the Passport Office and the travel agencies. Certificates of inoculation against smallpox, typhoid, yellow fever, and cholera must be on the prescribed International Form, which the traveller again should obtain from a travel agency or the consulate of the country to which he is going. If his own doctor is unwilling to undertake vaccination or inoculations against typhoid and cholera, the traveller may be directed to one of the centres where these inoculations are being done regularly—for example, in the London area there are inoculation clinics at the Tropical Diseases Hospital, at the Wright-Fleming Institute, St. Mary's Hospital, and at the B.O.A.C. Airways Terminal. In the provinces the doctor can usually find out from the medical officer of health where facilities of this kind are available.

Inoculations against plague and typhus fever are not at present required for travellers abroad.

THE LAW IN RELATION TO THE ILLEGITIMATE CHILD

On February 1 a joint committee* of the British Medical Association and the Magistrates' Association, under the chairmanship of Dr. DORIS ODLUM, issued a report† on the present law governing the custody and maintenance of the illegitimate child. The report has received the unanimous approval of the Council of the British Medical Association, but the Council of the Magistrates' Association, in agreeing to publication, wishes to make it clear that it is not necessarily committed to all the views expressed therein.

After reviewing the legal and historical background of the existing law on bastardy, the committee discusses the rules governing the application to a court for a maintenance order, the limitation of the hearing of such cases to magistrates' courts where the maximum order that can be made is £1 a week, the statutory demand for corroboration of the mother's story, the place of blood tests, the registration of "voluntary agreements," guardianship, adoption, and legitimation, as well as the psychological aspects of illegitimacy and the dangers of poverty in these cases. The committee's recommendations are summarized below.

*The members of the joint committee were:—*For the British Medical Association:* Dr. Doris Odlum (chairman), Dr. F. Bodman, Dr. Denis Carroll, Dr. T. P. Rees, and Dr. J. G. Thwaites. *For the Magistrates' Association:* Mrs. E. G. F. Birley, Major Reginald Bullin, Mr. B. L. Q. Henriques, Dr. W. S. Macdonald, and the Rt. Hon. Lord Merthyr. *Co-opted:* Dr. H. Mannheim, Dr. J. C. W. Methven, and Mr. Claud Mullins.

†The report is obtainable from the Finance and Business Officer, British Medical Association. The price, including postage, is sixpence.

Recommendations

1. The law concerning the maintenance, custody, and welfare of illegitimate children is in urgent need of revision.

2. A committee of inquiry should be set up by the Government to investigate the present law relating to the maintenance, custody, and welfare of illegitimate children with a view to recommending amendments to the law.

3. Under certain conditions a married woman should be enabled to apply for maintenance in respect of an illegitimate child.

4. The High Court should be given concurrent jurisdiction to hear claims for the maintenance and custody of an illegitimate child.

5. When a magistrates' court hears a bastardy case magistrates of each sex should be members of the court.

6. The legal necessity for the corroboration of the applicant's story should be modified.

7. The ruling in the case of Johnson *v.* Pritchard should be modified so that, subject to challenge, all letters between the parties would be admissible in evidence.

8. The maximum amount that can be ordered by a magistrates' court for the maintenance of an illegitimate child should be increased to that applicable in the case of children born in wedlock.

9. Courts should be enabled to extend the duration of bastardy orders beyond the age of 16 in cases where a child is continuing a course of education or training beyond the age of 16.

10. The words "putative father" should not be used in bastardy orders and simple words with the same meaning should be substituted therefor.

11. The usefulness of blood tests and the procedure concerning the use in paternity cases should be further investigated.

12. Further investigation is desirable into the procedure to be adopted by the courts when a defendant alleges that the mother of an illegitimate child has been promiscuous.

13. It should be possible for a voluntary agreement to maintain an illegitimate child to be registered with a court and thereafter to be enforced or modified as if it were an order of a court.

14. In exceptional cases a court should be able to grant an application made by the father for the custody of an illegitimate child.

15. There should be a provision in the law declaring that Section 4 (2) (*a*) of the Guardianship of Infants Act, 1925, as amended by the Children Act, 1948, is applicable to illegitimate children.

16. There should be further investigation into the necessity for the provision in the Legitimation Act which precludes the legitimation of a child in a case where one of the parents was married to a third party when the child was born.

17. The present law, whereby proceedings to enforce payment on a bastardy order cannot be taken after the death of the father, should be amended.

18. Marriage should not be regarded as necessarily desirable when the birth of an illegitimate child is probable.

19. Provided there are no good reasons to the contrary, an illegitimate child should remain with the mother.

20. As far as possible, every illegitimate child should be brought up in a home and a family.

21. The emotional needs of children must be considered when arrangements are being made for the adoption of an illegitimate child, or when foster-parents are being chosen.

22. The fact of a child's illegitimacy should either be explained at an age prior to adolescence, when the child can understand the implication, or earlier in response to questions from the child. The child should not be told of its illegitimate birth during adolescence unless the case has first been referred for expert advice.

23. A new name for the illegitimate child is desirable.

Nova et Vetera

THE NOTTINGHAM GENERAL HOSPITAL

A History of the General Hospital near Nottingham. By Frank H. Jacob, M.D., F.R.C.P. (Pp. 353; 52 plates. £1 5s.) Bristol: John Wright and Sons. 1951.

In July, 1948, most of the former voluntary hospitals in this country came under State control. Since that date there have appeared several histories of individual hospitals under the old regime—obituaries which, while recognizing the inevitability of change, to a certain extent breathe the spirit of the "dear departed." Dr. F. H. Jacob, who himself served the hospital so faithfully for so long, has written much more than a history of the Nottingham General Hospital, for he has striven successfully "to tell something of the lives of the more notable of the vast throng of people who devoted such loving care" to the hospital's welfare. He has done more than this. He has thrown his own personality into the book by inserting a numerous series of comments, relevant and irrelevant, humorous and serious, which delight and surprise though they occasionally tantalize the reader.

The style of the book is leisurely, and there are many quaint allusions which almost remind one of Robert Burton. Here is the start of Chapter 17: "In Elizabethan days the physician, Dr. Gilbert, gave to science the foundation of electricity. In 1895, Röntgen, aged 50, returned the debt of [sic] giving *x* rays to the aid of medicine. 'Chance favours only the mind that is prepared.'—Pasteur." The reader will be interested to note that the new *x*-ray department was placed under the charge of the honorary dentist, and that the first photograph of a stone in the kidney was taken in 1900 with an exposure of 20 minutes.

The author's firm opinion is everywhere expressed. In speaking of the laboratory, he asks the question, "Should a big hospital include scientific research in the work of its laboratory? Yes! It is a positive duty!" The account of the early days of the hospital throws a flood of light upon the life of those times. The wards were opened in 1782, and as early as 1785 were begun the annual feasts to celebrate the hospital's anniversary of its birth. In that year "a sumptuous entertainment was provided," and the company had to drink over a dozen toasts to various people and bodies. The menu for the feast of 1814 is given, and includes two kinds of soup, three varieties of fish, 18 different dishes of meat and game, and eleven sweets. The author comments: "It is almost unnecessary to add that the afternoon was spent in a very cheerful manner."

There are pen pictures of many famous doctors and laymen, among whom one may mention Francis Sibson, W. H. Ransom, W. B. Ransom, Lord Trent, and Sir Charles Seely. One anecdote of Lord Trent remains fixed in one's mind: the old man was crippled and had to be carried everywhere, his limbs were all bent and fixed, he could not move his neck, but he was intelligent and would talk with great rapidity and conduct his business efficiently. If any visitor sympathized with him he gave orders that "that person must never come here again, you know, when they are sorry for me I begin to be sorry for myself."

There is a good account of Sibson's work at Nottingham which contains many new facts about that famous physician's early days. We noted here the only inaccuracy which we found in the book—Sibson was appointed to the staff of St. Mary's Hospital in 1851, not 1861. It is noteworthy that the author has drawn on the obituaries in the *British Medical Journal* for at least 12 of his miniature biographies.

There are many curious facts in this book. We learn that in the early days of the hospital each inmate, whether patient or staff, was allowed 2½ pints of beer each day, and that the hospital brewed its own beer. In those days there were no resident night-nurses, but "watchers" were brought in from outside to keep watch during the night and were paid 6d. each night. But the best of the old customs which will undoubtedly appeal to many moderns, whether medical or lay, is the respect which was shown to the house-visitors. The regulation for 1783 runs as follows: "The Hospital is to be visited by the House-Visitors once every day for the week, after their appointment, when they are to walk through the wards with white wands, that they may be known to be House-Visitors; and at noon as they enter the wards, the nurses are to withdraw, and the patients to stand by the sides of their respective beds."

Yes, those were the days!

V. ZACHARY COPE.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Paying for the Health Service

SIR,—The most common of all misunderstandings about the National Health Service is the belief that it is paid for by the Insurance Fund. While this persists it will be difficult to persuade many thousands of patients to be economical in their use of the Service.

It is saddening to find this fallacy repeated in an article in your issue of January 19 (p. 129) from a medical statistician. She actually refers to "National Health stamps." There have been none since 1948. When I last had occasion to give the figures they showed that out of £486m. spent in a year on the National Health Service only £40m. came as grant from the Insurance Fund, and of course the whole of the well-known £400m. (the "ceiling") from general taxation.—I am, etc.,

House of Commons, S.W.1. HILARY A. MARQUAND.

Ovarian Dysmenorrhoea

SIR,—I find it difficult to resist criticizing the article by the late Mr. D. C. Wiseman and Mr. W. M. Thomas on the surgical treatment of ovarian dysmenorrhoea (January 19, p. 141). We have only imperfect knowledge of the cause of menstrual pain, but we presume that pain felt before the period is due either to an abnormal blood congestion of the whole pelvic organs or to a normal congestion in a sensitive woman. Their criterion of diagnosis is pain caused by compression of the ovaries during bimanual examination which "accurately" reproduces their peculiar type of dysmenorrhoea.

Most women suffer painful sensation if their ovaries are squeezed enough, but what woman can identify "accurately" the nature of the pain? The same pain can be produced in these patients if the uterus also is compressed. How much discomfort is caused depends on the time in the cycle at which the examination is made. If just before menstruation, most women will feel discomfort, which will be absent just after the period. But the authors do not state at what phase their patients were examined.

In assessing the "cure" rate (only 49%) patients are included as soon as six weeks and up to three years. What was the percentage of "cures" during the third year? To estimate a "cure" six weeks after the operation is ludicrous, for whatever treatment is given will render the first period painless. The assessment is based solely on the disappearance of a subjective symptom which cannot be measured.

In any case, the majority of the 54 patients (77%) below the age of 30 might be expected to lose their pain after 30 with no treatment at all. There is no mention of whether these 70 women had received other simpler and more orthodox treatment before submitting to an operation which seriously interferes with the ovarian blood supply, inasmuch as the ovarian arteries are divided.

The removal of 27% of normal appendices is irrelevant, because if the appendix has no disease it cannot easily contribute to pre-menstrual pain. Incidentally, quite a number of young

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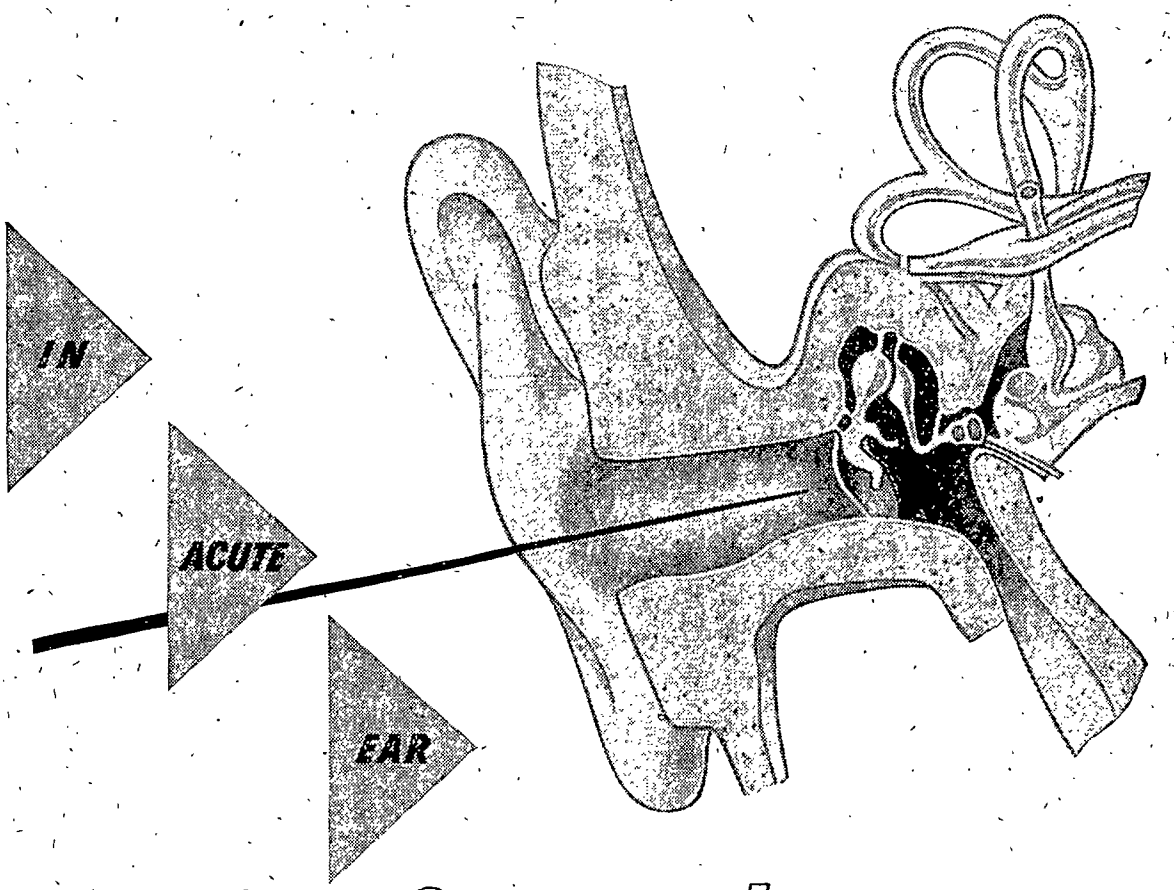

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women date their dysmenorrhoea from appendicectomy or a pelvic operation. For example, a young woman from whom I dissected a large dermoid ovarian cyst two years ago has had intractable dysmenorrhoea ever since.

Cotte's pelvic sympathectomy has a rightful place in the treatment of certain cases of severe dysmenorrhoea when other treatment has repeatedly failed, but by this operation there is no interference with the pelvic blood supply.

I can also understand that removal of large dilated veins from a pampiniform varicocele may relieve congestive pre-menstrual pain, but why divide the ovarian arteries when pelvic sympathectomy would be a surer way of denervation ?

Some of us believe that interference with the main blood supply of the ovaries causes serious ovarian disability. I notice that only 16% of the married women became pregnant after the operation. It would be useful to know the previous parity of those who conceived.

The authors also recommend a division of the infundibulo-pelvic ligament, with all that it contains, if an operation for removal of the appendix finds that it "does not show definite signs of acute inflammation." Dysmenorrhoea is a subjective symptom which is usually inherent in the woman's background, personality, and her early training. This is especially true of pre-menstrual pain.

Almost any treatment is successful for a short time, and occasionally permanently. I suggest that if these 70 women had had nothing more than simple opening and closing of the abdomen the "cure" rate would have been the same. Fortunately the operation recommended by the authors is bad enough to ensure that no gynaecologist who has clinical insight and experience is likely to perform it.—I am, etc.,

London, W.1 ALECK BOURNE.

Sexual Disorders in Women

SIR,—In Dr. Joan Malleson's valuable and interesting paper (December 22, 1951, p. 1480) and in subsequent correspondence I have found no reference to the subject of cervical sensation. In performing vaginal examinations I have observed frequently that the patient lies still and relaxed so long as the cervix is not touched, but the instant the finger comes into contact with the antero-inferior surface the respirations deepen and quicken and the patient is obviously sometimes deeply disturbed. So often has this been my experience that I have come to regard the vaginal wall as being normally relatively insensitive, and have concluded that during intercourse the essential factor in obtaining satisfactory orgasm is the impact of the glans penis upon the antero-inferior surface of the cervix.

Hence failure of the woman to obtain an orgasm may be due to two very common factors, malposition of the cervix, such as occurs in uterine retroversion and prolapse, and the use of contraceptive appliances which prevent the tip of the penis from making contact with the cervix.—I am, etc.,

Winfrith, Dorset. P. R. BOUCHER.

Music While You Operate

SIR,—The idea of "Music While you Work" (*Journal*, January 12, p. 102) for the benefit of patients under local analgesia was anticipated by some 20 years by my esteemed friend Mr. R. H. Paramore. When operating with local or spinal analgesia at the hospital of St. Cross, Paramore would have the gramophone and later the wireless playing in the theatre to allay the patient's anxiety. He claims great success for this method.—I am, etc.,

Rugby. W. J. BOLD.

Anaesthetic Explosions

SIR,—It is the fashion to-day to blame static electricity as the cause of anaesthetic explosions, and even to examine the anaesthetist's shoes for charges of electricity. Not so recently, explosions occurred under open ether when diathermy or the electric cautery was used in operations on the nose and throat, with invariably fatal results. Our more recent explosions appear to be due to the more abundant use of *pure oxygen*, in anaesthesia, in oxygen tents, and to overcome the anoxaemia caused by temporary respiratory paralysers.

The manufacturers of pure oxygen are aware that escaping oxygen coming into contact with grease will cause an explosion, and accordingly advise that grease must not be used at the junction of the oxygen cylinder with the anaesthetic apparatus. It is reasonable, therefore, to assume that grease on the patient's face or at the junction of the mask with the patient's face will be liable to cause an explosion, perhaps just as readily.

I went into this matter some 20 years ago with Professor F. G. Donnan, of University College, London, asking him to analyse the gas in an oxygen cylinder because a long flame had shot out from the cylinder junction of a dentist's anaesthetic machine and completely wrecked the glass spittoon some three feet away. Professor Donnan pointed out the fact that pure oxygen plus grease will cause the type of explosion I described.

If we are to cut down the number of deaths from explosion caused annually wherever pure oxygen is directly applied, the answer would seem to lie in supplying the oxygen already diluted with a suitable proportion of nitrogen. The manufacturers could no doubt co-operate in this matter. We require the highest proportion of oxygen in a nitrogen–oxygen mixture which will not fire readily when forced against greasy materials. (I suggest the use of nitrogen, because this gas is already being supplied to occupy the empty spaces in the self-sealing petrol tanks of aircraft.) If the manufacturers supply us with 1/5 oxygen to 4/5 nitrogen, we shall be perfectly safe from oxygen explosions, but already have our natural source of supply. Cylinders will probably have to contain between 60 to 80% oxygen mixed with air to combine safety with usefulness.—I am, etc.,

Slough. N. C. HYPHER.

Night Pain with Fractures

SIR,—The diagnosis of minor fractures at times can be difficult, and to those of us who have no *x*-ray facilities to hand an accurate clinical diagnosis is all the more important. Dr. J. B. Marshall (January 19, p. 163) brings to light an observation of very practical significance. This symptom of night pain I have found, when the question of fracture is being considered, can be applied to a fairly wide field in the realm of minor injuries and can often give a clue in the right direction.

A minor crush injury of the foot, such as is caused by a heavy object falling on the dorsum of the foot, which produces a limping patient with a foot swollen, bruised, tender, and fairly immobile, may leave one in doubt of the presence of a fracture. In this type of case the question can often be settled fairly conclusively from the history of night pain. A disturbed night is almost always indicative of fracture.

In the last year I have seen seven such cases. Four gave a clear history of night pain, and a radiograph showed the presence of fracture or fractures of the small bones of the foot. Those in which there was no night pain gave normal *x*-ray appearances.

In August, 1951, I attended a boy of 10 years who had slipped off the kerb and injured his left ankle. Seen the following day, he complained of little pain and had no signs of fracture. The ankle appeared sound apart from tenderness on dorsiflexion of the foot and tenderness over the medial malleolus. The previous night's rest had been considerably disturbed by pain. *X*-ray examination demonstrated a linear fracture of the lower end of the tibia.

A case of fractured clavicle in a boy of 8 years was encountered in December, 1951—presenting a picture similar to the cases described by Dr. Marshall. The *x*-ray examination was carried out on the strength of the history of night pain.

From the experience of these cases briefly described and of several others encountered, I feel that this symptom of night pain is worthy of consideration. As to the method of its production, might it not be due to relaxation of

muscle spasm when the patient drops off to sleep, producing involuntary movement at the fracture site—a mechanism similar to that which produces "starting pains" in joint tuberculosis ?—I am, etc.,

Arrochar, Dunbartonshire. J. MACKINTOSH.

SIR,—Dr. J. B. Marshall's observation in his letter (January 19, p. 163) is a true one, but is by no means confined to children with this fracture. Patients of any age with a painful condition in the shoulder region have more pain at night, presumably because most of us like to sleep on the side and to change our position in bed frequently. It follows that any patient with a painful shoulder, be it broken or frozen, is much better treated erect and ambulant; while at night sleep is least disturbed in a sitting position with plenty of pillows. Although this position is comfortable, it may not be always tolerable in the average English bedroom in winter.—I am, etc.,

London, S.E.1. M. PICKERING PICK.

Traumatic Autografting

SIR,—For some time it has been recognized that wounds caused by high-velocity projectiles can, on impact, turn the firmer tissues of the body into secondary missiles. It is, however, rarely that these secondary missiles, when embedded elsewhere in the body, survive as living tissues. Usually they are either absorbed or encapsulated as foreign bodies. Recorded cases of traumatic autografts are not common, although a few cases of traumatic homografts of doubtful accuracy can be found in the literature. The case recorded below is of a soldier, aged 25, who was wounded during the Normandy landings by a land mine.

The extent of his injuries was the traumatic amputation of his right leg above the ankle, a wound on the right side of his chin, and two smaller wounds in the shoulder. He was admitted to a casualty clearing station, where a fresh amputation was performed and the facial wound was dressed. He was then evacuated, via a maxillo-facial unit, back to the U.K., arriving approximately 48 hours after his injury. It was then possible to assess more carefully the full nature of his injuries, and the following report was made.

The amputation stump was found to be quite healthy, although there was a tendency to haematoma formation. The face was inspected, and a large jagged bursting type of wound was found on the right side of the chin (Fig. 1). It did not involve the buccal cavity, and the alveolar margin was in continuity. The wound itself was very soiled with vegetation, and was found to contain a mass of fibro-tendinous material. A tendon, running across the wound, firmly embedded and alive, was the subject of much speculation, and it had apparently been blown out from beneath the jaw on the left side. Small portions of the mandible had also been broken off from its lower margin. The dead tissues were cut away and loose pieces of bone removed. No foreign bodies were found. A radiograph at this stage had shown a considerable number of bone fragments overlying the mandible.

A week later he was transferred to a maxillo-facial unit, where Sir Harold Gillies operated 13 days after wounding. Under thiopentone and cyclopropane anaesthesia the whole wound edge was carefully excised and a deep pocket found in the right cheek, level with the angle of the mouth. In this pocket there were portions of a toe or toes complete with tendons, skin, bone, and joints. One of the tendons (extensor hallucis longus) had been previously seen lying over the symphysis menti and had been thought to be a tendon displaced from the neck, possibly the digastric. There was no bony damage to the mandible, but the periosteum was stripped off. The whole wound was very quiescent and only necrotic where a portion of the toe was presenting in the wound and looking like (and previously taken for) a sloughing portion of the cheek. Just below and behind the symphysis menti there was a brass screw, which was presumably from the mine. All foreign tissue was removed.

The patient was evacuated to a general hospital 17 days after the operation, by which time the facial wound had completely healed (Fig. 2).

It was considered at the time that this case was a remarkable example of the efficacy of penicillin, in that a previously unsterilized toe could successfully survive as an autograft.

I wish to thank Sir Harold Gillies for permission to record this case.

—I am, etc.,

London, W.C.2. J. M. ROBERTS.

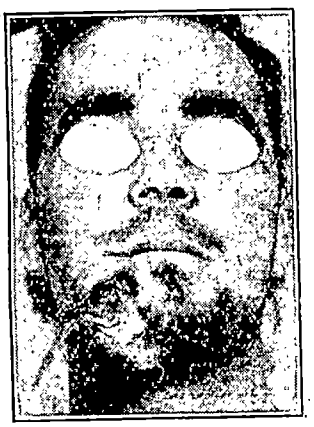

FIG. 1.

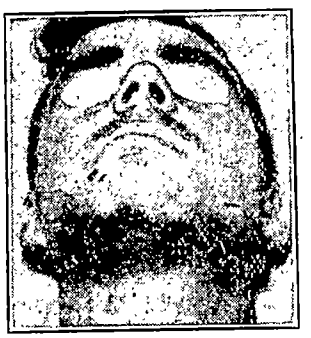

FIG. 2.

Cough Fracture in Late Pregnancy

SIR,—With reference to Dr. J. W. Paulley's letter (January 19, p. 162), a few years ago a patient of mine fractured the eleventh rib (left side) about midway between the tubercle and the tip while coughing during advanced pregnancy. The pain was immediate, and the fracture was confirmed by radiograph. She had old healed tuberculosis of the left lung. Radiography at that time showed much calcification and contraction of the upper zone.—I am, etc.,

Birmingham. W. M. CHESNEY.

Shortage of X-ray Films

SIR,—Perhaps I may comment on the letters by Drs. R. Montgomery and W. A. Bellamy (December 29, 1951, p. 1584) complaining of waste of *x*-ray films in the Medical Research Council trial of antibiotics in pneumonia, reported in the *Journal* of December 8, 1951 (p. 1361). The trial was planned well before the present shortage of films became apparent and in fact was completed before the shortage became at all acute. Once such a trial has begun it is essential to keep to the original protocols. I think we would all agree that in most cases of pneumonia it is unnecessary to take *x*-rays so frequently, and in many cases it is unnecessary to have a film on admission, but surely there is a great deal of difference between the requirements of ordinary clinical practice and those of planned research In clinical research one must obtain as much information as possible and make it as precise as possible.

On a purely clinical level I would disagree with Dr. Bellamy's suggestion that physical examination is all that is required before pronouncing a patient recovered from his pneumonia. The final *x*-ray, after physical signs have disappeared, is the only one which I regard as quite essential in a straightforward case of pneumonia. Over and over again this film will reveal abnormalities which have not been suspected on clinical grounds. Over and over again I have patients referred to me with chronic respiratory disease which might have been prevented if the trouble had been recognized by an *x*-ray taken at the stage when the clinical manifestations of the pneumonia had apparently subsided.

I should point out that these are my personal views and do not necessarily represent those of my colleagues on the Medical Research Council Subcommittee on Pneumonia.—I am, etc.,

Edinburgh, 9. JOHN CROFTON.

SIR,—I was most interested in your remarks (January 12, p. 94) about wasteful tomographic procedures. I have frequently noticed that full-size 12 in. by 15 in. tomograms are being taken, where a film area of 6 in. by 7 in. would have

been quite sufficient to cover the area in question. In order to confirm or exclude cavitation in a certain area it is difficult to reduce the cuts, but surely economies in width and height are possible without detriment to accuracy. A very simple device of covering three parts of a large film with a radio-opaque plate, and centering the beam on the affected area only, makes it possible to tomograph four cuts on one film, and this has the added advantage that four successive cuts can be inspected next to each other at one viewing-box.—I am, etc.,

Wolverhampton. E. POSNER.

Dead or Alive?

SIR,—In an article on "Suicide, Accident, or Murder?" (September 15, 1951, p. 661) Dr. Keith Simpson states, "Stethoscopic examination for the heart sounds is the only really reliable test [of death]: if there is no heart beat for four or five minutes eventual survival is impossible." At the end of the same paragraph he says, ". . . striking recoveries have ensued after long periods of apparently suspended animation in cases of electrocution."

Presumably a long period means more than four or five minutes, and apparently suspended animation includes no discernible heart beat, so I feel he has contradicted himself. I should be glad to know if any of your readers have personal experience of cases of apparent death from electric shock where the heart beats were indiscernible by the stethoscope under good hearing conditions for more than five minutes and yet the patient recovered. Two such cases are reported by Professor Jellinek in his book, *Dying, Apparent Death, and Resuscitation,* but I have been unable to obtain any direct evidence of other cases after writing to a number of authorities in different countries. On the available evidence, however, it does seem unwise to certify a man dead following electric shock, after failure to hear heart sounds for five minutes.—I am, etc.,

Wellington, C.1. T. O. GARLAND.

Tablet Test for Urinary Chloride

SIR,—The valuable paper by Dr. W. H. Taylor (November 10, 1951, p. 1125) on the fallacies of the Fantus test may discourage clinicians from relying upon this estimation, which, in the case of many small hospitals, may be the only guide available. However, if the clinician bears in mind the errors likely to occur, it is surely better to carry on using the test than to have none at all.

As an attempt to minimize the technical errors, the reagents may be combined together in tablet form, thus dispensing with pipetting of the silver nitrate solution. I have found a convenient formula for the tablets to be as follows: potassium chromate 10 mg.: silver nitrate 1.46 mg.: excipient to 1 gr. (65 mg.). The test is performed in a small thick glass test-tube on 10 drops of urine plus approximately 10 drops of water. Tablets are added and crushed with a glass rod until the pink-brown end-point is reached. Each tablet is equivalent to 1 g./litre urinary chloride. The test appears to be quite as accurate as the conventional method and is well received by the nursing staff, for there is less pipetting, with a consequent decrease, for example, in pipette breakage rate.

A report of a detailed investigation into the technical aspects of this test will be published elsewhere.—I am, etc.,

Preston. E. B. LOVE.

Fantus Estimation of Urinary Chloride

SIR,—May I comment upon the criticisms made by Dr. H. L. Marriott (November 24, 1951, p. 1284) of my paper (November 10, 1951, p. 1125)? My purpose was simply to record some of the errors that may arise from the commencement of a Fantus estimation to the giving of treatment on the basis of its result. It would be most unfortunate if this work were in any way to be interpreted as detracting from the valuable contributions of Dr. Marriott in this field.

Dr. Marriott believes the Fantus estimation to be more accurate than my experiments show it to be. He quotes, in his support, work of which no experimental details appear to be available. It is difficult, therefore, to make any comment except to reiterate that the estimation has been found to be inaccurate to the extent indicated in my paper when performed on urine specimens passed up to four hours previously. There is little likelihood of these results being caused by contaminated solutions or by dirty test-tubes, as Dr. Marriott suggested might be the case. As the inaccuracies of the Fantus estimation tend mainly to yield high results, it is not surprising that the actual errors quoted in my table were all on the high side.

My paper also showed that the longer urine stands the more inaccurate is the Fantus estimation likely to be. It was for this reason that my experiments were performed on urine passed within four hours. However, Dr. Marriott (1951) writes:

"The main control observations which should be instituted in every case of potential or actual dehydration and maintained until all danger has passed, are eight-hourly measurements of urine volume and of urinary chloride concentration. . . . When an eight-hourly check is in progress all specimens passed during the period should be mixed. . . ."

While not disagreeing with this advice, it is clear that if urine is allowed to stand for eight hours it is likely to cause errors in the Fantus estimation at least as great as those occurring within four hours. Furthermore, it appears from Dr. Marriott's letter that the unpublished work to which he refers in support of his views was performed "with freshly passed urine"—in other words there is some doubt, from the data available, whether he has in fact checked the accuracy of the Fantus estimation under the circumstances in which he recommends its use.

Dr. Marriott makes the further point that the errors to which the Fantus estimation is subject do not affect its usefulness provided one accepts his limit of abnormally low urinary chloride concentration as 3 g. NaCl/litre. Whatever numerical limit is accepted, though, if an estimation is sufficiently inaccurate to push the value above this limit when it should be below it, a wrong conclusion may be drawn and perhaps because of it a patient given the wrong treatment.

Dr. Marriott also considers that the speed with which the Fantus test can be performed justifies its use. Even if it can be performed in two minutes the highly accurate and trustworthy Volhard estimation can be completed within 10. Are there ever circumstances in hospital practice where this maximal difference of eight minutes could justify the use of a potentially misleading estimation at the expense of one more trustworthy? The Volhard estimation can be quite easily carried out in the side-ward. It needs but two solutions, distilled water, a conical flask, and a 5-ml. graduated pipette, and it estimates only halides however long the urine has been standing or whatever other anions are present.

Turning next to the usefulness of urinary chloride estimations, Dr. Marriott has somewhat misinterpreted my views. After my arguing that to be useful urinary chloride estimations should reflect the body's need of sodium ions there occurs in my paper the following sentence:

"In most patients in whom problems of fluid balance arise in hospital this relationship between urinary chloride concentration and the body's requirement of sodium ions still holds good, but exceptions arise."

I then go on to add further to Dr. Marriott's own list of exceptions. Somehow, however, Dr. Marriott has inferred that urinary chloride estimations are "undesirable," and, having launched this argument, has devoted a whole column of your *Journal* to destroying it. In fact, it will be found that Dr. Marriott's views and my own are not so very far apart. He writes of the usefulness of urinary chloride concentrations that "better definition of limitations will come as knowledge grows." Surely he will admit that my addition of two further instances to his own list of limitations is contributing to this growth. The contributions of Mr. Wilkinson and his colleagues and of Dr. Spencer, which I quoted, also make for "better definition" and do not deserve to be dismissed by Dr. Marriott as "a few disparaging references." Recently Denton (1951) has described further limitation of the usefulness of urinary chloride estimations.

I am sorry that Dr. Marriott should have found my article to contain only "negative criticism" which "is not difficult" and to give "no positive help at all to the inexpert." It was not, of course, my purpose to present an account of salt and water

therapy. He fails, however, to note my recommending the use of the Volhard estimation in preference to that of Fantus, and ignores my concluding statement, "Never to rely upon a urinary chloride estimation alone as a basis for salt therapy but to take into account also the clinical signs and the plasma chloride (or, better, sodium) concentration."

It is possible also that those readers who use the Fantus estimation would welcome the knowledge that the test is less likely to be accurate when using infected urine or urine which has stood for some time. Perhaps, too, the description of further groups of patients in whom urinary chloride analyses afford no reliable guide to salt therapy may be of some positive help to clinicians who face these problems.

In conclusion it is possible that the divergent views of Dr. Marriott and myself may be attributed to the fact that we have worked upon dissimilar groups of patients. My experience has been confined to post-operative patients and to patients unconscious from head injury, cerebral vascular accident, meningitis, or diabetes. From the work of Wilkinson *et al.*, Spencer, and Denton, it would appear that the incidence of circumstances in which urinary chloride estimations fail to reflect the body's sodium requirements is sufficiently high in these patients to call for the modification of schemes of treatment.—I am, etc.,

Oxford. W. H. TAYLOR.

REFERENCES

Denton, D. A., Wynn, V., McDonald, I. R., and Simon, S. (1951). *Acta med. scand.*, Suppl. 261.
Marriott, H. L. (1951). In *Medical Treatment*, ed. Geoffrey Evans, London

Educating the Public about Cancer

SIR,—We in this country should be grateful to Drs. T. A. Watson and O. D. Beresford (January 12, p. 107) for their encouraging letter on this subject. In our experience in the south-west of England the public are eager enough to be enlightened, but opinion in the medical profession is divided. The main objections are that education will depress the spirits of the people by creating a cancer phobia, that if a campaign is inaugurated it will lead to a rush of patients to the doctors' surgeries even when they have nothing the matter, and that the early signs are so varied and dubious that education is impossible. We are confident that if the information given follows sensible lines and not too much is attempted there is a good answer to all these objections. The cancer phobia already exists; if women are assured, as they can be assured, that odd pains in the breast without a lump do *not* mean cancer, and that two-thirds of cases treated early will be alive and well three to five years later and many of them much longer still, their fears will be replaced by astonishment and hope. To the overworked doctor who fears a sudden rush we would say: Which would you prefer, to send 10 women away happy by telling them they have not got cancer, or to have to attend a hopeless case to give morphine every day for six months, because she showed you her breast in July when she ought to have come in January? To meet the third objection, it would be well in the first place to concentrate attention on three well-defined clinical pictures—the painless lump in the breast (which may not be cancer after all), irregular uterine bleeding in a woman past 40, and a sore on the lip, tongue, or in the mouth which does not heal in a fortnight.

In the south-west region records of cancer cases have been collected from all the main hospitals for four or five years past, and a near-hundred per cent follow-up has been maintained. Our records show that, of women knowing they have a lump in the breast, only 38% come up for treatment within three months, and 32% delay for over a year. Of women with uterine cancer, 34% come up within three months, and 38% delay for a year or more. Doctors may think that published figures of cancer "cures" are too optimistic, only the exceptionally fortunate statistics being put on record. We can assure them that in this area, served by about 30 surgeons and radiotherapists, 69.5% of cases of carcinoma of the breast treated in the first stage are alive and well three years after, and 56% after five years. Very few stage 3 or stage 4 cases survive that length of time. Figures for cancer of the uterus are similar. Death from advanced cancer is often a long and painful business, and we are sure it can be avoided in many patients.

What form might education take? One simple way would be for leaflets advising patients with lumps in the breast, irregular bleeding, or persistent sores in the mouth to consult a doctor. These could be distributed in doctors' surgeries, women's institutes, etc. It might be wise, in view of the difference of opinion in the profession, for a trial to be made in one or two areas in the country to see whether the delay period in seeking advice and the number of cancer deaths could after, say, three years be reduced by a vigorous local campaign of public education, of which the keynote should be not fear but hope.—I am, etc.,

Bristol. A. RENDLE SHORT.

Congenital Defects in Mongols

SIR,—The paper by Dr. Martin Bodian and his colleagues (January 12, p. 77) on congenital duodenal obstruction and mongolism was of great interest. I recently surveyed the congenital defects occurring in a consecutive series of 45 mongols who came to necropsy in this hospital in the period 1938 to 1951. The chief findings, which I quote by kind permission of Dr. H. S. Baar, were as follows:

Cardiac abnormalities (excluding patency of the foramen ovale and patency of ductus arteriosus) in 28.
Congenital duodenal obstructions in six.
Harelip and hydronephrosis in two each.
Meckel's diverticulum, partial absence of pancreas, horseshoe kidney, meningomyelocele, congenital hydrocephalus, syndactyly, congenital dislocation of hip, absence of radius, in one each.

The findings in the six cases of mongolism with duodenal obstruction are briefly given in the Table.

Sex	Age at Death	Early Symptoms	Necropsy Findings
F	8 weeks	Vomiting aet. 10 days	Partial stenosis at junction of 2nd and 3rd part duodenum. Peritoneal bands narrowing 3rd part. Small patency of foramen ovale
F	6 days	Vomited blood aet. 2 days	Suprapapillary duodenal atresia. Patency of pars membranacea of patent interventricular septum
M	8 ,,	Vomiting from birth	Suprapapillary duodenal atresia. Subacute pancreatitis. Small patency of foramen ovale
M	9 ,,	Vomiting from birth	Complete atresia of 3rd part of duodenum Perforated gastric ulcers with peritonitis
M	6 weeks	Projectile vomiting in 3rd week of life	Partial suprapapillary stenosis of 2nd part of duodenum, 1 cm. in length
F	16 days	Vomiting from birth	Partial suprapapillary stenosis of 2nd part of duodenum. Gross dilatation of 1st part

During the same period 15 infants with intrinsic obstructions or atresia of the duodenum (excluding those with malrotations or mesenteric abnormalities alone) were admitted to hospital. The high proportion of mongols—6 out of 15—fully bears out Dr. Bodian's contention.—I am, etc.,

The Children's Hospital, Birmingham. L. M. ROSE.

Diabetic Gangrene

SIR,—The instructive paper by Dr. A. Grunberg, Mr. H. L. Davies, and Dr. J. L. Blair (November 24, 1951, p. 1254) invites brief comment. Nowadays many of these cases need never resort even to "conservative" surgery if large doses of alpha tocopherol are given them. Our first observations on this subject have recently been substantiated by Butturini,[1] and others, of course, have testified to its value in diabetic arthritis[2-4] and in ordinary arteriosclerotic gangrene.[5]—We are, etc.,

WILFRID E. SHUTE.
EVAN V. SHUTE.

London, Canada.

REFERENCES

1 Butturini, U G (1950). *Clin. med.*, **31**, 1.
2 Doumer, E. Merlen, J., and Dubrulle, P (1949). *Pr. méd.*, **57**, 394.
3 Block, M T (1950). *Clin. Med.* **57**, 112.
4 Ged Med Thesis, Sim., Paris, 1951 p 471.
5 Lindgren, I. (1945). *Nord. Med.*, **28**, 2127.

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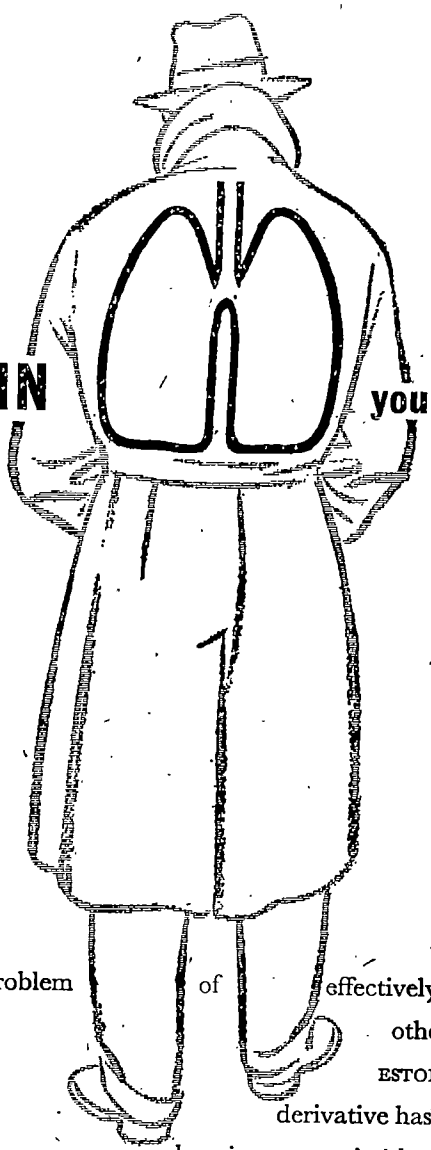

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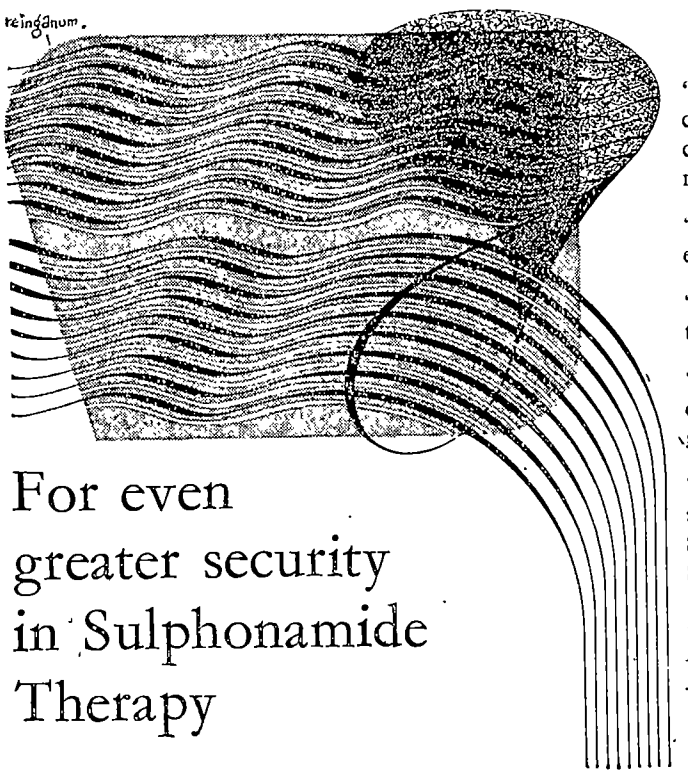

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Rapid Cure of Actinomycosis

SIR,—In view of the usually protracted and unhappy progress of a patient with actinomycosis it seems worth recording the rapid recovery of a boy with actinomycosis of the neck who was treated recently.

The boy, aged 14, was first seen on September 18, 1951, with a history of swelling on the left side of the neck of four weeks' duration. It had been steadily increasing in size, but was relatively painless except when he moved his head sharply or when the swelling was touched. Examination showed an area of infiltration on the left side of the neck extending from the anterior border of the sterno-mastoid to the midline and from the mandible to the sternum. He was admitted to hospital as a case of actinomycosis on September 20, and treatment started with "aureomycin" capsules (two six-hourly), potassium iodide 10 gr. (0.6 g.) thrice daily, and penicillin 1,000,000 units daily. Seven days later the area of infiltration was much less, with definite fluctuation in the centre and pus obviously approaching the skin. Incision released pus with typical "sulphur granules." Bacteriological examination revealed *Streptomyces actinomycosis*. On October 22 the incision had healed, and there was no evidence of thickening. All medication was stopped and the patient was discharged.

He has been followed up at the out-patient clinic since, and was last examined on December 23, 1951, when there was no evidence of recrudescence. Progress was rapid after incision of the fluctuating area, and medication might have been stopped earlier. Knowing so little about the dosage necessary for this condition, however, it was decided to continue treatment until no residual thickening could be found. —I am, etc.,

Mauchline, Ayrshire. A. H. SANGSTER.

Westergren and Wintrobe Methods Compared

SIR,—I was much interested in the article by Dr. David Gilmour and Mr. A. J. Sykes (December 22, 1951, p. 1496) on the subject of the relative merits of the Westergren and Wintrobe methods of estimating the sedimentation rate. I find myself substantially in agreement with them.

I did a great deal of work on the subject on behalf of a committee of the Empire Rheumatism Council, the results being embodied in several publications, notably in Fletcher's *Medical Disorders of the Locomotor System* (Edinburgh, 1947). The main conclusion was that the Westergren method was easily the best for the purpose. While it is a little hard to see how the errors described by your writers arise, there can be no doubt that, where rates are increased, the longer the tube is the better. In the short tubes the onset of packing at the bottom of the tube occurs earlier, with the result that lower values are obtained. Where rates are normal, however, the column length seems to be immaterial so long as it exceeds 25 mm., the results being the same in tubes of all lengths (and, incidentally, in all bores also so long as the tubes are kept strictly vertical, small bores being more sensitive to this).

The great virtue of the Wintrobe tube was supposed to be that it lent itself to ready estimation of the cell volume by centrifuging the tube. This was done either before the test was set up, the cell volume being corrected by withdrawing plasma, or after sedimentation had occurred, the results being corrected for cell volume by means of a table. It is hard to see how such correction can be justified even on theoretical grounds when the mechanism of the test is considered. The test depends upon the size of rouleaux of cells falling through plasma of relatively constant viscosity, and a shortage of cells might be expected to produce smaller slower-falling rouleaux rather than the contrary. In actual practice, we have always found that all the evidence pointed to the conclusion that correction for cell volume was wrong. Thus we have had two cases of aplastic anaemia, one very severe (untransfusable on account of reactions): in both these cases the sedimentation rate has been constantly normal for years. Such a finding accords well with our experience of over 20,000 estimations of sedimentation rate, that correction for cell volume could not be justified.—I am, etc.,

London, W.1. J. W. SHACKLE.

Toxic Chemicals in Agriculture

SIR,—It has been stated that there are no sequelae to poisoning by organic phosphorus compounds used as insecticides. In August, 1951, three people developed symptoms of acute poisoning following exposure to a new substance in this group, *bis*-mono-*iso*propyl aminofluorophosphine oxide. Although these symptoms responded in the usual way to the administration of atropine, two patients developed flaccid paralysis involving all four limbs, which came on slowly in the third week after the acute phase of the illness. The lower limbs were affected first and most severely and have not yet recovered fully. The cases will be described in detail in a report which is being prepared for publication. The purpose of this letter is to draw attention to the fact that paralysis resembling that which follows poisoning by tri-*ortho*-cresyl phosphate may also occur after poisoning by other organic phosphorus compounds. Petry (*Zbl. Arbeitsmed.*, 1951, **1**, 86) records a case of similar paralysis in a man exposed repeatedly to parathion in the fumigation of greenhouses.—We are, etc.,

P. LESLEY BIDSTRUP.
London, E.1. DONALD HUNTER.

POINTS FROM LETTERS

Incontinence in Women

Dr. B. E. W. STALLARD (Hereford) writes: Dr. S. Brennan (January 12, p. 110) asks for cases of incontinence in women. Some years ago an unmarried lady about 50 consulted me for dribbling of urine, over one week. On examination the vagina was closed by a thick soft hymen, with a tiny opening about the mid-point, from which urine was trickling. There had never been any injury. I dissected off two-thirds of the hymen and put in a few stitches and she had no further trouble after a slight *B. coli* cystitis cleared. The condition was clearly congenital.

Homes for Incurable Children

Dr. IAN G. WICKES (Stock, Essex) writes: In a letter from the Invalid Children's Aid Association (January 19, p. 161), Dr. A. White Franklin and others emphasize the lack of suitable homes for incurable children with gross physical deformities, and they remark "that, legally, public authorities should provide accommodation for children of this kind, but all too often the bed for the long-term case is just not there." The lack of accommodation for the mentally defective child is also serious and the cause of very great hardship in countless homes, where the whole family is penalized and humiliated by the constant care and attention which a severe mental defective requires. The waiting-list for institutional treatment is several years long, and very little is done to help the weary mother in the interim. From time to time I have taken such a child into a children's ward to give the mother a rest, but experience has taught me to limit the proposed period of admission to a predetermined number of days or weeks. . . . Surely the time has come for an inquiry on a national scale into the demand for and supply of institutional accommodation for mentally and physically incurable children.

Incontinentia Pigmenti

Dr. W. L. CALNAN (Wroughton, Wilts) writes: I have read the interesting article on this subject by Dr. A. White Franklin (January 12, p. 75). The statement that no case has yet been recorded in England is not quite correct. Dr. Henry Haber published a case in 1948. Also I published a report of a child with congenital hemiatrophy in the *Journal* of July 9, 1949 (p. 56), and I described associated cutaneous abnormalities, which I now know to be characteristic of incontinentia pigmenti. I am grateful to Dr. Haber for drawing my attention to the correct diagnosis (*Journal*, July 23, 1949, p. 230). This child, like Dr. White Franklin's patient, was born and lives in Hertfordshire.

Dr. H. HABER (London, N.W.6) writes: In his paper (January 12, p. 75) Dr. A. W. Franklin, reviewing the literature, stated that "no case has yet been recorded in England." May I draw Dr. Franklin's attention to the fact that I showed the first case of incontinentia pigmenti to the Dermatological Section of the Royal Society of Medicine on April 15, 1948 (*Proc. roy. Soc. Med.*, **41**, 759)?

Obituary

Sir ARTHUR GASKELL, K.C.B., O.B.E., F.R.C.S.
(Surgeon Vice-Admiral, ret.)

Surgeon Vice-Admiral Sir Arthur Gaskell, Honorary Surgeon to the King and Medical Director-General of the Royal Navy from 1927 to 1931, died on January 12 at Fareham, aged 80.

Arthur Gaskell was born at Dartmouth and studied medicine at University College Hospital, where he qualified in 1892. A year later he entered the Royal Navy as a surgeon. Several years of service at the Royal Naval Hospital at Chatham gave him opportunity to develop his surgical skill, and he became a Fellow of the Royal College of Surgeons in 1899. In 1900 he had charge of the surgical section of the advanced base hospital at Leu-Kung-Tao in the Boxer rebellion. His good work there was recognized by his special promotion to staff surgeon in 1902. Four years later he became fleet surgeon. He took a special interest in physical training and in the teaching of first aid, and while at the Cape station he had a booklet on first aid printed and distributed at his own expense. Some years later at the request of the Admiralty he wrote a primer on first aid which became the official textbook on this subject in the Royal Navy. In 1913 he took the D.P.H., a year before his appointment as first director of medical studies and professor of hygiene at the new naval medical school organized at the Royal Naval College, Greenwich. At the outbreak of war in 1914 he was responsible for the fitting out of the hospital ship *Soudan*, and a month later he became the principal medical officer of the Royal Naval Division and was in charge of the medical unit in the Gallipoli campaign, being mentioned in dispatches and appointed C.B. From 1916 to 1919 he was in charge of the Royal Naval Hospital at the Cape of Good Hope and was awarded the O.B.E. for his valuable services there.

At the end of the war Gaskell was promoted to surgeon-captain, and he served again at the Royal Naval Hospital, Chatham, until 1923, when he was appointed medical officer in charge of the Royal Naval Hospital, Plymouth, and promoted to the rank of surgeon rear-admiral. Three years later he was promoted to surgeon vice-admiral and succeeded Sir Joseph Chambers as Medical Director-General of the Navy, a post which he held until his retirement in 1931. Gaskell was appointed Honorary Surgeon to the King in 1928 and created K.C.B. two years later. After his retirement he served on the Committee on the Medical Branches of the Fighting Services under the chairmanship of Sir Warren Fisher.

Sir Arthur Gaskell is survived by his widow and a son and a daughter. His elder son was killed in action in 1944.

HAZEL H. CHODAK-GREGORY, M.D., F.R.C.P.

Mrs H. H. Chodak-Gregory (née Cuthbert), children's physician at the Royal Free Hospital from 1927 to 1946, died in London on January 12 at the age of 66. Hazel Howard Cuthbert studied medicine at the London School of Medicine for Women, where she was quickly recognized as an outstanding student. She graduated M.B., B.S. in 1911 and two years later proceeded M.D. In 1915 she obtained the M.R.C.P. After qualifying she held various resident appointments, including that of resident medical and surgical officer at the Children's Hospital, Birmingham. She had always a great love of children and knew from the first that her main interest was in their medical care. She took a wide view of this, realizing that it involved a knowledge of social and preventive medicine as well as clinical skill and experience. In 1916 she was appointed acting assistant physician to the Royal Free Hospital. Three years later this appointment was confirmed and she became assistant physician, being the first woman physician to be appointed to the honorary staff. In 1927, when the children's work was separated from general medicine and the Riddell wards for children were opened, she became children's physician to the hospital, a post which she held until her retirement in 1946. She was also for many years physician to the Children's Hospital, Shadwell. In 1935 she became the second woman to be elected a Fellow of the Royal College of Physicians.

Dr. Gregory was always interested in the teaching of students (by whom she was affectionately known as "Mrs. C.-G.") and in their general welfare; and she took her fair share in all the work of the hospital and medical school. She was for some years chairman of the medical committee of the hospital and was vice-dean of the medical school during 1933–8. At the outbreak of the second world war, when the clinical students were posted to the Three Counties Emergency Hospital at Arlesey in Bedfordshire, she was acting dean for the duration. She was resident physician in charge of the division under the E.M.S., with care of children's wards and charge of general medical beds.

Dr. Gregory married towards the end of the first world war and leaves one son, who is in the medical profession.

O. R. and G. B. write: Dr. Gregory was always a stimulating teacher and had the great gift of expecting the best from everyone. At the same time she had a tolerant outlook and a strong sense of values, which enabled her to overlook the shortcomings of others; the few criticisms she made were constructive and never unkind. It was at Arlesey that she became so well known and loved by all with whom she worked. She made an outstanding success of this difficult appointment, integrating the work as a whole and organizing with enthusiasm the social as well as the clinical side of the hospital. She was naturally shy and reserved, and this at times made her appear somewhat unapproachable, but those who came to know her and to be admitted to her friendship realized her great charm, her integrity, and her unselfish readiness to help others. Throughout her life she accepted difficulties with philosophy and courage, especially when she faced so magnificently the losing battle against ill-health.

F. G. writes: The death of Mrs. Chodak-Gregory is a personal loss to many old students and colleagues at the Royal Free Hospital. We came to know her best at Arlesey, where she was senior physician during the war, and to recognize her absolute integrity and sound judgment. Those of us who were residents at Arlesey will always remember the evenings spent with her in friendly and stimulating discussion, and we shall always be grateful for her encouragement and wise counsels.

H. E. SYMES-THOMPSON, M.D., M.R.C.P.

The death of Dr. H. E. Symes-Thompson on January 18 removes from the ranks of medicine one who will long be remembered by his colleagues and friends for his unfailing kindness, geniality, and sympathy for others. He represented the third generation of a family distinguished in the study and practice of disease of the chest. His grandfather, Theophilus, was one of the original

members of the staff of the Brompton Hospital, and was followed by his son in a similar role.

Henry Edmund Symes-Thompson was born in London in 1873. After school at Winchester, he continued his studies at Christ's College, Cambridge, and later at St. George's Hospital. At Cambridge he took the Natural Science Tripos, graduating B.A. in 1894 and M.A. in 1898. He qualified in medicine in 1900, proceeding M.D. in 1903, and becoming M.R.C.P. in the same year. After holding resident appointments at St. George's, the Westminster, and the Brompton hospitals, he was elected in 1905 to the staff of the Royal Northern Hospital, and later to the Royal Chest Hospital, City Road. When he retired from the active staff he became consulting physician to the latter hospital in 1934, having completed 29 years' service with the two hospitals.

He continued for some years in private practice, and among other appointments he was for many years physician to the Royal National Hospital for Consumption, Ventnor. He practised in London through the war years, but his life was saddened by the untimely loss of his eldest son, Edmund, who was killed in an air raid while on duty at his hospital.

Symes-Thompson's personality was an eminently cultured one. His manner was courtly, if diffident. His outlook on life was religious, and for many years he had been examiner to the Society for the Propagation of the Gospel. His approach to medicine was an academic one, and coloured by his expert use of the stethoscope. Radiological diagnosis he regarded at first with some scepticism, but he eventually made full use of the opportunities in diagnosis which it offered. He was proud to relate that the stethoscope was first used in England by Laennec when he demonstrated at the Royal Chest Hospital about 1820. He published a number of papers during his lifetime, including one entitled "The History of Tuberculosis."

Latterly Symes-Thompson spent much of his time at his family residence in Buckinghamshire. He was a keen cricketer and spent many of his leisure hours at Lord's. He is survived by his widow and a son and a daughter, to whom we offer our deepest sympathy.—F. E. S. W.

Dr. JAMES ADAM SMITH died at Huddersfield Royal Infirmary on November 25, 1951, at the age of 27. He studied medicine at St. Andrews University, graduating M.B., Ch.B. in 1947. After qualification he held resident posts in Stirling Royal Infirmary and Huddersfield Royal Infirmary before serving in the R.N.V.R. When he had completed his national service he became house-surgeon (obstetrics and gynaecology) at Blackpool Victoria Hospital, and obtained his D.Obst.R.C.O.G. in 1950. He then entered general practice in Huddersfield, and his untimely death cut short a promising career. Jimmy Smith's passing will be mourned by all with whom he came in contact. Our deepest sympathy is extended to his young widow.—W. S. W.

The death occurred suddenly on December 9, at the Victoria Hospital, Cork, of Lieutenant-Colonel H. E. MURRAY (late I.M.S.), of Castletownshend, Co. Cork, aged 62. A son of the late Mr. Edward James Murray, of Dundrum, Co. Dublin, Herbert Edward Murray was educated at St. Stephen's Green School and Trinity College, Dublin, where he graduated M.B., B.Ch., and B.A.O. in 1913. After a period as house-surgeon at the Royal Victoria Eye and Ear Hospital in Dublin and a trip to Australia as ship surgeon in the liner *Orontes*, he joined the R.A.M.C. in September, 1914. From November of that year until early 1916 he served in the Ypres salient as M.O. to his battalion of the Queen's Westminster Rifles. Transferring to the Indian Medical Service, he had further war experience in the N.W. Frontier Province, and afterwards held various medical military posts in India and Hong Kong until 1925, when he transferred to the civil side of the I.M.S. in Bengal. Returning to Trinity College on study leave he proceeded M.D. in 1929 and M.Ch. in 1930. Thereafter he held a number of important appointments in Calcutta, including those of superintendent of the Presidency General Hospital, professor of midwifery and gynaecology to the Medical College, and first surgeon to the Eden Hospital. He became a Fellow of the Royal College of Obstetricians and Gynaecologists in 1940, and was created a Companion of the Indian Empire in 1944. After retiring from the I.M.S. he held the post of senior obstetrician and gynaecologist at the Leicester General Hospital for a time, but later he went back to India, where he entered into partnership with Lieutenant-Colonel Hamilton in Madras. He returned to Ireland about a year ago, settling in Castletownshend, Co. Cork, where he soon laid the foundations of a good private practice and, in addition, was appointed gynaecologist to the Victoria Hospital, Cork. In 1933 he married Lylie Frances, daughter of the late C. H. Miller, of Co. Dublin. His death at a comparatively early age will be a great loss to the district in which he had so recently settled.

Dr. FREDERICK HUGH SMITH, who practised in Leeds, Lincolnshire, and Lancashire, died on December 18 at Hemel Hempstead. We are indebted to Dr. A. P. Bertwistle for the following appreciation: Dr. F. H. Smith was in my year at Leeds University. He joined up in the 1914–18 war as soon as he could do so in a medical capacity, serving as a surgeon probationer in H.M.S. *Achates*, a destroyer. He was in the thick of the Battle of Jutland. He returned to Leeds to graduate in 1919, and later went to a rubber company in Singapore. He then came back to England to practise for a time in Leeds, but he longed for the country and went to live in Coningsby, in the delightful county of Lincolnshire, where he was thought much of, especially by the poor and aged. He was a magnificent gardener, making a success of those fastidious flowers orchids. He had many hobbies, including playing the violin and philately. He was one of the kindest of men, and had a keen sense of humour. He leaves behind a devoted wife and a married daughter.

Dr. REGINALD NICKLIN died suddenly at Luanshya, Northern Rhodesia, on January 7, aged 47. He graduated M.B., Ch.B. at the University of Birmingham in 1926, and took the M.R.C.S., L.R.C.P. conjoint diploma in the following year. He entered the Colonial Medical Service, and served in Zanzibar from 1929 to 1937, Nyasaland from 1937 to 1947, and Northern Rhodesia from 1947 to 1950, when he retired, having been provincial medical officer, Northern Province. He joined the medical staff of the Roan Antelope Copper Mines, Ltd., in Luanshya during 1950. Dr. Nicklin had all the qualities that go to make an ideal colleague and general practitioner. His unselfishness, kindliness, and good humour never deserted him, and his advice was always wise and balanced. His passing is a great loss. He is survived by his widow and two sons.

Colonel A. O. B. Wroughton writes: I saw with great regret and sorrow the obituary notice of Mr. W. H. MILLER (January 19, p. 167). I first met him in Bedford in 1929 on my retiring from the Army. During my time in Bedford he was a very real friend, and I am deeply grateful for his many kindnesses to me and my wife and family. He was a splendid surgeon and physician and full of sympathy and understanding, and I deem it a privilege to have had him as a friend.

Medico-Legal

DEATH AFTER XYLOCAINE INJECTION

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

The first known example in England of death following an injection of "xylocaine" was the subject of an inquest by the Mid-Northants coroner on December 12, 1951.

The deceased was Miss Monica Annie Atkins, aged 27, of Gayton, Northants. She was known to have suffered from pulmonary tuberculosis since 1946 and had been an in-patient at Creaton Sanatorium since December 15, 1949. A two-stage thoracoplasty had been performed on her on October 9 and November 20, 1951, and parts of seven ribs had been removed to allow the left lung to collapse. She suffered much pain after the second operation and was seen on December 4, 1951, by the senior registrar of the thoracic surgery unit at Oxford, who decided that if certain simple measures failed to alleviate her pain the nerves to the affected area should be injected with a local analgesic.

On December 8, the simple measures having failed, the patient agreed to injection, and at 11.45 a.m. a paravertebral block was begun on the left side with the patient sitting up in bed. A solution of less than 1% xylocaine was used, 10 ml. to anaesthetize the skin and 70 to 80 ml. in all, and no injection was made without first testing to make sure that the needle did not lie in a blood vessel or in the spinal canal. At about 12 o'clock the patient complained of feeling faint, and was told that only one more nerve had to be injected. As she was turned on to her back it was noticed that she was talking irrationally, and 10 seconds later she had a fit, making irregular movements with her limbs. She lost consciousness, and her pulse could no longer be felt. Spontaneous respiration lasted for a few minutes while she was given oxygen and nikethamide injections into the heart and veins, and 0.3 g. of thiopentone was given intravenously to control further fits. After another 10 minutes her heart failed again, and she died at 12.25 p.m.

At necropsy the brain was found to be symmetrical and firm. The leptomeninges and spinal cord were congested. The left lung was collapsed and on section showed tuberculous involvement. There was chronic pleuritic thickening, and on the left side slight paravertebral subpleural haemorrhage. There were old and relatively recent subcutaneous haemorrhagic zones in the left and right axillary regions, especially on the left side, approximating to the areas of the hypodermic puncture marks.

There were no traces of xylocaine or its breakdown products in specimens of cerebrospinal fluid, urine, or blood.

Dr. R. M. Heggie, director of pathology at the Northampton General Hospital, who carried out the necropsy, came to the conclusion that death was caused by intravascular absorption of the xylocaine used in the paravertebral block and its subsequent cerebral medullary action. His inquiries showed that 500–600 thoracoplasties had been performed with xylocaine without accident, and indeed it had previously been used on the patient for her own thoracoplasties without untoward effects. But he said that in a recent paper quoted to him describing 130 successful thoracoplasties there was a warning about the use of xylocaine in areas where deep bruising was suspected. (An annotation on xylocaine appeared in the *Journal* of January 26, p. 211.)

A verdict of death by misadventure was recorded.

According to the *Report on the Work of the Central Midwives Board*, just published, the M.R.C. Committee investigating the use of trichlorethylene in childbirth is still unable to recommend its use by midwives on their own. None of the inhalers submitted for trial has been found satisfactory. Since April, 1950, midwives have been able to give pethidine, although it is on the Dangerous Drugs List, but the regulations are to be changed to impose a limit to the total amount they can hold.

Universities and Colleges

UNIVERSITY OF OXFORD

In a Congregation held on December 15, 1951, the following degrees were conferred:

D.M.—J. J. Pritchard, B. F.-A. Swynnerton.

B.M.—J. P. Blandy, D. H. Malan, E. T. C. Tewson, D. H. Eaton, P. D. Grant, I. S. L. Loudon, K. F. R. Schiller, J. A. Smith, R. D. Weeks, W. T. Barrett, I. O. Carlisle, W. M. Jordan, C. V. Mann, D. F. Woodhouse, H. B. Calwell, B. T. Bond, M. S. Compton, F. S. Keddie, W. F. C. Kennedy, M. A. Fenton, A. M. Stobie, P. R. Walker, M. W. Sweet-Escott, K. F. M. Thomson, W. Whitechurch, C. F. Bolton, J. M. Davies, Hélène V. Goodman, Jean Ginsburg, G. T. Haysey (in absence).

Dr. H. M. Sinclair has been elected a member of the Committee of the Museum of the History of Science until Michaelmas Term, 1954.

J. R. P. White (Queen Anne's School, Caversham) has been elected to a Nuffield Medical Scholarship at Lady Margaret Hall; C. Streatfeild (Ashford School for Girls, Kent) to an H. T. Gerrans Exhibition in Medicine at Somerville College; and C. A. Baker (College Scholar, and Croydon High School, Girls' Public Day School Trust) to a Scholarship in Medicine at St. Hugh's College.

UNIVERSITY OF CAMBRIDGE

Bryan Harold Cabot Matthews, C.B.E., Sc.D., F.R.S., has been elected Professor of Physiology in the University, as from January 1, in succession to Dr. E. D. Adrian, O.M., P.R.S., who is now Master of Trinity College. Professor Matthews was born on June 14, 1906, and was educated at Clifton College and at King's College, Cambridge, of which he has been a Fellow since 1929. He graduated B.A., with first-class honours in physiology, in 1927 and proceeded M.A. four years later. The degree of Sc.D. was conferred upon him in 1937. He held a Beit Memorial Fellowship for medical research from 1928 to 1932, and was assistant director of research in physiology in the University from 1932 to 1947. When the readership in experimental physiology was established in 1947 he was appointed to the post. He was a British member of the 1935 International High Altitude Expedition for Physiological Research. He was director of the R.A.F. Physiological Research Unit in 1940 and director of the R.A.F. Institute of Aviation Medicine from 1944 to 1946. Professor Matthews was elected F.R.S. in 1940 and appointed C.B.E. in 1944.

UNIVERSITY OF ST. ANDREWS

Professor Earl R. Loew, Professor of Physiology in the University of Boston School of Medicine, has been appointed Visiting Lecturer for 1952 in the Faculty of Medicine of St. Andrews University. Professor Loew will hold his lectureship in the Department of Pharmacology and Therapeutics, Medical School, Dundee, for the month of September.

The following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—D. M. Alexander, R. H. Arnold, J. S. Bain, H. J. Barclay, D. G. P. Brown, Betty K. Dean, H. R. Foreman, Elizabeth H. L. Hay, R. L. Kelly, C. W. Law, Margaret E. J. Leckie, R. A. C. Lundie, D. M. McKerrell, H. A. Maher, R. Moncrieff, G. I. Rooney, Joan E. Warren, Eleanor T. Winter, Ariane G. M. Wiseman.

UNIVERSITY OF GLASGOW

The following degrees were conferred on January 12:

M.D.—[1]A. J. V. Cameron, W. A. Dewar, [2]K. C. Grigor, [2]A. G. Macgregor, [2]F. C. Rodger, [3]T. Young, C.B., O.B.E., K.H.P., Major-General.

CH.M.—[3]D. St. C. L. Henderson, [2]J. Hutchison.

M.B., CH.B.—S. Alexander, I. R. G. Barclay, J. D. Begg, A. W. Bennie, J. W Browning, R. Budge, J. C. Burgess, J. D. Caldicott, Evelyn M. Camrass, Doreen M. Chisholm, A. S. Cooper, L. MacD. Craig, D. Craigen, A. B. B. Culhane, J. Curley, G. M. Currie, E. Diamond, E. D. Docherty, J. N. Docherty, A. L. C. Duncan, T. H. Fairbairn, P. Forrester, W. V. Fowler, J. R. Freeland, R. A. Garden, I. A. Gibson, H. P. Gillespie, W. D. S. Hepburn, J. Houston, R. D. Hunter, Mary G. S. Hyslop, J. Lambie, W. K. Lawson, I. A. Levy, R. H. MacKay, Moira R. Mackie, T. C. G. McKirdy, M. MacLean, W. McLellan, A. G. W. McLeod, A. McQuater, W. I. Martin, R. H. D. Miles, J. Mitchell, G. P. Moffat, L. MacG. Munro, T. H. Neilson, J. M. Paterson, J. Rintoul, W. P. Ritchie, N. MacN. Robertson, C. C.

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of 1950 and 1949, respectively. The rate for 1951 was 22.9, compared with 22.7 in 1950 and 1949.

The deaths registered in the quarter numbered 121,759, representing a rate of 11.0 per 1,000 population, compared with 135,359 and a rate of 12.3 for the corresponding quarter of 1950. The total number for the year 1951 was 548,918, and the rate was 12.5, compared with 11.6 in 1950. The increase was concentrated in the first quarter of the year, during which there was a widespread influenza epidemic.

Census Changes.—Population figures obtained at the 1951 census show that there are now 160 great towns (population over 50,000) in England and Wales instead of 126, and 17 principal towns (population over 30,000) in Scotland instead of 16. Therefore the 1952 figures for deaths, births, and stillbirths in these countries, published weekly in our Table, cannot be accurately compared with those for 1951, which are printed in italics. The 160 great towns in England and Wales have a population about 10% higher than in the 126.

Medical News

Health Service Charges.—The Chancellor of the Exchequer, Mr. R. A. Butler, announced in Parliament on January 29 that a shilling charge on prescriptions is to be introduced. This would bring in £12m. in a full year. There will also be charges for some appliances, such as surgical belts and boots, hearing-aids, and wigs. Amenity beds in hospitals will cost more. Where there is hardship help will be given in meeting the new charges. In the dental service the patient is to pay the cost of treatment up to £1.

Guide to London Social Services.—The London Council of Social Services has recently published a little handbook intended to present a picture of the various organizations offering social services in the London area. The different types of services provided by statutory and local bodies are briefly described, and also the new social services—Family Allowances Act, National Health Services Act, and so on. A history of social services seems rather out of place in so short a pamphlet, and the space it occupies could more profitably have been filled with further useful addresses. As it is, the appendix gives a few, but for the most part tells the reader that they may be found in the telephone directory. However, the *Handbook to the Social Services in London* does summarize in a small space an account of the services available, and, even if addresses have to be looked up, the place to find them is given. It is obtainable from the council at 7, Bayley Street, London, W.C.1, price 7½d. post free.

Artificial-eye Specialists.—An association of artificial-eye specialists has been formed at 15, Woburn Square, W.C.1, to look after the interests of these technical practitioners.

Yugoslav Rehabilitation Team.—A group of doctors and medical auxiliaries from Yugoslavia have been studying rehabilitation in this country and the U.S.A. during the past six months. Plans for their tour were made with the help of W.H.O. The team, consisting of three doctors, a nurse, a social worker, an occupational therapist, a remedial gymnast, and a secretary, was under the leadership of Dr. Zotoeic. On January 21 the Yugoslav Ambassador and Madame Brilej gave a reception on the eve of the team's return to Belgrade, where they will establish a rehabilitation unit which it is hoped will eventually serve as a training centre for workers from Yugoslavia and other countries.

Sir Edward Mellanby Honoured.—The Royal Swedish Order of the North Star (Commander, First Class) has been conferred on Sir Edward Mellanby, formerly secretary of the Medical Research Council, in recognition of his services to medical research in Sweden. The decoration was presented to him by the Swedish Chargé d'Affaires, M. Unger, on January 21 at the Swedish Embassy in London.

What's What in International Medicine.—The Council for the Co-ordination of International Congresses of Medical Sciences issues a quarterly bulletin giving details of the council's aims and achievements, information about many international medical and para-medical organizations, and a valuable calendar of international congresses to be held in 1952 and later. The bulletin will be sent free of charge to universities, medical organizations, etc., from Unesco House, 19, Avenue Kleber, Paris, 16e. Otherwise it costs 2s.

Publication Difficulties of Scientific and Medical Journals.—The *British Medical Journal* is not alone in receiving an unprecedented flood of contributions and in struggling under a heavy burden of printing and paper costs. Many scientific journals are experiencing identical difficulties, and the Royal Society has set up a publications commission, with Professor S. Zuckerman (professor of anatomy, Birmingham University) in the chair, to discuss the whole problem with the Master Printers Federation and the printing trades unions, and to consider whether the Treasury might be asked to make a bigger grant in aid of publications. New and cheaper methods to replace ordinary printing will also be considered. Varitype, for instance, is a way of printing from typescript which avoids all the expense and delay of hand-setting of type by experienced compositors. The Society finds that costs have at least doubled since before the war, that the number of suitable papers submitted for publication in the *Proceedings* is going up by at least 20% annually, and that the publication delay, which used to be a maximum of six months, is now approaching the two years already experienced by some journals. The great increase in papers is attributed to the enormous increase in the numbers of science graduates since 1945, and the flood is expected to grow as more and more complete their first research. It has also become more important professionally to be the author of a list of published papers.

Any Questions?—The first printing of *Any Questions?* has now sold out, and the book is being reprinted. It is hoped to be able, in about six weeks' time, to supply those who have already ordered copies. Those requiring copies, but who have not yet ordered them, are urged to make early application to the Publishing Manager, B.M.A. House, Tavistock Square, London, W.C.1.

50 Years' Progress in Medicine.—Over 300 pages of text, a complete index, and 32 illustrations, all for 15s., make *50 Years of Medicine* a valuable book to have. A symposium surveying the progress of medicine and surgery over the first half of the century was published in the *Journal* in 1950, and the articles are now obtainable in book form. Much useful information is contained in the book, which is of interest to medical and lay readers alike. It may be bought from booksellers or direct from the Publishing Manager (post free) at B.M.A. House, Tavistock Square, London, W.C.1.

Emergency Bed Bureau at Liverpool.—This service completed its third year of operation on September 30 last, and its latest annual report shows that in the year it handled over 12,000 applications for admission to hospital. Nearly 500 of these were from hospital out-patient departments, the rest being from general practitioners. 92.8% of the cases were admitted, and beds found for a further 560 patients were refused by them. Teaching hospitals were able to take in 900 cases at the Bureau's request. Admission of elderly patients (60 years old and over) was the most difficult, as was to be expected.

Emergency Bed Service: Applications and Admissions.—During the seven days ending January 28 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,165, of whom 85.4% were admitted.

COMING EVENTS

Broussais Hospital Courses.—Three courses will be held in Paris at the Broussais Hospital from May 18 to May 31; the subjects covered will include renal pathology (four days), allergic diseases (six days), and three *journées médicales* will be devoted to papers on a wide range of subjects, such as the treatment of acute leukaemia, allergic migraine, and the use of A.C.T.H. The registration fee is 2,500 francs; the number of participants is limited to 150, and early application is advised. Full details may be obtained from Dr. R. Wolfromm, 96, rue Didot, Paris, 14e.

International Diabetes Federation Congress.—People interested in the congress to be held at Leyden, the Netherlands, during the second week of July, 1952, are requested to apply for a prospectus to Dr. R. D. Lawrence, 149, Harley Street, London, W.1.

Tuberculosis Conference.—The twelfth conference of the International Union against Tuberculosis will be held at Rio de Janeiro, under the presidency of Professor Manoel de Abreu, from August 24 to 27. The subjects for discussion are immunity and tuberculosis, treatment and prognosis in minimal pulmonary tuberculosis, and organization and results in regard to the tuberculosis campaign of mass surveys. Members of the union may take part in the conference without paying an admission fee. Physicians who do not belong to the union may apply for membership of the conference, and should send in their applications exclusively through their Government or national association, who are alone qualified to forward such applications. All requests for information concerning the scientific discussions should be sent to Professor Etienne Bernard, secretary-general, 66, Boulevard St. Michel, Paris. All requests concerning the organization of the congress should be sent to the secretariat of the conference, 197, Avenida Mem de Sa, Rio de Janeiro. Applications from physicians in Great Britain should be sent through the N.A.P.T., Tavistock House North, Tavistock Square, W.C.1.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Monday

CAMBRIDGE MEDICAL SOCIETY.—At Physiology Lecture Theatre, Addenbrooke's Hospital, Cambridge, February 4, 8.15 p.m., annual general meeting. "*The Use of Antabuse in the Treatment of Alcoholic Delinquents and Criminals,*" film to be shown by Dr. Erik Jacobsen (Copenhagen).

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 17, Bloomsbury Square, London, W.C.—February 4, 7.30 p.m., "*The Work of the Privy Council,*" by F. J. Fernau.

Tuesday

ANGLO-JEWISH ASSOCIATION.—At 33, Seymour Place, London, W., February 5, 8.30 p.m., "*Jews in Medicine,*" by Dr. W. J. O'Donovan

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 5, 5.30 p.m., "*Methods of Research in Social Medicine,*" by Dr. Alice M. Stewart.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 5, 5.30 p.m., "*Sweat,*" by Dr. C. A. Keele.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—February 5, 5 p.m., "*Prevention of Shock and Anaemia in Trauma,*" Arris and Gale Lecture by Mr. A. R. Clarke.

WEST END HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck Street, London, W. (entrance for lectures 40, Marylebone Lane, W.).—February 5, 5.30 p.m., "*Intracranial Abscess,*" by Mr. G. C. Knight.

Wednesday

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 6, 5.30 p.m., "*Mycology—Histoplasmosis: Coccidioidomycosis,*" by Dr. R. W. Riddell.

INSTITUTE OF UROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., February 6, 4.30 for 5 p.m., "*Treatment of Gonorrhoea,*" by Dr. W. N. Mascall.

MANCHESTER MEDICAL SOCIETY: SECTION OF MEDICINE.—At Physiology Theatre, Medical School, Manchester University, February 6, 4.30 p.m., "*Modern Methods of Treatment of Pulmonary Tuberculosis from the General Practitioner's Angle,*" by Dr. M. J. Greenberg.

OXFORD UNIVERSITY.—At Radcliffe Infirmary (Maternity Department Lecture Theatre), Oxford, February 6, 5 p.m., "*Insulin Tumours of the Pancreas,*" Litchfield Lecture by Professor J. Morley.

Thursday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 7, 5.30 p.m., "*Contributions in the Twentieth Century to the Practice of Health,*" by Professor J. M. Mackintosh.

FACULTY OF HOMOEOPATHY.—At Royal London Homoeopathic Hospital, Great Ormond Street, London, W.C., February 7, 5 p.m., "*Indigestion from a Surgical Standpoint,*" by Mr. Harold Dodd.

HARVEIAN SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—February 7, 8.15 p.m., "*Low Backache,*" discussion to be introduced by Mr. P. H. Newman and Mr. Leslie Williams.

●INSTITUTE OF CHILD HEALTH, Hospital for Sick Children, Great Ormond Street, London, W.C.—February 7, 5 p.m., "*Abdominal Surgery in Childhood,*" by Professor Ian Aird.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 7, 5.30 p.m., "*The Reticuloses in Relation to Dermatology,*" by Dr. J. O. Oliver.

LIVERPOOL MEDICAL INSTITUTION.—At Royal Southern Hospital, Caryl Street, Liverpool, February 7, 2.30 p.m., afternoon clinical demonstration.

MANCHESTER MEDICAL SOCIETY: SECTION OF ANAESTHETICS.—At Staff House, Manchester University, February 7, 8.15 p.m., short papers.

●MOTHERS' CLINIC, 108, Whitfield Street, London, W.—February 7, 2.30 p.m., lecture and demonstration (on living models) on Contraceptive Technique by Marie C. Stopes.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—February 7, 5 p.m., "*Surgical Treatment of Banti's Syndrome,*" Hunterian Lecture by Professor A. H. Hunt.

ROYAL INSTITUTION, 21, Albemarle Street, London, W.—February 7, 5.15 p.m., "*Respiratory Pigments,*" by Professor H. Munro Fox, F.R.S.

ST. ANDREWS UNIVERSITY.—At Lecture Theatre, Materia Medica Department, Medical School, Small's Wynd, Dundee, February 7, 5 p.m., "*Recent Work on Blood Groups and their Clinical Significance,*" by Professor D. F. Cappell.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—February 7, 4.30 p.m., lecture-demonstration in neurology by Dr. D. Williams.

Friday

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 8, 5.30 p.m., "*Developmental Abnormalities,*" clinical demonstration by Dr. R. M. B. MacKenna.

●INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 8, 5.30 p.m., "*Surgical Aspects of Cyanotic Congenital Heart Disease,*" by Mr. T. Holmes Sellors.

OSLER CLUB.—At Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C., February 8, 7.45 p.m., "*Hippocrates in Ancient and Modern Times,*" by Dr. W. N. Mann; "*On Translating Hippocrates,*" by Mr. John Chadwick; "*Amputations—Hippocrates and Modern Times,*" by Mr. Leon Gillis; "*Hippocrates and Periodicity in Life and Disease,*" by Dr. J. H. D. Webster.

OXFORD UNIVERSITY.—At Magdalen College, Oxford, February 8, 5 p.m., "*The Neurophysiological Basis of Mind,*" Waynflete Lecture by Professor J. C. Eccles, F.R.S.

Saturday

SOUTH-EAST METROPOLITAN REGIONAL TUBERCULOSIS SOCIETY.—At Kettlewell Hospital, Swanley, Kent, February 9, 10.30 for 11 a.m., general meeting. "*The Pulmonary Circulation in Lung Disease,*" lecture by Dr. Paul Forgacs.

APPOINTMENTS

AARON, F. E., M.B., Ch.B., D.C.P., Assistant Pathologist, Stockport and Buxton Group, Manchester Regional Hospital Board.

BROWN, G. LAING, M.D., D.P.H., Consultant Physician-Superintendent, Bucknall Hospital, Stoke-on-Trent.

DALZELL-WARD, A. J., M.R.C.S., L.R.C.P., D.P.H.; Deputy Medical Director, Central Council for Health Education, Tavistock House, Tavistock Square, London, W.C.1.

DONOVAN, WILLIAM, M.B., M.A.O., M.R.C.O.G., Obstetrician-Gynaecologist to the Counties of Sligo, Leitrim, and Donegal, Eire.

HUTTON, JAMES, M.D., D.P.H., Medical Officer of Health, School Medical Officer, and Port Medical Officer of the Borough and County of Poole and Medical Officer of the Poole area of Dorset

LANDON, JOSEPH JOHN, M.B., B.Chir., Medical Officer for Corporation Staff Welfare, etc., Public Health Department, City of Birmingham.

LUM, L. C., M.B., B.S., M.R.C.P., M.R.A.C.P., Physician-Superintendent (Consultant) at Nayland Sanatorium, East Anglian Regional Hospital Board.

Are Vaginal Tampons Prejudicial to Health?

An Investigation* concerned with the bacteriology of vaginal flora following the use of internal tampons was undertaken at the request and with the co-operation of the visiting gynaecologists to a London Women's hospital.

It is gratifying to find that this investigation confirms earlier work carried out in America and gives further support to the claim that Tampax can be confidently recommended as a convenient, comfortable and *safe* form of sanitary protection.

* *Tampax tampons were used in this investigation.*

EXTRACTS FROM THE REPORT:—

★ "Smears and cultures taken before and after each period showed no appreciable change in the bacterial flora of the vagina."

★ "None of the volunteers acquired monilia or trichomonal organisms during the period of study or developed erosions or vaginitis as a result of using the internal tampon."

★ "There was no aggravation of the condition or delay in healing following the use of tampons in the patients who had cervical erosions."

★ "In each case the underlying cause responded to treatment, and did not recur, which proves that the internal tampon does not act as an irritating foreign body."

★ "The rate of healing compared favourably with four control cases in which the perineal pad was used."

★ "The glycogen content was uninfluenced by the use of tampons."

★ "There was no appreciable alteration in the pH in the pre- and post-menstrual phases."

★ "Volunteers who had not previously used tampons stated that they did not cause the irritation usually found with the perineal pad."

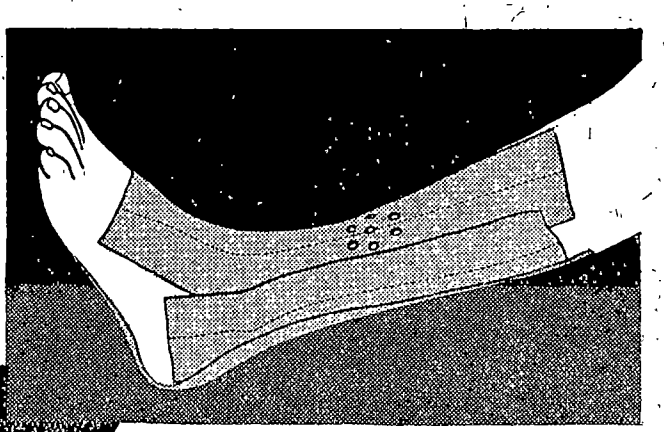
★ "There was no evidence that vaginal tampons are prejudicial to health."

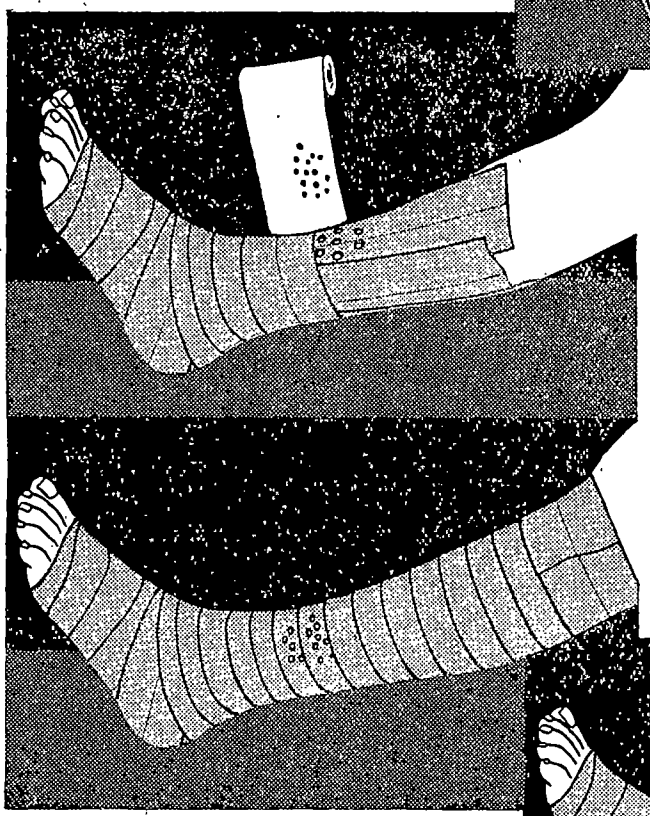
British Medical Journal, 1, 24 (1952)

Literature and professional samples of Tampax will be sent on request to:

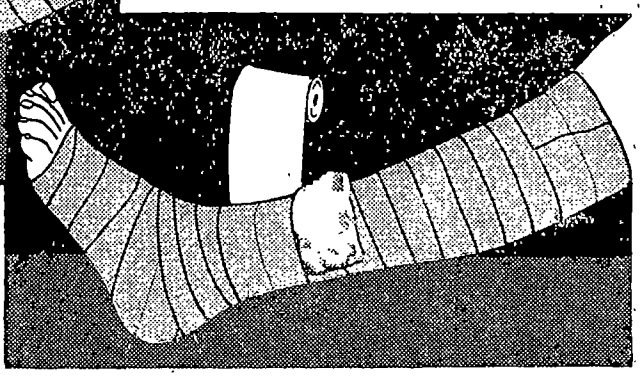
MEDICAL DEPARTMENT, TAMPAX LIMITED, 110 JERMYN STREET, LONDON, S.W.1

ELASTOPLAST BANDAGING TECHNIQUE





In the treatment of varicose ulcers . . . careful bandaging is essential in order to achieve the best results.
Seepage of discharge beneath a bandage may be prevented by cutting small holes in the bandage as illustrated.



Cotton wool, held in place over holes by a further strip of Elastoplast, absorbs discharge. See illustration opposite.

Elastoplast *elastic · adhesive* BANDAGES

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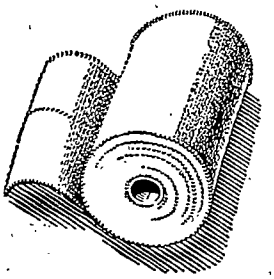

Besides **ELASTOPLAST ELASTIC ADHESIVE BANDAGES** *other T. J. Smith & Nephew bandages and products available for use in the treatment and after-care of varicose conditions are* ELASTOCREPE · ELASTOLEX · ELASTOWEB DIACHYLON/ELASTOCREPE · VISCOPASTE · ICHTHOPASTE COLTAPASTE · ELASTOPLAST PLASTERS · PARAGON SPONGE RUBBER · JELONET. *Full details from the Medical Division, T. J. Smith & Nephew Ltd., Hull.*

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O'SULLIVAN, JOHN THOMAS, M.B., D.P.H., Medical Officer, Rathmullan (Co. Donegal) Dispensary District.

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THOMAS, WILLIAM EDGAR, M.R.C.S., L.R.C.P., Part-time (Temporary) Medical Officer of Health, Ammanford Urban District Council, Carmarthenshire.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Fulton.—On December 24, 1951, at Manygates Maternity Hospital, Wakefield, to Lesley, wife of Dr. John B. Fulton, Alverthorpe Grange, Wakefield, Yorks a son.

Jepson.—On January 16, 1952, at Invercargill, New Zealand, to Joan (formerly Blacklock), wife of Dr. L. Frank Jepson, a son—Charles Robert.

Semple.—On January 21, 1952, at the Middlesex Hospital, London, W., to Dr. Alison Semple, wife of Dr. Robert Semple, a daughter.

MARRIAGES

Masters—Newland.—On January 5, 1952, at St. Mary's Church, Bromley, Kent, Edgar James Masters, M.B., B.S., to Jean Newland.

DEATHS

Battersby.—On January 15, 1952, in hospital, at Taplow, Bucks, John Battersby, M.B., Ch.B., L.D.S., of 17, Regent Street, Nottingham.

Browne.—On January 17, 1952, at The Lindens, Farnborough Park, Hants, Edward George Browne, C.B., C.M.G., L.R.C.P.&S.I. & L.M., D.P.H., Major-General, R.A.M.C., retired, aged 88.

Crawford.—On January 22, 1952, at Nuffield House, Guy's Hospital, London, S.E., Hugh Gregan Crawford, O.B.E., M.C., M.R.C.S., L.R.C.P., of Ryland House, Cannock Wood, Rugeley, Staffs.

Edwards.—On January 13, 1952, in hospital, following an accident, Francis Henry Edwards, M.D., M.R.C.P., of "Brightlands," Reigate, Surrey, aged 80.

Heath.—On January 19, 1952, at Otley, Suffolk, James Glover Heath, M.R.C.S., L.R.C.P.

Hort.—On January 25, 1952, at 19, Fitzjohns Avenue, London, N.W., Frederick Aylmer Hort, M.D.

Kelly.—On January 27, 1952, at 329, Roundhay Road, Leeds, Christopher Peter Kelly, L.R.C.P.&S.I. & L.M., aged 90.

Lamb.—On January 24, 1952, Ralph Lamb, M.R.C.S., L.R.C.P., L.D.S., of Low Roof, St. George's Road, Hightown, near Liverpool.

Menon.—On January 15, 1952, at St. Joseph's Hospital, Whalley Range, Manchester, Maniketh Vythi Menon, M.R.C.P.Ed., D.P.H., D.T.M., of 524, Oldham Road, Manchester, Lancs, aged 60.

Milliard.—On January 14, 1952, at the Royal Infirmary, Manchester, Peter McDonald Milliard, L.R.C.P.&S.Ed., L.R.F.P.S., of 191, Slade Lane, Levenshulme, Manchester, Lancs.

Purvis.—On January 19, 1952, in London, John Allen Spottiswoode Purvis, M.B., B.Ch., aged 53.

Renshaw.—On January 13, 1952, Graham Renshaw, M.D., of St. Michael's, Hale, Cheshire, and 30, St. Ann's Street, Manchester, aged 79.

Saunders.—On January 16, 1952, Charles Howard Saunders, M.B., B.Ch., of The Hill, Hedge End, Southampton, aged 84.

Singer.—On January 20, 1952, at 25, Milton Avenue, Sutton, Surrey, Hugh George Singer, M.R.C.S., L.R.C.P., aged 38.

Smith.—On January 19, 1952, at his home, "Thrushleys," Middlestown, near Wakefield, Yorks, Charles Holden Smith, M.B., Ch.B., aged 58.

Stallard.—On January 19, 1952, at his home, Penncot, Morin Road, Paignton, Devon, John Prince Stallard, M.D., formerly of Oxford Road, Manchester, aged 94.

Thomson.—On January 14, 1952, at his home, 10, Southfield Avenue, Barnton, Midlothian, Thomas Lauder Thomson, M.D., D.P.H., aged 74.

Vawdrey.—On January 16, 1952, at West Worthing, Marion Ethel Unwin Vawdrey, L.R.C.P.&S.Ed., L.R.F.P.S., formerly of East Horsley, Surrey.

Any Questions ?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Tuberculous Glands in the Neck

Q.—*Could you tell me the latest views on the treatment of tuberculous glands in the neck? Are streptomycin and para-aminosalicylic acid (P.A.S.) worth trying? Has deep x-ray therapy a place? When should surgical block dissection be advised?*

A.—In tuberculosis, even more than other illnesses, it is important to treat the patient, not the disease. In nearly all cases, tuberculosis of lymph glands is not an isolated lesion but one manifestation of a widespread disease, and the main principle of treatment is to overcome the infection either by general measures or by specific remedies. Streptomycin and P.A.S. are emphatically worth trying. Surgical measures are called for to evacuate pus or to remove avascular caseous material which the drugs cannot reach. There is no place for *x*-ray therapy. A surgical block dissection, which implies removal of glands as part of a block of connective tissues, is not advised. Exceptionally, when the disease appears to be localized to a small group of glands they may be dissected out.

Analgesics for the Nose

Q.—*What analgesics are best for use in the nose before instrumentation? What are the dangers?*

A.—If by instrumentation is meant such manœuvres as the passage of a Eustachian catheter or antrum cannula, the best analgesic is undoubtedly a 5% or 10% aqueous solution of cocaine hydrochloride, applied with a fine spray. This is not only a rapidly acting and effective analgesic, but also a powerful vasoconstrictor. If deeper analgesia is desired the nose may be packed with ribbon gauze or cotton-wool pledgets which have been soaked in a mixture of equal parts of the cocaine solution and 1 in 1,000 adrenaline and then squeezed out.

The chief danger of cocaine is its toxicity, the susceptibility of patients varying considerably. The danger is avoided by using the minimum amount, by avoiding swallowing, and by prior administration of a barbiturate in persons known to be susceptible. A remote risk is the development of cocaine addiction. Because of these dangers, or when cocaine is unobtainable, less toxic substitutes are used, chiefly 2% amethocaine hydrochloride. These are slower acting, and are not vasoconstrictors, so a little ephedrine or adrenaline solution should be added to them.

Further information may be found in *Diseases of the Nose, Throat, and Ear,* by Jackson and Coates (Saunders, Philadelphia, 1929), and in the most recent edition of *Diseases of the Nose and Throat,* by Thomson and Negus (Cassell, London, 1948).

The Egg and the Sperm

Q.—*How long can (a) the ovum and (b) spermatozoa survive in the human female genital tract? How reliable are the answers to this question?*

A.—(*a*) There is no exact information available on the time during which the ovum remains capable of being fertilized. Hartman (1939), however, considers that all the experimental data on higher vertebrates, including monkeys, indicate that the unfertilized ovum survives for only a few hours; these data are so concordant that they may be accepted as applying to women also.

(*b*) The viability of spermatozoa in the healthy vagina is very limited, and live spermatozoa are seldom found eight

hours or more after intercourse. Their viability in the cervical canal depends upon the stage of the menstrual cycle: the cervical mucus in the early part of the cycle is scanty and "hostile" so that sperm penetration is poor and viability is usually confined to a few hours; in the immediately pre-ovular phase, the mucus is normally copious and easily penetrated by spermatozoa which survive for long periods; very shortly after ovulation, cervical hostility reappears and the survival time drops to a few hours. In general, it may be taken that spermatozoa will survive for 12 to 24 hours in receptive mucus, but there are reports of much longer survival times—e.g., Cary (1936) found spermatozoa present 80 hours after intercourse.

The reports on viability within the uterus and tubes are very variable: Joël (1942) found viable spermatozoa within the uterus at 25 hours, but in the tubes all were dead within 20 hours of coitus; Hünner (1929) found living spermatozoa in the uterus seven days after coitus; Dührssen (1893) claimed to have found them in sealed tubes three and a half weeks after the last occasion of intercourse; and Nürnberger (1920) states that he found them in normal tubes removed 13 and 14 days after the last occasion of intercourse. It must not, however, be concluded that spermatozoa surviving for such long periods would still necessarily be capable of fertilizing ova. On the contrary, all the reliable data indicate that coitus preceding ovulation by more than 24 hours, or succeeding it by more than a very few hours, is most unlikely to result in fertilization and conception.

REFERENCES

Cary, W. H. (1936). *J. Amer. med. Ass.*, **106**, 2221.
Dührssen, A. (1893). *Z. Geburtsh. Gynäk.*, **27**, 216.
Hartman, C. G. (1939). *Sex and Internal Secretions*, 2nd ed., Williams and Wilkins, Baltimore.
Hünner, M. (1929). *Disorders of the Sexual Function in the Male and Female*: F. A. Davis Co., Philadelphia.
Joël, C. A. (1942). *Schweiz. med. Wschr.*, **72**, 440.
Nürnberger, L. (1920). *Mschr. Geburtsh. Gynäk.*, **53**, 87.

Schools for the Educationally Subnormal

Q.—*What provision is made under the National Health Service (or elsewhere) for the free or assisted schooling of mentally handicapped children? To whom must application be made for assistance?*

A.—The Education Act of 1944 imposes upon local education authorities (i.e., county and county borough councils) the duty of securing educational provision "for pupils who suffer from any disability of mind or body, by providing, either in special schools or otherwise, special educational treatment—that is to say, education by special methods appropriate for persons suffering from that disability."

The following extract from the latest report of the Ministry of Education is relevant (Cmd. 8244, 1951, H.M.S.O.):

"The new approach to the problems of special educational treatment and ascertainment introduced by the 1944 Act was specially important in connexion with the treatment of the educationally subnormal, the term now used to describe both those children who, before 1945, had been certified as educable mental defectives and those who had been classified as merely dull and backward. The category of educationally subnormal extends over a wide range of mental ability from the child who only needs some special help in the ordinary school to the lower limit of those who can gain benefit from education in a special school. The emphasis has thus shifted from certifying a child as 'mentally defective' (a term now confined to children who are ineducable at school) to discovering what is best for the child of subnormal ability and trying to provide this for him. For the majority the task is within the compass of the ordinary schools; nevertheless, a considerable proportion need to be dealt with in special schools. Despite substantial progress, the shortage of schools for the educationally subnormal remains the biggest deficiency in the special school system."

Under the National Health Service, the administration of mental deficiency institutions is in the charge of the regional hospital boards, but the ascertainment of mental defectives and their supervision when they live in the community is the responsibility of the local health authorities.

Information can be obtained from the schools medical officer of the locality.

Hormone Therapy in Endometriosis

Q.—*Does endocrine therapy relieve the symptoms of pelvic endometriosis, in particular menorrhagia, metrorrhagia, and attacks of abdominal pain? If so, what scheme of treatment is advised?*

A.—The endocrine treatment of pelvic endometriosis is not very satisfactory. Massive doses of progesterone have been tried, with equivocal results. Testosterone, however, will always control symptoms temporarily, and in a big enough dose will suppress the activity of both the normal and aberrant endometrium. The difficulty is that large doses given for a long time are likely to have virilizing effects. Moreover, when treatment is suspended, symptoms usually recur. It might be worth while giving methyl testosterone 10 mg. sublingually daily for two months. This is a moderate dose, and if it gives relief and does not cause virilism it might be repeated after an interval of one or two months.

Adaptability of Infants to Changes of Climate

Q.—*What influence should climatic factors have in deciding when to let a healthy infant travel to the Tropics (West Africa)? In view of the longer period for acclimatization, is sea travel preferable to flying? At what age is the journey best tolerated?*

A.—If the child is to live on the Nigerian plateau it may be introduced at any time. The best weather in coastal regions in West Africa is roughly between November and February. The wet season should be avoided if possible. Children are not upset as a rule by flying or by sudden transition from cold to heat. Flying in the wet season, particularly in July and August, is often bumpy and unpleasant, and some stations may be difficult to reach, especially in the Cameroons. Apart from this there are no particular disadvantages in flying.

The child should be taken out as a young infant, if possible while still on the breast, as breast milk is the most sterile form of food it is likely to get. The newly weaned infant is liable to be plagued with gastro-intestinal disturbances due to changes in diet and infection, and as a general rule clean fresh milk is not available on the west coast, and powdered milk will be required. In the very young child the risk of malaria is probably slight if it receives reasonable maternal attention, drug prophylaxis, and sleeps under a net. In highly endemic regions, however, it is probably inadvisable to introduce a baby during the periods of maximum transmission.

Leopard Society

Q.—*Where can I find information on leopard societies?*

A.—On p. 76 of the book "*Any Questions?*" The book can be obtained for 7s. 6d. (postage 6d.) from the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499. TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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SUPPLEMENT TO THE

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CONTENTS

Proceedings of Council - 35
British Medical Guild - 39
Control of Medical Manpower in Peace and War - 39
General Practitioners' Remuneration - 42
Public Health Service - 42
Mileage Allowances for Hospital Medical Staff - 42
Medical Superintendents - 42
Application to Tribunal Urged - 43
Fees for Lectures to Nurses - 43
Prescribing and the Public - 43
Heard at Headquarters - 43
Correspondence - 44
Association Notices - 46
B.M.A. Library - 46

British Medical Association

PROCEEDINGS OF COUNCIL

Wednesday, January 23, 1952

A fully attended meeting of the Council of the Association was held at B.M.A. House, London, on January 23, with Dr. E. A. GREGG in the chair. The Council sat, with two short intervals, from 10 a.m. to 7.10 p.m.

At the outset it was agreed, on the motion of Dr. I. D. GRANT, that, apart from the recommended expenditure on the furnishing of the Hastings Hall as a new members' lounge, no decisions involving increased expenditure be taken at that meeting, and that the next meeting of Council should be for two days, one of the days to be devoted to a consideration of the financial position of the Association.

The death of a former member of Council, Dr. A. R. Thomas, of Portsmouth, was reported, and a vote of condolence with the relatives was passed.

Congratulations were accorded to the 36 members of the Association, including one member of Council (Dr. J. M. Gibson, O.B.E.), whose names figured in the recent Honours List.

A report was presented on the proceedings of the Fifth General Assembly of the World Medical Association, held recently in Stockholm.

Another report presented was from the Medical Practices Bureau, whose work in all departments increased during 1951, and the Council expressed appreciation of the work done by the Medical Director, Dr. L. S. Potter, an assistant secretary of the Association.

It was stated that it was hoped to make arrangements for the portrait of Dr. H. Guy Dain, which was recently presented to him, to be shown in Birmingham, where his Midlands friends could see it.

Appointments

Dr. Frank Gray was appointed representative to serve, by invitation, on the newly formed Dental Services Committee of the British Dental Association.

Lord Horder was appointed representative on the executive committee of the third International Congress of the Association of Gerontological Societies, to be held in Great Britain in 1954; Dr. Annis Gillie a representative to attend a forthcoming conference of the Royal College of Nursing on problems relating to nursing requirements of the mental health services; and Dr. C. Metcalfe Brown and Dr. J. M. Gibson as delegates to the Royal Sanitary Institute Health Congress, to be held at Margate in April.

Nominations were also made, at the request of the Ministry of Health, for the appointment or reappointment of medical members on the Central Health Services Council and its several standing advisory committees.

Medical Manpower in War

The Council acquiesced in a request from the Ministry of Health that the Central Medical War Committee should continue in being for a further short period until the new organization for the control of medical manpower came into operation. The request was accompanied by an expression of appreciation from the Minister for the services rendered by that committee and by the Services Committee.

The Council also gave some consideration to the new scheme, recently approved by Ministers, which lays down the composition of the new central and local recruitment committees. It was stated that the only respect in which the Ministers have not accepted the views of the Association concerns the area committees for public health medical officers for England and Wales. On these committees for each civil defence region there are to be two medical practitioners representing county council areas, three representing county borough and non-county borough areas, and one representing urban and rural district council areas. Three of the members are to be appointed by the Society of Medical Officers of Health, and three by the associations of local authorities, after consultation with all the bodies concerned. The question of procedure for allocation of individual civilian doctors to satisfy wartime needs at home is reserved for further consultation with the profession.

The scheme for composition of the committees was accepted with the proviso that the position regarding the area committees for public health medical officers should be reconsidered in a year's time.

A resolution from the Manchester Division was considered protesting against the priority for recall to the Services being made at the expense of reserve officers who volunteered for an emergency prior to 1939.

Dr. D. F. HUTCHINSON said that the military authorities felt that they must have a certain proportion of these reserve officers, but they were trying so far as possible to reduce the number required. It was a question of planning. The Council had already in 1951 communicated a resolution very much on the Manchester lines to the Ministry of Defence and the Ministry of Health.

The Professional Intake

A request came to the Council from the East Somerset Division that an inquiry should be made into the relationship between the number of medical students accepted for training and the future requirements for doctors, so that any discrepancy which might be disclosed could be rectified as soon as possible.

Dr. WAND said that he was constantly being asked by members when the Association was going to consider the intake into the medical schools in relation to future requirements. They had never in the Council made any inquiry into that problem, and there was a certain anxiety about it. He thought the time had come for such an inquiry, particularly in view of the fact that the Working Party was now proceeding to investigate, among other things, the way in which the young man could go into practice. He thought it would be sufficient, however, at this stage to instruct the office to obtain information which could be laid before the Council at an early meeting, when perhaps a subcommittee might be set up.

Dr. DAIN said that he had raised the matter in the General Medical Council, where it had been urged that the schools should look again at their intake, and that now, nearly seven years after the end of the war, they might safely go back to their optimum number. Dr. ROWLAND HILL suggested that the Ministry of Health might be asked for its views on the matter. Dr. F. M. ROSE said that it would be well to consider the intake in the schools outside the United Kingdom, notably in the Republic of Ireland and to some extent on the Continent.

It was agreed to ask the Secretary to look into this matter at an early date and collect information.

The Harvey Memorial

The Council further considered a report from the president of the Harveian Society concerning the condition of the Harvey sarcophagus and statue at Hempstead Church, Essex.

It was agreed that the Association should give any help in its power towards the preservation of this memorial.

Remuneration of Civil Service M.O.s

The recommendations of the Howitt Committee on the pay and organization of Civil Service medical staffs were placed before the Council. (These were the subject of an annotation in the *British Medical Journal* of November 17, 1951, p. 1206.)

The SECRETARY said that the Joint Committee (on which the Council was represented by Dr. Dain and Dr. Metcalfe Brown) thought that doctors entering the Civil Service should be selected just as carefully as entrants to the Administrative Class and should have just as attractive career prospects, and that their salaries should be brought into line with the remuneration obtaining in other branches of the profession. In April, 1950, the Council approved a claim which at the request of the Joint Committee was submitted to the then Chancellor of the Exchequer, who appointed the Howitt Committee to look into the problem. A comparison between the recommendations of the Howitt Committee and the claim originally put forward was a little complicated, but he entered into details which showed that the offer of the Howitt Committee was considerably less than what had been claimed. A deputation to the Financial Secretary of the Treasury (Mr. Boyd-Carpenter, M.P.) was received on January 3, when the matter was presented on behalf of the profession in no uncertain terms. The Financial Secretary promised to transmit the views of the deputation to the Chancellor.

It was agreed that a letter be sent on behalf of the Council intimating to the Treasury that it fully supported the representations made by the deputation. Dr. R. P. LISTON suggested, and it was agreed, that the point should be made in the letter that for some years now the Government had found it extremely difficult to recruit medical men to the Civil Service owing to questions of status—for example, the taking over of medical duties by lay administrators.

The SECRETARY added that although the committee which had been pressing the claims of these doctors was a joint one, and included the Institution of Professional Civil Servants and the Ministry of Health Medical Staff Association, the British Medical Association had played a very active part in these negotiations through the representatives appointed by the Council and through the Deputy Secretary (Dr. D. P. Stevenson), who had done a great deal of hard work.

The Amendment of the Acts

The Council then turned to consider the procedure to be adopted to further the decisions of the Representative Body on the reform of the National Health Service. The decisions were set out in the *Supplement* of January 5.

Dr. H. H. D. SUTHERLAND, chairman of the Amending Acts Committee, likened himself and his committee to wood-gatherers who had collected a large number of faggots, pulling them through difficult hedges and other obstacles. A large amount of material had been accumulated, and he thought it a matter of urgency, even though the work of the Committee was far from finished, that it should be presented to the Government forthwith by a strong deputation led by the Chairman of Council and the Chairman of the Representative Body, and including the Presidents (or their nominees) of the Royal Colleges. No opportunity should be given to the Minister to play off one section of the profession against another, nor must there be any suspicion that any section was trying to gain an advantage at the expense of another. It was true that there were a number of gaps in what they had to present; this could not be helped.

Dr. ROWLAND HILL pointed out that the major part of the report approved by the Special Representative Meeting consisted of matters affecting consultants and hospitals. Much of this material was already approved by the Royal Colleges as well as by themselves. It was important in this matter to have a common front with the Royal Colleges, and the way to do this, in his view, was to approach Dr. Russell Brain, the chairman of the Joint Committee, as representing the consultant side of the profession.

Dr. F. M. ROSE asked whether it was desirable to make such an approach as Dr. Sutherland had indicated before the matter, at any rate on the general-practitioner side, had been completed. General practitioners were very much concerned with their position in respect of the regional boards and with the question of access to hospitals. It might be better to leave the matter until they had a more complete picture.

Mr. S. F. L. DAHNE was quite certain that those who represented the common front would have the case of the general practitioner very prominently in mind. He did not think they ought to wait unduly. It might be months or a year or more before these other matters were worked out, whereas they had now certain concrete suggestions to present.

Dr. WAND pointed out that the arbitration machinery approved by the Representative Body had already been sent to the Ministry of Labour as a first step. On the common front they had the main picture, but if they were able to persuade the Minister of the necessity for carrying out certain alterations there would inevitably be a second

phase of detailed discussion, which would be carried on "at the selected level." It would be for the overall body on the common front to watch the developing situation and see that no section of the profession benefited at the expense of any other.

Dr. FRANK GRAY said that one important question had been overlooked. The administrative structure on the hospital side had now been based on hospital management committees, but the detailed composition of such committees had not yet been agreed. Were representatives of the profession to go to the Ministry and discuss with them the composition of management committees before the Representative Body had had an opportunity of discussion?

Dr. ROWLAND HILL emphasized that there had been no independent approach by the Royal Colleges to the Ministry.

Dr. DAIN pointed out that a great many of the proposals could be brought about without an amending Act. The Minister, when approached by the deputation, might be offered a draft of an amending Bill, but there were a number of anomalies which could be put right before such a Bill proceeded.

Dr. G. W. IRELAND said that they talked of a common front, but a common policy was more important. A very important section of the profession—the general-practitioner section—had not defined its policy. The General Practice Review Committee had not yet reported, and on its report would depend very largely what happened to general practitioners and, to some extent, to consultants and hospitals.

Dr. SUTHERLAND reminded the last speaker that at the Special Representative Meeting the Lothians motion for postponement was lost. The recommendations which the Amending Acts Committee had made were not interim, they were basic. They were the items which went to make up the foundation, and all the other details would follow in due course. With regard to hospital management committees, they had made proposals for the medical representation, but it was not their business to say how the lay element should be constituted.

Dr. O. C. CARTER asked whether the Government itself had got a draft amending Bill.

Lord HORDER said that he could not answer Dr. Carter's question from personal knowledge, but a very interesting answer was given in the House of Commons by the Minister of Health, from which it would appear that certain definite views expressed before the election had been put into cold storage. There was no intention on the part of the Government apparently to move in the matter of payment for medicines prescribed for private patients.

Dr. A. C. E. BREACH and Mr. DAHNE spoke of the dangers of delay.

After certain propositions had been moved by Dr. A. BROWN and Mr. DAHNE, the CHAIRMAN asked whether the Council could not agree to the following general line of action: that they should seek at the earliest possible moment to have a meeting with the chairman of the Joint Committee, at which the chairmen of the General Medical Services, Consultants and Specialists, Public Health, and Amending Acts Committees would be present, with the object of determining the best way in which their duty to the Special Representative Meeting could be discharged and its resolutions furthered, and that the results of the discussion should be reported to the Council at its next meeting; that in the meantime anything in the decisions which could go forward (as the section on arbitration machinery had already gone) should be pursued, and that a sense of immediacy should pervade all that was done in this connexion.

This course was agreed to.

Organization

On the report of the Organization Committee, presented by Dr. I. G. INNES, it was agreed that notice be given to dissolve the Indian Branches of the Association in view of the affiliation arrangements with the Indian Medical Association.

Certain proposals for consequential amendments to the articles and by-laws following the previous decision to extend membership of the Association to persons possessing a registrable qualification and who obtained provisional registration under the Medical Act, 1950, were referred back for clarification.

Another recommendation for the enlargement of the Public Relations Committee so as to include representation of other central committees was agreed to.

Dr. INNES drew attention to the increased membership of the Association. The membership on December 12, 1950, was 64,206, and on the corresponding date in 1951 it was 66,075.

Annual Meeting Arrangements

Proposals were brought forward for the amendment of the constitution of the Arrangements Committee, following, with a slight modification, the constitution of the committee appointed for the 1952 Annual Meeting in Dublin. These were referred back, however, for reconsideration of one point—namely, the representation from the area in which the Annual Meeting was held.

The Organization Committee had also drawn up a list of 11 towns, all of them health resorts with the exception of Edinburgh and Glasgow, suggested for inclusion among those at which Annual Meetings should be held on a rotation basis.

Dr. DAIN said that he was grieved to see a proposal that they should desert university centres for health resorts. He thought that, despite the increased size of the Annual Meeting, Birmingham and probably other university centres could accommodate it.

This proposal also was referred back.

It was reported that Mr. Lawrence Abel (who was unfortunately unable to attend the Council meeting owing to illness) had visited Dublin to ascertain the possibility of organizing on a small and experimental scale a scientific exhibition in connexion with the Annual Meeting there in July next. He had come to the conclusion that this could be done and that it would form a useful and interesting feature of the meeting. What was in mind was from 24 to 36 booths at University College for exhibits of clinical and pathological material, contributed by the hospitals of the Irish Republic and of the United Kingdom.

The Council approved the proposal. The CHAIRMAN said how greatly they were indebted to Mr. Abel for his enterprise in this respect. The PRESIDENT-ELECT also spoke in complimentary terms of Mr. Abel's zeal and enthusiasm. The Council sent him a message wishing him a swift recovery from his illness.

It was reported that a difficulty had arisen over the arrangements for the Annual Meeting, 1953, at Llandudno, owing to the fact that the building in which it was proposed to house the trade exhibition had become unavailable, and there was no other suitable place for this purpose.

It was agreed to hold the matter over until the next meeting of Council, when a firm decision must be made on whether the arrangements should proceed. It was felt that it would be a great pity if the meeting could not be held in Wales, because in 1953 it would be exactly 50 years since the first Representative Meeting was held in the Principality (at Swansea).

An invitation was reported from the Brighton Division to hold the Annual Meeting at Brighton in 1954. It was decided to defer consideration of this until the next meeting.

The British Medical Journal

It was agreed that the students' subscription rate to the *British Medical Journal* should be increased from 10s. 6d. to £1 1s. per annum.

Dr. O. C. CARTER, chairman of the Journal Committee, spoke again of the great increase in paper and production costs. The question of possible economies had exercised the Committee considerably. In view of the financial situation it was proposed to reduce the number of literary pages

by 208 (an average of four pages a week) in 1952 as compared with the number printed in 1951. He added that last year the *Journal* carried more advertisements than previously. It was the increasing costs which had led to the present position.

The suggestion was made in the Council that the number of pages be cut by eight a week instead of four, but several members spoke against this further cut, Mr. H. H. LANGSTON pointing out that there were many sections and interests in the profession to which the *Journal* appealed.

Lord HORDER said that, having recently become a member of the Journal Committee, he had been impressed by the thoroughness with which the Committee carried out its labours. The prestige of the *Journal* was very high alike with the medical profession and the general public. Any form of cut was a misfortune in itself, but it might have to be accepted. A cut more extensive than the one proposed, however, would mean risks and dangers, some of which had not been explored by the Journal Committee.

It was agreed that the question of any further cut beyond the four pages be remitted to the Committee for consideration.

Dr. CARTER also referred to the recommendations made by the Winchester Divisions for the improvement of the *Supplement*. The *Supplement* had been criticized on the ground that it did not publish sufficient up-to-date information on medico-political matters, and also on the ground that its contents were unattractively presented, very much in the style of an official gazette. On the first point it had to be borne in mind that much of the business before the Council and its committees was confidential. As for the supposed dullness of the *Supplement*, the Association was compelled by its by-laws to insert a large number of official communications which were bound in the nature of the case to be dull reading. But no effort was being spared to improve the *Supplement*, and he presented to the Council a long memorandum by the Editor on the subject.

Mr. NICHOLSON-LAILEY said that, after all, what they chiefly required of the *Supplement* was that its information should be accurate and succinct, and that requirement was fulfilled. Dr. ROWLAND HILL suggested that the chairmen of committees might be asked from time to time to write a statement, and they could be "discreetly indiscreet" and take responsibilities which the secretaries might not be prepared to assume. Dr. DAIN said that the *Supplement* might be presented more journalistically.

On the motion of Dr. R. GIBSON, seconded by Mr. LANGSTON, it was agreed that the Journal Committee should consider the recasting of the *Supplement* and bring forward a report as a matter of urgency at the next meeting of Council.

Dr. CARTER also presented a report from the Family Doctor Committee dealing with such matters as typography and lay-out and the promotion of circulation.

Association Finance

The TREASURER (Mr. A. M. A. Moore) presented a report of the Finance Inquiry Committee, embodying suggestions by the Secretary for the curtailment of certain activities which would lead to economy in running the Association. On a recommendation from this committee the Council decided to invite one of the leading firms of management consultants—Harold Whitehead and Partners—to survey the organization and clerical methods of the Association, to ensure that its affairs are conducted with the utmost efficiency and economy.

The Council agreed to set up an *ad hoc* committee consisting of the Officers, O. C. Carter, L. Dougal Callander, and H. Guy Dain, with the Secretary, the Editor, and the Finance and Business Officer, to consider and if necessary to put into practice the recommendations made from time to time by the investigators and to authorize progressive extensions of the inquiry.

Among various economies agreed to was the discontinuance of the practice of paying an honorarium of 10 guineas to B.M.A. lecturers, also of the practice of paying travelling expenses to London of the parties to ethical disputes and of their witnesses. Other economies took the form of the replacement of printed by stencilled documents and the limitation of meetings of committees and conferences.

Dr. J. G. M. HAMILTON moved that payment of third-class fares be substituted for first-class in the case of members attending Representative and Council meetings and committees and subcommittees, and this was seconded by Dr. G. W. IRELAND, but was not carried, and a further motion from the same members, that members of the staff in receipt of remuneration of £1,500 per annum and over should be asked to accept a temporary cut of 5%, on the understanding that this would be the first of the cuts to be restored, found support only from the proposer and seconder.

Public Health

Dr. C. METCALFE BROWN, chairman of the Public Health Committee, gave an account of the proceedings of a conference which had taken place the previous day between representatives of the Ministry of Health, the local authorities' associations, and the British Medical Association on remuneration and other matters connected with "dual appointments" (see p. 42). After some discussion it was decided to refer this matter, which was edged with some difficulty, to the appropriate committees of the Association, the Society of Medical Officers of Health, and the Joint Consultants Committee. So far as any decision of the Council might be required, the question was left open until the next meeting.

Other matters in the Public Health Committee's report were covered in the account given of its proceedings in the *Supplement* of December 29, 1951.

The Adjudication

Dr. WAND presented a report from the General Medical Services Committee. Most of the matters contained therein have been covered in the reports in the *Supplement* of the two meetings of the Committee which have taken place since the last Council meeting. Dr. Wand stated the position with regard to the forthcoming adjudication, and in reply to Dr. Vaughan Jones and Dr. Angus Weston, who said that some members in their localities were becoming restive over the prolonged delay, pointed out the complicated issues involved and the necessity for counsel to be most fully instructed. He deprecated ill-informed letters in the *Journal*. It was not realized by many members what large questions were being opened up, concerning rates of income, practice expenses, remuneration received by other professions, and so on. A meeting between Mr. Justice Danckwerts and counsel on both sides was arranged for January 30. [A leading article on the preparation for adjudication appears at p. 263 of the *Journal*.]

A report of the Compensation and Superannuation Committee was also presented by Dr. WAND. The Ministry had announced that the rate at which compensation would be payable, expressed in years' purchase, would be 1.5847. All doctors entitled to compensation had been notified of their assessments, and the Ministry would inform each doctor as soon as possible of the exact sum which would be eventually payable to him. In notifying practitioners of the amount of their compensation, priority would be given to those doctors who had retired and the representatives of those who had died. He thought that having regard to all the circumstances they had not done so very badly.

Consultants and Specialists

The Council agreed, on the proposition of Dr. ROWLAND HILL as chairman of the Consultants and Specialists Committee, that the position of practitioners in whole-time salaried appointments in relation to income tax should be examined with a view to the submission of evidence to the Royal Commission on Income Tax.

An amendment in the constitution of the Anaesthetists Group Committee was agreed to.

One section of the report of the Consultants and Specialists Committee was on the desirability of a uniform practice in dealing with accidents or incidents in hospital which might lead to a complaint being made involving members of the medical staff. It was suggested that there should be a standardized form of accident report which would not be compulsorily disclosable in the event of a legal action or voluntarily disclosed by the hospital in court or to any third party without the practitioner's consent. Dr. Gorsky suggested that this might cut across the legal requirement for discovery of documents. Any document could be required to be disclosed if it was prepared before legal action was contemplated.

Scottish Committee

A recommendation from the Scottish Committee that the reconstruction of the Scottish House, Edinburgh, so far as it calls for the expenditure of Association money, should be deferred pending the report of the Finance Inquiry Committee was agreed to. The Council expressed its appreciation of this valuable Scottish contribution.

Dr. VAUGHAN JONES drew attention to an item in the Scottish Committee's report concerning payments to practitioners for attendance in emergency at mining accidents. He said that apparently negotiations had been going on in Scotland which affected the whole country, but the Occupational Health Committee, of which he was chairman, had known nothing about them. Dr. GRANT, chairman of the Scottish Committee, said that they had been reported to the General Medical Services Committee.

An undertaking was given that in future any matters of this kind would also be reported before their conclusion to the Occupational Health Committee.

Other Committee Reports

Dr. VAUGHAN JONES presented the report of the Occupational Health Committee, the proceedings of which were reported in the *Supplement* of January 19. A recommendation concerning the reference of occupational dermatitis cases and another concerning the procedure for claiming benefit in respect of pneumoconiosis were agreed to.

A report of the Amending Acts Committee containing a list of the subjects on which it is proposed to present a second interim report to the next meeting of Council was made by Dr. SUTHERLAND and approved.

Dr. GRANT presented a report of the Private Practice Committee which was approved save for one item, concerning Ministry of Labour Medical Boards, which was referred back for further consideration.

A report of the committee appointed by the Council to prepare evidence for submission to the Royal Commission on Marriage and Divorce was presented by Dr. Dain. He said that he thought the Council would agree that the changes suggested in the memorandum of evidence were dictated by common sense. The memorandum was approved.

Dr. J. G. THWAITES submitted a memorandum of evidence, prepared by a special subcommittee, for submission to the Ministry of Education Committee on Maladjusted Children. The memorandum was approved, and Dr. Doris Odlum, chairman of the subcommittee, Dr. Thwaites, Professor D. R. MacCalman, and Dr. A. A. E. Newth were appointed to give oral evidence in support.

Dr. THWAITES also presented a report from the Central Ethical Committee. It dealt only with routine matters and contained no recommendations. It was stated that the Committee was seeking the opinion of the General Medical Council on the general question of the conversion of medical practices into companies. Dr. BREACH expressed some dubiety regarding the formation of limited liability companies by medical practitioners.

Major-General DOWSE, for the Colonies and Dependencies Committee (henceforth to be called the Overseas Committee), said that the Committee proposed to address a communication to the Branches in the Colonies setting out the principles which it considered should so far as possible be followed in the undertaking of private practice by Government medical officers.

Major-General DOWSE also reported for the Armed Forces Committee. He said that the Committee was making further representations concerning the pay of reserve officers upon mobilization.

Routine reports were submitted by the Public Relations, Building, Office, and Staffing Committees.

Arbitration Machinery

The SECRETARY said that the committee sitting under the chairmanship of Dr. Gregg, the Chairman of Council, had instructed him to make a further approach to the Minister of Labour through Sir Robert Gould, Chief Industrial Commissioner, drawing attention to the resolutions passed by the Representative Body defining the character of the arbitration machinery which it was desired to establish and asking for his assistance in securing an arbitration agreement which would form an apex to the existing collective bargaining procedure. Sir Robert Gould had replied that he himself could not make any further suggestions unless the matter was discussed jointly with the Association and the Ministry of Health. To this he had replied that he hoped it would be possible for Sir Robert Gould at an early date to arrange a meeting at which representatives of both Ministries would be present. Sir Robert Gould had written to the Ministry of Health, and its reply was now awaited. The Council had decided that unless substantial progress were made in this matter during the month of January it would ask the Ministry of Labour to amend the Industrial Disputes Order in such a way as to exclude the medical profession entirely from the operation of the Order.

The Council agreed that if within a week no further communication were received the Secretary should again write to Sir Robert Gould pressing very strongly for this meeting with the two Ministries concerned.

BRITISH MEDICAL GUILD

On the day of the Council meeting a meeting of the Board of Trustees of the British Medical Guild was held under the chairmanship of Dr. E. A. GREGG, when reports were received from the Public Health Service Defence Trust and the Hospital Medical Staffs Defence Trust, also a statement from the Finance and Business Officer on the finances of the Guild Trust Fund.

CONTROL OF MEDICAL MANPOWER IN PEACE AND WAR

The following scheme has been agreed by the profession and the Government, but Appendix F (Part A) is subject to review after one year, and the Council of the B.M.A. has approved the scheme on condition that the same arrangement apply to Appendix H.

Ministerial Responsibility

The responsibility for policy in the control of medical manpower will rest upon a committee of the Cabinet. The implementation of policy will be entrusted to the Minister of Health and the Secretary of State for Scotland, who will act in consultation with other Ministers concerned.

Advisory and Executive Machinery

(*a*) *A National Medical Manpower Committee* corresponding to the present Medical Priority Committee will be appointed in consultation with the medical profession to keep under constant review the best methods of utilizing the available medical manpower and to make recom-

mendations to the Government from time to time. The Committee will cover Scotland as well as England and Wales. Its constitution is shown in Appendix A below.

(*b*) *Two Central Recruitment Committees* corresponding to the present Central Medical War Committees will be appointed, one for England and Wales and one for Scotland. Members will be independently appointed by the organizations concerned in accordance with the constitutions shown in Appendices B and C below.

(*c*) *Area Recruitment Committees* will be appointed to assist the Central Recruitment Committees in connexion with

(i) the recruitment of individual doctors to H.M. Forces;

(ii) the "screening" of doctors with reserve commitments who are earmarked for recall in the event of war;

(iii) the "screening" of doctors volunteering for the Reserve and Auxiliary Forces, including the Territorial Army.

Separate committees will be formed to deal with general practitioners, hospital and university officers, and public health officers. The constitution of these committees is shown in Appendices D to I below. Medical practitioners working in other than the three main forces mentioned above will be dealt with by the appropriate Central Recruitment Committee.

Register of Profession

To assist all committees, a comprehensive register of the profession will be compiled from questionaries issued to all members of the profession for completion on a voluntary basis. The Register will be kept by the B.M.A., the Central Committees and other agencies concerned having full access to it. It is hoped that the Register, brought up to date and amplified as necessary, will satisfy the requirements of any general compulsory registration of medical practitioners which might be instituted in the event of war.

Procedure

The procedure for recruitment to H.M. Forces, which will operate both in peace and in war, is shown in Appendix J below.

The procedure for the "screening" of doctors with Reserve commitments who are earmarked for recall in the event of war and of doctors volunteering for the Reserve and Auxiliary Forces, including the Territorial Army, is shown in Appendix K below.

The procedure for the allocation of individual doctors to satisfy wartime civilian needs at home will be the subject of further consultation with the profession.

APPENDIX A: THE NATIONAL MEDICAL MANPOWER COMMITTEE

Constitution

The National Medical Manpower Committee will consist of 10 members (including two to represent Scottish interests) appointed by Ministers as individuals with special knowledge and experience of consultant and general practice, medical schools, medical research and public health, selected in consultation with the Presidents of the Royal Colleges and of the Royal Scottish Corporations, the Medical Research Council, the British Medical Association, the Medical Women's Federation, and the Society of Medical Officers of Health.

The chairman will be appointed by Ministers after consultation with the profession. All members of the committee will be registered medical practitioners. The term of office of members will be three years. One-third of the members will retire each year in rotation and be eligible for reappointment.

Representatives of the Health and Service Departments, the Ministry of Labour and National Service, the Government of Northern Ireland, and of each Central Recruitment Committee will attend meetings as advisers.

APPENDIX B: CENTRAL RECRUITMENT COMMITTEE—ENGLAND AND WALES

Constitution

The Committee will be constituted as follows:

Appointed by	*No. of Members*
The Royal College of Physicians	3
The Royal College of Surgeons	3
The Royal College of Obstetricians and Gynaecologists	2
Specialist associations in consultation with the corresponding specialist Group Committees of the British Medical Association, viz.: anaesthetists, ophthalmologists, otorhinolaryngologists, pathologists, psychiatrists, radiologists, venereologists	7
The Society of Medical Officers of Health	1
The Medical Women's Federation	1
The Parliamentary Medical Committee	1
The British Medical Association	27
	45

The committee will be appointed annually. It will appoint its own chairman and any necessary subcommittees.

Representatives of the Health and Service Departments, the Ministry of Labour, and the Medical Research Council will attend the meetings as advisers. Representatives of other Government departments, including the Ministry of Supply, will be invited to attend when business concerning them is under consideration.

APPENDIX C: CENTRAL RECRUITMENT COMMITTEE (SCOTLAND)

Constitution

The Committee will be constituted as follows:

Appointed by	*No. of Members*
General Medical Services Subcommittee (Scotland) of the B.M.A.	4
Joint Committee for Consultants and Specialists (Scotland), including one representative each from the Royal College of Physicians, Edinburgh, the Royal College of Surgeons, Edinburgh, and the Royal Faculty of Physicians and Surgeons, Glasgow	4
Scottish Branch of Society of Medical Officers of Health	2
Scottish Executive Council's Association	2
Chairman's Committee of Regional Hospital Boards	1
Local Authority Associations	1
Deans of the medical faculties of the four universities	1
	15

The committee will be appointed annually. It will appoint its own chairman and any necessary subcommittees.

Representatives of the Service departments, the Department of Health, the Medical Research Council, and the Ministry of Labour will attend meetings as advisers. Representatives of other Government departments, including the Ministry of Supply, will be invited to attend when business concerning them is under consideration.

APPENDIX D: AREA COMMITTEES FOR GENERAL PRACTITIONERS (ENGLAND AND WALES)

Constitution for Each Executive Council Area

The Area Committee for each executive council area will consist of members appointed annually by the local medical committee together with one lay member appointed by the executive council.

The size of the committee will be at the discretion of the local medical committee, and the Area Committees will have power to co-opt.

It will be for the local medical committee to ensure that general practitioners not in the National Health Service are appropriately represented on the Area Committee.

APPENDIX E: AREA COMMITTEE FOR GENERAL PRACTITIONERS (SCOTLAND)

Constitution for Each Executive Council Area

The Area Committee for each executive council area will consist of members appointed annually by the local medical committee together with one lay member appointed by the executive council.

The size of the committee will be at the discretion of the local medical committee and the Area Committees will have power to co-opt.

It will be for the local medical committee to ensure that general practitioners not in the National Health Service are appropriately represented on the Area Committee.

APPENDIX F: AREA COMMITTEES FOR HOSPITAL AND UNIVERSITY OFFICERS (ENGLAND AND WALES)

Constitution

A. LONDON AREA (to cover the four Metropolitan Regional Hospital Board areas):

The Senior Administrative Medical Officer of each Regional Hospital Board	4
Appointed by:	
Regional Consultants and Specialists Committees (2 from each R.H.B. Area)	8
The Royal College of Physicians	2
The Royal College of Surgeons	2
The Royal College of Obstetricians and Gynaecologists	1
The Dean of the Faculty of Medicine, London University	1
	18

The committee will be appointed annually. It will appoint its own chairman and will be free to delegate the work to subcommittees, on a geographical or functional basis, as may be necessary.

B. PROVINCES for each Regional Hospital Board Area:

The committee will be wholly professional and will be set up by the Regional Consultants and Specialists Committee in accordance with the following constitution:

The Senior Administrative Medical Officer of the Regional Hospital Board	1
Appointed by:	
The Regional Hospital Board	1
The Board of Governors of the Teaching Hospital	1
The University	1
The Regional Consultants and Specialists Committee	8
	12

The committee will be appointed annually and will appoint its own chairman.

A medical officer of the Ministry of Health will be associated with each committee as adviser.

APPENDIX G: AREA COMMITTEES FOR HOSPITAL AND UNIVERSITY OFFICERS (SCOTLAND)

Constitution for Each Regional Hospital Board Area

The committee will be set up by the Regional Consultants and Specialists Committee in accordance with the following constitution:

The Dean of the Medical Faculty in the appropriate university or his nominee	1
The Senior Administrative Medical Officer of the Regional Hospital Board or his nominee	1
Appointed by the Regional Hospital Board (one at least being a medical practitioner)	2
Appointed by the Regional Consultants and Specialists Committee	8*
	12*

*Subject to minor variations from region to region.

The committee will be appointed annually and will appoint its own chairman.

A medical officer of the Department of Health for Scotland will be associated with each committee as adviser.

APPENDIX H: AREA COMMITTEES FOR PUBLIC HEALTH MEDICAL OFFICERS (ENGLAND AND WALES)

Constitution for Each Civil Defence Region

2 medical practitioners representing County Council areas
3 medical practitioners representing County Borough and non-County Borough areas
1 medical practitioner representing Urban and Rural District Council areas
Standing Deputies will be appointed.

Notes.—(1) Three members to be appointed by the Society of Medical Officers of Health, and three by the association of local authorities, after consultation between all the bodies concerned (special arrangements will be necessary for the London area). (2) Each committee will be appointed annually and appoint its own chairman. (3) A medical officer of the Ministry of Health will attend each committee as adviser.

APPENDIX I: AREA COMMITTEE FOR PUBLIC HEALTH MEDICAL OFFICERS (SCOTLAND)

Constitution

One committee will cover the whole of Scotland and will be constituted as follows:

Appointed by the Local Authorities Associations	1
Appointed by the Scottish Branch of the Society of Medical Officers of Health	7
	8

The committee will be appointed annually and will appoint its own chairman. A medical officer of the Department of Health for Scotland will be associated with the committee as adviser.

APPENDIX J: PROCEDURE FOR RECRUITMENT TO H.M. FORCES

(*a*) The estimated requirements formulated by the fighting services will be examined by the National Medical Manpower Committee, which will advise on the extent to which they can be met and on the quota to be provided from England and Wales and from Scotland.

(*b*) The central recruitment committees for England and Wales and Scotland will determine the categories and the quota of practitioners to be recruited from each regional hospital board area, executive council area, and the public health service. They will have access to the register of all doctors to be maintained by the B.M.A.

(*c*) Nominations of doctors in the three main fields—viz., hospital and university officers, public health medical officers, and general practitioners—will be made by the appropriate area committees.

(*d*) Where a doctor under review is engaged in more than one of the three main fields—as, for example, a general practitioner in contract with a regional hospital board as well as an executive council—the question of his recruitment will be determined by the area committee dealing with his predominant employment after consultation with any other area committee concerned.

(*e*) Practitioners working wholly or partly outside the three main fields—for example, an industrial medical officer employed by a firm on clinical work, a research worker, or a practitioner in the Public Health Laboratory Service—will be dealt with by the Central Recruitment Committee after inquiry in the appropriate quarter.

APPENDIX K: "SCREENING" OF DOCTORS

Procedure for the "Screening" of Doctors with Reserve Commitments who are Earmarked for Recall in the Event of War and Doctors Volunteering for the Reserve and Auxiliary Forces, including the Territorial Army

Lists of doctors with reserve obligations—for example, Regular Reservists, Territorials, Class Z, and similar reservists—will be furnished by the Service departments to the Central Recruitment Committees. Certain categories of these reservists will be indicated in the lists by means of an asterisk (or by other suitable means) as prima facie available for immediate recall.

The Central Recruitment Committees, after securing the advice of the appropriate Area Committees, will classify these doctors as "available" or "not available" for immediate recall; but a doctor whose name is marked with an asterisk may be classified "not available" with the consent of the Service departments concerned.

The Central Recruitment Committees will classify doctors volunteering for the Reserve and Auxiliary Forces (including the Territorial Army) as "available" or "not available" for immediate embodiment in the event of war.

GENERAL PRACTITIONERS' REMUNERATION

PREPARING THE CASE

A leading article in the *Journal* at page 263 describes and comments on the preparation of the general practitioners' case for higher remuneration. As announced last week, counsel of both sides met the adjudicator, Mr. Justice Danckwerts, on January 30 to discuss the procedure for the hearing.

PUBLIC HEALTH SERVICE

IMPLEMENTATION OF THE AWARDS

At a meeting of the Whitley Committee C on January 22 a number of points in connexion with the awards were discussed. Certain items were agreed, and decisions will be issued by the joint secretaries in M.D.C. circulars in the near future. At a preliminary meeting of the staff side of Committee C a full report of the acceptance and implementation of the Industrial Court awards was given.

The figures as at January 21 are as follows:

As regards the overall position in England, Scotland, and Wales, of local health authorities and local authorities 73% have accepted and implemented the first award and 70% the second award. Of local health authorities in England, Scotland, and Wales 85% have accepted and implemented the first award and 83% the second award. The breakdown of the last two figures is as follows:

	1st Award	*2nd Award*
Counties	93%	91%
County boroughs	75%	80%
Counties of cities	75%	100%

The secretary reported that the position was improving daily as information was received from local authorities accepting the award.

The staff side discussed the question of the present remuneration of the junior categories in the public health service and is undertaking a review of the position.

DUAL APPOINTMENTS

A conference was held on January 22 between representatives of the British Medical Association, the associations of local authorities, and the Ministry of Health regarding dual appointments. After long and detailed discussion some progress was made towards agreement, but certain outstanding points are still the subject of consideration. It is hoped that these points will be clarified in the near future, and a further meeting has been arranged for March 10.

MILEAGE ALLOWANCES FOR HOSPITAL MEDICAL STAFF

New mileage rates for hospital doctors are expected soon.

During recent months a great deal of dissatisfaction has been expressed by members of hospital medical staffs at the inadequacy of the mileage allowances laid down in the Terms and Conditions of Service. Indeed, they were not accepted by the profession as adequate in 1949, when the Terms of Service were introduced, and strenuous efforts were then made to secure more satisfactory allowances, but without success. Since that time the costs of petrol, oil, tyres, insurance, and repairs have all risen, with the result that the payments made by hospital authorities nowhere meet the expenses incurred by hospital medical staffs using their cars in the performance of their duties.

The matter was raised by the staff side of Whitley Committee B early in 1950, but the view of the management side was that, as the mileage rates payable to medical staff were applicable generally to all types of hospital staff, the question was one for the General Whitley Council. More recently the staff and management sides of the General Whitley Council have been considering various proposals for improving the existing mileage rates, following the adoption of new scales for public health medical officers and *members* of hospital boards and committees. As a result new mileage rates for hospital staff generally are likely to be announced shortly.

MEDICAL SUPERINTENDENTS

AWARD OF INDUSTRIAL COURT

Ever since the appointed day the B.M.A. has been trying to improve the position of medical superintendents. Discussions were held originally direct with the Ministry of Health and latterly through Whitley machinery. No satisfaction was obtained, and therefore the case was submitted to arbitration by the Industrial Court. On January 22 the Court gave its award on the claim. It refers to medical superintendents in England and Wales, and is as follows:

1. A medical superintendent graded as consultant or S.H.M.O. and normally engaged in clinical work for 32 hours a week shall be paid wholly in accordance with the appropriate clinical scale. (Consultants receive £1,700 to £2,750 plus merit awards and S.H.M.O.s £1,300 to £1,750.)
2. The salary for medical superintendents wholly engaged on administrative duties shall be £1,350 to £1,750. The scale appropriate in particular categories of hospitals is to be determined by agreement or, if that fails within two months, by the Court.
3. Medical superintendents whose duties are partly clinical and partly administrative, and who are doing less than 32 hours' clinical work a week, shall have their salaries apportioned as follows: on the clinical scale for that part of their time spent on clinical work, and on the medical superintendents' scale in (2) above for that part of their time spent on administrative work. (In this connexion a medical superintendent's working week is deemed to be 38½ hours.)
4. Medical superintendents at present in post shall enter the revised salary scales at the point they would have reached if the scales had been in operation on the date of appointment to their present post or on July 5, 1948, whichever is the later.
5. The revised scales shall be implemented retrospectively to October 1, 1950.
6. No salary is to be reduced by the award.

Award Falls Short of Claim

This award will be disappointing to medical superintendents, since it falls considerably short of their claim. For wholly administrative work they were asking that the

salary scale should be within the minimum and maximum limits of £1,700 and £2,550, according to the type of hospital and duties involved. The award is much below those figures. They also asked that the new salary scales should be retrospective to July 5, 1948, whereas these have been made retrospective to a date over two years later.

There are 380 medical superintendents in England and Wales. According to evidence submitted by the management side, three of these are wholly on clinical duties and eight wholly on administrative duties, the remaining 369 doing both kinds of duties. Of the 369, all but 20 are said to be receiving the full clinical salary. Of these 20, only five are being paid by the fractional method of apportioning salaries, the other 15 having elected to continue on the same basis as before the appointed day. All the eight medical superintendents engaged wholly on administrative duties had elected to retain their pre-appointed-day salaries and not one was on the lay administrative rate.

Though medical superintendents will be disappointed with this award, there are two features of it which give some cause for satisfaction. The first is that the 369 medical superintendents doing both clinical and administrative duties have had their remuneration safeguarded from possible—and indeed expected—cuts imposed by the Ministry of Health. The second is that the award for the whole-time administrators, though unsatisfactory, is better than the offer made by the management side.

APPLICATION TO TRIBUNAL URGED

The London Executive Council has recommended to the Ministry of Health that £1,000 be withheld from a doctor's remuneration. According to the report of the medical services committee, the doctor was a principal in general practice on the list of the executive council and had since August, 1949, been employed as a full-time medical officer at a hospital about 12 miles away from his surgery premises. Throughout this time his list of N.H.S. patients was over 2,000.

The report also states that the doctor claimed and received about £777 from the executive council in respect of training a trainee assistant from November, 1949, to October, 1950, and that since October, 1950, he had employed a full-time assistant without the executive council's consent.

The executive council also decided to apply to the Tribunal for the exclusion of the doctor from the medical list and to seek the opinion of counsel about legal proceedings against him.

FEES FOR LECTURES TO NURSES

Following discussions in Whitley Committee B it has now been agreed between the staff and management sides that the fees payable to members of hospital medical staffs for lectures given to nurses should be as follows:

£2 2s. 0d.	per	lecture	for	lectures	by consultants
£1 11s. 6d.	,,	,,	,,	,,	,, S.H.M.O.s
£1 1s. 0d.	,,	,,	,,	,,	,, other grades of medical staff

These fees apply to lectures authorized to be given in any subject as part of the course of training, and they may be retained by whole-time or part-time officers.

It has also been agreed that no payment should be made to medical staff who undertake the written or oral examination of nurses in connexion with any internal examination instituted by the hospital.

In many hospitals the payment of fees for lectures to nurses has been held up for some time awaiting a decision in Whitley, and it is to be assumed that in these cases payment at the agreed rates will be made retrospectively.

PRESCRIBING AND THE PUBLIC

NORTHERN IRELAND NOTICE

The average cost of supplying medicine and appliances in Northern Ireland is much higher than in England—£1 0s. 4d. a head a year as compared with 15s. 6d. The Northern Ireland General Health Services Board takes a serious view of this (Third Annual Report for 1950–1).

It has therefore issued a notice to all Health Service doctors for the information of their patients. It is said to have been widely welcomed by doctors "as a means of bringing home to the more thoughtless or acquisitive of their patients the proper function of the practitioner as a prescriber rather than a mere supplier on demand of household and toilet requisites." A considerable reduction in the £1 0s. 4d. is said to be possible without in any way restricting the "proper and necessary treatment" provided under the Health Services Act.

Not on Demand

The notice says that the following practice will be observed by all Health Service doctors when prescribing.

"(1) Medicines or appliances selected by or on behalf of a patient will not be supplied when demanded or requested. The doctor will supply only those medicines and appliances which he decides are necessary for patients under his care.

"(2) Laxatives, vitamins, or 'tonics' will not be supplied for routine use, but only for the treatment of definite clinical conditions.

"(3) Malt and cod-liver oil will not be supplied except in cases of active tuberculosis or other organic disease.

"(4) Cotton-wool, lint, other dressings, and disinfectants will not be supplied for routine use in the sick-room nor for maternity cases. These materials will be supplied for use only by or for a patient under the doctor's care on account of an open lesion or for an acute inflammation."

Heard at Headquarters

Exchanges with French Children

There are several French doctors who would like to arrange holiday exchanges between their children and the children of doctors in this country. Anyone interested should write to Dr. Sandiford, International Medical Visitors Bureau, B.M.A. House, Tavistock Square, London, W.C.1.

Fifty Years in Bishopbriggs

Dr. J. B. Miller has recently completed half a century in general practice in Bishopbriggs. If there is any benighted Englishman who does not know where Bishopbriggs is, let it be said that it is on the Lanarkshire border in the valley of the Clyde, only 15 minutes' bus ride from Glasgow Cross, the centre of a mining and agricultural community, among whom Dr. Miller has found his life's work. But Dr. Miller has other records to his credit. When he resigned from the Public Health Committee of the Association in 1950 he had been a member of the committee for a quarter of a century. His election as chairman of the Representative Body took place on the very day that the late Labour Government came into office, and his term ended in the week that the National Health Service came into operation. During those three years he presided over seven Representative Meetings, and steered them, a perfect moderator, through a whole mass of contentious business. Probably few members of the Association have exercised so much influence as a result of so few words. In the chair he was never once "rattled," and if he rebuked any representatives it was done in so whimsical a manner that the lesson remained and not the sting.

Correspondence

False Economy

SIR,—I would like to draw attention to one example of false economizing in hospital expenditure whereby the Health Service may in fact cost more. A patient with severe dermatitis was admitted to an important general hospital where apparently not enough gauze was allowed to the ward, so bandages were applied direct to the affected parts. At the patient's request his wife brought such gauze as she had left over from home treatment, which was gratefully received by the nursing staff. Then the patient's wife came to me with the story (and I do not suspect she is trying to deceive me) and asked me to prescribe gauze on Form E.C.10 so that she could take it to hospital.

Clearly gauze bought retail, with the dispensing fee in addition, is much more expensive than wholesale supplies direct to the hospital—apart from all the extra trouble involved. However, this will doubtless show a book reduction in hospital expenditure and please some hospital bureaucrat. And meanwhile the G.P.s can be blamed for the rising cost of articles prescribed.—I am, etc.,

Brighton. R. S. SAXTON.

Cost of Prescribing

SIR,—Mr. A. Daunt Bateman (*Supplement*, January 19, p. 23) states that manufacturers deliberately withhold mention of prices on their leaflets giving particulars of their preparations.

This is not a matter of "will not" but "cannot," as there is no fixed price for a prescription. The cost of an N.H.S. prescription for a proprietary medicine to the Ministry of Health is calculated on the initial cost of the material used by the chemist, which varies according to the quantity purchased, plus an agreed on-cost, a dispensing fee, and a charge for the container. These calculations are different in England, Scotland, and Northern Ireland, and are moreover subject to "averaging."

Our medical representatives have instructions to give particulars of our prices to any doctor who is interested. They carry a schedule showing the approximate dosage cost compared with that of any non-proprietary substitute that is suggested by the Ministry as a suitable less expensive alternative. The price difference is very small, and in some cases the non-proprietary is the more expensive. These prices can be only approximate and some explanation is necessary. A clear indication of the prices on a leaflet is not practical.—I am, etc.,

K. J. GOLDS,
William R. Warner and Co., Ltd.

Infection in Hospitals

SIR,—Dr. William Picton (*Supplement*, December 29, 1951, p. 292) protests too much. He is quite correct when he maintains that the control of infection within the ward is the responsibility of the clinician and the ward sister; and I share his doubts whether the ward sister's weekly returns to the matron will be worth the labour—unless, of course, they are used to maintain a series of epidemiological charts, which might be more useful in the office of the medical superintendent, the area medical officer, or the hospital hygiene officer. Nevertheless, there is a real need for a hygiene officer and for a control-of-infection committee in most hospitals.

One day Dr. Picton will realize that there are some infections which cannot be controlled by the individual clinician. Such are the enterica, which may become epidemic when one of the kitchen staff is infected. Presumably Dr. Picton would not have his clinical colleagues each instructing the kitchen staff and would leave this to the medical superintendent. Some hospitals have no medical superintendent, and even where they exist they are not always experts in public health and hygiene and may need advice.

In at least one hospital the bacteriologist has been *ex officio* the sanitary or hygiene officer. As such, he advises the lay committee on the hygiene of the hospital, and his colleagues when some unusual outbreak of infection occurs. He is responsible for the design and performance of all investigations in an outbreak of infection, and in emergency may assume executive power.

Some years ago I saw the value of this system. Single cases of Sonne dysentery appeared in several wards; within a few hours of their recognition the hygiene officer and the medical superintendent were examining the kitchens. On the hygiene officer's advice considerable changes were made, and within a few days the outbreak ceased.

In such an event the hygiene officer may need executive or even dictatorial powers. He would be wise to exercise these through the medical superintendent or the chairman of the management committee, but in extreme urgency he may have to act on his own responsibility. Power over other departments of the hospital can be delegated only by a board of governors or a hospital management committee; and therefore a hygiene officer must be responsible to the delegating authority, whether lay or medical.

The control-of-infection committee seems to be admirably designed to translate the advice of the hygiene officer (which may be couched in general terms) into simple and practical rulings for any department of the hospital. I should prefer to add the kitchen superintendent to the committee, for all the more explosive outbreaks are initially ascribed to his department. Further, the hygiene of hospital kitchens often leaves much to be desired, for sometimes the simplest sanitary necessities, such as wash-basins near the W.C., are lacking. If the circular does no more than persuade hospital management committees to review their kitchen sanitation, it will have served its turn.

Finally, Dr. Picton should realize that any bitterness is in himself, not in medicine. Some of us want to make the National Health Service work properly. We know there are plenty of flaws in it—especially in general practice and in the overproduction of specialists—but we think that the flaws will be repaired the more quickly if we use logic rather than emotion as our tool and avoid using words and phrases designed to excite emotion instead of those which will promote critical analysis.—I am, etc.,

Teddington, Middlesex. GEORGE DISCOMBE.

Payment of Dispensing Doctors

SIR,—I am interested and at the same time disturbed to learn from Dr. J. J. Hamilton (*Supplement*, January 12, p. 15) that my scheme for dispensing payment is bureaucratic in conception and sacrifices the substance of independence for the shadow of salaried security. I appear to have trodden on his ideological corns. Can it be that he foresees and fears the day when our ration of State-approved drugs, issued strictly according to the approved scale, is delivered in a plain van by a minor official of the medicaments branch of the Ministry of Health?

Surely it does not need a time-and-motion study to prove that the system of dispensing against Forms E.C.10, which are filled in, sorted, and sent quarterly to the Pricing Bureau, is a time-consuming business which few of us would care to undertake. On this question I am prepared to stand or fall by the majority vote of my fellow rural practitioners. Already an oppressive amount of paper work falls to our lot, and if Dr. Hamilton does not find this extra burden irksome he possesses a facility for form-filling and filing—to follow his alliterative style—which I for one admire but do not envy.

As N.H.S. practitioners we accept a capitation fee for medical attention to our patients. Since the actual dispensing of medicines is a labour not undertaken by our urban colleagues, what could be more logical than an additional capitation fee for this service, particularly as the volume of work is in proportion to the number of dispensing

patients on our lists? Introducing the profit-and-loss motive on the actual cost of drugs, by whatever method payment is made, puts us at additional risk compared to urban practitioners, and I cannot understand Dr. Hamilton's objection to the removal of this risk. If such a capitation fee is sufficient to pay the salary of a dispenser, it can of course be applied in this way. But I very much doubt if it is the official viewpoint that the dispensing doctor shall compensate for his sparse and scattered practice by making money on the drug account. Surely it is the mileage fund which was designed to equalize the positions of the urban and rural practitioners? I contend that my scheme would give the dispensing doctor recompense for his labour without adding to his administrative work, and at the same time give him the same freedom to prescribe the drugs of his choice that is enjoyed by his urban counterpart. If Dr. Hamilton objects to a capitation fee on principle, I wonder how he reconciles himself to N.H.S. practice.—I am, etc.,

Newbury, Berks. JOHN RICHARDS.

Telling the Public

SIR,—G.P.s all over the country will warmly welcome Dr. S. Wand's address (*Supplement*, January 12, p. 9) at the fourth annual meeting of the Executive Councils Association (England) on the subject of educating the public about the uses and abuses of the National Health Service. I have myself made suggestions on identical lines, both to the B.M.A., through the courtesy of the *Supplement*, and to my local medical committee, but received no sympathy from either body.

As it will no doubt take years for Dr. Wand's suggestions to be reflected in appropriate action by executive councils, may I be permitted to make the following suggestion? It is that immediate steps be taken by the B.M.A. to arrange for a broadcast by the B.B.C. It might be entitled, "How to help your doctor and yourself." It should be done by a medical man with ample experience of a G.P.'s difficulties. Presumably the medical man would have to be anonymous, but those of us who have read Dr. Wand's vigorous address would have no difficulty in choosing our man for the job.

May I add as a footnote an experience of my own. One Sunday at 12 noon, when I had finished my round and changed into gardening kit, I was called to see a patient who had been ill for two days. When I pointed out that the call should have been received by 10 a.m., the patient apologized but said that she did not know the rules. When I was leaving the house I suggested that as the chemist shuts at 1 p.m. someone had better come into town with me in my car to fetch the medicine. The reply was that that would not be convenient, "but Mr. X, the chemist, lives only a few doors away and he won't mind going back to town in the afternoon to open his shop for us."—I am, etc.,

Inverness. D. R. MACDONALD.

Tracing Patients

SIR,—There is one point in this "Hunt the Patient" game that I have not noticed being touched on. If the point has been fully considered, just destroy this letter.

I understand that the absentees are being so classified by consulting the food office records. Now there is, and always has been, a floating population of people who have left the areas of Drs. A, B, and C, and gone to the areas of Drs. D, E, and F, and vice versa, but have not signed on with the doctors in their new area.

Before this new game started, the numbers who had left the areas of Drs. A, B, and C and not signed on with Drs. D, E, and F balanced out with the ones who had left the areas of Drs. D, E, and F, and had not yet signed on with Drs. A, B, and C. But this new scheme seems to me to be just a grossly unfair and underhand method of reducing the capitation fee indirectly.

Am I right, or have all the newcomers to an area's ration list been put on the list of some doctor in that area?—I am, etc.,

Stratford-upon-Avon. FILMER COLEMAN.

Difficult Undertaking

SIR,—As it is possible for a G.P. with an average list of 2,500 to earn from £2,000 to £2,500 a year gross (£40 to £50 a week), it is unwise for Dr. H. Firman (*Supplement*, January 12, p. 14) to compare our case with workers earning less than a quarter of these amounts. Has Dr. Firman ever envisaged the possibility of an impartial tribunal considering our "relative remuneration" excessive and recommending a cut?

It behoved our representatives to establish as strong a case as possible for increased payment before going to arbitration. This has taken much preparation and time in collecting facts from all over the country. Let us hope they will be successful in what must prove a difficult undertaking in these times of governmental financial stringency.

Our representatives spend much time and trouble voluntarily on our affairs. Rather than reviling them, let us encourage and help them by paying our voluntary levies to local medical committees (which can remain free from Ministerial control only by paying their own expenses) and wishing them success in their labours on our behalf.—I am, etc.,

Birmingham. WM. WATSON NEWTON.

Diagnostic Unit in General Practice

SIR,—I very recently qualified from a London hospital and intend to go into general practice. It had seemed from what I had seen and heard in the last two months that in general practice in England to-day it was all too easy to forget all the scientific medicine one had ever learnt. Therefore I was particularly interested in your report of Dr. John H. Hunt's stimulating account of his own diagnostic unit (*Journal*, December 29, 1951, p. 1575). A practitioner who need not surrender his patient while simple laboratory tests are done must add immeasurably to the interest of his work besides saving the time of hospital and patient. I would like to thank Dr. Hunt for his fine example, and hope that many, including myself, may follow it.—I am, etc.,

London, S.E.22. UNA FREESTON.

According to Rule

SIR,—The other day I issued a final N.H.S. certificate to a railwayman at the end of a brief incapacity due to a car injury. He attended next day stating that he could not resume because one week's notice of intention to do so was required, presumably to allow of his being examined by some medical officer so much wiser than the poor ignorant practitioner. The Ministry of National Insurance, to which I reported this unintelligent action, has undertaken to pursue the matter. But is it not incredible that British Railways should be content to keep employees idle in their houses, drawing, I suppose, State money? The patient, too, is gratuitously told that his doctor's certificate is not believed. —I am, etc.,

Chesterfield. A. H. DRIVER.

POINTS FROM LETTERS

Speedy Settlement

Dr. G. H. A. ROBINSON (Darlington, Co. Durham) writes: How very refreshing it was to read the letters of Dr H. Firman (*Supplement*, January 12, p. 14) and Mr. Donald M. O'Connor (p. 15). Timid, yes, frustrated certainly, and tired most certainly we are, but even the most timid animal will turn and fight when cornered. . . . Is it impossible for us to elect someone willing to *fight* for our rights—someone perhaps who is suffering himself from our injustices and grievances? . . . We are members of the strongest "union" in the world; let us find the right leader (and pay him if necessary) and we would all follow him to victory, before our children are too old to appreciate the advantages the profession was once able to bestow upon them. We are filled with neither greed nor avarice, but we require and demand a speedy settlement of our just claims—not in years or months, but now.

Association Notices

AREA OF BRADFORD AND DEWSBURY DIVISIONS

Notice is hereby given by the Council of the Association to all concerned that it is proposed to transfer the Civil Parish of Liversedge from the area of the Bradford Division to that of the Dewsbury Division.

Any member affected by this proposal and objecting thereto is requested to write to the Secretary of the Association by March 1, 1952.

A. MACRAE,
Secretary.

Diary of Central Meetings

FEBRUARY

1	Fri.	Committee *re* Fees for Part-time Work under Local Authorities, 2 p.m.
6	Wed.	General Practice Review Committee, 11 a.m.
6	Wed.	Amending Acts Committee, 2 p.m.
6	Wed.	Assistants and Young Practitioners Subcommittee, General Medical Services Committee, 2 p.m.
6	Wed.	Compensation and Superannuation Committee, 2 p.m.
7	Thurs.	Central Consultants and Specialists Committee, 12 noon.
12	Tues.	Central Ethical Committee, 2 p.m.
14	Thurs.	Publishing Subcommittee, 10.30 a.m.
15	Fri.	Ophthalmic Group Committee, 2 p.m.
20	Wed.	General Practice Review Committee, 11 a.m.
21	Thurs.	General Medical Services Committee, 10.30 a.m.
27	Wed.	Private Practice Committee, 2 p.m.
28	Thurs.	Welsh Committee, Special Meeting (at Raven Hotel, Shrewsbury), 2.15 p.m.

MARCH

5	Wed.	General Practice Review Committee, 11 a.m.
13	Thurs.	General Practice Review Committee, 11 a.m.

APRIL

2	Wed.	General Practice Review Committee, 11 a.m.
16	Wed.	General Practice Review Committee, 11 a.m.

Branch and Division Meetings to be Held

CHELSEA AND FULHAM DIVISION.—At Roebuck Hotel, Chelsea, S.W., Friday, February 8, 8.30 p.m., annual B.M.A. Lecture by Mr. A. E. Roche: "Genito-urinary Generalities," with demonstration of *x*-ray films.

CHESTERFIELD DIVISION.—At Lecture Room, Walton Sanatorium, Matlock Road, near Chesterfield, Friday, February 8, 8.45 p.m., discussion: "The Relief of Pain in Inoperable Cancer and Allied Conditions." Mr. G. W. Blomfield and Mr. J. Hardman will each speak.

COVENTRY DIVISION.—At Gymnasium, Coventry and Warwickshire Hospital, Tuesday, February 5, 8.30 p.m., ordinary general meeting. Lecture by Professor H. C. McLaren: "Post-natal Symptoms of Importance."

DUDLEY DIVISION.—At Queen Mary Ballroom, Dudley, Wednesday, February 6, 7.30 for 8 p.m., dinner-dance arranged by Dudley and Stourbridge Pharmaceutical Society. Members of the Dudley Division, B.M.A., are invited.

HAMPSTEAD DIVISION.—At New End Hospital, Heath Street, London, N.W., Wednesday, February 6, 8.30 p.m., talk by Dr. Henry Yellowlees: "Hypnotism—its Uses and Limitations in Medicine."

MID-HERTS DIVISION.—At Red Lion Hotel, St. Albans, Friday, February 8, 8.45 p.m., meeting.

NUNEATON AND TAMWORTH DIVISION.—At Red Lion Hotel, Atherstone, Tuesday, February 5, 8 p.m., dinner; 9 p.m., B.M.A. Lecture by Sir Clement Price Thomas: "The Diagnosis and Treatment of Carcinoma of the Lung."

REIGATE DIVISION.—At Redhill County Hospital, Tuesday, February 5, 8.30 p.m., clinical evening.

SALISBURY DIVISION.—Tuesday, February 5, annual medico-legal dinner.

SOUTH-EAST ESSEX DIVISION.—At Southend General Hospital, Friday, February 8, 8.30 p.m., address by Miss Eileen Whapham: "Cases at Gynaecological Out-patients."

SOUTH STAFFS DIVISION.—At Rendezvous Restaurant, Berry Street, Wolverhampton, Tuesday, February 5, 8 p.m., supper meeting. Lecture by Professor Brodie Hughes: "The Significance of Subarachnoid Haemorrhage and its Surgical Treatment."

WEST MIDDLESEX DIVISION.—At Nelson Room, Town Hall, Ealing, W., Thursday, February 7, 8.30 p.m., meeting to discuss the possibility of resignation from the B.M.A. of members of the West Middlesex Division in the event of failure to complete arbitration within a reasonable period.

Meetings of Branches and Divisions

HONG KONG BRANCH

In the session 1950–1 the Hong Kong Branch held well-attended clinical meetings on sprue, infections of the hand (with film), and the use of streptomycin in the treatment of pulmonary tuberculosis. Two clinical evenings were also held at Queen Mary Hospital and one at the Royal Naval Hospital.

Two old minute-books of the Branch have been found dating back to the time of Sir Patrick Manson.

B.M.A. LIBRARY

The following books have been added to the Library:

American Cancer Society: Manual of Tumor Nomenclature and Coding. 1951.
Association of British Pharmaceutical Industry: Cost Accounting for the Pharmaceutical Industry. 1951.
Binger, C.: More About Psychiatry. 1951.
Blanshard, P.: Freedom and Catholic Power. 1951.
Bond, E. D.: Thomas W. Salmon, Psychiatrist. 1950.
Burlingham, R.: Odyssey of Modern Drug Research. 1951.
Catel, W.: Differentialdiagnostische Symptomatologie von Krankheiten des Kindesalters. 2 Auflage. 1951.
Causton, M. I. M.: For the Healing of the Nations: the story of British Baptist Medical Missions, 1792–1951. 1951.
Cleugh, M. F.: Psychology in the Service of the School. 1951.
Collis, R.: The Ultimate Value. 1951.
Coon, C. S., Garn, S. M., and Birdsell, J. B.: Races: a study of the Problems of Race Formation in Man. 1950.
Darling, H. C. R., and Wilson, T. E.: Surgical Nursing and After-treatment. Tenth edition. 1951.
Diet Book of the David Lewis Northern Hospital, Liverpool. 1951
Dudley, L. P.: Stereoptics: an Introduction. 1951.
Dyke, S. C. (Editor): Recent Advances in Clinical Pathology. By various authors. Second edition. 1951.
Elste, E. R.: Multiple Sklerose und Schizophrenie als Syndrome bei Spurenelement-mangelkrankheiten. 1951.
Fisher, V. E.: Meaning and Practice of Psychotherapy. 1950.
Fitzgerald, O. W. S.: Personality and Psychosis. 1951.
Frantz, V. K., and Harvey, H. D.: Introduction to Surgery. Second edition. 1951.
Glascock, R.: Labelled Atoms: the Use of Radioactive and Stable Isotopes in Biology and Medicine. 1951.
Gulliksen, H.: Theory of Mental Tests. 1950.
Hagan, W. A., and Bruner, D. W.: Infectious Diseases of Domestic Animals. Second edition. 1951.
Harlow, F. W. (Editor): Modern Surgery for Nurses. Second edition. 1951.
King, E. J.: Micro-analysis in Medical Biochemistry. Second edition. 1951.
Kuhlmann, F.: Der Dünndarm im Röntgenbild. 1951.
McClung's Handbook of Microscopical Technique. Third edition. 1950.
Masani, K. M.: Ectopic Pregnancy. 1949.
Murray, D. S., and Jeffree, G. M.: Anatomy of Man and Other Animals. 1951.
Nagai, T.: We of Nagasaki: The Story of Survivors in an Atomic Wasteland 1951.
Naumburg, M.: Schizophrenic Art: Its Meaning in Psychotherapy. 1950.
Pank, J. D.: The Order of the Court. 1951.
Panton, P.: Leaves from a Doctor's Life. 1951.
Parr, J.: How I Cured My Duodenal Ulcer. 1951.
Parsons, Sir J.: Springs of Conduct. 1950.
Patten, B. M.: Early Embryology of the Chick. Fourth edition. 1950.
Poynter, E. G.: Practical Post-mortem Technique: A Handbook for the Student Post-mortem Technician. 1950.
Prince, J. H.: Recent Advances in Ocular Prosthesis. 1950.
Rumsey, H. St. J.: The Stammerer's Choice: A Comparative Survey of Speech Therapy. 1950.
Schoen, H.: Medizinische Röntgentechnik. Teil I. Medizinische Teil: Skelettaufnahmen und Organuntersuchungen. 1951.
Short, A. R.: Wonderfully Made: Some Modern Discoveries About the Structure and Functions of the Human Body. 1951.
Slater, E., and Woodside, M.: Patterns of Marriage. 1951.
Smith, H. W.: The Kidney: Structure and Function in Health and Disease. 1951.
Sutherland, H.: Control of Life. Newly revised and enlarged edition. 1951.
Swartz, H.: Your Hay Fever and What To Do About It. 1951.

Captain Geoffrey C. H. Crawshay, D.L., J.P., has on medical advice resigned the chairmanship of the Welsh Board of Health, which he has held since 1945. Captain Crawshay is president of the South Wales and Monmouthshire Council of Social Service and chairman of the Welsh Rural Industries Committee of the Monmouthshire Rural Community Council. He is also a member of the Council of the University College in South Wales.

A new pleasantly flavoured elixir for the menopausal patient

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It is acceptable to patients who experience difficulty in swallowing tablets, and it also facilitates a gradual reduction in dosage as the patient attains a balanced hormonal level.

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'ESTIGYN' ELIXIR

Containing 0.02 mg. Ethinyl Œstradiol B.D.H. in 60 minims (one teaspoonful)

DOSAGE— One teaspoonful thrice daily, modified according to response

Bottles of 4 fl. oz. and 40 fl. oz.

Literature and specimen packings are available on request to the MEDICAL DEPARTMENT

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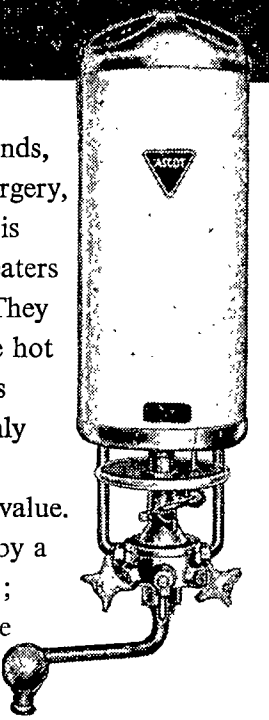

Hot water for washing — hands, instruments, utensils — in surgery, ward and hostel — the need is constant. Ascot gas water heaters meet that need — cheaply. They are fully automatic, they give hot water instantly and in endless quantity, and they use gas only while hot water is running.

The RS 52/1 is of particular value. It provides water controlled by a knob at warm, hot or *boiling*; certified by public analyst to be fit for human consumption.

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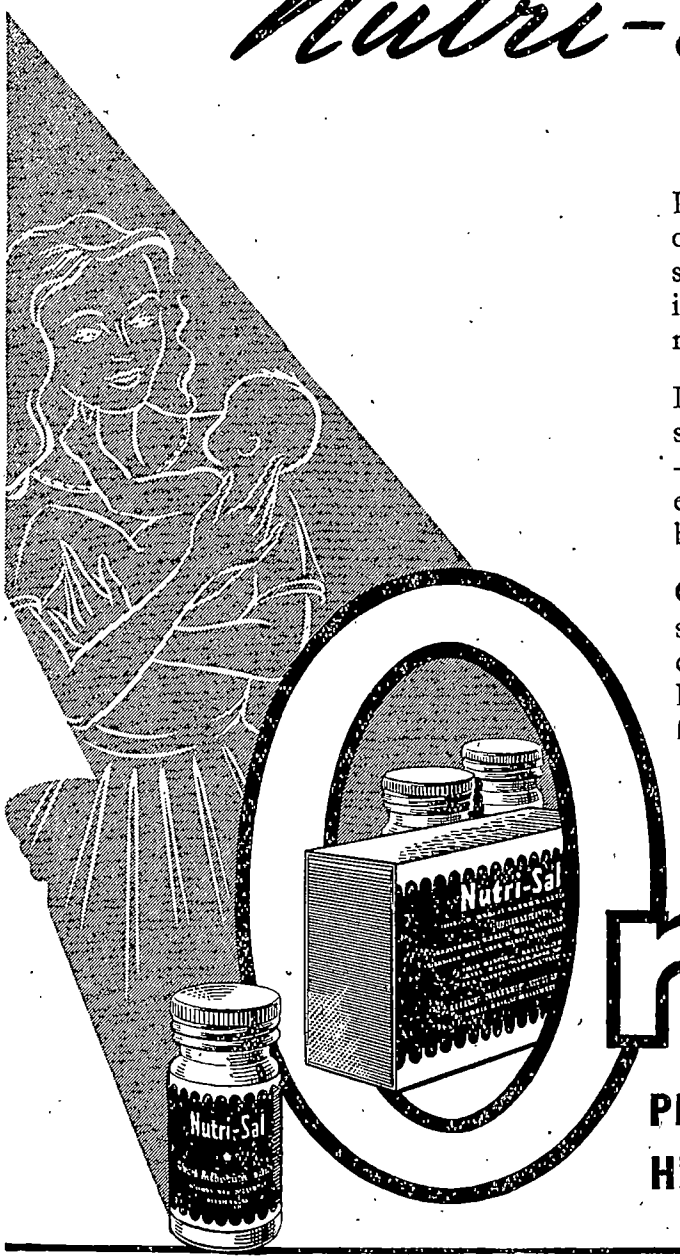
AN ADJUVANT IN THE THERAPY OF INFERTILITY

Nutri-Sal



In the absence of organic deficiencies or pathogenies, hostile genital secretions may apparently cause infertility merely through immobilization of sperm.

In these cases Nutri-Sal—a physiologic glucose douche powder—encourages a more favourable environment, and supplies metabolic stimulus for sperm motility.

Clinical tests have shown that in such cases, where pregnancy *can* occur, a pre-coital douche of Nutri-Sal will often promote fertility.

LITERATURE ON REQUEST

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...A Complete Response in HYPERTENSION

THE BLOOD PRESSURE DROPS

Through reduction of peripheral resistance, Veriloid produces a significant drop in arterial tension. Not only is that large group of patients with moderate hypertension benefited, but also patients with severe essential and malignant hypertension. The usual daily requirement of Veriloid is from 9 to 15 mg., given in divided dosage three times a day, at intervals of from 6 to 8 hours, the first dose to be taken after breakfast. The evening dose should be one or two mg. larger than the other two doses of the day.

THE PATIENT IMPROVES SUBJECTIVELY

The gratifying feature of Veriloid therapy is the speed with which the distressing discomfort of hypertension is overcome. Headache disappears, easy fatigability lessens, vision has been reported to improve through absorption of retinal exudations and kidney function is increased. These beneficial changes, often experienced before the blood pressure has dropped significantly, are presumably related to the vaso-relaxation induced by Veriloid and the resulting improved tissue nutrition. Veriloid is available on prescription only through all pharmacies in 1.0 mg. tablets in bottles of 100 and may be prescribed on Form E.C.10 without restriction. Literature available on request.

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VERILOID Trade Mark

Brand amorphous alkaloids of Veratrum viride

TO DOCTORS

who have to advise mothers on baby feeding

The meat broths, vegetables and fruits prepared by Heinz for infants of 3 months and onwards are *more valuable*, from the nutritional standpoint, than such foods are when prepared at home.

Literature in amplification of this statement, and samples, will be sent on request.

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February

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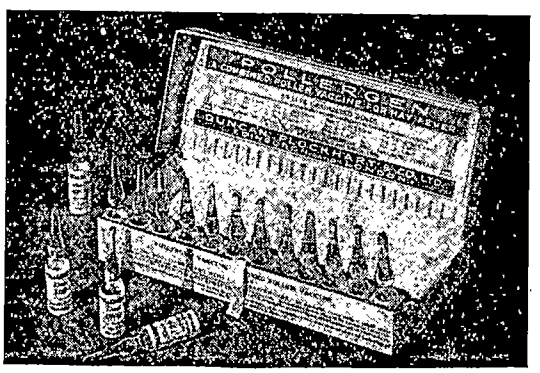

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APPOINTMENTS

Applicants should state name, address, age, nationality, qualifications, and enclose 3 copies (unless otherwise specified) of recent★ testimonials with short statement of experience and appointments held.

Applications should be sent at once if no closing date is given.

Canvassing in any form will disqualify.

★*SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

Deferment of call-up for "R" practitioners (i.e., practitioners liable for call-up under the National Service Acts) is granted at the discretion of the Central Medical War Committee and (in Scotland) the Scottish Central Medical War Committee. The Committees normally allow an "R" practitioner to hold a First House Officer post (N.H.S. salary £350 per annum) provided that he obtains it without delay. *Under present arrangements* the Committees also normally allow an "R" practitioner to hold a Second House Officer post (£400) and a Senior House Officer post (£670), provided in each case that the higher appointment is secured before the termination of the practitioner's current appointment.

"R" practitioners may not accept Third House Officer posts (£450 per annum) unless they have obtained the special permission of the C.M.W.C. or (in Scotland) the Scottish C.M.W.C.

SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

Registrar Grades, Whole-time

(*a*) *REGISTRAR:* Posts obtained normally not less than two years after registration as a medical or dental practitioner and held normally for two years: £775 per annum in the first year; £890 per annum in the second and any subsequent years.

(*b*) *SENIOR REGISTRAR:* Posts obtained normally not less than four years after registration as a medical or dental practitioner and held normally for three years: £1,000 per annum in the first year; £1,100 per annum in the second year; £1,200 per annum in the third year: £1,300 per annum in any subsequent years.

Other Grades, Whole-time

(*a*) *HOUSE OFFICER:* £350 per annum for the first post held, £400 per annum for the second post held; £450 per annum for the third and any subsequent post held; with, in each case, a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Each post shall be tenable for six months.

The Minister will be prepared to authorize, in exceptional circumstances, salaries up to £50 per annum higher than the standard rates specified above where a post cannot be filled otherwise.

(*b*) *SENIOR HOUSE OFFICER:* Posts obtained normally not less than one year after registration as a medical or dental practitioner and normally held for one year only: £670 per annum.

(*c*) *JUNIOR HOSPITAL MEDICAL OFFICER:* Officers who have held house appointments but who are not registrars and who have less responsibility than other hospital officers of non-consultant status: £700 (for an officer appointed not less than two years after registration as a medical practitioner) by £50 to £1,000 per annum.

ALL NATIONAL HEALTH SERVICE HOSPITAL APPOINTMENTS ARE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SERVICE OF HOSPITAL MEDICAL STAFF

Those intending to apply for resident appointments in the Registrar grades are recommended to make inquiries with regard to the deductions proposed for board and lodging at the time of submitting their applications, where this is not stated in the advertisement.

(19/12/51)

CLASSIFICATION

and order of appearance

Practices — Assistantships
Partnerships — Locums
Situations (Medical)

HOSPITAL APPOINTMENTS
CONSULTANTS
S.H.M.O.s
REGISTRARS
J.H.M.O.s
SENIOR HOUSE OFFICERS
HOUSE OFFICERS
CLINICAL ASSISTANTS

under appropriate specialty headings, e.g.:—

Anaesthetics	Paediatrics
Chest and Tb.	Pathology
Dental	Plastic Surgery
Dermatology	Psychiatry
E.N.T.	Radiology
Geriatrics	Radiotherapy
Infectious Diseases	Urology
Neurosurgery	Venereology
Obstetrics and Gynaecology	Medicine
Ophthalmology	Surgery
Orthopaedics	Casualty

PUBLIC HEALTH
in alphabetical order of names of employing authorities

Administrative	Housekeepers
Governmental	Houses
Services	Accommodation
Industrial	Consulting Rooms, etc.
Overseas	Hotels
University	Holiday Accommodation
Personal	Tours
Notices	Motor Cars, Hire, etc.
Educational	Miscellaneous
Situations(Non-med.)	Nursing Homes
Pharmacists, etc.	Agents
Receptionists, etc.	Homes

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

BIRKENHEAD

Applications invited for vacancy, urban. List at present approximately 2,500. Lock-up surgery temporarily available. Apply, on E.C.16A, before February 15, 1952, to undersigned.—W. J. Nugent, A.C.I.I., Birkenhead Executive Council, 39, Hamilton Square, Birkenhead.

LOCHWINNOCH, Renfrewshire

Applications are invited from registered medical practitioners to fill a vacancy in Lochwinnoch. The approximate number of persons on the list of the doctor who has resigned is 2,265. The surgery accommodation may be available to the successor. Applications should be made on a form to be obtained from the undersigned, with whom completed applications should be lodged not later than February 16, 1952.—A. R. Howie, Clerk to Renfrew County Executive Council, 64, Espedair Street, Paisley.

PORTREE, Isle of Skye

Applications are invited from registered medical practitioners to fill a vacancy in Portree, Isle of Skye. The number of persons on list is 1,579. There is a substantial mileage payment. A house and garage belonging to the Executive Council are available at a rent of £43. Applications, stating age, qualifications and experience, together with copies of recent testimonials, should be sent not later than fourteen days from the date of this advertisement to the undersigned, from whom further particulars can be obtained.—May McLean, Clerk, Executive Council for the County of Inverness, 17, Queensgate, Inverness.

STEVENAGE (New Town), Hertfordshire

Applications are invited to fill a declared vacancy in the above development area. No list of patients. Residence and accommodation to be made available by the Stevenage Development Corporation to the doctor selected. Applications (accepted up to the first post February 14, 1952) to the Clerk of the Hertfordshire Executive Council, 156-158, Fore Street, Hertford.

PRACTICES (Offered)

LARGE ENTIRELY PRIVATE PRACTICE, TEN miles south of Manchester. Owner retiring (through illness), but a thorough introduction available.—Box P417, B.M.J.

PRIVATE PRACTICE, FREEHOLD CORNER house, residential suburb E. London.—Box P238, B.M.J.

PRACTICES (Exchange)

LONDON, WEST CENTRAL. N.H.S. 3,000. Industrial. House low rent. Requires Practice or share, suburbs, Midlands or South preferred, minimum N.H.S. 2,300, with or without exchange.—Box P437, B.M.J.

PRACTICES (Wanted)

WANTED, PRACTICE, PARTNERSHIP OR early view succession. London, or within 25 miles radius, by well qualified doctor, aged 36.? Hospital and general practice experience. Car owner. Capital for house, equipment.—Box P439, B.M.J.

WANTED, PRACTICE, PARTNERSHIP OR early view succession. Capital available house purchase, equipment.—Box P409, B.M.J.

WANTED TO PURCHASE, PRACTICE IN Southern Ireland. Capital available. Partnership considered.—Box P438, B.M.J.

IRISH DOCTOR, MALE, R.C., PRINCIPAL own practice England. Maternity experience, desires purchase good class practice Dublin City or suburbs. Partnership considered. Capital available.—Box P406, B.M.J.

M.B. REQUIRES PARTNERSHIP OR SUCCESsion. Capital available for house and equipment. —Box P301, B.M.J.

PARTNERSHIPS (Offered)

Dublin. Pleasant suburban practice, old-established and largely Protestant. Non-dispensing. No midwifery. Half-share to keen and energetic man, preferably with experience of good-class practice. Premium £4,200. Practice-house for sale; recently completely redecorated, £3,500. Further details on application.—Box P440, B.M.J.

Partnership with very early succession. Compact. 4,000 N.H.S. patients. House, etc., available. Semi-rural, South Lancs.—Box P407, B.M.J.

Partnership offered after six months' assistantship, commencing one-third share. About £2,000, South Yorks area. Protestant, British.—Box P410, B.M.J.

PARTNERSHIPS (Wanted)

Wanted, Partnership, or Assistantship with View, Northern Ireland, by experienced "Queens" graduate.—Box P418, B.M.J.

Advertiser, 35, single, wide experience, desires partnership or succession. Car owner. Capital available for house purchase.—Box P442, B.M.J.

Partnership with View to early Succession, Northern England, by Leeds graduate. Services, (R.A.F.) and G.P. experience. Age 36. Car. Ample capital for house purchase.—Box P419, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, early March, for mixed town, country, and colliery practice, N.E., male Assistant, preferably unmarried, view to partnership. Car provided or allowance given.—Box 323, B.M.J.

Wanted, Part-time Assistant, indoor. Furnished flat. Work Tuesdays, Saturday (morning). Suit postgraduate, retired, any sex or nationality.—Doctor, 55, Stephens Road, E.15.

Wanted, outdoor Assistant, with View, in pleasant S.W. seaside resort. Car essential. Salary by arrangement.—Box 420, B.M.J.

Wanted, experienced male Assistant, married, non-Conformist preferred, Welsh speaking essential. Accessible North Wales country. G.P. prospects.—Box 427, B.M.J.

Assistantships Vacant—contd.

Wanted, Permanent Assistant, March 1, single, male, £800 per annum to start. Live in. All found Car allowance. Own car essential. Ample free time. Small hospital near Nottingham.—Box 422, B.M.J.

Wanted, Assistant, early April, married. Car owner. Modern unfurnished house to rent. One hour London. Salary, including car allowance, £1,000.—Box 423, B.M.J.

Wanted, Assistant, Jewish, experienced, married, North London. Car essential. Modern flat provided. Salary £900 plus share of fees. Good prospects for an energetic colleague.—Box 413, B.M.J.

Wanted, March, Assistant, London. Salary £800 with house, car allowance, commission and bonus. Suit young married man.—Box 412, B.M.J

Wanted, Trainee Assistant with car, live out, usual salary and allowances. Partnership of two. S. Wilts town.—Box 408, B.M.J.

Wanted, Trainee Assistant for country practice near Torquay, to commence in April. Car essential. Reply, Dr. Colin MacVicker, Holt, Kingskerswell, South Devon.

Wanted, Outdoor Assistant, Manchester. £1,000 including car allowance. Work light.—Box 311, B.M.J.

Assistant wanted by two doctors in desirable Manchester suburb. Commence April 1. £1,000 per annum, including car allowance.—Box 322, B.M.J.

Guy's man wants married car-owner Trainee, small furnished all-electric flat. Pleasant countryside.—Dr. Howard, Ivybridge, Devon.

Male Trainee Assistant required May 7. Semi-rural Essex. Own car. Furnished accommodation for married man.—Box 421, B.M.J.

Sheffield-Derbyshire border. Trainee Assistant required. Single principal. Light work. One surgery. Secretary. Well equipped. Suit British man or woman. Time for P.G. study. Good class area. Salary by arrangement.—Box 443, B.M.J.

Trainee Assistant wanted for Midland City (be-ginning April). Modern unfurnished house available.—Box 403, B.M.J.

Trainee Assistant, single, male, British, with car, rural practice, N. England. Live out.—Box 401, B.M.J.

ASSISTANTS AVAILABLE

Assistantship required by British doctor, married, car owner. Midlands preferred. Free May, 1952. —Box 415, B.M.J.

Assistantship, definite view or succession, M.B., Ch.B. (Edinburgh), 30, married, 2 children, car, 3 years' London G.P., surgical, gynaecological, and one year postgraduate medical hospital. Ex-squadron leader. Non-industrial area preferred.—Box 445, B.M.J.

Assistantship with view desired by single man, conscientious, good hospital and G.P. experience. Own car. London preferred.—Box 441, B.M.J.

Assistantship or Locum, Indian, varied hospital and G.P. experience. Car owner.—Box 313, B.M.J.

Cambridge and St. Thomas's man, 1935, bachelor, Protestant Christian, desires Assistantship. View Partnership, Southern England. Available one month's notice. Car. Capital for house purchase. —Box 228, B.M.J.

Guy's M.B., English, two years' experience G.P. desires Assistantship with view, South.—Box 444, B.M.J.

Jewish doctor, extensive G.P., hospital experi-ence, married, child, car owner, seeks Assistantship with view.—Box 414, B.M.J.

London Hospital M.B., B.S., Methodist, 28, mar-ried, seeks Assistantship with view, preferably Southern England. Hospital, Army, and two years' G.P. experience, now finishing six months' resident obstetric appointment. Own car.—Box 446 B.M.J.

Medical Registrar (car owner) desires Evening Surgeries, week-end duties.—Riv. 6095.

Part-time Assistance offered in London area. Accommodation an advantage.—Box 424, B.M.J.

Postgraduate, M.B., B.S., nine years' experience hospital, general practice, available evening, week-end, night duties, London area.—Box 425, B.M.J.

Scots graduate, aged 26, married, seeks Assistant-ship, view not necessary. Accommodation required. Hospital, R.A.M.C. and G.P. experience. Car owner. Available mid-April.—Box 404, B.M.J.

Retired doctor available for Surgeries or Day Visits. Outer North London area.—Box 426, B.M.J.

LOCUMS (Vacant)

Locum wanted three weeks in June with car. Hospitality for wife, or lady doctor.—R. Simpson, Dymchurch, Kent.

Urgent. Wanted, Locum for six months. Prob-able subsequent assistantship. Eventual partnership. Preferably single. Hard worker essential.—Cowie, Polesworth, Tamworth, Staffs. Tel.: Polesworth 274.

Aylesbury, Bucks, Royal Buckinghamshire Hospital.—Locum House Surgeon to the Department of Children's Surgery and Orthopaedics which is centred on this hospital for the area. There are 35 orthopaedic beds and 10 children's beds. First or second post. Vacant now. Please apply, with two testimonials, to the Secretary-Superintendent as soon as possible. (7318)

Aylesbury, Bucks, Royal Buckinghamshire Hospital.—Locum House Surgeon for E.N.T. and Ophthalmic Department. Recognized for D.L.O. and D.O. First or second post. Vacant now. Please apply, with two testimonials, to the Secretary-Superintendent as soon as possible. (7319)

Birmingham, City of, Public Health Department. —Medical Officers (Holiday Locums). Applications are invited for the temporary appointment of three **whole-time Medical Officers** in the maternity and child welfare department to take holiday duty during the summer months, commencing on April 21, 1952. The appointments are non-resident, and the salary offered is at the rate of £16 10s. per week. The successful applicants will be expected to remain, if required, for a period of six months. Application forms may be obtained from the Medical Officer of Health, Council House, Birmingham, 3, and completed forms should be returned to him, together with copies of three testimonials, not later than February 16, 1952. (7458)

Brighton and Lewes Hospital Management Committee.—Immediate vacancy for **Locum Registrar in Anaesthetics** pending settlement of Registrar complement. (Resident or non-resident.) Applications, stating age, qualifications and experience, together with names of three referees, should be addressed to the Secretary, Brighton and Lewes Hospital Management Committee, c/o Royal Sussex County Hospital, Brighton, 7. (7155)

Carlisle, East Cumberland Group of Hospitals. Newcastle Regional Hospital Board.—Surgical Senior Registrar (Locum), Whole-time, Resident, for a period of six months. Duties primarily at Cumberland Infirmary, Carlisle, 354 beds, and City General Hospital, Carlisle, 146 beds, but to be available for other hospitals in the Group as required. Applications, with names and addresses of one to three referees, should be sent to the Senior Administrative Medical Officer, Newcastle Regional Hospital Board, 1, Lonsdale Street, Carlisle, within fourteen days. (7424)

Croydon Group Hospital Management Committee, General Hospital, Croydon.—Orthopaedic Registrar (whole-time) March 19 to 30 inclusive. Duties involving both orthopaedic and fracture work. Previous orthopaedic experience essential. Possession of higher surgical qualification an advantage. Apply, giving particulars of age, qualifications and experience, to Secretary. (7369)

Farnborough Hospital (800 beds).—Applications are invited for the post of **Locum Tenens Registrar in Anaesthetics,** commencing March 1 until June 30 in the first instance. Salary within the scale set out in terms and conditions of service of hospital medical staff (England and Wales). Applications, stating age, qualifications (with dates) and experience, together with the names and addresses of three referees, should be forwarded to the Administrative Officer, Farnborough Hospital, Farnborough, Kent. (7488)

Grimsby General Hospital. Sheffield Regional Hospital Board.—Locum Surgical Registrar required immediately at the above hospital. Salary at the rate of £775 per annum. Apply to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. (6983)

Grimsby General Hospital (220 beds), Grimsby Hospital Management Committee.—Required for indefinite period, a **Locum Resident Gynaecological House Surgeon.** Apply to Administrative Officer, Grimsby General Hospital. (7007)

Guildford, Royal Surrey County Hospital.—Locum Resident House Physician required. House Officer grade. Probable duration five weeks. Apply Secretary-Superintendent. (7489)

Leeds Regional Hospital Board invites applications for a **Locum Tenens** appointment **in General Surgery** for duties at hospitals in the York "A" and Tadcaster Group. The appointment is for the period February 11 to May 17, 1952, and the salary will be at the rate applicable to a first year Registrar, less a deduction at the rate of £153 per annum if residential accommodation is required. Applications, stating age, qualifications and details of previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Board, Park Parade, Harrogate, as soon as possible. (7320)

Leeds Regional Hospital Board.—Short term Locum Tenens appointments in the Registrar Grade are constantly available at hospitals in the area of the Board, particularly in the specialties of general medicine and general surgery. Suitably experienced practitioners interested in such appointments are invited to communicate with Sec., Joint Registrars Committee, Park Parade, Harrogate. (5255)

Warrington (near), Winwick Hospital (2,200 beds).—Locum Tenens Junior Hospital Medical Officer required immediately. All modern methods of treatment of mental illness and nervous disorders are available. Salary £700 per annum, with an appropriate deduction in respect of residential charges. Applications, giving full details of qualifications, experience, etc., and accompanied by two recent testimonials, to be sent to the Medical Superintendent as soon as possible. (7531)

Orpington Hospital, Kent. Orpington and Sevenoaks Hospital Management Committee.—Locum Resident Senior House Officer (male) (Anaesthetist) required from February 25, 1952, until April 6, 1952, inclusive. Hospital has 700 occupied beds. Recognized for Diploma of Anaesthetics. Guy's Hospital Orthopaedic and E.N.T. Units attached. Post becomes vacant on June 1, 1952, and locum if suitable would be considered for permanent post. Applications, giving name, age, qualifications and names of two referees, to Physician Superintendent immediately, quoting (M.J. 12). (7480)

LOCUMS (Available)

Wanted, Locums Assistantship by experienced woman doctor. Car.—Box 448, B.M.J.

Aberdeen graduate, returning temporarily from overseas, available to do Locums in July, August, and September in Northern and Central Scotland. —Ferries, Addington Hospital, Durban, S. Africa.

G.P. offers service as Locum at seaside for two or three weeks; May-June period, in exchange for accommodation for self and family.—Box 416, B.M.J.

Indian practitioner, British qualified, available as Locum for three months from February 11.—Box 447, B.M.J.

M.B. requires Locum or Part-time Work in Lon-don area.—Box 302, B.M.J.

SITUATIONS (Wanted)

Qualified physician and surgeon wants post any large industrial concern. Widest experience.—Write Box 429, B.M.J.

REPLIES TO BOX NUMBER ADVERTISEMENTS

The names and addresses of advertisers using box numbers are held by us in strict confidence and cannot be disclosed. Applications should be separately enclosed and clearly addressed:

Box No. .....
British Medical Journal,
B.M.A. House,
Tavistock Square, W.C.1.

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APPOINTMENTS

ANAESTHETICS

CROYDON GROUP OF HOSPITALS
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of **WHOLE-TIME CONSULTANT ANAESTHETIST** Duties will be mainly at Mayday Hospital, Thornton Heath, Surrey. The consultant appointed will, in addition, be required to co-ordinate the anaesthetic services of the Group. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than February 23, 1952. Applicants may visit the hospitals by local arrangement. (7370)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
St. Albans City Hospital, 425 beds, and West Herts Hospital, Hemel Hempstead, 169 beds
(both General Hospitals with usual special departments)
CONSULTANT ANAESTHETIST

Whole-time or maximum sessions. Duties will include occasional visits to other hospitals in the region. Applications, giving three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by March 8, 1952. Hospitals may be visited by direct appointment. (7494)

WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the appointment of a

CONSULTANT ANAESTHETIST

to serve the Mid-Glamorgan Hospital Management Committee. The successful candidate, who will work mainly at Bridgend General Hospital, will be required to live within reasonable distance of Bridgend, and will be responsible for the anaesthetic services in the Group. Candidates should be in possession of the D.A. and have had wide experience in the specialty. Candidates are asked to state whether they wish to be considered for a whole-time or maximum part-time appointment. Twelve copies of application, stating age of birth, giving a summary of qualifications, experience, previous appointments (with dates), and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within 21 days of appearance of this advert. (7546)

Anaesthetics—contd.

OXFORD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the post of
WHOLE-TIME ASSISTANT ANAESTHETIST
(Senior Hospital Medical Officer scale)
to the hospitals of the Aylesbury and District Hospital Management Committee with duties mainly in the Plastic and Jaw Injury Centre at Stoke Mandeville Hospital. Applicants, who should hold the D.A., are invited to visit the hospitals by arrangement. The successful candidate will be a member of the area team and will be required to live locally. Applications (eight copies), stating age, qualifications, experience and the names and addresses of three referees should reach the Secretary of the Board, 43, Banbury Road, Oxford, by February 29. (7321)

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners who are in possession of the D.A. for the whole-time post of
ASSISTANT ANAESTHETIST
to serve the Boston Group of hospitals, based on the Boston General Hospital. The person appointed will be required to reside within ten miles of the above hospital. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 1, 1952. (7322)

HOSPITALS FOR DISEASES OF THE CHEST
Applications are invited for the post of
FULL-TIME ANAESTHETIC REGISTRAR
at Brompton Hospital, S.W.3
Applications, stating age, qualifications (with dates), nationality and previous appointments held, and accompanied by copies of testimonials, should reach the undersigned not later than February 9, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (7085)

BATH CLINICAL AREA
Board of Governors of the United Bristol Hospitals and South-Western Regional Hospital Board
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
REGISTRAR in Anaesthetics
Applicants should have had previous experience in anaesthetics. The appointment will be held for one year in the first instance, and be renewable for a further year. The successful candidate will be required to work for the first year mainly at the Royal United Hospital, Bath. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than February 23, 1952. (7484)

COVENTRY GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
WHOLE-TIME REGISTRAR IN ANAESTHETICS
Duties mainly at Hospital of St. Cross, Rugby (168 beds), which is recognized for D.A. Experience in specialty essential. Possession of D.A. an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies applications, stating name, age, nationality, qualifications, present and previous appointment, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 18. Candidates may visit the hospital concerned. (7536)

DONCASTER ROYAL INFIRMARY
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
REGISTRAR (Anaesthetics)
to the above hospital, which is recognized for training for the D.A. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates) together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 18, 1952. (7323)

GLASGOW—WESTERN REGIONAL HOSPITAL BOARD, Scotland
Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:
SENIOR REGISTRAR IN ANAESTHETICS
based at Glasgow Royal Infirmary. Applications (16 copies), stating age, qualifications, and experience and present appointment, and giving the names of three referees, should be submitted not later than February 23, 1952, to the Secretary, Western Regional Hospital Board, 64 West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (7547)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested
not to apply
for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1,
or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

LANCASHIRE COUNTY COUNCIL
(Assistant Divisional Medical Officers)

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE
(Assistant School Medical Officer)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,
A. MACRAE,
January 29, 1952. Secretary.

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the post of
NON-RESIDENT REGISTRAR in Anaesthetics
for duties at hospitals in the Hull "A" Hospital Management Committee Group, together with additional duties as may be required at other hospitals in the Hull "B" and East Riding Hospital Management Committee Groups. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than Feb. 16. (7324)

MACCLESFIELD GROUP OF HOSPITALS
Manchester Regional Hospital Board
Applications are invited for the post of
RESIDENT REGISTRAR in Anaesthetics
Possibly with some duties in the Stockport and Buxton Group of Hospitals. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by February 11, 1952. (7495)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
REGISTRAR to the Department of Anaesthetics
Vacant on May 18, 1952. Applicants must have held house appointments in the specialty and preferably possess a higher qualification. Whole-time, non-resident post, tenable for twelve months, renewable for a further twelve months. Commencing salary £775 per annum. Applications to be made on forms obtainable from the undersigned and to be returned not later than February 20, 1952. By order.—F. J. Cable, Secretary to the Board of Governors. (7459)

METROPOLITAN HOSPITAL
Kingsland Road, London, E.8
(General—147 beds)
Central Group Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetist)
The appointment will be for six months only in the first instance. Salary will be at the rate of £670 per annum, less residential charges of £130 per annum. Applications, giving details of age, qualifications and experience, together with the names of three referees, should reach the House Governor by February 12, 1952. (5792)

WANSTEAD HOSPITAL
Hermon Hill, E.11 (191 beds)
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Graded as Senior House Officer)
Vacant March 1, 1952. Experience in anaesthetics necessary. The hospital is recognized for the D.A. examination. Salary £670 per annum, with a deduction at the rate of £120 per annum for board, lodging, etc. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, H.M.C. Forest Group (No. 11), Langthorne Road, Leytonstone, E.11. (7301)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR HOUSE OFFICER (Anaesthetist)
Vacant April 1. Salary £670, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7529)

CHESTER AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Anaesthetist)
The post is recognized for the D.A. The successful applicant will be required to carry out duties in conjunction with the present Resident Anaesthetist at Chester Royal Infirmary and Chester City Hospital and will require to reside at the Chester Royal Infirmary. Salary £670 per annum, less a deduction of £150 per annum in respect of board and lodging, etc. Applications, giving details of age, experience and qualifications, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7496)

DONCASTER ROYAL INFIRMARY
(Recognized under the regulations for the D.A.)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners with the necessary experience for the appointment of
RESIDENT ANAESTHETIST
in the grade of Senior House Officer
Salary at the rate of £670 per annum, from which a deduction of £130 per annum will be made for board, residence, etc. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with copies of three testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (7303)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding
(Full Consultant Staffs)
Applications are invited for the appointment of
SENIOR HOUSE OFFICER in Anaesthetics
(Either sex)
for duty at the above hospitals for the acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment. Vacant now. Salary £670 per annum. National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley. (7325)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Luton and Hitchin Group Hospital Management Committee
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
The appointment, which is vacant now, offers varied experience, and this post is recognized for the D.A. examination. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds (7371)

MAIDSTONE—MID-KENT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the appointment of
RESIDENT ANAESTHETIST
for joint duties at the Kent County Ophthalmic and Aural Hospital and the West Kent General Hospital, Maidstone (total beds 248) Post now vacant. The salary will be £670 a year, with a deduction at the rate of £150 for residential emoluments. The post is recognized for the Diploma of Anaesthetics, and there will be excellent experience for this examination with Consultant Anaesthetists. Applications should be forwarded to the Administrative Officer, West Kent General Hospital, Maidstone. (7497)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Anaesthetics—contd.

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
SENIOR RESIDENT ANAESTHETIST

Vacant on May 1, 1952. The appointment is for twelve months at a salary of £670 per annum, with a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Applicants should have had experience in the specialty. Applications to be made on forms obtainable from the undersigned and to be returned not later than February 20, 1952. By order.—F. J. Cable, General Supt. (7460)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee

Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Anaesthetic Department

vacant immediately. Recognized for the D.A. National Health Service salary scale and conditions of service, with a deduction at the rate of £100 a year for residential emoluments. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible to S. G. Hill, Secretary to the Management Committee. (7009)

PAISLEY, ROYAL ALEXANDRA INFIRMARY
Board of Management for Paisley and District Hospitals
SENIOR HOUSE OFFICER (Anaesthetics)

This post is recognized for the D.A. examination and is tenable for one year. Applicants should be at least two years qualified. Salary £670 per annum. Applications, together with copies of two recent testimonials, should be addressed to Group Medical Superintendent, Royal Alexandra Infirmary, Paisley. (7477)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer grade)
(Recognized for D.A.)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7401)

STOURBRIDGE (near), WORDSLEY HOSPITAL
(450 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
(Resident Anaesthetist)

Post now vacant. Applicants should have held house appointments and had previous experience in anaesthetics. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications, with dates, experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (6601)

WARRINGTON GENERAL HOSPITAL (372 beds) and WARRINGTON INFIRMARY (172 beds)
Warrington and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
for Anaesthetic work

Required for duties at the above hospitals. The person appointed will be resident at the General Hospital. The commencing salary is £670 per annum, less £130 for full residential emoluments. Applications, stating age, experience and qualifications, should be sent immediately to H. L. Boot, Secretary to the Committee, c/o General Hospital, Warrington, Lancs. (7087)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY (225 beds)
Wigan and Leigh Hospital Management Committee

Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)

for duties at the above hospital. The post, which is tenable for one year, will be resident, and is recognized for the D.A. examinations. Wide experience in all branches of anaesthesia is available, and there are particular facilities for experience in major thoracic and orthopaedic work. Applications, stating age, experience, and nationality, together with the names of two referees, should be forwarded to the undersigned as soon as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (7548)

ROYAL FREE HOSPITAL
Gray's Inn Road, London, W.C.1

Applications are invited from duly qualified and registered medical persons for the post of
RESIDENT ANAESTHETIST

Duties of the above post tenable for six months commencing April 1, 1952. Salary scales and conditions of service will be in accordance with those laid down by the Ministry of Health, less deduction for residence. Application forms may be obtained from the Secretary to the Board of Governors, Royal Free Hospital, Gray's Inn Road, London, W.C.1, and should be filled in and returned before March 1, 1952. (7088)

BRISTOL, FRENCHAY HOSPITAL
(448 staffed beds)
Cossham/Frenchay Hospital Management Committee

Applications are invited for the appointment of
RESIDENT HOUSE OFFICER (Anaesthetics)

The position offers experience in thoracic, plastic, neuro- and general surgery. National conditions and salary scale. Applications, with full particulars of age, qualifications and previous posts, together with the names of two referees, should be sent to the Secretary, Frenchay Hospital, not later than February 9, 1952. (7428)

BROMSGROVE, WORCS, ALL SAINTS' HOSPITAL (468 beds)
Mid-Worcestershire Hospital Management Committee
HOUSE OFFICER (Anaesthetic duties)

Required at the above recently opened General Hospital. Resident post, vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire Hospital Management Committee, Birmingham Road, Bromsgrove. (6984)

GLOUCESTERSHIRE ROYAL HOSPITAL
(2 units—600 beds)
Gloucester, Stroud and the Forest Hospital Management Committee

Applications are invited for the post of
HOUSE OFFICER ANAESTHETIST

which falls vacant on March 1, 1952. The post, which will be for one year, is recognized for the purpose of the D.A. examination. Salary £350 to £450 per annum, according to experience, less £100 per annum if resident. Applications, stating age, nationality, qualifications and experience, together with the names of two referees, should be forwarded to the Group Secretary, Gloucestershire Royal Hospital, Southgate St., Gloucester. (7304)

ISLE OF MAN, NOBLE'S HOSPITAL

Applications are invited for the post of
RESIDENT ANAESTHETIST

in busy hospital with over 150 beds and the usual ancillary departments. Post will provide ample and varied experience in pleasant surroundings. Salary £400 per annum, less £100 per annum for board and lodging. Duties may include acting in the medical wards or casualty. Appointment for six months in first instance. Applications, with copies of two recent testimonials, to the Secretary, Noble's Hospital, Douglas. (7080)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
ANAESTHETICS HOUSE OFFICER

Vacant on April 1, 1952. The appointment is for six months at a salary of £400 or £450 per annum, with a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Applicants should have had experience in the speciality. Applications to be made on forms obtainable from the undersigned and to be returned immediately.—By order, F. J. Cable, Secretary to the Board of Governors. (7160)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group

Applications are invited from registered medical practitioners for the appointment of
RESIDENT ANAESTHETIST
(House Officer Grade)

vacant March 17, 1952. Salary and conditions of service in accordance with the National Health Service terms, with residential emoluments. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (7498)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
HOUSE OFFICER (Anaesthetics)

Vacant April 2. The hospital is recognized for the D.A. Applications, with copies of two testimonials, to Secretary. (7132)

CHEST AND TUBERCULOSIS

BIRMINGHAM REGIONAL HOSPITAL BOARD AND STAFFORDSHIRE COUNTY COUNCIL

Applications are invited for joint appointment of
WHOLE-TIME CONSULTANT CHEST PHYSICIAN
Stafford Group of Hospitals and Staffordshire County Council

Duties at Groundslow Sanatorium (110 beds), and Ivy House, Cannock (149 beds). In addition to clinic and dispensary work 9/11ths of time will be apportioned for hospital and clinic work, the responsibility of the Board, and 2/11ths for prevention and after-care work for the County Council. Applicants should preferably possess higher qualification and have had wide experience in care and treatment of pulmonary tuberculosis. Fifteen copies of application, stating name, date of birth, nationality, qualifications, present and previous appointments and details of three referees, to Secretary, Birmingham Regional Hospital Board, 10, Augustus Road, Birmingham, 15, before February 18, 1952. Candidates may visit the hospitals concerned. (7389)

BIRMINGHAM REGIONAL HOSPITAL BOARD

Applications invited for appointment of
WHOLE-TIME MEDICAL DIRECTOR AND ASSISTANT CHEST PHYSICIAN
Wolverhampton Mass Radiography Unit

Duties mainly with the Mass Radiography Unit, but opportunities provided for three clinical sessions weekly at chest clinics in the area. Experience in tuberculosis and diseases of the chest essential. Salary scale £1,300 to £1,750 per annum. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 18. (7538)

LIPHOOK, HANTS, KING GEORGE'S SANATORIUM FOR SAILORS
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of
WHOLE-TIME RESIDENT MEDICAL SUPERINTENDENT AND ASSISTANT CHEST PHYSICIAN (S.H.M.O. scale)

Candidates should have wide experience in the treatment of tuberculosis and chest diseases and possession of a higher medical qualification will be an advantage. The post will be within the combined establishment for this Sanatorium and the King George V Hospital for Diseases of the Chest, Godalming, Surrey, consultant supervision and co-ordination being carried out by the Physician Superintendent and consultant staff of the latter hospital. A house is available at an appropriate rental. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than February 23, 1952. Applicants may visit the Sanatorium by arrangement with the Physician Superintendent of King George V Hospital. (7326)

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the whole-time post of
ASSISTANT CHEST PHYSICIAN

for the Grimsby area. Duties will include attendance at clinics in Grimsby and Louth and the care of patients in the Springfield Hospital (130 T.B. beds), where thoracic surgery is also undertaken. The successful candidate will work under the direction of the Consultant Chest Physician for the area. Candidates should have good general medical experience and special experience in the treatment of chest diseases and tuberculosis. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 1, 1952. (7327)

HAREFIELD HOSPITAL
Harefield, Middlesex
North-West Metropolitan Regional Hospital Board
WHOLE-TIME REGISTRAR

Required for one year in first instance, for Thoracic Surgical Unit (100 beds). Application forms obtainable from, and returnable to, the Secretary, Harefield and Northwood Group Hospital Management Committee, Mount Vernon Hospital, Northwood, Middlesex, not later than February 12, 1952. Hospital may be visited by direct appointment. (7461)

LEICESTER, MARKFIELD SANATORIUM AND ISOLATION HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of
REGISTRAR (Chest Diseases and I.D.)

to the above hospital, where minor thoracic surgery (T.B.) is undertaken. The duties are mainly in the hospital, but clinic work may be undertaken under the supervision of the Consultant. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than Feb. 18. (7328)

ROCHFORD GENERAL HOSPITAL,
Rochford, Essex

Applications are invited for the position of
RESIDENT MEDICAL REGISTRAR
(Chest Unit)

Duties in active treatment chest unit of 72 beds at Rochford General Hospital; 24 beds at Westcliff Hospital, and attendance at the Lancaster House Chest Clinic for clinical duties and assistance with refills. The appointment is subject to review after one year. A local charge will be made for residential amenities provided. Applications in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, February 16, 1952. (7549)

Chest and Tuberculosis—contd.

NEWCASTLE REGIONAL HOSPITAL BOARD
Newcastle Hospital Management Committee Group
REGISTRAR CHEST PHYSICIAN

Required at Walkergate Hospital, with duties in a chest clinic. The appointment, which is temporary in the first instance up to August 31, 1952, will be whole-time. Salary £775 to £890. Accommodation will be available at the hospital. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (7329)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
WHOLE-TIME REGISTRAR

Required for Uxbridge Chest Clinic, Uxbridge, Middlesex, and associated beds at Mount Pleasant Hospital, Southall. For one year in first instance. Clinic may be visited by direct appointment. Application forms obtainable from, and returnable to, Secretary, Uxbridge Group Hospital Management Committee, St. John's Hospital, Kingston Lane, Uxbridge, Middlesex, by February 11. (7305)

PAPWORTH HOSPITAL, Cambridgeshire
East Anglian Regional Hospital Board
SENIOR REGISTRAR in Thoracic Surgery

Preference will be given to candidates with a higher surgical qualification and experience in thoracic surgery. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than February 18, 1952. A house is available. Candidates are invited to visit the hospital by direct arrangement with the Chief Medical Officer.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (7372)

CHEPSTOW, MON, MEMORIAL WARDS, MINISTRY OF PENSIONS HOSPITAL

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
in Tuberculosis

National salary scales and conditions. The resident medical staff consists of a Senior Hospital Medical Officer and this post, while the Consultant visits regularly. Apply, with the names of three referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (7011)

GLASGOW, DARNLEY SANATORIUM, Nitshill
Board of Management for Paisley and District Hospitals
RESIDENT JUNIOR HOSPITAL MEDICAL OFFICER

Applications are invited for the above post, applicants being at least two years qualified. Commencing salary £700 per annum. Post vacant mid-February, 1952. Applications, stating age, experience, etc., should be addressed to the Group Medical Superintendent, Royal Alexandra Infirmary, Paisley, and copies of two recent testimonials should be enclosed. (7479)

MANCHESTER, BAGULEY HOSPITAL
Wythenshawe
South Manchester Hospital Management Committee

Applications are invited from registered practitioners, preferably under 40 years of age, for the resident post of
JUNIOR HOSPITAL MEDICAL OFFICER
at the above hospital, which has 420 beds for the treatment of pulmonary tuberculosis and is the major thoracic surgical centre for the Region. The post will include duties at Chest Clinics. Applications, stating age, nationality, qualifications, experience and the names of three referees, to be forwarded to the undersigned not later than February 7, 1952.—A. H. Keates, Secretary to the Committee, Christie Hospital and Holt Radium Institute, Manchester, 20. (7392)

VENTNOR, ROYAL NATIONAL HOSPITAL FOR DISEASES OF THE CHEST
Isle of Wight (249 beds)
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident, unmarried)

Hospital has all facilities for major thoracic surgery. Applications, with names of two referees, should be sent to Physician Superintendent. (7200A)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest

A vacancy occurs April 1, 1952, for
RESIDENT SURGICAL OFFICER

Appointment for six months, with the prospect of renewal, of which two will be at the Country Branch near Letchworth. Post graded as Senior House Officer or Registrar, according to qualifications and experience. Previous surgical experience necessary. Applications, stating age, qualifications (with dates), and previous appointments held, with copies of three testimonials, should reach the undersigned not later than February 18, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (7499)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER (Male)

Required for wards taking cases of pulmonary tuberculosis (56 beds) under supervision of the visiting Consultant Physician. Opportunity to acquire knowledge of the modern treatment of acute tuberculosis. Post vacant. National Health Service salary and conditions of service. Applications, stating age, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by February 16. (7500)

BARNET, HERTS, CLARE HALL HOSPITAL
South Mimms (536 beds)
SENIOR HOUSE OFFICER (Surgical)

Required for the Thoracic Unit of 50 beds, including tuberculous and non-tuberculous thoracic conditions. Applications, stating age, qualifications and experience, should be forwarded immediately to the Medical Director. (7089)

GRIMSBY, SPRINGFIELD HOSPITAL
(Chest Diseases and Infectious Diseases—210 beds)
Grimsby Hospital Management Committee

Applications are invited for the post of
SENIOR HOUSE OFFICER (Medical)

An ex-tuberculous patient would be considered. Salary in accordance with terms and conditions of service of hospital medical and dental staff, £670 per annum. All forms of tuberculosis are treated in this hospital and modern methods of therapy are available, including major thoracic surgery. It is a recognized hospital for streptomycin treatment. Applications, with names of three referees, should be submitted to the Administrative Officer, Springfield Hospital, Scartho, Grimsby. (7347)

MANSFIELD (near), NOTTS, NEWSTEAD SANATORIUM, Fishpool (236 beds)

Applications are invited for appointment as
RESIDENT SENIOR HOUSE OFFICER (Female)

The successful applicant may be required to undertake some work at neighbouring chest clinics, including B.C.G. vaccination. Apply, giving age, qualifications and two referees, to the Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood Hospital, near Mansfield, Notts. (5843)

NOTTINGHAM CITY HOSPITAL (833 beds)
SENIOR HOUSE OFFICER
to the Department of Thoracic Surgery

Post vacant April 1, 1952. Salary £670 per annum, less £130 per annum for residential emoluments. The appointment will be for one year. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be submitted immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (7164)

WAKEFIELD, PINDERFIELDS GENERAL HOSPITAL
SENIOR HOUSE OFFICER
(Thoracic Surgical Unit—54 beds)

Applications are invited for the above appointment. Salary £670 per annum, with a deduction of £130 for board and lodging if resident. Address applications, with full particulars of qualifications, etc., and the names and addresses of two persons for reference, to the undersigned.—G. L. Banner, Secretary, Victoria Chambers, Wood Street, Wakefield. (7532)

YORK, FAIRFIELD SANATORIUM
COUNTY HOSPITAL, York
CITY HOSPITAL, York

Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
in Chest Diseases and General Medicine

to spend approximately half time at Fairfield Sanatorium (63 beds), and at the City Hospital, where 8 beds are reserved for investigation of chest cases, and where out-patient refill clinics are held, the remainder of time at the County and City General Hospitals (269 and 265 beds respectively), in the department of general medicine. Previous experience in treatment of tuberculosis an advantage. Salary £670, with deduction for residence near sanatorium suitable for married or single medical officer. Applications, giving details of age, nationality, experience and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (7550)

HOSPITALS FOR DISEASES OF THE CHEST

Applications are invited from registered medical practitioners, male and female, for appointment of
NON-RESIDENT HOUSE PHYSICIAN
at Brompton Hospital, S.W.3

for which there are three vacancies. The appointment is whole-time for six months, commencing April 1, 1952. The duties include work in the out-patients department as well as in the wards. Salary £400 or £450 a year, according to experience. Applications, stating age, qualifications (with dates), nationality, and previous appointments held, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, February 9, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (7091)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest

Vacancies occur April 1, 1952, for
RESIDENT HOUSE PHYSICIAN
NON-RESIDENT HOUSE PHYSICIAN

Appointments for six months, four in London, two at the Country Branch (resident) near Letchworth, and posts are graded as House Officer. Duties include work in the out-patient department and refill clinics as well as in wards. Applications, stating age, qualifications (with dates), and previous appointments held, with copies of three testimonials, should reach the undersigned not later than February 18, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (7501)

COTTINGHAM, CASTLE HILL SANATORIUM
(221 beds)
HOUSE OFFICER

Required to work under supervision of the Consultant Chest Physician. The Sanatorium is one of a Group associated with a major thoracic surgery unit, mass miniature radiography unit, and full laboratory facilities. Apply as soon as possible on form obtainable from Secretary, Hull (B) Group Hospital Management Committee, De La Pole Hospital, Willerby, East Yorks. (7283)

EDINBURGH CITY HOSPITAL
HOUSE OFFICER (Male or female)

Required for tuberculosis wards. Previous hospital experience desirable and appointment is for six months in first instance. National Health Service salary and conditions of service. Applications, stating age and experience, with names of two referees, or copies of two recent testimonials, to the Secretary, Board's Office, City Hospital, Greenbank Drive, Edinburgh, 10. (7393)

INVERNESS, CULDUTHEL HOSPITAL
Bed complement 104 (T.B. 74, I.D. 30)

Applications are invited for the post of
HOUSE OFFICER

for the above hospital for six months commencing March 1, 1952. Salary £350, £400 or £450 per annum, less £100 for residential emoluments. Previous hospital experience desirable but not essential. Apply, with copies of two testimonials, to Medical Superintendent by February 15. (7462)

LIVERPOOL CHEST HOSPITAL (78 beds)
Mount Pleasant, Liverpool, 3
South Liverpool Hospital Management Committee

Applications are invited for the following appointments at the above-named hospital, for a period of six months with effect from April 1, 1952:
RESIDENT HOUSE PHYSICIAN
RESIDENT JUNIOR HOUSE PHYSICIAN

The terms and conditions of service will be in accordance with the regulations of the Ministry of Health, the salary being at the rate of £350 per annum for the first post held, £400 per annum for the second post held, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee, Sefton General Hospital, Liverpool, 15. (7092)

SHEFFIELD, ROYAL INFIRMARY
United Sheffield Hospitals

Applications are invited from registered medical practitioners, male and female, for the following post, now vacant:
HOUSE SURGEON to the Thoracic Department

The post will be tenable for six months, now vacant. Salary and conditions of service in accordance with the terms published by the Ministry of Health for House Officers. Applications should be sent forthwith to Frank Hart, Superintendent, Royal Infirmary, Sheffield, 6. (7463)

DENTAL

ROYAL DENTAL HOSPITAL OF LONDON
Leicester Square, London, W.C.2
(St. George's Hospital, S.W.1)

Applications are invited for the whole-time post of
SENIOR HOSPITAL DENTAL OFFICER
in the Conservation Department

Applicants must possess a registrable dental qualification. Medical and/or additional dental qualifications, although desirable, are not essential. Applications, stating age, nationality, experience and qualifications, together with the names of three referees, should be forwarded to the undersigned not later than March 1, 1952.—P. H. Constable, Secretary to the Board of Governors, St. George's Hospital, S.W.1. (7502)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Dental—contd.

EAST RIDING OF YORKSHIRE COUNTY COUNCIL
WHOLE-TIME ASSISTANT DENTAL OFFICERS

Applications are invited from registered dental surgeons for the above appointments. Salary £800 per annum, rising by annual increments of £50 to a maximum of £1,250 per annum. Travelling and subsistence allowances will be paid, in accordance with the Council's scale. The duties attached to the post will comprise the dental inspection and treatment of school children and dental work in connexion with other County Health Services under the direction of the County Medical Officer of Health under the supervision of the Senior Dental Officer. The appointment will be subject to the provisions of the National Health Service (Superannuation) Regulations, 1947, and the successful candidates will be required to pass satisfactorily a medical examination. Applications, stating age, qualifications and experience, accompanied by copies of three recent testimonials, should be sent immediately to the County Medical Officer of Health, County Hall, Beverley. Any known relationship to a member or senior officer of the Council must be disclosed and canvassing will be deemed a disqualification.—T. Stephenson, Clerk of the Council, County Hall, Beverley. (7429)

LIVERPOOL, 15, SEFTON GENERAL HOSPITAL (1,028 beds, 123 cots)
South Liverpool Hospital Management Committee

Applications are invited for the appointment of
RESIDENT HOUSE SURGEON (Dental)
which will become vacant at the above-named hospital on April 1, 1952, and will be for a period of six months. The terms and conditions of service will be in accordance with the regulations of the Ministry of Health. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee. (7093)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group

Applications are invited from registered dental practitioners for the appointment of
DENTAL HOUSE SURGEON
vacant April 27, 1952. This post is recognized by the Royal College of Surgeons as fulfilling the requirements of candidates for the Fellowship of Dental Surgery. Salary and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three recent testimonials, should be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (7402)

DERMATOLOGY

BIRMINGHAM, SKIN HOSPITAL (61 beds)
Birmingham (Dudley Road) Group of Hospitals

Applications are invited for the post of
SENIOR HOUSE OFFICER
which will become vacant on February 16, 1952. The in patient department is modern and well equipped and provides facilities for the study of skin diseases. The successful applicant will be required to assist Consultants at out-patient clinics. Applications, with copies of two recent testimonials, should be forwarded to the Secretary, H.M.C., Dudley Road Hospital, Birmingham, 18. (7094)

OXFORD, UNITED, HOSPITALS

Applications are invited for the post of
SENIOR HOUSE PHYSICIAN
to the Department of Dermatology
This post is a resident one at the Slade Hospital and is for six months commencing April 1. Applications, stating age, qualifications and experience, together with the names of two referees, should be addressed to the undersigned as soon as possible.—E. J. R. Burrough, Administrator, The Radcliffe Infirmary, Oxford. (7425)

EAR, NOSE, AND THROAT, etc.

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest

A vacancy occurs April 1, 1952, for
PART-TIME REGISTRAR Registrar Grade)
E.N.T. Department
to attend two half-days a week in London and one attendance fortnightly at Country Branch (near Letchworth). The appointment is for one year with the prospect of renewal. Applications, stating date of birth, qualifications (with dates) and previous appointments held, with copies of three testimonials, should reach the undersigned by February 20, 1952.—Thomas Brown, House Governor, London Chest Hospital, E 2. (7430)

MANCHESTER THROAT AND CHEST HOSPITAL, Bowdon, Cheshire (53 beds)
North and Mid-Cheshire Hospital Management Committee
SENIOR E.N.T. HOUSE OFFICER

Required to commence on or about February 15, 1952. Twelve months' appointment. This appointment is in a busy hospital staffed by Manchester Consultants and offers excellent opportunities of practical experience to suitably qualified candidates. Salary £670 per annum. Conditions as laid down in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, qualifications, etc., should be forwarded to the Secretary, North and Mid Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire (6985)

STOCKPORT AND BUXTON HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the non-resident post of
SENIOR HOUSE OFFICER
to the Ear, Nose and Throat Departments in the Group
Salary and conditions of service in accordance with Ministry of Health circular. Applications, stating age, nationality and qualifications, together with the names of two referees or copies of two testimonials, to be addressed to the undersigned immediately.—H. G. Price, Secretary, 59B, Shaw Heath, Stockport, Cheshire. (7503)

AYLESBURY, BUCKS, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON
for E.N.T. and Ophthalmic Department

Recognized for D.L.O. and D.O. First or second post. Vacant now. Please apply, with two testimonials, to the Secretary-Superintendent as soon as possible. (7330)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL (900 beds—36 E.N.T. beds)
Birmingham (Dudley Road) Group of Hospitals

Applications are invited for the post of
RESIDENT HOUSE SURGEON
(Ear and Throat Department)
This is a six months' appointment, and is recognized for the training for the D.L.O. Applications, stating age, qualifications, nationality, and experience, accompanied by copies of two recent testimonials, should be forwarded to the undersigned.—J. Preston, Secretary to the Hospital Management Committee, Dudley Road Hospital. (7551)

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL
Edmund Street, Birmingham, 3
Birmingham (Dudley Road) Group of Hospitals
TWO HOUSE SURGEONS

Vacancies occur at the above hospital (76 beds). Applications, stating age, qualifications, nationality, and experience, accompanied by copies of two recent testimonials, to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (7253)

CHELTENHAM GENERAL EYE AND CHILDREN'S HOSPITAL

Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
to the Ear, Nose and Throat Department, vacant in February, 1952. Salary £350 to £450, according to experience. Applications, stating age, qualifications, with copy of two testimonials, to be sent to the Group Secretary, General Hospital, Cheltenham. (6716)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
HOUSE SURGEON

Required in the Ear, Nose and Throat Department at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. Recognized for D.L.O. National scales and conditions. Six-monthly appointment, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8468)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee

Applications are invited from registered medical practitioners, male and female, for the post of
E.N.T. AND OPHTHALMIC HOUSE SURGEON
at the above hospital. The appointment will be subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to the number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Folkard, Sec. to the Committee. (4740)

NEWCASTLE-UPON-TYNE, UNITED HOSPITALS

Applications are invited from registered medical practitioners for the following appointment in the Royal Victoria Infirmary:
HOUSE SURGEON
to Ear, Nose and Throat Department
The post, which will be tenable for six months, became vacant on February 1, 1952. Salary and conditions of service in accordance with terms published by the Ministry of Health for House Officers. Applications, giving age, nationality, experience and qualifications, with the names and addresses of two referees, should be sent to the undersigned as soon as possible.—A. W. Sanderson, House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne. (7464)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)

Applications are invited for the post of
HOUSE SURGEON (E.N.T. Department)
Vacant March 1, 1952. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

YORK, COUNTY HOSPITAL (General hospital of 269 beds with full consultant staff)
CITY HOSPITAL, York (Modern general hospital of 265 beds with full consultant staff)
E.N.T. HOUSE SURGEON

The E.N.T. Department (which is mainly at the County Hospital) has approximately 30 beds, is recognized for the D.L.O., and offers excellent opportunities for learning the specialty. The appointment is for six months initially and is vacant immediately. Previous experience preferable, but not essential. Residence available at the County Hospital. Salary £400 for second post held, £450 for third post, less £100 for residence. Applications, giving details of age, nationality, experience, and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (7552)

CONNAUGHT HOSPITAL, Walthamstow, E.17
CLINICAL ASSISTANT

Required in the E.N.T. Department at Connaught Hospital for one session per week, Tuesday a.m. Salary in accordance with para. 10 (b) of service conditions, i.e., £175 a year for each weekly notional half day. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, H.M.C., Forest Group (No. 11), Langthorne Road, E.11. (7015)

GERIATRICS

SUNDERLAND HOSPITAL MANAGEMENT COMMITTEE GROUP
Newcastle Regional Hospital Board
REGISTRAR PHYSICIAN

Required in the geriatric unit in the above group. Non-resident male, resident female. Salary £775. Whole-time appointment, which is temporary in the first instance up to August 31, 1952. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (7373)

OXFORD, UNITED, HOSPITALS

Applications are invited for the post of
SENIOR HOUSE PHYSICIAN
to the Geriatric Unit (the Cowley Road Hospital) for six months from March 1, 1952. Salary at the rate of £670 per annum for residence. Applications, stating age, experience and qualifications, should be sent, together with the names of two referees, to the undersigned as soon as possible.—E. J. R. Burrough, Administrator, The Radcliffe Infirmary, Oxford. (7504)

HALIFAX, ST. JOHN'S (GERIATRIC) HOSPITAL (Accommodating 400 patients)
Halifax Area Hospitals Management Committee

Applications are invited for the appointment of
HOUSE PHYSICIAN (Male or female)
This hospital is provided with consultant medical and ancillary services. Applications, stating age, nationality, qualifications, and experience, together with copies of three testimonials, to be forwarded to the Sec., Royal Halifax Infirmary, Halifax. (7228)

INFECTIOUS DISEASES

BIRMINGHAM, LITTLE BROMWICH INFECTIOUS DISEASES HOSPITAL (750 beds)
Group 25 Birmingham (Selly Oak) Hospital Management Committee

Applications are invited for the post of
RESIDENT HOUSE OFFICER
(Male or female)
Appointment for six months. Applications, stating experience, with two testimonials, to the Physician Superintendent, Little Bromwich Hospital, Birmingham, 9. (7505)

PRESTON INFECTIOUS DISEASES HOSPITAL
Preston and Chorley Hospital Management Committee
HOUSE OFFICER

Required at the end of March at the above hospital, pleasantly situated on bus route on northern fringe of Preston. The post includes visiting duties at a nearby Chest Sanatorium (30 beds). Altogether there are 125 beds—61 fevers (most in cubicle wards) and 64 chest. The post offers excellent facilities for experience in these specialties. Residence in Lodge, suitable for married couple. Applications, stating full particulars, with copy testimonials, to be forwarded as soon as possible to the Secretary, Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Sec. (6908)

Infectious Diseases—contd.

CARDIFF, CITY ISOLATION HOSPITAL
(219 beds)
Cardiff Hospital Management Committee
HOUSE OFFICER
Applications, giving full particulars, with copies of two testimonials, before February 16, 1952, to Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (7374)

NEUROSURGERY

BIRMINGHAM, UNITED, HOSPITALS
Applications are invited for the post of
HOUSE SURGEON
to the Department of Neurosurgery at the Queen Elizabeth Hospital
The appointment is for the period ending July 31, 1952. Salary will be in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications, experience, nationality and present post, together with copies of three recent testimonials, should be sent to the undersigned at once.—G. A. Phalp, B.Com., Sec., United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (7486)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
HOUSE PHYSICIAN (Neurosurgical Unit)
Applications are invited from registered medical practitioners for the above appointment in the neurosurgical unit. Tenable for six months. This post would be suitable for candidate seeking a higher qualification as it offers excellent experience in neurology. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5634)

OBSTETRICS AND GYNAECOLOGY

BARROW AND FURNESS GROUP OF HOSPITALS
Manchester Regional Hospital Board
Applications are invited for the post of
REGISTRAR in Obstetrics and Gynaecology
Resident at Risedale Maternity Hospital, Barrow
Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by February 11, 1952. (7506)

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for two appointments as
REGISTRAR in Obstetrics and Gynaecology
with duties respectively (a) at Royal Maternity Hospital, Glasgow/Royal Samaritan Hospital, Glasgow, and (b) under the Area Obstetrician and Gynaecologist, Lanarkshire. Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than February 23, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointments will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (7394)

HOSPITAL FOR WOMEN, Soho Square, W.1
(Affiliated to the Middlesex Hospital)
Applications are invited for a full-time post of
RESIDENT SENIOR GYNAECOLOGICAL HOUSE OFFICER
vacant on April 1, 1952. Appointment is for six months, but the holder can apply for an extension of six months. Salary in accordance with the terms laid down for medical and dental staff, less a deduction of £100 per annum for residential emoluments. The appointment is recognized for the M.R.C.O.G. examination. Applications, stating age, nationality, qualifications, and experience, supported by the names and addresses of three referees, must reach the undersigned not later than Saturday, February 16.—D. C. Emery, Secretary. (7403)

MIDDLESBROUGH MATERNITY HOSPITAL
(57 beds)
Tees-side Hospital Management Committee
SENIOR RESIDENT MEDICAL OFFICER
(Senior House Officer Grade)
Applications are invited for the above appointment, which will be vacant in the middle of February. Good obstetrical experience is afforded and the appointment is recognized for the M.R.C.O.G. examination. Salary and conditions in accordance with National Health Service scales and terms of appointment. Applications, giving details of qualifications and experience, together with copies of three recent testimonials, should be sent as soon as possible to the Administrative Officer, Middlesbrough Maternity Hospital, Park Road North, Middlesbrough. (7451)

GRIMSBY MATERNITY HOSPITAL (45 beds)
Grimsby Hospitals Management Committee
SENIOR OBSTETRIC HOUSE OFFICER
(Resident)
Applications are invited for the above post which will become vacant as and from March 7, 1952. Salary £670 per annum. Applications, with names of three referees, to the Secretary, Grimsby Hospitals Management Committee, 13, Queen's Parade, Grimsby. (7306)

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN
United Sheffield Hospitals
Applications invited from registered medical practitioners for the resident posts of
SENIOR HOUSE OFFICER
at the above hospital, at salaries of £670 per annum. Vacancies will occur on April 1, 1952, in the Obstetric and Gynaecological Departments. Applications, stating age, qualifications, and experience, together with the names of three referees, should be forwarded immediately to the Superintendent, Jessop Hospital for Women, Leavygreave Road, Sheffield, 3. (7254)

DULWICH HOSPITAL
East Dulwich Grove, London, S.E.22
Camberwell Hospitals Management Committee
Applications are invited for appointment as
HOUSE OFFICER
(Duties: Obstetrics and Gynaecology)
Salary £350, £400 or £450 a year, according to posts held, with deduction at rate of £100 a year in respect of residence. Appointment tenable for six months in first instance. Vacant from March 1, 1952. Applications, stating age, qualifications and experience, enclosing copy testimonials, to the Secretary, Camberwell H.M.C., Dulwich Hospital, S.E.22, as soon as possible. (7376)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1
Applications are invited from registered women medical practitioners for the post of
HOUSE SURGEON
for gynaecological and special departments. Duties to commence March 1, 1952. Appointment for six months. Salary according to National Health Service scale for House Officers. Applications, with copies of three recent testimonials, should be sent to the Secretary as soon as possible. (7465)

FOREST GATE HOSPITAL,
Forest Lane, London, E.7
Applications are invited for the resident post of
HOUSE OFFICER (Obstetrics)
(Second or third post)
The appointment is for six months, commencing March 1, 1952, and is recognized for the training of candidates for D.R.C.O.G.(Obstetrics). Written applications, together with two references, should be received by the Secretary, West Ham Group Hospital Management Committee, Stratford, London, E.15, not later than February 9, 1952. (7553)

HAMMERSMITH HOSPITAL AND POST-GRADUATE MEDICAL SCHOOL, London, W.12
Applications are invited for the following posts:
HOUSE OFFICER (Gynaecology), March 1
HOUSE OFFICER (Obstetrics), April 1
Age, qualifications, experience, copies of testimonials, to Secretary, Board of Governors, by February 12. (7507)

ST. STEPHEN'S HOSPITAL, Chelsea, S.W.10
RESIDENT HOUSE OFFICER
Obstetrical and Gynaecological Department
Recognized for D.Obst., but not for M.R.C.O.G. Vacancy occurs March 17, 1952. Applications, giving names of two personal referees, to Medical Superintendent immediately. (7433)

THORPE COOMBE MATERNITY HOSPITAL
Walthamstow, E.17 (54 beds)
Applications are invited from medical women for the post of
HOUSE OFFICER
vacant April 1, 1952. The hospital is recognized by the Royal College of Obstetricians and Gynaecologists. Applications, with full details and copy testimonials, should be sent immediately to the Secretary, H.M.C., Forest Group, Langthorne Road, E.11. (7293)

BIRKENHEAD, ST. CATHERINE'S HOSPITAL
Church Road (General Hospital, 484 beds)
Birkenhead Hospital Management Committee
Applications are invited for the following post, vacant April 1, 1952, for six months:
OBSTETRIC HOUSE SURGEON
Valuable experience in obstetric work can be gained in this post, which is approved by R.C.O.G. Apply by February 9, 1952, stating age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary of above Committee, St. James' Hospital, Birkenhead. (7169)

CAMBRIDGE, ADDENBROOKE'S HOSPITAL
United Cambridge Hospitals
Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
to the Department of Gynaecology
Vacant on April 1, 1952. Salary, terms and conditions as approved for hospital medical staff. Applications, stating age, qualifications (with dates) and nationality, and accompanied by copies of three recent testimonials, should be sent to the undersigned not later than Saturday, February 16, 1952.—J. A. Beardsall, Secretary. (7331)

BISHOP AUCKLAND GENERAL HOSPITAL
(350 beds)
South-West Durham Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(Obstetrics and Gynaecology)
Departmental beddage 66, and staff includes a Senior House Officer. Recognition is being sought for D.Obst.R.C.O.G. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications and experience, to be sent to the Secretary, The General Hospital, Bishop Auckland, Co. Durham, as soon as possible. (7434)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON (Obstetrics)
Vacant April 1. Salary £350 to £450, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7508)

BURY ST. EDMUND'S, WEST SUFFOLK GENERAL HOSPITAL (289 beds)
West Suffolk Hospital Management Committee
HOUSE SURGEON (Second or third post)
for Obstetric and Gynaecological duties
National Health Service terms and conditions of service and salary apply. Appointment initially for six months. Post vacant mid-February. Applications, including the names of three referees, to the House Governor. (6666)

ENFIELD, MIDDLESEX, CHASE FARM HOSPITAL
Enfield Group Hospital Management Committee
RESIDENT OBSTETRICAL AND GYNAECOLOGICAL HOUSE SURGEON
(Second or third post)
Required February 25, 1952. Six months' appointment. Unit recognized for purposes of D.R.C.O.G. and M.R.C.O.G. examination, but advertised post is only recognized for D.R.C.O.G. Applications, stating age, nationality, qualifications and experience, with the names of two referees, to the Acting Medical Director of the hospital by February 11, 1952. (7509)

EXETER, ROYAL DEVON AND EXETER HOSPITAL
(300 beds, 10 Resident Medical Staff employed)
Exeter and Mid-Devon Hospitals Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
HOUSE SURGEON
(Obstetric and Gynaecological Department)
vacant March 2, 1952. The appointment is for a period of six months. Salary £350, £400 or £450 per annum, less deduction of £100 per annum for full residential emoluments (Health Service terms and conditions). Applications, with copies of two recent testimonials, to the Senior Administrative Officer on or before February 9, 1952. (7446)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for post, vacant now, of
RESIDENT GYNAECOLOGICAL HOUSE SURGEON (Male or female)
for duties at the above hospital and Scarthoe Road Infirmary, Grimsby. Apply to Administrative Officer, Grimsby General Hospital. (7020)

HALIFAX, ROYAL INFIRMARY
(301 beds—44 maternity)
OBSTETRICAL HOUSE SURGEON (male)
Salary according to experience. The post is recognized for the D.R.C.O.G., and is vacant March 1, 1952. Applications, stating age, qualifications, and experience, together with three recent testimonials, to be forwarded to the Secretary. (6724)

LIVERPOOL, 15, SEFTON GENERAL HOSPITAL (1,028 beds, 123 cots)
South Liverpool Hospital Management Committee
Applications are invited for the appointments of
TWO RESIDENT HOUSE SURGEONS
(Obstetric)
which will become vacant at the above-named hospital on April 1, 1952, and will be for a period of six months. The terms and conditions of service will be in accordance with the regulations of the Ministry of Health. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee (7099)

MIDDLESBROUGH MATERNITY HOSPITAL
Tees-side Hospital Management Committee
There will be a vacancy for a
JUNIOR RESIDENT MEDICAL OFFICER
(House Officer grade)
immediately. The post affords good obstetrical experience and is recognized for the D.Obst. R.C.O.G. examination. The appointment is for six months in the first place. The person appointed may be given the opportunity of proceeding to the Senior Resident Medical Officer's appointment, which is recognized for the M.R.C.O.G. examination. Applications, together with copies of testimonials, should be sent as soon as possible to the Administrative Officer, Middlesbrough Maternity Hospital, Middlesbrough. (7395)

Obstetrics and Gynaecology—contd.

READING AREA DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

Applications are invited from registered medical practitioners for the appointment of

HOUSE SURGEON

vacant April 1 for period of six months. Salary £400 or £450, less £100 board residence. Apply, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer, Royal Berkshire Hospital, Reading. (7396)

ROMFORD, ESSEX, RUSH GREEN HOSPITAL (247 beds)

Applications are invited from registered medical practitioners for the post of

RESIDENT HOUSE SURGEON (Woman)

for duties in the Gynaecological Unit comprising 25 gynaecological and 6 maternity beds at the above hospital. Previous experience not necessary. Post tenable for six months. Applications, stating (in order) age, qualifications (with dates), present appointment and details of experience, accompanied by copies of two recent testimonials or names of referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. Applicants may see the hospital by arrangement with the Medical Supt. Telephone: Romford 7711. (5620)

SOLIHULL HOSPITAL
Lodge Lane, Solihull, near Birmingham
Group 25 Birmingham (Selly Oak) Hospital Management Committee

Applications are invited for the post of

HOUSE SURGEON
(Obstetric and Gynaecological)

Recognized for the D.Obst.R.C.O.G. Post vacant mid-February. General hospital with five other resident medical staff. Applications immediately, with copies of two recent testimonials, or names of two referees, to the Medical Superintendent. (7435)

STOCKPORT, CHESHIRE, STEPPING HILL HOSPITAL (464 beds)
(Recognized for D.Obst.R.C.O.G.)
Stockport and Buxton Hospital Management Committee

RESIDENT HOUSE OFFICERS
(Obstetrics and Gynaecology)

Applications are invited for the above posts (two) at the hospital, which provides 73 beds for Obstetrics and 26 beds for Gynaecology. One post becomes vacant on March 1, 1952, and the other on April 1, 1952. Salary and conditions of service in accordance with Ministry of Health circular. Applications, stating age, qualifications, and experience, together with copies of two testimonials, or the names of two referees, to be addressed to the Medical Superintendent immediately.—H. G. Price, Secretary. (7404)

SUNDERLAND, GENERAL AND MATERNITY HOSPITALS

HOUSE SURGEON
(Obstetrics and Gynaecology)

Required for General Hospital, Sunderland (45 gynaecological beds), and Maternity Hospital, Sunderland (75 obstetrical beds). Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (7455)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)

HOUSE SURGEON
in Gynaecological Department

Vacant April 1. The hospital is recognized by the Royal College. Applications, with copies of two testimonials, to Secretary. (7134)

WORCESTER ROYAL INFIRMARY (300 beds)

Applications are invited for the following appointment:

HOUSE SURGEON
(Gynaecology/General Surgery)

The post, which will become vacant on February 27, will be tenable for six months and is subject to the terms and conditions of service for hospital medical staff. Applications, with copies of testimonials, should be sent to the Secretary as soon as possible. (7240A)

WORKSOP, NOTTS, KILTON HOSPITAL (191 beds)
Worksop and Retford Hospital Management Committee

OBSTETRIC AND GYNAECOLOGICAL HOUSE SURGEON

Required to commence duties immediately. Appointment for six months in first instance. Salary at rate of £350 to £450, according to number of posts held. A deduction of £100 per annum will be made in respect of residential emoluments. Applications, stating age, qualifications, nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Worksop and Retford Hospital Management Committee, Victoria Hospital, Worksop. (7332)

OPHTHALMOLOGY

LEEDS, GENERAL INFIRMARY
United Leeds Hospitals

Applications are invited for the appointment of

RESIDENT OPHTHALMIC REGISTRAR

The appointment will be subject to the National Health Service (Superannuation) Regulations, 1950, and the salary will be in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Medical Secretary, Joint Registrars' Committee, School of Medicine, Leeds, 2, not later than Feb. 7, 1952. (7554)

SUNDERLAND, EYE INFIRMARY (60 beds)
Newcastle Regional Hospital Board
Sunderland Hospital Management Committee Group

Whole-time REGISTRAR OPHTHALMOLOGIST

Appointment temporary in the first instance up to August 31, 1952. Salary £775 per annum. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, within 14 days. (7333)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee

Applications are invited for the post of

OPHTHALMIC HOUSE SURGEON

The appointment will be in the grade of Senior House Officer and is recognized in connexion with the Diploma in Ophthalmology. Applications should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (7021)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee

Applications are invited for the appointment of

SENIOR HOUSE OFFICER

in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952. Salary £670 a year, less £150 a year for residential emoluments. Applications should be forwarded as soon as possible to Secretary, Mid-Kent Hospital Management Committee, 103, Tonbridge Road, Maidstone. (5359)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL, Mount Ephraim (350 beds)
Tunbridge Wells Group Hospital Management Committee

Applications are invited from registered medical practitioners for post of

SENIOR HOUSE OFFICER (Ophthalmological)

Applicants must have held appointments and have had experience in the speciality. Possession of a Diploma in Ophthalmology an advantage. Appointment for an initial period of one year, terminable on three months' notice. Applications, stating age, nationality, experience and qualifications, with names of two referees, as soon as possible to the Secretary, Sherwood Park, Pembury Road, Tunbridge Wells. (7135)

BIRMINGHAM, UNITED, HOSPITALS

Applications are invited for the post of

HOUSE SURGEON
to the Ophthalmic Department at the Queen Elizabeth Hospital

The appointment is for the period ending July 31, 1952. Salary will be in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications, experience, nationality and present post, together with copies of three recent testimonials, should be sent to the undersigned at once.—G. A. Phalp, B.Com., Sec., United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (7487)

HALIFAX, ROYAL INFIRMARY (301 beds)

Applications are invited for the post of

HOUSE SURGEON (Male or female)

to the Ophthalmic and E.N.T. Departments at this busy acute general hospital. The post includes part-time casualty duty, and is recognized for the D.O. Applications, stating age, qualifications, and experience, together with three recent testimonials, to be forwarded to the Secretary. (7230)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee

Applications are invited for the post of

OPHTHALMIC HOUSE SURGEON

for duties at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. (Recognized for D.O.M.S.) Vacant now. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer, Hull Royal Infirmary. (7397)

NOTTINGHAM AND MIDLAND EYE INFIRMARY
Nottingham No. 1 Hospital Management Committee

RESIDENT HOUSE SURGEON

Required at the above Infirmary. Salary and conditions of service in accordance with the published conditions of the Ministry of Health. Duties to commence at the beginning of March. This post is recognized for the D.O.M.S. examination. Application, stating age, qualifications and experience, together with copies of testimonials, to be sent as soon as possible to H. M. Stanley, Secretary, General Hospital, Nottingham. (7285)

OXFORD EYE HOSPITAL
United Oxford Hospitals

Applications are invited for the post of

HOUSE SURGEON

commencing April 1. The successful candidate will have the opportunity to be appointed to a further post as Ophthalmic House Surgeon to the Royal Berkshire Hospital for another period of six months and to return as a Junior Registrar in the Eye Hospital. Applications, stating age, experience, qualifications and the names of two referees, should be addressed to the undersigned as soon as possible.—E. J. R. Burrough, Administrator, The Radcliffe Infirmary, Oxford. (7426)

PRESTON ROYAL INFIRMARY (400 beds)

HOUSE OFFICER (Ophthalmic)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7405)

YORK, COUNTY HOSPITAL (General hospital of 269 beds with full consultant staff)

Applications are invited from registered medical practitioners for the post of

EYE HOUSE SURGEON

The post is recognized for the D.O. and is vacant now. The appointment is for six months in the first instance and can be renewed thereafter. Salary £350 for first post, £400 for second post, £450 for third post and subsequent posts, less £100 for residence. Applications giving details of age, nationality, experience, and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (7555)

ORTHOPAEDICS

ROYAL MASONIC HOSPITAL
Ravenscourt Park, W.6

Applications are invited from Fellows of one of the Royal Colleges of Surgeons for the appointment of

CONSULTANT ORTHOPAEDIC SURGEON

at the above hospital. The successful candidate will be required to undertake some part of the duties of the appointment on or as soon as possible after April 1, 1952, and to undertake full responsibility therefore as from July 1, 1952. Applications, giving detailed information and the names and addresses of three referees, should reach the undersigned (from whom further information may be obtained) on or before February 29, 1952.—R. E. Lawson, Sec. and House Governor. (7398)

ST. HELENS, LANCS, PROVIDENCE FREE HOSPITAL

Applications are invited for the post of

HONORARY ASSISTANT ORTHOPAEDIC SURGEON

at the above hospital. The hospital has 125 beds and an out-patients' department. Applications, giving full details of qualifications and experience and names and addresses of two referees, should be forwarded to undersigned by February 9, 1952.—William I. Livesey, Honorary Secretary, Providence Free Hospital, St. Helens. (7100)

DUDLEY AND STOURBRIDGE AND BIRMINGHAM (SELLY OAK) GROUPS
Birmingham Regional Hospital Board

Applications are invited for the appointment of

WHOLE-TIME ASSISTANT ORTHOPAEDIC SURGEON

Duties at Royal Orthopaedic Hospital, Birmingham (340 beds), two notional half-days, Guest Hospital, Dudley (154 beds), three notional half-days, Corbett Hospital, Stourbridge (106 beds), five notional half-days, Clinics in Dudley and Stourbridge one notional half-day. Experience in specialty essential. Candidates should possess higher qualification. Successful candidate required to reside in Dudley/Stourbridge area. Salary scale £1,300 to £1,750 per annum. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 18, 1952. Candidates may visit the hospitals concerned. (7388)

Orthopaedics—contd.

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified medical practitioners for four appointments as

WHOLE-TIME ASSISTANT ORTHOPAEDIC SURGEONS

(salary scale £1,300 by £50 to £1,750) with duties respectively as follows: (a) Two based at Western Infirmary, Glasgow/Killearn Hospital; (b) One based at Glasgow Royal Infirmary/Law Hospital; (c) One based at the Victoria Infirmary for duties in Ayrshire; and elsewhere within the Region as may be required. Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than thirty days after the publication of this advertisement to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointments will be subject to the N.H.S. (Scotland) (Superannuation) Regulations. (7399)

ALTON, HANTS, LORD MAYOR TRELOAR ORTHOPAEDIC HOSPITAL (408 beds)
South-West Metropolitan Regional Hospital Board

WHOLE-TIME SENIOR REGISTRAR

Required to take post after April 20, 1952. Post provides experience in orthopaedic and plastic surgery and non-pulmonary tuberculosis and will include attendances at outlying orthopaedic clinics. Appointment subject to provisions of National Health Service (Superannuation) Regulations and in accordance with the agreed terms and conditions of service of hospital medical and dental staffs for the time being in force. Quarters provided for either a married or single man. Apply to the Secretary for form of application to be returned within fourteen days of the appearance of this advertisement. Canvassing will disqualify, but candidates are welcome to visit the hospital. (7400)

LINCOLN COUNTY HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of

REGISTRAR (Orthopaedics)

to the above hospital, which is recognized for training for the F.R.C.S. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 18, 1952. (7286)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the non-resident whole-time post of

REGISTRAR (Orthopaedics)

to the above hospital, which is recognized for training for the F.R.C.S. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 18, 1952. (7335)

WELSH REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

REGISTRAR

to the Orthopaedic Unit of the Wrexham Hospitals

The department is closely associated with the Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, and will provide opportunity for post-graduate study. The post, which is subject to review at the end of the first year, may be resident or non-resident. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (7431)

LEWISHAM GENERAL HOSPITAL
London, S.E.13
Lewisham Group Hospital Management Committee

Applications are invited for the appointment of

SENIOR HOUSE OFFICER

to the Orthopaedic and Traumatic Department

The medical staff of the department comprises two Registrars in addition to this vacancy, under the direction of two Consultants. There is a separate establishment of Casualty Officers. This post may be either resident or non-resident. It is vacant immediately and tenable for one year. Salary £670 per annum, subject to an appropriate deduction if resident. Applications, stating age, qualifications and experience, with names of three referees, should be sent to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (7334)

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL

ORTHOPAEDIC, TRAUMATIC, AND CASUALTY SENIOR HOUSE OFFICER

Applications are invited for the above resident appointment. Hospital comprises 189 beds with large out-patient departments. Duties comprise service in the orthopaedic, traumatic, and casualty departments, and the post is recognized for F.R.C.S. Salary £670 per annum, less £100 per annum for emoluments. Applications, with two recent copy testimonials, to be forwarded to the Secretary, Barrow and Furness Hospital Management Committee, 52, Paradise Street, Barrow-in-Furness. (7432)

BRADFORD ROYAL INFIRMARY

SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Salary £670, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (7136)

BRADFORD, ST. LUKE'S HOSPITAL

SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Salary £670, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7137)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee

SENIOR ORTHOPAEDIC HOUSE SURGEON

Applications are invited for the above appointment, which is tenable for one year. Salary £670 per annum and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (5468)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute General Hospital, mainly surgical, with beds for orthopaedic, medical and other specialties)
Bury and Rossendale Hospital Management Committee

Applications are invited for the appointment of

SENIOR HOUSE OFFICER (Orthopaedic)

at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Sec. to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9580)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

SENIOR HOUSE OFFICER TO THE ORTHOPAEDIC UNIT

in the area of this Hospital Management Committee. The Orthopaedic Unit consists of 30 beds at Eryri Hospital, Caernarvon; busy Out-patient Clinics at the Caernarvon and Anglesey General Hospital, Bangor; work in peripheral hospitals, etc. The post offers excellent experience in orthopaedics and traumatic surgery. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, qualifications, details of previous hospital appointments, and three testimonials, to be forwarded to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, within ten days of the appearance of this advertisement. (7535)

CARDIFF, PRINCE OF WALES ORTHOPAEDIC HOSPITAL
Cardiff Hospital Management Committee

SENIOR HOUSE OFFICER (Sole resident)

Orthopaedic experience essential. Transfer to new premises probable during appointment. Application forms from the Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (7336)

ECCLESHALL (near), STAFFORD, STANDON HALL ORTHOPAEDIC HOSPITAL
Stafford Hospital Management Committee

Applications are invited from suitably qualified medical practitioners, male or female, for the post of

SENIOR HOUSE OFFICER

Salary £670 per annum, less deduction for residential emoluments. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Secretary to the Committee, 13, Foregate Street, Stafford. (6740)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
(140 beds, 5 Residents)

Applications are invited for the vacancy of

RESIDENT SENIOR HOUSE SURGEON
to the Traumatic and Orthopaedic Department

vacant March 1. Duties include charge of casualty department under Consultant staff, care of in-patient beds and supervision of other residents. The hospital is a peripheral centre of the Oxford Regional Orthopaedic Service based on the Wingfield-Morris Orthopaedic Hospital. Salary £670 per annum, with deduction for residence. Post recognized for F.R.C.S. Applications, with references, to the Secretary, St. Mary's Cottage, High Wycombe, Bucks. (7337)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee

Applications are invited for the following posts:

SENIOR HOUSE SURGEON
(Fracture and Orthopaedic Department)

Vacant February 15, 1952. Salary £670 per annum, less £165 for residence.

HOUSE SURGEON
(Fracture and Orthopaedic Department)

Now vacant. Salary £350 to £450, less £100 for residence.

Applications, with full particulars, to the Secretary, Hospital Management Committee. (7490)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)

TWO SENIOR HOUSE OFFICERS

Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out-patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible (6671)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)

Applications are invited from registered medical practitioners for the posts of

RESIDENT SENIOR HOUSE SURGEONS

The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

MARGATE, ROYAL SEA BATHING HOSPITAL (200 beds)

SENIOR HOUSE OFFICER

Applications for the above post are invited from registered medical practitioners. The post affords special opportunities for the study of surgical tuberculosis. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, and qualifications, together with copies of three recent testimonials, should be sent as soon as possible to the Medical Superintendent, Royal Sea Bathing Hospital, Margate. (7307)

NORTH MANCHESTER HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the appointment of

SENIOR HOUSE OFFICER (Orthopaedics)

now vacant, with duties at Crumpsall Hospital and other hospitals within the group. Applications, stating age, qualifications, and dates, particulars of previous appointments (with dates), along with the names and addresses of two referees, to be sent to the undersigned immediately.—A. T. Sampson, Secretary to the Committee, Crumpsall Hospital, Manchester, 8. (7291)

OLDHAM ROYAL INFIRMARY
Oldham and District Hospital Management Committee

Applications are invited for the appointment of

SENIOR HOUSE OFFICER (Orthopaedics)
(Resident)

in the Fracture and Orthopaedic Service at the above hospital, vacant immediately. Applications, stating age, nationality, full details of previous experience, and containing the names of two persons to whom reference may be made, should be forwarded to the undersigned. Please quote Ref. No. A/802.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (7256)

PAISLEY, ROYAL ALEXANDRA INFIRMARY
Board of Management for Paisley and District Hospitals

SENIOR HOUSE OFFICER
(Orthopaedic and Fracture Department)

Applications are invited for the above position. The appointment is for one year and applicants should be at least two years qualified. The post is also recognized for the F.R.C.S. examination. Salary £670 per annum. Applications should be addressed to the Group Medical Superintendent, Royal Alexandra Infirmary, Paisley, together with copies of two recent testimonials. (7478)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)

TWO SENIOR HOUSE OFFICERS (Orthopaedic)/CASUALTY OFFICERS

required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7795)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Orthopaedics—contd.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
The post is recognized for the F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7377)

TRURO, ROYAL CORNWALL INFIRMARY (General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for the vacancy of
RESIDENT SENIOR HOUSE SURGEON to the Orthopaedic and Traumatic Department
which occurs on February 7, 1952. This is a large and busy specialty with two consultants, 64 beds, and deals with the greater part of the casualties in West Cornwall. The post is tenable for one year at a salary of £670, less £100 for emoluments, and subject to the terms and conditions published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of two recent testimonials, should be forwarded to the Administrative Assistant without delay. (4807)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY
South-East Northumberland Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT SENIOR ORTHOPAEDIC HOUSE SURGEON AND CASUALTY OFFICER
Salary £670 per annum. Applications, giving full details and with two testimonials (or the names of two referees), should be sent to the Secretary, South East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (7544)

WAKEFIELD, PINDERFIELDS GENERAL HOSPITAL
Applications are invited for appointment as
SENIOR HOUSE OFFICER
in the orthopaedic surgery department at the above hospital. Salary £670 per annum. A charge of £130 per annum will be made for board and lodging if provided. Address applications, with full particulars of qualifications, etc., and the names and addresses of two persons for reference, to the undersigned.—G. L. Banner, Secretary, Victoria Chambers, Wood Street, Wakefield. (7533)

WIGAN (near), WRIGHTINGTON HOSPITAL
Appley Bridge
SENIOR HOUSE OFFICER
Required for this 352-bedded hospital which is the Manchester Regional Orthopaedic Tuberculosis Centre. Salary £670 per annum, less deduction for residence, etc. Also
HOUSE SURGEON
Terms and conditions as per national scales. Applications to Secretary, giving qualifications and names of two referees. (5738)

AMERSHAM GENERAL HOSPITAL, Bucks (124 acute beds)
RESIDENT HOUSE OFFICER
Orthopaedic and Accident Department
Applications are invited. Duties include charge of casualty department under visiting consultant staff and care of in-patient beds. Hospital is a peripheral centre of Oxford Regional Orthopaedic Service based on Wingfield Morris Orthopaedic Hospital. Applications, with copies of three recent testimonials to Medical Director. (7338)

AYLESBURY, BUCKS, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON
to the Department of Children's Surgery and Orthopaedics, which is centred on this hospital for the area. There are 35 orthopaedic beds and 10 children's beds. First or second post. Vacant now. Please apply, with two testimonials, to the Secretary-Superintendent as soon as possible. (7358)

BRIGHTON GENERAL HOSPITAL (721 beds)
Brighton and Lewes Hospital Management Committee
HOUSE SURGEON in Orthopaedics
Applications are invited for the above appointment which is tenable for a period of six months, vacant now. Salary according to national scales. Applications, stating age, qualifications and experience, together with copies of recent testimonials, should be forwarded to the Physician-Superintendent, Brighton General Hospital, Elm Grove, Brighton, 7. (7138)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
ORTHOPAEDIC HOUSE SURGEON
Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (5801)

DERBY, DERBYSHIRE ROYAL INFIRMARY
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
(Orthopaedic and Fracture Service)
Vacant immediately. Applications, stating full details, together with copies of two recent testimonials, should be sent as soon as possible to the Secretary, Derbyshire Royal Infirmary, Derby. (6987)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Vacant now. National scales and conditions. Six-monthly appointment, terminable at any time by one month's notice on either side. Forms of application from the Administrative Officer. (7138)

LIVERPOOL, 9, WALTON HOSPITAL (1,351 beds)
North Liverpool Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER IN ORTHOPAEDICS
to commence April 1, 1952. Resident post. Salary and conditions of service in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, on forms obtainable from the undersigned, should be submitted to the Medical Superintendent as soon as possible.—F. J. Watkins, Secretary. (7406)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE HOUSE SURGEON
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
ORTHOPAEDIC HOUSE SURGEON
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting Ref. No. A/803, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (7257)

PEMBURY HOSPITAL
Tunbridge Wells Group Hospital Management Committee
Applications are invited for appointment of
HOUSE SURGEON TO ORTHOPAEDIC UNIT
Vacant April 1, 1952. Post, for six months in first instance, is recognized for F.R.C.S.(Eng.). Previous experience desirable. Work of Unit includes treatment of long- and short-stay cases and traumatic surgery. Applications, stating age, qualifications, experience, with three testimonials, to Surgeon Superintendent. (7258)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7310)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant March 1. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Administrative Officer. (7541)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)
Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital Romford. (6675)

SHEFFIELD, 5, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S., England)
Applications are invited for the resident appointment of
HOUSE SURGEON (Orthopaedics)
(and certain extra duties)
vacant April 1, 1952. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary (7292)

PAEDIATRICS

BIRMINGHAM (SELLY OAK) GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
WHOLE-TIME REGISTRAR IN PAEDIATRICS
Duties at Sorrento Maternity Hospital and Premature Baby Unit (112 beds) and other maternity and children's hospitals. Resident appointment at Sorrento Hospital. Experience in diseases of children essential. Preference to candidates holding higher qualification. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 18. Candidates may visit the hospitals concerned. (7537)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
REGISTRAR in Paediatrics
for duties at hospitals in the Bradford "A" and "B" Hospital Management Committee Groups, resident at the Leeds Road Infectious Diseases Hospital. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than February 16, 1952. (7339)

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London, W.C.1
There will be vacancies on April 15, 1952, for the following Senior House Officers.
TWO HOUSE PHYSICIANS
HOUSE SURGEON
Further particulars and form of application, which must be returned not later than March 3, 1952, are obtainable from the undersigned.—H. F. Rutherford, House Governor and Secretary. (7407)

EVELINA CHILDREN'S HOSPITAL OF GUY'S HOSPITAL, Southwark Bridge Road, London, S.E.1
Applications are invited for the post of
HOUSE SURGEON
(Second or third post)
vacant on March 1, 1952. The duty for the first two months will be in the Casualty Out-patients' Department. The post is tenable for a period of six months, and is recognized for the D.C.H. Salary at the rate of £400 or £450 a year, according to experience, with a deduction at the rate of £100 a year for residential emoluments. Applications, stating age, nationality, qualifications (with dates), and accompanied by copies of three recent testimonials, should reach the hospital Secretary by the first post on Thursday, February 7. (7232)

BIRKENHEAD, CHILDREN'S HOSPITAL (76 beds)
Birkenhead Hospital Management Committee
Applications are invited for the following posts, vacant April 1, 1952, for six months:
TWO HOUSE OFFICERS
Exceptionally good experience can be gained in these positions, which are approved by the Royal College of Surgeons for the D.C.H. Apply by February 9, 1952, stating age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary of above Committee, St. James' Hospital, Birkenhead. (7172)

BIRKENHEAD, ST. CATHERINE'S HOSPITAL
Church Road (General Hospital, 484 beds)
Birkenhead Hospital Management Committee
Applications are invited for the following post, vacant April 1, 1952, for six months:
PAEDIATRIC HOUSE PHYSICIAN
Wide experience can be gained in this post, which is approved by the Royal College of Surgeons for the D.C.H. Apply by February 9, 1952, stating age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary of above Committee, St. James' Hospital, Birkenhead. (7466)

BIRMINGHAM, 16, CHILDREN'S HOSPITAL
Ladywood Road
United Birmingham Hospitals
HOUSE OFFICER (Surgical)
Required for six months, to commence duty as soon as possible. The duties will be mainly general surgery, but the officer will have, in addition, the opportunity of undertaking a certain amount of special surgery. Forms of application may be obtained from the undersigned and should be returned immediately.—N. R. Winwood, House Gov. (7556)

CARDIFF, ST. DAVID'S HOSPITAL
Cardiff Hospital Management Committee
RESIDENT HOUSE OFFICER (Paediatrics)
Required immediately. Applications, with copies of two testimonials, to Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (6963)

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
PAEDIATRIC HOUSE PHYSICIAN
Duties in the Sick Children's Wards and the Neonatal Department. Post qualifies for D.C.H. Vacancy March 1, 1952. Apply immediately, stating age, qualifications, and experience, with a copy of two testimonials and the name of one referee, to Group Secretary, St. Helier Hospital, Carshalton, Surrey. (7294)

Paediatrics—contd.

NOTTINGHAM CHILDREN'S HOSPITAL
(134 beds)
RESIDENT HOUSE SURGEON

Applications are invited for the above post which is immediately vacant and is tenable in the first instance for six months. Salary £350 to £450 per annum, less emoluments. Applications, with copies of two testimonials, should be sent to the Assistant Secretary, Nottingham Children's Hospital, Chestnut Grove, Nottingham. (7511)

PEMBURY HOSPITAL
Tunbridge Wells Group Hospital Management Committee

Applications are invited for the post of
HOUSE PHYSICIAN in Paediatric Unit
Vacant March 1, 1952. Six months' appointment and recognized for D.C.H. Previous experience as House Physician necessary. Applications, stating age, qualifications and experience, with three recent testimonials, to Surgeon Superintendent by not later than February 14, 1952. (7260)

PENDLEBURY, ROYAL MANCHESTER CHILDREN'S HOSPITAL
Salford Hospital Management Committee

Applications are invited from medical practitioners (male and female) for the post of
RESIDENT HOUSE SURGEON
(House Officer status)
falling vacant on March 12, 1952. The appointment is for a period of six months. Applications, stating age, qualifications (with dates), and nationality, accompanied by copies of three recent testimonials, to be sent to the Superintendent at the hospital, to be received not later than February 15, 1952. (7568)

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for D.C.H., England)

Applications are invited for the resident appointment of
HOUSE PHYSICIAN
to the department of paediatrics and certain extra duties, vacant April 1, 1952. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (7028)

SHREWSBURY GROUP HOSPITAL MANAGEMENT COMMITTEE

Applications are invited from registered medical practitioners (male or female) for the post of
PAEDIATRIC HOUSE OFFICER
for duties at the Monkmoor Children's Hospital, Shrewsbury (50 beds), an annexe of the Royal Salop Infirmary. Vacant immediately. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7557)

PATHOLOGY

ROYAL CANCER HOSPITAL
Fulham Road, London, S.W.3

Applications are invited for the full-time appointment of
CONSULTANT ASSISTANT PATHOLOGIST
Candidates should have wide experience in all branches of pathology and special interest in morbid anatomy and haematology. Applications (ten copies), together with copies of three recent testimonials, should be sent to the House Governor to reach him not later than February 27. (7105)

NEWCASTLE REGIONAL HOSPITAL BOARD
North-West Durham H.M.C. Group
Whole-time REGISTRAR PATHOLOGIST

Appointment is temporary in the first instance up to August 31, 1952 Salary £775 per annum. Single accommodation is available at Shotley Bridge Hospital. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (7340)

NEWCASTLE REGIONAL HOSPITAL BOARD
North-West Durham H.M.C. Group
REGISTRAR PATHOLOGIST (Resident)
(Whole-time)

Salary £775 to £890 per annum. Appointment will be for one year in the first instance, and is subject to National Health Service Superannuation Regulations, 1950. Applications, together with one to three referees and/or one to three testimonials, to be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (7281)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for two non-resident whole-time posts of
REGISTRAR (Pathology)
to the laboratory, City General Hospital, Sheffield, with duties at other hospitals in the area. The appointments are for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 18, 1952. (7341)

SOUTHEND-ON-SEA GROUP OF HOSPITALS, Essex

Applications are invited for the position of
REGISTRAR IN PATHOLOGY
(Resident or Non-resident)
Duties principally at Rochford General (acute hospital of 602 beds) with certain duties at other hospitals in the group. The appointment is subject to review after one year. A local charge will be made for any residential amenities provided. Applications in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-east Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, February 16, 1952. (7558)

BEVERLEY, YORKSHIRE, WESTWOOD HOSPITAL
RESIDENT SENIOR HOUSE OFFICER

Assistant Pathologist in the new premises of the area laboratory at the above General Hospital. The position offers experience in all branches of clinical pathology. Applications, with the names of two referees, to the Secretary. (7378)

EXETER, ROYAL DEVON AND EXETER HOSPITAL
(300 beds—10 Resident Medical Staff employed)
Exeter and Mid-Devon Hospitals Management Committee

Applications are invited from registered medical practitioners, male and female, for appointment of
RESIDENT SENIOR HOUSE OFFICER
in Clinical Pathology
Salary £670 per annum, less deduction for emoluments (£100 per annum). Vacant February 16, 1952. The appointment is for a period of twelve months, and the successful candidate will be responsible for emergency pathological and blood transfusion duties, and will work, under the supervision of the Area Pathologist, in different branches of clinical pathology. Health Service terms and conditions. Applications, together with copies of two recent testimonials, to the Senior Administrative Officer on or before February 9. (7581)

LINCOLN, COUNTY HOSPITAL (200 beds)
Lincoln No. 1 Hospital Management Committee

Applications are invited for the post of
RESIDENT PATHOLOGIST
(Senior House Officer Grade)
in the area laboratory at the above hospital. Salary and conditions of service are in accordance with those laid down for hospital medical and dental staff. Salary being £670 per annum. Applications, stating age, experience and qualifications, together with copies of recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary. (6965)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Pathological)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (6762)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
Taunton Hospital Management Committee

Applications are invited from registered medical practitioners for the following post:
SENIOR HOUSE OFFICER (Pathologist)
Salary £670 per annum. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (6653)

PLASTIC SURGERY

BRISTOL, FRENCHAY HOSPITAL
(448 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee

Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Plastic and Jaw Surgery Department
Two referees required. Applications to the Secretary, Frenchay Hospital, quoting "P.J.F." (7175)

PSYCHIATRY

TAVISTOCK CLINIC, 2, Beaumont Street, W.1
North-West Metropolitan Regional Hospital Board
CONSULTANT PSYCHIATRIST

Required for five half-days a week. Applications, giving three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by March 8, 1952. Clinic may be visited by direct appointment. (7512)

ABERDEEN (near), KINGSEAT HOSPITAL
Newmachar
North-Eastern Regional Hospital Board, Scotland

Applications are invited for the whole-time post of
DEPUTY PHYSICIAN SUPERINTENDENT and ASSISTANT PSYCHIATRIST
Candidates should have a wide experience in all branches of psychiatry and will be required to take part in the general psychiatric work of the Region. Salary in the scale £1,300 to £1,750 per annum. Further particulars of the appointment may be obtained from the Secretary, 1, Albyn Place, Aberdeen, with whom applications, together with the names and addresses of two referees, should be lodged before February 18, 1952. (7467)

BRISTOL (near), HORTHAM COLONY
South-Western Regional Hospital Board

Applications are invited from registered medical practitioners for the appointment of
DEPUTY MEDICAL SUPERINTENDENT
This Colony, with its ancillary units at Bristol, Painswick, Cheltenham, and Bath, contains about 840 beds. The appointment will be on a whole-time basis on the Senior Hospital Medical Officer scale. Applicants should possess high medical qualifications, and previous experience in mental deficiency is essential. The successful applicant will have charge of beds at Horham Colony, and will be required to work under the general direction of the Medical Superintendent. A small furnished flat suitable for a married man is available. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than February 23. (7483)

BROXBURN, WEST LOTHIAN, BANGOUR MENTAL HOSPITAL
South-Eastern Regional Hospital Board, Scotland

Applications are invited from suitably qualified medical practitioners for the appointment of
WHOLE-TIME ASSISTANT PSYCHIATRIST
(S.H.M.O. scale)
This hospital is situated seventeen miles from Edinburgh, and contains 977 beds. The post is superannuable, and the conditions of service are in accordance with the regulations. Applications, giving particulars of age, previous experience and qualifications, together with the names of three referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, within thirty days. (7582)

CAERLEON, MONMOUTHSHIRE, ST. CADOC'S HOSPITAL
Welsh Regional Hospital Board

Applications are invited from registered medical practitioners for the appointment of
TWO ASSISTANT PSYCHIATRISTS
(S.H.M.O. scale, £1,300 to £1,750). The hospital provides all modern methods of treatment and accommodates approximately 460 patients. Candidates should preferably hold the D.P.M. and have had a wide experience in psychiatry. The successful applicants will work under the direction of the Consultant Psychiatrist. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates), and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (7583)

INVERNESS, CRAIG DUNAIN HOSPITAL
Northern Regional Hospital Board (Scotland)

Applications are invited for the appointment of an
ASSISTANT PSYCHIATRIST (Whole-time)
at Craig Dunain Hospital, Inverness (930 beds). The salary scale is £1,300 by £50 to £1,750 per annum. Candidates should have considerable experience and hold a specialist qualification in psychiatry. The successful candidate will have duties at Craig Dunain Hospital and at Out-patient Clinics throughout the Region. Schedules of application and further particulars of the appointment may be obtained from the undersigned, with whom applications, including the names of three referees, should be lodged by February 16, 1952.—A. M. Fraser, M.D., Secretary and Administrative Medical Officer, Office of the Northern Regional Hospital Board, Raigmore, Inverness. (7408)

IPSWICH CHILD GUIDANCE CLINIC
East Anglian Regional Hospital Board
WHOLE-TIME ASSISTANT PSYCHIATRIST

This is a modern well-equipped and very active clinic run as part of the regional hospital service under the direction of a whole-time consultant child psychiatrist. There are branch clinics in Lowestoft and Bury St. Edmund's. Applicants should have a sound knowledge of child psychiatry and preferably possess the D.P.M. Salary will be on the scale £1,300 to £1,750. Eight copies of application, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than February 11, 1952. Applicants are invited to visit the clinic by direct arrangement with the Hospital Management Committee Secretary at the East Suffolk and Ipswich Hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (7032)

Psychiatry—contd.

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the whole time appointment of

ASSISTANT PSYCHIATRIST (S.H.M.O. scale)

for duties mainly at the Clifton Hospital, York. The person appointed may be required to undertake extramural duties, including attendance at clinics at York, Scarborough and Harrogate. A house on the hospital estate is available, for which the necessary deductions from salary will be made. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Sec., Park Parade, Harrogate, not later than March 1. (7342)

BASINGSTOKE, HANTS, PARK PREWETT HOSPITAL

Park Prewett Group Hospital Management Committee

Registered medical practitioners are invited to apply for the appointment of

PSYCHIATRIC REGISTRAR

Opportunity will be given for experience in all branches of psychiatry. Application forms may be obtained from the Secretary upon receipt of a stamped addressed envelope, and must be returned within fourteen days of the appearance of this advertisement. (7409)

COLCHESTER, ESSEX, ROYAL EASTERN COUNTIES INSTITUTION

Applications are invited for the position of

REGISTRAR (Resident or Non-resident)

Appointment is in respect of the treatment of high-grade mental defectives at Turner Village, Colchester. House with garage available in Colchester. The appointment is subject to review after one year. A local charge will be made for any residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-east Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, February 16, 1952. (7559)

NORWICH—EAST ANGLIAN REGIONAL HOSPITAL BOARD

SENIOR REGISTRAR in Psychiatry

Required in Mental Hospitals at Norwich (St. Andrew's Hospital, Thorpe, 1,000 beds; Hellesdon Hospital, Norwich, 800 beds). Work will include the full range of in-patient treatments at St. Andrew's Hospital and participation in the out-patient clinic. There will also be opportunities to share in the running of a long-stay geriatric annexe. A flat is available in St. Andrew's Hospital. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than February 11, 1952. Applicants are invited to visit the hospitals by direct arrangement with the Medical Superintendent of St. Andrew's Hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (7034)

ST. ALBANS, HERTS, CELL BARNES HOSPITAL

North-West Metropolitan Regional Hospital Board

REGISTRAR

Required for one year in first instance. This is a modern hospital where 713 mental defectives of all types and ages are under care. Some psychiatric experience desirable. Quarters for an unmarried person available if desired. Application forms obtainable from, and returnable to, Secretary of the Hospital Management Committee, Harperbury Hospital, Harper Lane, Shenley, Herts, by February 16, 1952. (7469)

ST. ALBANS (near), HERTS, SHENLEY HOSPITAL (2,053 beds)

North-West Metropolitan Regional Hospital Board

WHOLE-TIME PSYCHIATRIC REGISTRAR

Required for one year in the first instance. The hospital may be visited by direct appointment. Application forms obtainable from, and returnable to, the Sec., Shenley Hospital, by Feb. 23. (7468)

YORK, THE RETREAT

(an Independent Registered Hospital for Mental and Nervous Illnesses, managed by a Committee of the Society of Friends (Quakers))

REGISTRAR (Male or female)

Facilities available for training for the D.P.M., and later for a training analysis. Accommodation will be provided, and the salary is according to the N.H.S. scale. Transferable F.S.S.N. Superannuation Scheme in operation. Applications, together with the names of two referees, should be addressed to the Physician Superintendent, The Retreat, York. (7560)

BLACKBURN (near), CALDERSTONES HOSPITAL, Whalley

(for Mental Defectives)

Calderstones Hospital Management Committee

Applications are invited for the appointment of

JUNIOR HOSPITAL MEDICAL OFFICER

Salary scale £700 by £50 to £1,000 per annum, and other conditions of service in accordance with the terms and conditions of service for hospital medical and dental staff under the National Health Service. The appointment is subject to the provisions of the National Health Service (Superannuation) Regulations, 1947-9. An unfurnished flat would be available for a married man and residential quarters can be provided for a single man at a fixed charge. Applications, stating age, qualifications, and experience, together with the names of three referees, to be submitted to the Medical Superintendent, Calderstones Hospital, Whalley, near Blackburn, not later than February 18, 1952.—Chas. R. Ikin, Secretary. (7447)

CUPAR, FIFE, STRATHEDEN HOSPITAL

Applications are invited for the appointments of

JUNIOR HOSPITAL MEDICAL OFFICER
TWO HOUSE OFFICERS

This mental hospital (1,025 beds) provides experience in all branches of psychiatry. There are adult out-patient and child psychiatric clinics covering the County of Fife. A modern hospital, with operating theatre, provides facilities for the practice of the latest treatment. Salary and conditions of service in accordance with national agreement. Applications, giving personal particulars, qualifications and experience, together with names of three referees, to be submitted to the Medical Superintendent. (7436)

LINCOLN, BRACEBRIDGE HEATH HOSPITAL FOR MENTAL DISEASES (1,290 beds)

Lincoln No. 2 Hospital Management Committee

Applications are invited for the appointment of

JUNIOR HOSPITAL MEDICAL OFFICER

(Resident or non-resident, male or female, married or single)

Salary and terms of service as issued by the Ministry of Health. Commencing salary £700 per annum, rising to £1,000 per annum. There is a self-contained flat available for a married officer, furnished or unfurnished, or residential accommodation for a single person. There will be scope for work at out-patient clinics and in the use of modern psychiatric methods in the wards. Previous psychiatric experience is not essential. The appointment is subject to the provisions of the National Health Service (Superannuation) Regulations. Applications, with names of three referees, should be forwarded as soon as possible to the Medical Superintendent, Bracebridge Heath Hospital, near Lincoln. (7179)

CARLISLE, GARLANDS HOSPITAL

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER

at the above mental hospital. Salary will be £670 per annum. Furnished flat is available, for which a deduction will be made. A course of study for Part 1 of the D.P.M. is held at Newcastle-upon-Tyne and arrangements would be made for successful candidate to attend this. Appointment is subject to the National Health Service (Superannuation) Regulations and to the conditions and terms of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, and the names of two referees, should be sent to the Medical Supt. as soon as possible (7139)

LANCASTER, ROYAL ALBERT HOSPITAL FOR MENTAL DEFICIENCY

The Royal Albert Hospital Management Committee invite applications for the post of

SENIOR HOUSE OFFICER

Salary on the approved scale. The appointment is open to a single or married person, there being residential quarters for a single applicant or a small house available for rental for a married person. Applications should be forwarded to the Medical Superintendent immediately. (7107)

MAIDSTONE, OAKWOOD HOSPITAL

SENIOR HOUSE OFFICER

Required immediately for the above Mental Hospital of 2,200 beds. Full residential accommodation is available for single officers. Applications, in writing, giving details of experience and the names of two persons to whom reference can be made, to be sent to the Medical Supt. (8721)

GUY'S HOSPITAL

York Clinic for Psychological Medicine

RESIDENT HOUSE PHYSICIAN (Male)

Required to commence March 1, 1952. The post offers good opportunities for postgraduate study. Salary in accordance with the terms and conditions of service for House Officers in the National Health Service. Appointment for six months in the first instance and may be renewed for further such periods. Applications, with copies of two testimonials, should be sent to the Superintendent, Guy's Hospital, London Bridge, S.E.1, on or before February 18. (7437)

LIVERPOOL, 15, SEFTON GENERAL HOSPITAL (1,028 beds, 123 cots)

South Liverpool Hospital Management Committee

Applications are invited for the appointments of

TWO RESIDENT HOUSE PHYSICIANS

(Psychiatric)

which will become vacant at the above-named hospital on April 1, 1952, and will be for a period of six months. The terms and conditions of service will be in accordance with the regulations of the Ministry of Health. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee. (7108)

RADIOLOGY

WOLVERHAMPTON GROUP

Birmingham Regional Hospital Board

Applications invited for appointment of

WHOLE-TIME REGISTRAR IN RADIOLOGY

Duties mainly at Royal Hospital, Wolverhampton (310 beds). Non-resident appointment. Experience in radiodiagnosis essential. Higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications stating name, age, nationality qualifications, present and previous appointments, and details of three referees, to Secretary, 10 Augustus Road, Birmingham, 15, before February 18. Candidates may visit the hospital concerned. (7540)

RADIOTHERAPY

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the post of

Whole-time ASSISTANT RADIOTHERAPIST

to the Radiotherapy Centre at the Derbyshire Royal Infirmary where the successful candidate will work under the direction of the Consultant Radiotherapist-in-charge. Candidates should have a good clinical background and be in possession of the D.M.R.(T.) Salary scale £1,300 by £50 to £1,750. The appointee will be required to reside within ten miles of the Infirmary. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 1, 1952. (7343)

UROLOGY

ST. PETER'S HOSPITAL, W.C.2

St. Peter's and St. Paul's Hospitals

A vacancy for a

RESIDENT SENIOR REGISTRAR

will occur on April 1, 1952. Applications invited from male candidates on the British *Register*, with experience in a similar office. Appointment for one year. State age, qualifications and present grading. Applications (twelve copies), with twelve copies of three recent testimonials, should reach the House Governor, St. Peter's Hospital, Henrietta Street, W.C.2, by February 25, 1952. (7584)

PRESTON ROYAL INFIRMARY (400 beds)

HOUSE OFFICER (Urological)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7410)

VENEREOLOGY

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the whole-time post of

ASSISTANT VENEREOLOGIST

The successful candidate, working under the supervision of the Area Consultant, would attend centres in Doncaster, Rotherham and Sheffield, and will be required to reside within ten miles of the Doncaster centre where approximately half the sessions will be undertaken. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 1, 1952. (7344)

MEDICINE

GERMAN HOSPITAL, Dalston Lane, E.8

Applications are invited for the position of

RESIDENT MEDICAL REGISTRAR

The appointment is subject to review after one year. A local charge will be made for residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, February 16, 1952. (7561)

LONDON HOSPITAL, Whitechapel, E.1

Applications are invited for the post of

SENIOR REGISTRAR in General Medicine

Candidates must be Members of the Royal College of Physicians, London. The appointment will be for one year in the first instance. Applications (twelve copies), giving the names and addresses of three referees, should be addressed to the House Governor (from whom further particulars may be obtained), to arrive not later than Feb. 29. (7438)

Medicine—contd.

ST. MARY ABBOTS HOSPITAL
Marloes Road, Kensington, W.8
South-West Metropolitan Regional Hospital Board
Fulham and Kensington Hospital Management Committee

Registered medical practitioners are invited to apply for the following appointment:

REGISTRAR (Medical)

Candidates may visit the hospital by arrangement with the Surgeon Superintendent. Requests for forms of application (five copies required to be completed) should be accompanied by a stamped addressed foolscap envelope, and made to the Secretary (B.M.J. 8), Fulham and Kensington Hospital Management Committee, St. Mary Abbot's Hospital, Marloes Road, Kensington, W.8, and returned to him not later than February 15, 1952. (7411)

CROYDON, GENERAL HOSPITAL (200 beds)
South-West Metropolitan Regional Hospital Board
Croydon Group Hospital Management Committee

Applications are invited for the appointment of

WHOLE-TIME MEDICAL REGISTRAR

commencing mid-April. Candidates should be experienced medical officers and possession of higher qualifications in medicine an advantage. Application forms obtainable from George A. Paines, Secretary, Hospital Management Committee, General Hospital, Croydon, to be returned not later than February 16, 1952. (7345)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board

Applications are invited for the post of

Non-resident SENIOR MEDICAL REGISTRAR

The successful applicant will be expected to carry out duties mainly at St. Mary's Hospital, Portsmouth. Forms of application may be obtained from the Secretary, Portsmouth Group Hospital Management Committee, 35, Grove Road South, Southsea, which should be returned to him duly completed on or before February 15, 1952. Canvassing will disqualify. Candidates may visit the above hospital by arrangement with the Secretary of the Group. (7346)

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited for the non-resident post of

WHOLE-TIME SENIOR MEDICAL REGISTRAR
at the Derbyshire Royal Infirmary (416 beds)

The successful applicant will be expected to carry out duties at other hospitals within the Derby No. 1 Hospital Management Committee Group. Candidates should be members of one of the Royal Colleges of Physicians. The appointment is for one year in the first instance, reviewable annually. It has been agreed in principle that the period of appointment of Senior Registrars shall be divided between Regional Board hospitals and those administered by the Board of Governors of the United Sheffield Hospitals. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to reach him not later than February 11, 1952. (6976)

SHEFFIELD, UNITED, HOSPITALS
Royal Hospital Unit

Applications are invited from registered medical practitioners for the non-resident post of

MEDICAL REGISTRAR

at the above hospital. Applications, stating age, qualifications, and experience, together with the names of three referees, should be forwarded immediately to Kenneth Sumner, Chief Administrative Officer, The United Sheffield Hospitals, Central Office, The Royal Hospital, Sheffield, 1. (7412)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER (Male)

Required for general medical duties. National Health Service salary scale and conditions of service. Post vacant February 19, 1952. Applications, stating age, nationality, qualifications and experience, to Medical Director of hospital by February 6, 1952. (7439)

BOSTON GENERAL HOSPITAL

Applications are invited from registered medical practitioners for the post of

RESIDENT HOUSE OFFICER

with duties mainly in the paediatric and E.N.T. departments. Two other resident House Officers. Salary £670 per annum, with deduction for residential emoluments. Applications, stating age, qualifications, posts held and names of two referees, to Administrative Officer, Boston General Hospital, South End, Boston. (7287)

KETTERING GENERAL HOSPITAL

Applications are invited from registered medical practitioners, who have held house appointments, for the post of

SENIOR HOUSE OFFICER IN MEDICINE
(Non-resident)

There are five Resident Officers and full Consultant Staff. Applications, stating age, nationality, qualifications, past experience, and enclosing copies of two recent testimonials, should be forwarded as soon as possible to the Assistant Secretary, Kettering General Hospital. (6769)

CROMER AND DISTRICT HOSPITAL, Norfolk

Applications are invited for the post of

RESIDENT MEDICAL OFFICER
(Senior House Officer Status)

which is now vacant, at a salary of £670 per annum, in accordance with conditions of service issued by the Ministry of Health. This is a busy general hospital of 50 beds which has a pre-convalescent annexe of 64 beds and an out-patient department where consultants in all the major specialities hold regular sessions. The appointment thus offers practical experience of an all-round kind particularly useful to those contemplating entry into general practice. Applications, stating age, qualifications, experience, sex, and the names of two referees, should be addressed to the Secretary, Cromer Area Hospital Management Committee, Cliff Avenue, Cromer, within fourteen days of the publication of this advertisement. (6967)

ROCHDALE, BIRCH HILL HOSPITAL
(General, 956 beds)
Rochdale and District Hospital Management Committee

SENIOR HOUSE PHYSICIAN

Applications are invited for the above position. The appointment will be for one year. Salary in accordance with the terms of service of hospital medical staff in the National Health Service, i.e. £670 per annum. Applications should be sent to the undersigned immediately.—S. Hodkinson, Secretary, Central Offices, Birch Hill Hospital, Rochdale. (7470)

SUNDERLAND, GENERAL HOSPITAL, and RYHOPE GENERAL HOSPITAL, near Sunderland

SENIOR HOUSE PHYSICIAN

Resident at Ryhope General Hospital (52 acute medical beds). Junior House Physician also resident. The beds are under supervision of two consultant physicians who visit the hospital regularly. Required to assist at Sunderland out-patient department. Appointment tenable for twelve months. Salary £670 per annum, less £120 emoluments. Apply to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (7457)

TREDEGAR, ST. JAMES HOSPITAL
(38 beds for acute medicine, 75 chronic sick, 46 obstetrical)

RESIDENT SENIOR HOUSE OFFICER
(Male or female)

Required in March. Term of appointment twelve months. Salary £670 per annum, less an agreed deduction for full residential emoluments. Medical establishment comprises Visiting Physician, Geriatrician, and Obstetrician, together with Resident Senior Hospital Medical Officer and Junior House Officer. Apply to the Hospital Management Committee Secretary, District Miners' Hospital, St. Martin's Road, Caerphilly. (7184)

DREADNOUGHT SEAMEN'S HOSPITAL
Greenwich, S.E.10 (General hospital of 142 beds)

There will be a vacancy for a

HOUSE PHYSICIAN

on February 23, 1952. Applications, stating qualifications, age, experience, nationality and medical school, together with the names of three recent referees, should be sent to the undersigned on or before February 11, 1952.—F. A. Lyon, Secretary of the Seamen's Hospitals Management Committee, Dreadnought Hospital, Greenwich, S.E.10. (7562)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1

Applications are invited from registered women medical practitioners for the post of

SECOND HOUSE PHYSICIAN

to become vacant April 1, 1952. Appointment for six months. Salary according to National Health Service scales for House Officers. Applications, with copies of three recent testimonials, should be sent to the Secretary by February 13. (7450)

HACKNEY HOSPITAL, E.9 (797 beds)

Applications are invited for the appointment of

HOUSE PHYSICIAN

Six months' appointment, vacant on March 1, 1952. Applications, together with copies of three testimonials, should be sent to the Secretary, Hackney Group Hospital Management Committee, Hackney Hospital, E.9, not later than Feb. 12. (7118)

KING EDWARD MEMORIAL HOSPITAL, Ealing
South-West Middlesex Hospital Management Committee

HOUSE PHYSICIAN

Post vacant on March 1, 1952. Applications, stating age, nationality, and qualifications, with dates, and details of experience, together with copies of two recent testimonials, to the Secretary of the Committee, West Middlesex Hospital, Isleworth, by February 11, 1952. (7235)

ALTRINCHAM GENERAL HOSPITAL (130 beds)
near Manchester
North and Mid-Cheshire Hospital Management Committee

HOUSE OFFICER (Physician and Casualty)

to commence duties February 13, 1952. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to Sec., North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (7348)

ACCRINGTON, VICTORIA HOSPITAL
(112 beds)

HOUSE PHYSICIAN

Salary £350 to £450 per annum, less £100 per annum board and lodging. Applications, with copies of two testimonials, to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (7288)

AYLESBURY, BUCKS, TINDAL GENERAL HOSPITAL (281 beds)

HOUSE PHYSICIAN

for acute general medicine and geriatrics. Vacant now. Applications, with two testimonials, to the Administrative Officer. (7349)

BATLEY, GENERAL HOSPITAL, Carlinghowhill
(102 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee

Applications are invited for the post of

HOUSE OFFICER

This hospital is a general hospital at present but will shortly specialize in orthopaedic and general surgery, ophthalmology and oto-rhino-laryngology. Applications, giving full details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Sec., 20, Oxford Rd., Dewsbury (4420)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

HOUSE PHYSICIAN

at the above hospital. The duties of this post cover a wide range of medical work, i.e., general medical, skins, neurology, infectious diseases. The appointment, which becomes vacant on February 14, 1952, is for six months in the first instance. Resident. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (7639)

BIRKENHEAD HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the following posts, vacant April 1, 1952, for six months:

Birkenhead General Hospital (174 beds)
HOUSE PHYSICIAN

St. Catherine's Hospital, Church Road, Birkenhead
(General Hospital, 484 beds)
TWO HOUSE PHYSICIANS

Apply by February 9, 1952, stating post and hospital concerned, age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary of above Committee, St. James' Hospital, Birkenhead. (7185)

BISHOP'S STORTFORD AND DISTRICT HOSPITAL, Rye Street, Bishop's Stortford, Herts
(67 beds—Medical, Surgical and Maternity)
(Midway between London and Cambridge—Main Line Railway from Liverpool Street)

Applications are invited from registered medical practitioners for a

RESIDENT HOUSE OFFICER
(First or second post held)

Salary £350 to £400 per annum, less £100 per annum for residential emoluments. Appointment to commence March 1, 1952. Applications, stating age, nationality, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Administrative Officer, Haymeads Hospital, Bishop's Stortford, Herts. (7513)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)

TWO HOUSE PHYSICIANS

Vacant end February, 1952. Applications, with full details of experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer at the hospital within seven days of the issue of this advertisement. (7263)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

HOUSE PHYSICIAN

to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Medicine—contd.

CHANNEL ISLANDS, JERSEY, GENERAL HOSPITAL

Applications are invited for the post of

MEDICAL OFFICER

in the above hospital. The appointment is for six months, but is renewable. Salary from £350 to £550 per annum, according to qualifications and experience, less £100 for residential emoluments. Please apply to the President, Public Health Committee, General Hospital, Jersey. (7413)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee

HOUSE PHYSICIANS

Applications are invited from registered medical practitioners for the above posts. Vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (7161)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for the post of

HOUSE PHYSICIAN

The appointment is for a period of six months commencing February 17, 1952. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7109)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for the post of

HOUSE PHYSICIAN

Duties attached to this post will include work with the chest unit. The appointment is for a period of six months commencing February 16, 1952. Applications, giving age, experience and qualifications, together with copies of two recent testimonials, should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7110)

CROYDON, MAYDAY HOSPITAL (619 beds)
Croydon Group Hospital Management Committee

Immediate vacancy for post of

HOUSE PHYSICIAN (Either sex)

for a period of six months in the first instance. Forms of application obtainable from George A. Paines, Secretary, Hospital Management Committee, General Hospital, Croydon, to be returned immediately. (7350)

DARLINGTON MEMORIAL HOSPITAL (210 beds)
Darlington District Hospital Management Committee

Applications are invited for the post of

HOUSE PHYSICIAN (J.H.O.—Resident)

Salary in accordance with national scale. Apply, giving age and references, to the undersigned at once.—G. W. Beckwith, Secretary. (7237)

DERBY CITY HOSPITAL
Derby Area No. 1 Hospital Management Committee

A recently built general hospital. There are seven residents. Applications are invited from registered medical practitioners, male or female, for the appointment of

HOUSE PHYSICIAN

Apply to Medical Superintendent as soon as possible. (6990)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee

Applications are invited from candidates possessing some hospital experience for the position of

RESIDENT HOUSE PHYSICIAN
to the Department of Medicine

Vacant early February. The post offers wide experience in general medicine and is an excellent opportunity for candidates studying for M.R.C.P. Applications, stating age, qualifications and previous experience, should be forwarded to the Medical Superintendent. (7308)

DUDLEY, GUEST HOSPITAL
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

RESIDENT HOUSE OFFICER (Physician)

Post vacant February 1, 1952, and will be tenable for six months. The post will be House Officer status and salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (5496)

ELLESMERE PORT HOSPITAL (50 beds)
XIII Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for the post of

HOUSE PHYSICIAN (General)

The appointment is for a period of six months commencing February 24, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7112)

FALMOUTH, DISTRICT HOSPITAL
West Cornwall Hospital Management Committee

Applications are invited for the post of

HOUSE PHYSICIAN

vacant February 26, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Falmouth and District Hospital, Falmouth (5262)

GRIMSBY GENERAL HOSPITAL (200 beds)
Grimsby Hospitals Management Committee

Applications are invited for the post of

HOUSE PHYSICIAN

The post will fall vacant in February, and is tenable for six months. Applications, together with the names of two referees, should be sent to the Admin. Officer, Grimsby General Hospital. (6688)

HUDDERSFIELD ROYAL INFIRMARY (321 beds)
Huddersfield Hospital Management Committee

HOUSE PHYSICIAN

Required to commence duty on March 4. Salary in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, together with copies of three recent testimonials, should be addressed to the undersigned.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (7471)

HUNTINGDON COUNTY HOSPITAL

Applications are invited from registered medical practitioners for the post of

JUNIOR HOUSE OFFICER (Medical)

to the above hospital. The selected candidate will be required to look after medical and paediatric cases under the direction of the consultants concerned, and may be required to give emergency anaesthetics. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (7514)

ILFORD, KING GEORGE HOSPITAL
Ilford and Barking Group Hospital Management Committee

There will be a vacancy for a

HOUSE PHYSICIAN

on March 24, 1952. Salary will be £350 per annum minimum, and maximum £450, according to experience and qualifications, less emoluments. The post will be tenable for six months. Applications, giving full particulars and accompanied by testimonials, should be sent to the undersigned within 14 days of the appearance of this advertisement.—G. Austin Hepworth, Sec., King George Hosp., Ilford. (7351)

IPSWICH, BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)

HOUSE PHYSICIAN

Required early March. House Officer grade. Post normally for six months. Applications to Secretary, Ipswich Group Hospital Management Committee, Ipswich. (7113)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee

HOUSE PHYSICIAN

Required February 22, 1952. Applications, with full particulars, to the Secretary, Hospital Management Committee. (7491)

IPSWICH, ST. HELEN'S HOSPITAL
(100 beds for infectious diseases, pulmonary tuberculosis, and long-stay orthopaedics. The Area Chest Clinic is in the hospital)
Ipswich Group Hospital Management Committee

HOUSE OFFICER

Accommodation available for married man. The person appointed will be required to undertake certain duties in the Children's Ward at the Borough General Hospital, in addition to duties at St. Helen's Hospital. Applications, with full particulars, to John Williams, Secretary, at East Suffolk and Ipswich Hospital, Ipswich. (7414)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL (140 beds)
King's Lynn Area Hospitals Management Committee

Applications are invited for the post of

RESIDENT HOUSE PHYSICIAN

at the above hospital. The post becomes vacant on March 3, and the appointment will be for six months in the first instance. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. The appointment offers valuable experience in acute medical and ophthalmic work. Applications to be forwarded as soon as possible to the Secretary, King's Lynn Area H.M.C., St. James's Hospital, King's Lynn. (7352)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee

RESIDENT HOUSE PHYSICIAN

Required at the above hospital. Post vacant February 16. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (6992)

LIVERPOOL, 15, SEFTON GENERAL HOSPITAL (1,028 beds, 123 cots)
South Liverpool Hospital Management Committee

Applications are invited for the appointments of **FIVE RESIDENT HOUSE PHYSICIANS (General)** which will become vacant at the above-named hospital on April 1, 1952, and will be for a period of six months. The terms and conditions of service will be in accordance with the regulations of the Ministry of Health. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee. (7115)

MERTHYR AND ABERDARE HOSPITAL MANAGEMENT COMMITTEE
Merthyr General Hospital
HOUSE PHYSICIAN
Aberdare General Hospital
HOUSE OFFICER

Applications are invited for either of the above posts. The appointments, which are resident, are for periods of six months. Salary in accordance with the terms of service issued by the Ministry of Health. The hospitals are acute general hospitals with the usual special departments staffed by whole-time and visiting consultants. Applications, with full particulars, should be sent to the Secretary, Merthyr and Aberdare H.M.C., St. Tydfil's Hospital, Merthyr Tydfil. (7309)

MEXBOROUGH, MONTAGU HOSPITAL (123 beds)
SANDYGATE HOUSE ANNEXE (30 beds)
RESIDENT HOUSE PHYSICIAN

Required, tenable for a period of six months in the first instance. Salary £350 to £400 per annum, according to experience, from which a deduction of £100 per annum for residential emoluments will be made. Applications, stating age, experience, qualifications and nationality, with names of three referees, to be addressed to the Secretary, Management Committee, Fern Bank, Doncaster Road, Rotherham, Yorks, as soon as possible. (6993)

MIDDLESBROUGH, HEMLINGTON HOSPITAL (220 beds)
Tees-side Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

HOUSE PHYSICIAN

at the above hospital. Salary at the rate of £400 or £500 per annum. Applications, stating age, experience and qualifications, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (7264)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee

TWO HOUSE OFFICERS
(First or subsequent posts)

For the care of both medical and surgical cases. Appointment for six months. Duties to commence immediately. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NEWCASTLE-UPON-TYNE, WALKER GATE HOSPITAL (305 beds)
Newcastle-upon-Tyne Hospital Management Committee

Applications are invited for the post of

HOUSE PHYSICIAN

at the above hospital. The duties are concerned mainly with the Acute Medical and Fever Sections, and, to a lesser extent, in the E.N.T. Department. Applicants should, if possible, have had previous paediatric experience, but the post is also one which a suitable newly qualified practitioner could fill. The usual National Health Service conditions of salary and service obtain. Applications, with testimonials or the names of two referees, to be sent as soon as possible to K. C. Booker, Secretary, Newcastle-upon-Tyne Hospital Management Committee, Newcastle General Hospital, Westgate Road, Newcastle-upon-Tyne, 4. (7563)

NUNEATON, GEORGE ELIOT HOSPITAL (258 beds)

Applications are invited for the post of

HOUSE PHYSICIAN (46 general medical beds)

Vacant mid-March. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (7585)

PETERBOROUGH MEMORIAL HOSPITAL
Peterborough Area Hospital Management Committee

HOUSE PHYSICIAN

Applications are invited for the above position, which will be vacant on February 20, 1952. The appointment will be for six months. Applications, with testimonials, should be addressed to the Secretary, Peterborough Area Hospital Management Committee, The Memorial Hospital, Midland Road, Peterborough. (7516)

Medicine—contd.

ORMSKIRK COUNTY HOSPITAL (406 beds)
Ormskirk and District Hospital Management Committee
Applications are invited for the following appointment:
HOUSE PHYSICIAN
Post vacant April 1, and tenable for six months. National Health Service salary and conditions of service. Applications, with full details and two names for reference, should reach the undersigned by February 20, 1952.—H. E. Beck, Secretary, County Hospital, Wigan Road, Ormskirk. (7515)

PENZANCE, WEST CORNWALL GENERAL HOSPITAL (100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN (Male)
which falls vacant on March 6, 1952. Salary at the rate of £350 or £400 per annum, from which a deduction at the rate of £100 per annum will be made for board residence, etc. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6689)

PRESTON ROYAL INFIRMARY
HOUSE PHYSICIAN
(Junior House Officer Grade)
Vacant February. Applications to Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston. (7142)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE PHYSICIAN
Applications are invited from registered medical practitioners for the above post, vacant March 1. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Administrative Officer. (7542)

SHREWSBURY (near), CROSS HOUSES HOSPITAL (183 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT MEDICAL OFFICER
Vacant immediately. Preference will be given to those applicants with previous obstetrical experience. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (6063)

SOUTHPORT GENERAL INFIRMARY
Southport and District Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
Post vacant mid-February. Applications, with details of age, nationality, qualifications, and enclosing copies of two testimonials, should be forwarded immediately to T. Crook, Secretary, Promenade Hospital, Southport. (7586)

SOUTH SHIELDS, INGHAM INFIRMARY (158 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN (First or second post)
which will become vacant on March 1, 1952. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Sec. (7186)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 32 beds)
Staffordshire Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
HOUSE PHYSICIAN
vacant March 1, 1952, first, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Secretary to Committee, 13 Foregate Street, Stafford. (7353)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL (96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Medical)
Post vacant mid-March. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned, at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7379)

STROUD GENERAL HOSPITAL
Gloucester, Stroud and the Forest Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
Salary £350 to £450 per annum, according to experience, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications and experience, with copies of two testimonials, should be sent as soon as possible to the Secretary, Stroud General Hospital, Stroud, Gloucestershire. (7310)

SUNDERLAND (near), RYHOPE GENERAL HOSPITAL (208 beds)
HOUSE PHYSICIAN (Male or female)
Post vacant March 24, 1952. Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (7454)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey (6770)

WOKING, VICTORIA HOSPITAL (74 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
Salary and conditions of service as published by Ministry of Health. Apply to Assistant Secretary, Victoria Hospital, Woking, Surrey. (6977)

WORKINGTON INFIRMARY (86 beds)
West Cumberland Hospital Management Committee
HOUSE PHYSICIAN
Required immediately for six months' appointment. Salary in accordance with national scales (£350 to £450). Applications, stating qualifications (with dates) and experience, and accompanied by copies of two testimonials, to be sent to the Secretary, Workington Infirmary, Workington, Cumberland. (5318)

WORKSOP, NOTTS, KILTON HOSPITAL (191 beds)
Worksop and Retford Hospital Management Committee
HOUSE PHYSICIAN
Required to commence duties immediately. Appointment for six months in first instance. Salary at the rate of £350 to £450, according to number of posts held. A deduction of £100 per annum will be made in respect of residential emoluments. Applications, stating age, qualifications, nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Worksop and Retford Hospital Management Committee, Victoria Hospital, Worksop. (7354)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full Consultant staff)
Applications invited for post of
RESIDENT HOUSE PHYSICIAN
Appointment for six months as from March 10, 1952. Salary £350 for first post, £400 for second post, £450 for third post, less £100 for residence. Applications, giving details of age, nationality, experience, and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (7564)

SURGERY

NATIONAL TEMPERANCE HOSPITAL
Hampstead Road, N.W.1 (158 beds)
North-West Metropolitan Regional Hospital Board
CONSULTANT GENERAL SURGEON
Required four half-days a week. Experience in fracture work an advantage. Applications, giving three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by March 8, 1952. Hospital may be visited by direct appointment. (7517)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for following positions:
RESIDENT SURGICAL REGISTRAR
Black Notley Hospital, near Braintree, Essex
SURGICAL REGISTRAR (Non-Resident)
Bethnal Green Hospital, Cambridge Heath Road, E.2
Experience in orthopaedic surgery advantageous. Required to sleep in on duty on alternate nights.
Appointments are subject to review after one year. A local charge will be made for any residential amenities provided. Separate applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, 11a, Portland Place, W.1, by Saturday, February 16, 1952. (7565)

BRISTOL CLINICAL AREA
Board of Governors of the United Bristol Hospitals and South-Western Regional Hospital Board
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
REGISTRAR in General Surgery
Candidates should have had previous experience in general surgery. The appointment will be held for one year in the first instance, and be renewable for a further year. The successful candidate will be required to work for the first year at both Southmead and Frenchay Hospitals, Bristol. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than February 23. (7485)

GRIMSBY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
SURGICAL REGISTRAR
to the above hospital which is approved for training for the F.R.C.S. by the Royal College of Surgeons. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 11, 1952. (6979)

LOUGHBOROUGH GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the whole-time post of
SURGICAL REGISTRAR
to the above hospital. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 11, 1952. (6980)

MANCHESTER, CRUMPSALL HOSPITAL
Manchester Regional Hospital Board
Applications are invited for the post of
RESIDENT REGISTRAR in General Surgery
Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials to be received by February 11, 1952. (7518)

SOUTH MANCHESTER GROUP OF HOSPITALS
Manchester Regional Hospital Board
Applications are invited for the post of
REGISTRAR in General Surgery
Resident at Withington Hospital, Manchester
Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by February 11, 1952. (7519)

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointments of
TWO REGISTRARS in General Surgery
to serve the Mid-Glamorgan Hospital Management Committee. Applicants should have served for at least six months in an appointment as House Surgeon and preferably at a teaching hospital. The successful candidates will be based at (a) Port Talbot and District Hospital (85 beds), and (b) Neath General Hospital (412 beds), but may be expected to work in either hospital. The posts are resident and subject to review at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (7520)

CHORLEY AND DISTRICT HOSPITAL, Lancs
Preston and Chorley Hospital Management Committee
RESIDENT SURGICAL OFFICER
Required February 15, 1952 (Junior Hospital Medical Officer grade). The establishment of this hospital includes two Junior House Officers. The R.S.O. works under the supervision of the visiting consultants from Preston Royal Infirmary. Applications, including names for reference, to be sent to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary. (7265)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Surgery—contd.

SOUTH-WESTERN HOSPITAL
Landor Road, S.W.9
RESIDENT SURGICAL OFFICER
(Senior Hou e Officer Grade)
required to take charge of 32 surgical beds which are under the direction of the Surgical Consultant of Lambeth Hosp.tal, Kennirgton; and also to work under the Ear, Nose, and Throat Consultant at the South Western Hospital. For form of application apply to the Physicinn Superintendent at the hospital. (7049)

BARNSLEY, BECKETT HOSPITAL
HOUSE SURGEON SPECIALS (S.H.O.)
Required for duties mainly in Casualty Department. Some E.N.T., ophthalmic, anaesthetic and orthopaedic work. Salary £670. Apply to Secretary, Barnsley Hospital Management Committee, 33, Gawber Road, Barnsley. (5700)

BIRKENHEAD GENERAL HOSPITAL
(174 beds)
Birkenhead Hospital Management Committee
Applications are invited for the following posts, vacant April 1, 1952, for six months:
HOUSE SURGEON (Senior post)
HOUSE SURGEON
with some duties with the orthopaedic firm
Apply by February 9, 1952, stating post and hospital concerned, age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary of above Committee, St. James' Hospital, Birkenhead. (7193)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge. Main Line Railway from Liverpool Street)
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER (Surgical)
Salary £670 per annum, less £130 per annum in respect of residential emoluments. The appointment is due to commence as soon as possible, for a period of one year. Applications, stating nationality, age, qualifications, and experience, with copies of recent testimonials, or the names of referees, should be sent to the Secretary, Hertford Group Hospital Management Committee, Hertford County Hospital, Hertford, Herts. (7190)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR HOUSE SURGEON
Vacant April 1. Salary £670, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7521)

DUMFRIES AND GALLOWAY ROYAL INFIRMARY
RESIDENT SURGICAL OFFICER
Applications are invited for this appointment, which is now vacant. The salary is at Senior House Officer grade, £670 a year, less £140 for resident emoluments. There are 150 surgical beds, and the duties of the appointment are part surgical and part orthopaedic. Opportunities are available for study. Applications, with copies of two recent testimonials, should be addressed to the Secretary, Dumfries and Galloway Hospital Board, Royal Infirmary, Dumfries. (7522)

ISLE OF MAN, NOBLE'S HOSPITAL (160 beds)
Applications invited for the post of
SENIOR HOUSE SURGEON
at above hospital, an acute general hospital with a busy surgical practice and specialist visiting staff. Salary £670 per annum, with a deduction of £100 per annum for board, lodging, etc., if resident. Suitable post for man preparing for a higher surgical qualification. Applicant should previously have held a house-surgeon appointment, preferably at a teaching hospital. Post vacant at the end of March 1952. Applications, giving all relevant particulars, with copies of two recent testimonials, or names and addresses of two referees, should be forwarded to the Secretary, Noble's Isle of Man Hospital, Douglas. (7240)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL (Non-Sectarian)
(General hospital, 105 beds)
North Manchester Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Surgery)
now vacant, to act as Deputy Resident Surgical Officer. Applications, stating age, qualifications, and dates, particulars of previous appointments (with dates), along with names and addresses of two referees, to be sent to the undersigned immediately.—A. T. Sampson, Secretary to the Committee, Crumpsall Hospital, Manchester, 8. (7295)

MEXBOROUGH, MONTAGU HOSPITAL
(123 beds)
SENIOR HOUSE OFFICER (Surgery and Casualty)
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience, and nationality, with names of three referees, to the Secretary, Hospital Management Committee, "Fern Bank," Doncaster Road, Rotherham, Yorks, as soon as possible. (7050)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence early in March. Salary £670 per annum and conditions of service in accordance with the conditions published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (6969)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for the appointment of
RESIDENT SURGICAL OFFICER
of Senior House Officer status
post vacant immediately. The appointment will be for a period of twelve months and is renewable. Salary £670 per annum. The hospital is recognized for the Fellowship of the Royal College of Surgeons. Terms and conditions in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (7587)

ROTHERHAM, DONCASTER GATE HOSPITAL
(155 beds)
SENIOR HOUSE OFFICER
(duty in Casualty, E.N.T. and Eye Departments)
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience, and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, "Fern Bank," Doncaster Road, Rotherham. (7296)

STOCKPORT INFIRMARY, Stockport
Stockport and Buxton Hospital Management Committee
Applications are invited for the following post, which will become vacant on February 1, 1952:
SENIOR HOUSE OFFICER
Assistant Resident Surgical Officer, with duties in the Orthopaedic Department
Salary £670 per annum, less a deduction of £155 per annum for board, residence and laundry. Applications, stating age, nationality and qualifications, together with copies of two testimonials or the names of two referees, to be forwarded to the Administrative Officer.—H. G. Price, Sec. (7523)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
(96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7380)

STOKE-ON-TRENT, LONGTON HOSPITAL
(55 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7381)

STROUD GENERAL HOSPITAL
Gloucester, Stroud and the Forest Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT SURGICAL OFFICER
Salary will be in the Senior House Officer grade, i.e., £670 per annum, with a deduction of £125 per annum in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent as soon as possible to the Secretary, Stroud General Hospital, Stroud, Gloucestershire. (7311)

SUNDERLAND, ROYAL INFIRMARY (300 beds)
SENIOR SURGICAL HOUSE OFFICER
Resident at above hospital (100 surgical beds). Post recognized for F.R.C.S. examination, and successful applicant will be expected to rotate duties at six monthly intervals with Senior Surgical House Officers at other hospitals. Salary £670 per annum, less emolument value. Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (7456)

WOKING, VICTORIA HOSPITAL
Woking, Surrey (74 beds)
SENIOR HOUSE OFFICER
(Surgical and Medical duties)
Resident preferred. Non-resident considered. Salary and conditions of service as published by Ministry of Health, viz., £670 per annum, less emoluments. Applications, with testimonials, to Assistant Secretary, Victoria Hospital, Woking, Surrey. (7289)

WAKEFIELD, GENERAL HOSPITAL
Park Lodge Lane (160 beds)
Hospital Management Committee No. 9. Wakefield "A" Group
Applications are invited for the appointment of a
SENIOR HOUSE OFFICER IN GENERAL SURGERY
at the above hospital. Terms and conditions of service are in accordance with the National Health Service Act and Regulations thereunder. Application forms may be obtained immediately from the Medical Superintendent.—W. Read, Sec. (7355)

WEST HARTLEPOOL, CAMERON HOSPITAL
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
now vacant. To be responsible for surgical and gynaecological beds. Salary and conditions of service in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (5942)

WISBECH, NORTH CAMBRIDGESHIRE HOSPITAL
Peterborough Area Hospital Management Committee
RESIDENT SURGICAL OFFICER
(Senior House Officer Grade)
Post vacant February 9, 1952. This is a busy general hospital of 65 beds with full consultant staff, and the post offers very good all-round experience in general surgery. Applications forthwith to the Secretary, North Cambridgeshire Hospital, Wisbech. (7266)

WORKINGTON INFIRMARY (86 beds)
Annexe (26 beds)
West Cumberland Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required immediately. Salary in accordance with national scales (£670 per annum). Applications, stating qualifications (with dates) and experience, and accompanied by copies of two testimonials, to be sent to the Secretary, Workington Infirmary, Workington, Cumberland. (5629)

DREADNOUGHT SEAMEN'S HOSPITAL
Greenwich, S.E.10 (General hospital of 142 beds)
There will be two vacancies for
HOUSE SURGEONS
at the beginning of March. Applications, stating qualifications, age, experience, nationality and medical school, together with the names of three recent referees, should be sent to the undersigned on or before February 11, 1952.—F. A. Lyon, Secretary of the Seamen's Hospitals Management Committee, Dreadnought Hospital, Greenwich, S.E.10. (7566)

DULWICH HOSPITAL
East Dulwich Grove, S.E.22
Camberwell Hospitals Management Committee
Applications invited for appointment as
HOUSE OFFICER (Surgical duties)
Position vacant from February 13, 1952. Salary £350 to £450 a year, according to posts held, with deduction at rate of £100 a year in respect of residence. Appointment tenable for six months in first instance. Applications, stating age, qualifications, and experience, enclosing copy testimonials, to the Secretary, Camberwell Hospitals Management Committee, Dulwich Hospital, S.E.22, as soon as possible. (7282)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1
Applications are invited from registered women medical practitioners for the post of
HOUSE SURGEON/CASUALTY OFFICER
with charge of general surgical ward. Post recognized for F.R.C.S. examination. Appointment for six months. Salary according to National Health Service scales for House Officers. Duties to commence April 1, 1952. Applications, with copies of three recent testimonials, should be sent to the Secretary by February 13. (7449)

HAMPSTEAD GENERAL HOSPITAL
The Green, Hampstead, N.W.3
Applications are invited from registered medical practitioners, male and female, for the resident post of
HOUSE SURGEON
for a period of six months from April 1, 1952. Salary in accordance with the national scales. Applications on the prescribed form, with copies of three recent testimonials, to be returned by March 10, 1952, to Administrative Officer. (7119)

LAMBETH HOSPITAL, Brook Drive, S.E.11
RESIDENT HOUSE SURGEON
Appointment for six months. For form of application apply to the Physician Superintendent at the hospital. (7290)

MEMORIAL HOSPITAL
Shooters Hill, Woolwich, S.E.18
HOUSE SURGEON
Six months' appointment, recognized for F.R.C.S. Salary £350 to £450 per annum, according to experience, less £100 per annum for residence. Apply to Secretary. (7588)

Surgery—contd.

ST. ANDREW'S HOSPITAL, Bow, E.3
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Two vacancies)
Applications, stating age and qualifications, should be sent as soon as possible to the Medical Superintendent, St. Andrew's Hospital, Bow, E.3. (7272)

ST. ANN'S GENERAL HOSPITAL, N.15
Tottenham Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE SURGEON (Third post)
for a period of six months with effect from April 1, 1952. Application forms from the Secretary, Tottenham Group Hospital Management Committee, The Green, Tottenham, N.15, to be returned by February 16, 1952. (7390)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

ST. JOHN'S HOSPITAL (General—112 beds)
Lewisham, London, S.E.13
Lewisham Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
(Second, third, or subsequent post)
Now vacant. There are four other residents at the hospital, this vacancy being the senior of two House Surgeon posts, and is recognized for six months' training for the F.R.C.S. examination. Salary at the rate of £400 or £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, and experience, with copies of three recent testimonials or names of referees, should be sent to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (7356)

ST. OLAVE'S HOSPITAL
Lower Road, Rotherhithe, S.E.16
HOUSE SURGEON
Appointment tenable for six months. Recognized for F.R.C.S. Salary £350, £400 or £450, according to length of previous experience, less £100 for residential emoluments. Applications should be made to Mr. R. A. V. Lewys Lloyd, F.R.C.S., Surgeon Superintendent, within seven days of the appearance of this advertisement. (7589)

ALTRINCHAM GENERAL HOSPITAL (130 beds)
near Manchester
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Surgical)
to commence duties February 15. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to Sec., North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (7357)

BARNSTAPLE, NORTH DEVON INFIRMARY
(110 beds)
North Devon Hospital Management Committee
TWO HOUSE SURGEONS
Posts now vacant. Applications to Secretary and Finance Officer, 19, Alexandra Road, Barnstaple, Devon (4832)

BECKENHAM HOSPITAL, Kent
Bromley Group Hospital Management Committee
HOUSE SURGEON
Required at this busy general hospital of 100 beds. The appointment will be for six months in the first instance, and the salary will be £350 to £450, according to experience, less £100 per annum for board and lodging and other services provided. Requests for further information and applications, stating age, qualifications, and details of experience, should be sent to the Administrative Officer, Beckenham Hospital, Croydon Road, Beckenham, Kent. (7415)

BEDFORD GENERAL HOSPITAL (South Wing)
HOUSE SURGEONS
These appointments are recognized for F.R.C.S., and offer exceptional opportunities for general experience in a busy acute surgical unit. These posts are now vacant. Applications, stating age, nationality, qualifications, previous appointments, together with copies of two testimonials, should be addressed to the Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton Road, Bedford (6608)

BIRMINGHAM, SELLY OAK HOSPITAL
(1,098 beds)
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited from registered medical practitioners for the posts of
HOUSE SURGEON
Applications immediately to the Medical Superintendent, Selly Oak Hospital, Birmingham, 29, giving qualifications, experience, and age, accompanied by copies of three recent testimonials. (7243)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for a
RESIDENT HOUSE OFFICER (Surgical)
(First or second post held)
Salary £350 to £400 per annum, plus special grant of £50 per annum, less £100 per annum for residential emoluments. Appointment to commence immediately. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent as soon as possible to the Administrative Officer. (7196)

BLACKBURN, QUEEN'S PARK HOSPITAL
(650 beds)
HOUSE SURGEON
Recognized for F.R.C.S. National Health Service salary and conditions. Applications, with copies of two testimonials, to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (7382)

BOLTON, ROYAL INFIRMARY (237 beds)
Bolton and District Hospital Management Committee
RESIDENT HOUSE SURGEON
for general surgical duties. Post vacant immediately and tenable for six months Applications, stating age, nationality, qualifications, and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (7359)

BRIGHTON, NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road (72 beds)
Brighton and Lewes Hospital Management Committee
Applications are invited from female registered medical practitioners for the post of
HOUSE SURGEON
Duties to commence on March 1, 1952, for a period of six months. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with copies of recent testimonials, to be submitted to the Administrative Officer on or before February 15, 1952. (7472)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
HOUSE SURGEON
Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, should be sent to the Administrative Officer of the hospital within seven days of the appearance of this advertisement. (6880)

BROMSGROVE, WORCS, ALL SAINTS' HOSPITAL
Mid-Worcestershire Hospital Management Committee
TWO HOUSE SURGEONS
(for acute Surgical Wards and Casualty Department)
Required at this recently opened General Hospital which has a bed complement of 468 beds. Posts are resident, and are vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire Hospital Management Committee, Birmingham Road, Bromsgrove, Worcs. (6994)

BURNLEY, GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is vacant now, and is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. The post is recognized for the F.R.C.S. examination. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (9287)

BURTON-ON-TRENT, GENERAL INFIRMARY
(Acute General Hospital, 235 beds)
Burton-on-Trent Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
now vacant. This appointment is recognized for examination purposes for the Royal College of Surgeons, offering excellent general experience in a busy acute surgical unit. Applications, with all details and copies of recent testimonials, to J. E. Smith, Secretary to the H.M.C. (7194)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical, with beds for orthopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments:
Caernarvon and Anglesey General Hospital, Bangor
RESIDENT HOUSE SURGEON
RESIDENT HOUSE SURGEON for Casualties and Special Departments
Llandudno General Hospital, Llandudno
Eryri General Hospital, Caernarvon
RESIDENT HOUSE SURGEONS
The appointments are for a period of six months. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, experience, and qualifications, together with copies of three testimonials, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor. (7534)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (7162)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for
TWO HOUSE SURGEONS
The appointments are for a period of six months. Duties to commence February 20, 1952, and April 4, 1952, respectively. Applications, giving full particulars, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, King Street, Chester. (7120)

DARTFORD, KENT, WEST HILL HOSPITAL
HOUSE SURGEON (General)
required at the end of March. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. The hospital is a large general one, offering opportunities for wide experience, and is within easy reach of London. The appointment is recognized by the Royal College of Surgeons. Applications, stating age, qualifications, experience, and the names of two persons to whom reference for testimonials may be made, should be sent to the Surg.-Supt. of the hospital. (7360)

DERBY CITY HOSPITAL
Derby Area No. 1 Hospital Management Committee
A recently built general hospital. There are seven residents. Applications are invited from registered medical practitioners, male or female, for the appointment of
HOUSE SURGEON
Apply to Medical Superintendent as soon as possible. (6995)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
Salary at the rate of £350, £400 or £450 per annum, according to experience, from which a deduction at the rate of £100 per annum will be made for board, residence, etc. The post will be vacant on February 19, 1952. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (7312)

DORCHESTER, DORSET COUNTY HOSPITAL
(109 beds)
HOUSE SURGEON (Male or female)
Six months' appointment, now vacant. Recognized by Royal College of Surgeons. Apply immediately, stating age, experience, qualifications, and nationality, together with copy testimonials, to Secretary, West Dorset Group Hospital Management Committee, Damers Road, Dorchester. (7416)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE SURGEON
at the above hospital. The post is recognized by the Royal College of Surgeons, and will become vacant at the end of March. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone. (7481)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Surgery—contd.

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
RESIDENT HOUSE SURGEON
Vacant end February, 1952. The post affords good experience in general surgery and casualty work. Apply to the Medical Superintendent. (7313)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
JUNIOR HOUSE SURGEON
at the above hospital. The post will become vacant at the end of March. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone. (7482)

DURHAM HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners, male or female, for the resident posts of
HOUSE SURGEON
at the undermentioned hospitals. The posts are tenable for six months: Dryburn Hospital, Durham (355 beds), General Hospital, Chester-le-Street (233 beds), County Hospital, Durham (120 beds). Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees and/or copies of three recent testimonials, should be sent to the undersigned as early as possible, stating choice of hospitals in order of preference.—A. W. Youngs, Secretary. (7440)

EASTBOURNE, PRINCESS ALICE HOSPITAL (123 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
for general surgery in a busy, well-equipped hospital. Staff of three House Officers. Salary in accordance with terms and conditions published by Ministry of Health. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, to the Sec., 29 Bedfordwell Road, Eastbourne. (7054)

GLOUCESTERSHIRE ROYAL HOSPITAL
Southgate Street Unit (245 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the above hospital. The post is recognized for the F.R.C.S. examination. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, nationality and experience, accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—C. J. Adams, Group Secretary. (7314)

GUILDFORD, ST. LUKE'S HOSPITAL
Guildford Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
in the General Surgical Unit (66 beds)
This unit is recognized for the F.R.C.S. The post is for a period of six months and falls vacant mid-February, 1952. Applications, giving full details of qualifications, age, and experience, together with copies of three recent testimonials, should be forwarded to the Physician Superintendent as soon as possible. (7315)

HALIFAX GENERAL HOSPITAL (425 beds)
Applications are invited for the post of
HOUSE SURGEON (Male or female)
Salary according to experience. Applications, stating age, nationality, qualifications, and experience, with copies of three testimonials, to be addressed to the Secretary at the Royal Halifax Infirmary, Halifax. (7244)

HALIFAX, ROYAL INFIRMARY (301 beds)
Applications invited for post of
HOUSE SURGEON
at this busy acute general hospital. Salary according to experience. Applications, stating age, nationality, qualifications, and experience, and enclosing copies of three recent testimonials, to be forwarded to the Secretary. (7245)

HEREFORD, COUNTY HOSPITAL (333 beds)
Herefordshire Hospital Management Committee
Applications are invited from registered medical practitioners for appointment of
HOUSE OFFICER (General Surgery)
Vacant as from March 5, 1952. Post recognized for the F.R.C.S. Conditions of service applicable to hospital medical and dental staff (England and Wales). Applications, with copies of two recent testimonials, should be sent to the Medical Superintendent, County Hospital, Hereford. (7590)

HASTINGS GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE SURGEONS
Royal East Sussex Hospital, Hastings (150 beds)
vacant February 6, 1952
Bexhill Hospital, Bexhill-on-Sea (62 beds)
now vacant
National scales of salary. Applications to Administrator of the respective hospital. (7316)

HEREFORD GENERAL HOSPITAL (154 beds)
Herefordshire Hospital Management Committee
Applications are invited from registered medical practitioners for appointment of
HOUSE SURGEON
(Casualty, E.N.T. and Fracture Departments)
Applications, with copies of two recent testimonials, should be sent to the Secretary, Hospital Management Committee, County Hospital, Hereford. (8343)

HERTFORD COUNTY HOSPITAL
Hertford, Herts (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
HOUSE SURGEON (Male) (for General Surgery)
(First, second or third post held)
Six months' appointment. Salary is at the rate of £350 to £450 per annum, plus special grant of £50 per annum, less £100 per annum for residential emoluments. Duties to commence immediately. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (7195)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
RESIDENT HOUSE SURGEON
required at the above busy acute general hospital. Four other resident medical staff. Busy casualty and out-patient departments. Applications, stating age, qualifications, and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe, Bucks. (7361)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant now Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer (8754)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the Sutton Branch Hospital. Vacant February. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Admin. Officer. (5757)

HUNTINGDON COUNTY HOSPITAL
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (General Surgery)
to the above hospital. This is a busy hospital staffed by consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (7524)

IPSWICH, BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)
(Post recognized for Examinations of R.C.S.)
TWO HOUSE SURGEONS (General Surgery)
Posts vacant mid-February. House Officer grade appointments normally for six months. Applications to the Administrative Officer. (7197)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE SURGEON TO SENIOR CONSULTANT GENERAL SURGEON
Post recognized for F.R.C.S. Applications immediately to the Secretary, Hospital Management Committee. (7492)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton (64 beds)
(Yorkshire, West Riding—Full Consultant Staffs)
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON (Either sex)
at each of the above hospitals. First, second, or third appointments. Now vacant. Six months' appointments. Salary in accordance with the National Health Service terms and conditions Applications, stating age, qualifications, experience, and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton, and Settle Hospital Management Committee, St. John's Hospital, Keighley. (7362)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee
TWO RESIDENT HOUSE SURGEONS
Required at the above hospital. Posts vacant now. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (6998)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners (male and female) for the post of
HOUSE SURGEON (Genito-Urinary Surgery)
The person appointed will attend the Cystoscopic Clinic at the above hospital and the Out-patient Clinic at the teaching hospital. The appointment is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Folkard, Secretary to the Committee. (4738)

LINCOLN, COUNTY HOSPITAL (200 beds)
Lincoln No. 1 Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON (Male or female)
Post recognized for F.R.C.S. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary. (6618)

LIVERPOOL, 15, SEFTON GENERAL HOSPITAL (1,028 beds, 123 cots)
South Liverpool Hospital Management Committee
Applications are invited for the appointments of
TWO RESIDENT HOUSE SURGEONS (General)
which will become vacant at the above-named hospital on April 1, 1952, and will be for a period of six months. The terms and conditions of service will be in accordance with the regulations of the Ministry of Health. Application forms may be obtained from the undersigned, to whom they should be returned not later than Friday, February 15, 1952.—Garnet Chaplin, Secretary to the Committee. (7122)

MANCHESTER, PARK HOSPITAL, Davyhulme
(General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (General Surgery)
Applications are invited from registered medical practitioners for the above post, which is now vacant. This post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital, and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (7198)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham, Manchester, 8 (105 beds)
(Non-sectarian)
Applications are invited for the post of
HOUSE SURGEON
(House Officer grade)
Vacant March 13, 1952. Applications, together with copies of not less than two recent testimonials or names of two referees, to the Hospital Administrator forthwith. (7363)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy General Hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (4139)

NEWPORT, MON, ROYAL GWENT HOSPITAL (259 beds)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant March 1. The appointment is recognized for the Fellowship of the Royal College of Surgeons, and covers 33 surgical and 12 gynaecological beds. National salary scales and conditions. Apply, with the names of three referees, to T. A. Jones, Sec., 17 Cardiff Road, Newport, Mon. (7364)

NOTTINGHAM CITY HOSPITAL (833 beds)
HOUSE OFFICER (General Surgery)
Post vacant February 8, 1952. Conditions of service in accordance with terms issued by Ministry of Health. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be sent immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (7567)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence immediately. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

Surgery—contd.

OLDHAM, BOUNDARY PARK GENERAL HOSPITAL (390 beds)
Oldham and District Hospital Management Committee

Applications are invited for the appointment of

GENERAL HOUSE SURGEON

Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference number A/801, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (7121)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee

Applications are invited for the appointment of

HOUSE SURGEON (General)

Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting Reference No. A/804, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (7269)

ORMSKIRK COUNTY HOSPITAL (406 beds)
Ormskirk and District Hospital Management Committee

Applications are invited for the following appointments:

TWO HOUSE SURGEONS (General Surgery)

Posts vacant April 1, and tenable for six months. National Health Service salary and conditions of service. Applications, with full details and two names for reference, should reach the undersigned by February 20, 1952.—H. E. Beck, Secretary, County Hospital, Wigan Road, Ormskirk. (7525)

PENZANCE, WEST CORNWALL HOSPITAL (General Hospital, 100 beds)
West Cornwall Hospital Management Committee

Applications are invited for the appointment of

HOUSE SURGEON (Male or female)

Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6702)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Freedom Fields
Plymouth, South Devon and East Cornwall General Hospital Group

Applications are invited from registered medical practitioners for the appointment of

HOUSE SURGEON

vacant April 4, 1952. Recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications, and experience, together with names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (7418)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group

Applications are invited from registered medical practitioners for the appointment of

HOUSE SURGEON

vacant immediately, recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications and experience, together with names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (7419)

PRESTON ROYAL INFIRMARY (400 beds)

GENERAL HOUSE SURGEON

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7417)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)

Applications are invited for the post of

JUNIOR HOUSE SURGEON (Male or female)

resident at Blagrave Hospital, for a period of six months. Vacant immediately. Post provides opportunity for further medical studies. Salary £350 to £450, according to experience, less £100 for residential emoluments. Apply, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer (8738)

SALISBURY GENERAL HOSPITAL
Salisbury Group Hospital Management Committee.

Applications are invited for

RESIDENT HOUSE SURGEON

for six months from February 29, 1952. Apply immediately, naming two referees, to Secretary, H.M.C., Odstock Hospital, Salisbury. (7199)

SCARBOROUGH HOSPITAL, Yorks (163 beds)

Applications are invited from registered medical practitioners, male or female, for two posts of

RESIDENT HOUSE SURGEON (Surgical)

both posts now vacant. The salaries are in accordance with the national scale, and the appointments will be for six months. Applications, stating age and qualifications, together with testimonials, to be sent to the Secretary. (7200)

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S., England)

Applications are invited for the resident appointment of

HOUSE SURGEON (General Surgery)

and certain extra duties. Vacant April 1, 1952. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Sec. (7057)

SHOTLEY BRIDGE GENERAL HOSPITAL (582 beds)
Shotley Bridge, Consett, Co. Durham

Applications are invited for the posts of

TWO RESIDENT HOUSE OFFICERS (Surgical)

now vacant. The appointments will be for six months in the first instance. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent immediately to the Secretary, Shotley Bridge General Hospital, Shotley Bridge, Co. Durham. (7441)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group 15 Hospital Management Committee

Applications are invited from general registered practitioners, male or female, for appointment of

RESIDENT HOUSE SURGEON
(Second or third post)

to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SOUTH-EAST NORTHUMBERLAND HOSPITAL MANAGEMENT COMMITTEE

Applications are invited from registered medical practitioners for

HOUSE SURGEON

posts at Tynemouth Victoria Jubilee Infirmary and Preston Hospital. Applications, together with two testimonials, should be sent to the Secretary, South East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (7545)

SOUTHPORT, PROMENADE HOSPITAL (General)
Southport and District Hospital Management Committee

RESIDENT HOUSE SURGEON

Required immediately. Apply, with details of age, nationality and qualifications, together with copies of two testimonials, to T. Crook, Secretary, Promenade Hospital, Southport. (7273)

SOUTH SHIELDS, GENERAL HOSPITAL (670 beds)

Applications are invited from registered medical practitioners for the post of

HOUSE SURGEON (First or second post)

vacant now. The appointment will be for a period of six months. The post is recognized for the F.R.C.S. (London and Edinburgh). Applications to be addressed to the Medical Supt. (7420)

SOUTH SHIELDS, INGHAM INFIRMARY (158 beds)

Applications are invited from registered medical practitioners for the post of

HOUSE SURGEON (First or second post)

which will become vacant on February 14. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Sec. (7201)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 32 beds)
Stafford Hospital Management Committee

Applications are invited from registered medical practitioners (male or female) for the post of

HOUSE SURGEON

vacant March 15, 1952. First, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Sec. to Committee, 13 Foregate Street, Stafford. (7365)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL (96 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

RESIDENT HOUSE OFFICER (Surgical)

Post vacant mid-March. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7384)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

RESIDENT HOUSE OFFICER (General Surgery)

The post is recognized for F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the Secretary, Stoke on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7383)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

HOUSE OFFICER (General Surgery)

vacant immediately. Post recognized for F.R.C.S. examination. Applications, with copy testimonials, should be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7385)

SUNDERLAND, GENERAL HOSPITAL (517 beds)

HOUSE SURGEON (Male or female)

Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (7453)

SUTTON-IN-ASHFIELD, NOTTINGHAMSHIRE KING'S MILL HOSPITAL

Applications are invited for the post of

HOUSE SURGEON

The hospital contains 115 surgical beds and the post offers facilities for practical training in general surgery and E.N.T. surgery. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Salary £350 to £450, according to previous posts held, with a deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary to the Committee. (4818)

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee

Applications are invited from registered medical practitioners for the resident appointment of

HOUSE SURGEON

Full particulars of age, qualifications and experience, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (7421)

TRURO, ROYAL CORNWALL INFIRMARY (General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee

Applications are invited for

HOUSE SURGEON (Male or female)
for General Surgery and Gynaecology

Post vacant March 18, 1952. The successful candidate will be responsible jointly with the House Surgeon for the 66 beds allocated to the two specialties. Salary and conditions of service in accordance with the terms published by the Ministry of Health Applications, stating age, qualifications and experience, and copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5268)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for the following appointments:

TWO RESIDENT HOUSE SURGEONS
(vacant April 1, 1952)

Post is/are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Surgery—contd.

WALSALL GENERAL HOSPITAL (181 beds)
Walsall Hospital Management Committee
TWO HOUSE SURGEONS
Required at the above hospital. Posts vacant immediately. Apply Secretary. This is a busy General Hospital within easy reach of Birmingham and Wolverhampton, offering excellent experience in all branches of general surgery. (4900)

WARRINGTON GENERAL HOSPITAL (372 beds)
There are immediate vacancies for
TWO RESIDENT HOUSE SURGEONS
The hospital is modern and offers excellent experience in general surgery. Salary and conditions in accordance with national scales.—H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington. (4667)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Second or third post)
Vacant end of February. Salary according to National Health Service scale. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent to the undersigned.—Cyril Hopkinson, Administrator. (5862)

WEST BROMWICH AND DISTRICT GENERAL HOSPITAL, Edward Street, West Bromwich
West Bromwich and District Hospitals Management Committee Group No. 18
Applications are invited for the post of
HOUSE SURGEON
Range of salary £350 to £450 per annum according to experience, with deduction of £100 per annum in respect of board and lodgings. The post is tenable for six months. Applications, together with three recent testimonials, should be submitted to John O. Robins, Secretary. (7569)

WESTON-SUPER-MARE GENERAL HOSPITAL (110 beds)
Applications are invited from registered medical practitioners for the resident appointment of
HOUSE OFFICER (House Surgeon)
Duties to commence March 1, 1952. Salary at the rate of £350 to £400 per annum, according to previous posts held, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be addressed to the Secretary, Weston-super-Mare Hospital Management Committee, c/o The General Hospital, Weston-super-Mare. (7270)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
TWO HOUSE SURGEONS
Vacancy March 16 and 29 respectively. General surgery and work in E.N.T. department. Applications, with copies of two testimonials, to the Secretary. (7147)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL
HOUSE SURGEON in General Surgery
Required immediately. Post recognized for F.R.C.S. Salary on national scale. Applications, stating age, experience, qualifications (with dates), nationality, together with copies of recent testimonials, should be sent to the Administrative Officer. (7001)

WREXHAM, MAELOR GENERAL HOSPITAL (513 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the above hospital to commence at the beginning of March. The appointment is recognized for the Diploma of F.R.C.S. (Eng. and Edin.). Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (6620)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds, with full Consultant staff)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
which is vacant immediately and recognized under F.R.C.S. regulations. Salary £350 per annum for first post, £400 for second post, £450 for third post, less £100 for residence. Applications, giving details of age, nationality, experience, and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (7570)

CASUALTY

YORK, CITY HOSPITAL
(Modern general hospital of 265 beds, with full Consultant staff)
Applications are invited from registered medical practitioners for the post of
CASUALTY OFFICER AND ORTHOPAEDIC OFFICER
The post is graded Junior Hospital Medical Officer (salary £700 by £50 to £1,000 per annum). Residence is available for which a charge of £153 per annum will be made. Arrangements can be made for the person appointed to be non-resident or partly resident. Post vacant immediately. Applications, giving details of age, nationality, experience, and qualifications, together with the names of two referees, to be forwarded immediately to the undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (7571)

EVELINA CHILDREN'S HOSPITAL OF GUY'S HOSPITAL
Southwark Bridge Road, London, S.E.1
There is a vacancy for a
NON-RESIDENT, PART-TIME CASUALTY OFFICER
for five morning sessions weekly. The appointment is for six months from March 1, 1952, and for the purpose of salary is graded as Senior House Officer. Applications, accompanied by copies of three recent testimonials, should reach the hospital Secretary not later than first post on Thursday, February 7, 1952. (7274)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL
Birmingham (Dudley Road) Group of Hospitals
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Casualty Department. This is a six- or twelve-months appointment, and becomes vacant on March 1, 1952. Applications, stating age, qualifications, and experience, accompanied by copies of three recent testimonials, should be forwarded to the Secretary, Hospital Management Committee, Dudley Road Hospital. (7572)

BLACKPOOL, VICTORIA HOSPITAL
ASSISTANT RESIDENT SURGICAL OFFICER with responsibility for Casualty Department
(Senior House Officer grade)
Post recognized for F.R.C.S. N.H.S. salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (7297)

DARTFORD HOSPITAL MANAGEMENT COMMITTEE
RESIDENT RECEIVING ROOM OFFICER
(Hospital Admissions and Casualties)
Candidates should have held house officer appointments. Salary £670 a year, less £150 a year for residential emoluments. Six months' appointment with possible renewal up to one year. Applications, stating age, qualifications, experience, nationality, and the names of two persons to whom reference may be made, to the Secretary, Dartford Hospital Management Committee, The Bow Arrow Hospital, Dartford, Kent, immediately. (7366)

EDGWARE GENERAL HOSPITAL
Edgware, Middlesex
SENIOR SURGICAL CASUALTY HOUSE OFFICER (Resident)
Salary £670 per annum. Deduction of £130 per annum for board, lodging, etc. Vacancy March 1, 1952. Applications, together with the names of two referees, to the Group Secretary, Edgware General Hospital, Edgware, Middlesex, not later than February 16, 1952. (7526)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (7163)

HALIFAX, ROYAL INFIRMARY (301 beds)
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER (Male)
for duty in Casualty and Orthopaedic Departments. Applications, stating age, nationality, and experience, together with copies of three testimonials, to be forwarded to the Secretary. (7246)

HUDDERSFIELD ROYAL INFIRMARY (321 beds)
Huddersfield Hospital Management Committee
RESIDENT CASUALTY OFFICER
Required to commence duties on March 12. Senior House Officer Grade. Salary in accordance with the terms and conditions of service for hospital medical and dental staff, £670 a year, less £130 in respect of residential emoluments. Applications, together with copies of three recent testimonials, to be sent to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, the Royal Infirmary, Huddersfield. (7473)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary. (5418)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of either
RECEIVING ROOM OFFICER
Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or
CASUALTY OFFICER
Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant.
Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

MIDDLESBROUGH GENERAL HOSPITAL (350 beds)
Tees-side Hospital Management Committee
SENIOR HOUSE OFFICER (Casualty)
Applications are invited for the above appointment. Salary and conditions in accordance with national scales. Applications, stating age, qualifications and experience, together with names for reference, should be forwarded to the Secretary-Superintendent, Middlesbrough General Hospital, Middlesbrough. (7452)

NOTTINGHAM, GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Casualty)
Duties to commence as soon as possible. Salary £670 per annum, less £150 emoluments. Terms and conditions of service as published by the Ministry. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (4819)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for the appointment of
SENIOR HOUSE OFFICER
to Casualty and Fracture Department
vacant immediately. Salary at £670 per annum. Terms and conditions in accordance with the National Health Service terms. The appointment will be for a period of twelve months and is renewable. Applications, stating age, nationality, qualifications and experience, together with the names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (7422)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties, which include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
CASUALTY OFFICER
Applications are invited from registered medical practitioners for above post, vacant March 1, 1952. Post offers good experience with fractures and emergency surgery, and is tenable for 12 months. Salary £670 per annum. Applications, stating age, nationality, qualifications, and experience, together with recent testimonials, to be addressed to the Administrative Officer. (7543)

ROTHERHAM, DONCASTER GATE HOSPITAL (155 beds)
SENIOR HOUSE OFFICER
(Casualty and Orthopaedic)
Salary £670 per annum, less £140 per annum residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (7002)

WALSALL GENERAL HOSPITAL (181 beds)
Walsall Hospital Management Committee
CASUALTY OFFICER (S.H.O. grade)
Required immediately. Apply Secretary. (7527)

Casualty—contd.

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S., England)
Applications are invited for the resident post of
SENIOR HOUSE OFFICER
(Casualty Department)
Vacant April 1, 1952. Applications, giving full details of age, nationality, qualifications, present and previous appointments, with dates, and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary (7059)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
CASUALTY OFFICER
(Resident or non-resident)
(Senior House Officer status)
Duties to be from 9 a.m. to 5 p.m. each day, except Saturday, which should be 9 a.m. to 1 p.m., and the applicant may be required to do one week-end's duty in each month. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7123)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the post of
CASUALTY OFFICER
The post is of Senior House Officer status, becomes vacant on May 23, and is tenable for one year. Conditions are in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of three testimonials, to be sent by February 18 to the Secretary, from whom further particulars can be obtained. (7240B)

MEMORIAL HOSPITAL
Shooters Hill, Woolwich, S.E.18
CASUALTY OFFICER
Vacant now. Six months' appointment. Salary £350 to £450 per annum, less £100 per annum for residence. Apply to Secretary. (7448)

PRINCE OF WALES'S GENERAL HOSPITAL, N.15
Tottenham Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT CASUALTY OFFICER (Third post)
for a period of six months. Application forms from the Secretary, Tottenham Group Hospital Management Committee, The Green, Tottenham, N.15, to be returned by February 16, 1952. (7391)

ST. JOHN'S HOSPITAL (General—112 beds)
Lewisham, London, S.E.13
Lewisham Group Hospital Management Committee
Applications are invited for the post of
RESIDENT CASUALTY OFFICER
(House Officer Grade)
Now vacant and tenable for six months. There are four other residents at the hospital. Applications, stating age, qualifications, and experience, with copies of three recent testimonials or names of referees, should be sent to Sec., Group Offices, Lewisham Hospital, London, S.E.13. (7367)

BIRKENHEAD GENERAL HOSPITAL (174 beds)
Birkenhead Hospital Management Committee
Applications are invited for the following post, vacant April 1, 1952, for six months:
CASUALTY OFFICER (House Officer Grade)
for well-equipped department where there is a J.H.M.O. in immediate charge. Apply by February 9, 1952, stating post and hospital concerned, age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary to above Committee, St. James' Hospital, Birkenhead. (7474)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE SURGEON
(Casualty and Orthopaedic Department)
Post recognized for F.R.C.S. N.H.S. salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (7298)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
CASUALTY OFFICER (House Officer)
Required immediately. National salary and conditions. Apply M. H. Boone, Secretary. (7299)

HASTINGS, ROYAL EAST SUSSEX HOSPITAL (150 beds)
Hastings Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Post now vacant. National scales of salary. Applications to be sent to the Administrator at the hospital. (7317)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for residential emoluments. The post will be tenable for six months and terminable by one month's notice either side. Forms of application from the Administrative Officer. (6325)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN
Busy Casualty Department. Good scope for medical experience. Applications immediately to the Secretary, Hospital Management Committee. (7493)

NEWPORT, I.W., ST. MARY'S HOSPITAL
Isle of Wight Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Required for new department in recently completed premises, with charge of some beds in special departments. Salary according to previous posts held (£350, £400 or £450), less £100 for board, lodging and services provided. National terms and conditions of service. Applications, stating full details as to age, qualifications, experience and nationality, together with names and addresses of three referees, to be sent to the Chief Administrative Officer, Hospital Management Committee, at above address as soon as possible. (7442)

PENZANCE, WEST CORNWALL HOSPITAL (General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
CASUALTY HOUSE SURGEON
Post now vacant. National salary and conditions of service. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6447)

PRESTON ROYAL INFIRMARY (400 beds)
CASUALTY OFFICER (House Officer Grade)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7423)

SOUTH SHIELDS, INGHAM INFIRMARY (158 beds)
Applications are invited from registered medical practitioners for the post of
CASUALTY OFFICER "SPECIALS" HOUSE SURGEON (First or second post)
which is now vacant. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Secretary. (7205)

SHEFFIELD, ROYAL INFIRMARY
United Sheffield Hospitals
Applications are invited from registered medical practitioners, male and female, for the following post, now vacant:
HOUSE SURGEON
to the Accident and Orthopaedic Department
The post will be tenable for six months from January 15, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health for House Officers. Applications should be sent forthwith to Frank Hart, Superintendent, Royal Infirmary, Sheffield, 6. (7475)

STOURBRIDGE, CORBETT HOSPITAL (106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Casualty)
Post now vacant and will be tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (5384)

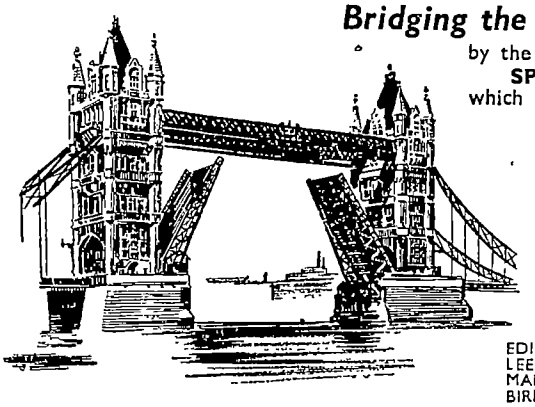
WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL, Watford, Herts (189 beds)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
The Traumatic and Orthopaedic Department consists of 24 beds, and is integrated with the Royal National Orthopaedic Hospital. Salary according to N.H.S. scale. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent to undersigned.—Cyril Hopkinson, Administrator. (7573)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

PUBLIC HEALTH

(See Important Notice page 21)

CHESHIRE COUNTY COUNCIL
Urban District of Nantwich
Rural District of Nantwich
MEDICAL OFFICER OF HEALTH AND DIVISIONAL MEDICAL OFFICER
Applications are invited from registered medical practitioners holding a Diploma in Public Health, or similar registered qualification, for the above permanent whole-time appointment. The salary attaching to the appointment is £1,561 7s. 3d by £55 13s. 7d. to £1,784 1s. 9d. by £32 9s. 1d. to £1,915 18s. 2d. Candidates must possess administrative ability and have a sound knowledge and experience of the public health services. The person appointed will not be permitted to engage in private practice. The appointment will be subject to the Local Government Superannuation Act, 1937, and the successful applicant will be required to pass a medical examination. Applications, marked "M.O.H.," stating age, qualifications and experience, together with the names of three persons to whom reference may be made, should be delivered to the Clerk of the Nantwich Divisional Health Committee, Stapeley House, Stapeley, Nantwich, not later than Saturday, February 23, 1952.—Arnold Brown, County Medical Officer; F. E. Davenport, Clerk of Nantwich Divisional Health Committee. (7211)



Bridging the Gap in the N.H.S. Superannuation Scheme
by the new
SPECIAL PENSION AND INSURANCE SCHEME
which provides:
1. Personal Pension.
2. Widow's and Dependants' Pension.
3. Increased Family Protection.
4. Disability Benefit.
and cessation of premiums during incapacity

Unbiased Advice . . . Direct Saving
. . . All surplus to Medical Charities

MEDICAL INSURANCE AGENCY LTD.
Chief Office: B.M.A. House, Tavistock Square, London, W.C.1
Telephone: Euston 5561/3

EDINBURGH: 6 Drumsheugh Gardens.
LEEDS: 20/21 Norwich Union Bldgs., City Sq.
MANCHESTER: 33 Cross Street.
BIRMINGHAM: 154 Great Charles Street.
GLASGOW: 234 St. Vincent Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.
NEWCASTLE-UPON-TYNE: 16 Saville Row.

Public Health—contd.

COVENTRY, CITY OF

Applications are invited from registered women medical practitioners for the post of

ASSISTANT MEDICAL OFFICER (Maternity and Child Welfare) in the Health Department

Successful applicant will work under the Senior Assistant Medical Officer for maternity and child welfare, take duties in the antenatal, infant welfare, toddlers and immunization clinics and such other duties as the Medical Officer of Health may direct. Experience in obstetrics and gynaecology or diseases of children desirable. Possession of the D.R.C.O.G. or D.C.H. an advantage. Salary scale £850 by £50 to £1,150. Medical examination on appointment to conform with Local Government and Other Officers' Superannuation Act, 1937. Officers of the Corporation are expected to belong to an appropriate organization as referred to in para. 44 of the Charter. Applications (no forms provided), with two recent copy testimonials, to the Medical Officer of Health, Council House, Coventry, by February 11, 1952. (7300)

ISLE OF WIGHT COUNTY COUNCIL

Applications are invited from registered medical practitioners, men or women, for appointment as **ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER** Candidates should possess D.P.H. or D.C.H. and experience in the ascertainment of educationally retarded children will be an advantage. Salary will be on the scale £850 rising by annual increments of £50 to a maximum of £1,150 per annum. The person appointed will be entitled to a travelling allowance on the Council's scale for the use of a car. Duties will be mainly in connexion with Maternity and Child Welfare and School Medical Services, together with such other duties as may from time to time be assigned by the County Medical Officer. Forms of application, obtainable from the undersigned, should be returned completed, together with a copy of one recent testimonial, and the names of two persons to whom reference may be made, not later than February 21, 1952.—L. H. Baines, Clerk of the County Council, County Hall, Newport, I.W. (7368)

KENT EDUCATION COMMITTEE
ASSISTANT COUNTY MEDICAL OFFICERS

Applications are invited for the above appointments in the Erith, Sittingbourne and Canterbury districts. The salary scale is £850 a year, with annual increments of £50 to £1,150 a year. The commencing salary will be fixed at a point on the scale according to the experience and qualifications of the successful candidate. The appointments are superannuable and the successful candidates will be required to pass medical examinations. The duties are mainly in the school health and child welfare services. Applications, stating age, qualifications and experience, accompanied by the names and addresses of two persons to whom reference may be made as to professional ability and character, should be addressed to the County Medical Officer, County Hall, Maidstone, not later than February 14.—A. Elliott, M.D., County and School Medical Officer, County Hall, Maidstone. (7443)

MIDDLESEX COUNTY COUNCIL
County Health Department
SENIOR ASSISTANT MEDICAL OFFICER (Female)

Required initially in Area 10 (Twickenham, Feltham, Staines and Sunbury). Responsible for some of the administrative work in health visiting, midwifery, home nursing and day nursery services, and some clinical work. Must be prepared, if required, to undertake also duties of Medical Officer of Health or Deputy of one or more of the County Districts in Area, in which case salary would be amended as appropriate nationally negotiated scale. Established, pensionable, whole-time post. Subject to medical assessment and prescribed conditions. Salary as Whitley Council, £1,150 by £50 to £1,400 per annum inclusive. Previous service in same grade would be considered in determining commencing salary. Applications (no forms), stating age, qualifications, experience, two referees, to Area Medical Officer, Elmfield House, High Street, Teddington, by February 16 (quoting K.394 B.M.J.). Canvassing disqualifies.—C. W. Radcliffe, Clerk of the County Council. (7156)

STOKE-ON-TRENT, CITY OF, EDUCATION COMMITTEE

Applications are invited from fully qualified registered medical practitioners for the post of

WHOLE-TIME ASSISTANT SCHOOL MEDICAL OFFICER

Salary scale £850 to £1,150 per annum by annual increments of £50. The duties will consist of routine medical inspection in schools and clinic work. Experience in refraction work is desirable. The appointment is subject to the provisions of the National Health Service (Superannuation) Regulations and is terminable by one month's notice on either side. The successful candidate will be required to pass a medical examination. Forms of application, which may be obtained from the undersigned, should be completed and returned as soon as possible.—H. Dibden, Chief Education Officer, Town Hall, Hanley, Stoke-on-Trent. (6971)

SMETHWICK, COUNTY BOROUGH OF

Applications are invited from registered medical practitioners for the post of

ASSISTANT MEDICAL OFFICER OF HEALTH and ASSISTANT SCHOOL MEDICAL OFFICER

The duties will consist mainly of work in connexion with maternity and child welfare and school medical inspection. The duties will also include such other public health work as the Medical Officer of Health may direct. Salary will be on the scale £850 per annum, rising by £50 annually to a maximum of £1,150 per annum. The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. The appointment will be subject to two months' notice on either side. The officer appointed may, if desired, be offered the tenancy of an unfurnished flat. Forms of application may be obtained from the Medical Officer of Health, Public Health Department, Hales Lane, Smethwick, to whom they should be returned within two weeks of the publication of this advertisement. —E. L. Twycross, Town Clerk, Council House, Smethwick. (7157)

ADMINISTRATIVE

SCOTLAND, SOUTH-EASTERN REGIONAL HOSPITAL BOARD

Applications are invited for the post of

ASSOCIATE MEDICAL SUPERINTENDENT to West Lothian Hospitals Board of Management

The duties will consist of the medical administration of some 1,000 general beds, mainly in Bangour Hospital (situated 17 miles west of Edinburgh). Salary will be at the rate of £1,400 per annum, rising by annual increments of £50 to £1,750. Applications, together with the names of three referees from whom confidential reports may be obtained, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, from whom further particulars regarding this post may be obtained, within thirty days. (7592)

GOVERNMENTAL

TREASURY MEDICAL SERVICE

Applications are invited from medical practitioners, practising in the districts detailed below, for appointment in a part-time and mainly advisory capacity, as

LOCAL TREASURY MEDICAL OFFICER

for each of the places or groups of places shown. The town shown in brackets after the place-names indicates the Head Post Office area in which the place, or group of places, is situated. Successful applicants will be required to examine and report on the condition of certain Government officers, teachers, candidates for appointment, etc., who may be referred to them from time to time; and to attend when summoned to an emergency case of accident or sudden illness occurring in a Government office in the neighbourhood. Fees for this work, and mileage allowance where necessary, will be paid on a scale agreed with the British Medical Association. Intending applicants should write, within 14 days, to: Treasury Medical Adviser, Treasury Chambers, Whitehall, S.W.1, for a form on which application may be made. Applicants should be not more than 60 years of age. The places for which applications are invited are as follows:

England and Wales

Golders Green (London, N.W.11)
Askern, Campsall, Norton and Womersley (Doncaster)
Kidwelly (Llanelly)
Longtown (Carlisle)

Scotland

Carnoustie (Dundee)
Portree (Portree). (7578)

SERVICES

ROYAL NAVAL MEDICAL SERVICE

Candidates are invited for service as

MEDICAL OFFICERS

in the Royal Navy—preferably below 28 years. They must be British subjects whose parents are British subjects, and be medically fit. No examination will be held but an interview will be required. Initial entry will be for four years' short service, after which gratuity of £600 (tax free) is payable, but permanent commissions are available for selected short service officers. Officers entered on or after January 1, 1951, will be eligible to be considered for antedates of seniority up to two years for service in recognized civil hospitals, etc. For full details apply Medical Director-General, Admiralty, S.W.1.

INDUSTRIAL APPOINTMENTS

FACTORY DOCTORS
FACTORIES ACTS, 1937 and 1948

The following appointments as Appointed Factory Doctor under the Factories Acts, 1937 and 1948, are vacant: Kirkcaldy, in the County of Fife; Brill, in the County of Buckingham; St. Agnes, in the County of Cornwall. Applications, which should be received not later than February 16, 1952, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

LEVER BROTHERS & UNILEVER LIMITED.—Applications are invited from registered medical practitioners of either sex for the full-time post of **Assistant Medical Officer (at head office).** The successful candidate will be required to assist the head office staff medical officer in the health supervision of a large clerical staff, a considerable proportion of whom are adolescents. The work will also include the medical examination of candidates for home and overseas appointments, the re-examination of employees and their families on home leave from both temperate and tropical climates and the health supervision of certain nearby small industrial units. Candidates should have a good standard of clinical medicine combined with an interest in preventive and industrial medicine. Commencing salary will be in accordance with experience, qualifications and age and will be not less than £1,100 per annum. Letters of applications, which should include the names of three persons to whom reference may be made, and full details of the candidate's training and career, should be submitted not later than February 16, 1952, to the Principal Medical Officer, Unilever House, London, E.C.4. (7595)

NATIONAL COAL BOARD, DURHAM DIVISION.—Applications are invited from registered practitioners for a full-time appointment as a **Medical Officer** in the Durham Division of the National Coal Board. The duties will embrace the normal functions of Industrial Medical Officer. The successful candidate will be allocated to an area and will be responsible for the organization and supervision of the medical and first-aid services at the collieries in that area. Candidates should have had experience in general practice and/or in the field of preventive and industrial medicine. Knowledge of the coalmining industry, though not essential, will be an advantage. Salary will be within the range of £1,250 to £1,900, according to qualifications, age, and experience. Applications, giving full particulars of age, qualifications, experience, in chronological order, present post and salary, together with the names of three referees, or three testimonials, should be sent to the Establishments Officer, National Coal Board, "D" Floor, Milburn House, Newcastle-upon-Tyne, 1, within fourteen days of the appearance of this advertisement. Original testimonials should not be sent.

NATIONAL COAL BOARD, NORTH-WESTERN DIVISION.—Applications are invited for the two posts of **Medical Officer** to the No. 2 (Wigan) Area and the No. 3 (St. Helens) Area). The work will include making underground visits to collieries. Candidates should have experience in the field of preventative and industrial medicine; knowledge of the coalmining industry will be an advantage. Salary will be according to qualifications and experience, within the range of £1,250 to £1,900. Applications, giving age, education, qualifications, experience, present appointment and salary, together with the names of two referees, should be sent to the Divisional Establishment Officer, National Coal Board, 40, Portland Street, Manchester 1, by February 11, 1952. (7247)

OVERSEAS

CANADA, Saskatchewan

Urgent—two male doctors take over double private practice, also charge new hospital. Professional and residential accommodation. No capital required. Details: Medical Practices Advisory Bureau, B.M.A., Tavistock Square, W.C.1. (7574)

NEW ZEALAND

Partnership offered in a New Zealand city to young man with good higher surgical qualification. Principal conducts private general and surgical practice with surgical public hospital appointment. One third share now offered with view to increase in five years. Further information obtainable on application in writing to Medical Practice, National Bank of New Zealand, Ltd., 8, Moorgate, London, E.C.2.

WELLINGTON, New Zealand

Practice for disposal to one or two men. Gross receipts 1951 £9,106. Cash required by each man approximately £3,000. Details from Medical Practices Advisory Bureau, B.M.A., Tavistock Square, W.C.1.

SOUTH GEORGIA

Wanted immediately, **Doctor for a Whaling Station at South Georgia.** Higher qualifications necessary. Salary £100 per month, board and lodging provided. Applications to Medical Superintendent, Chr. Salvesen and Co., 29, Bernard Street, Leith.

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

Overseas—contd.

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200 (3942)

ALBANY HOSPITAL, Albany, N.Y.

Residency in tuberculosis available at Albany Hospital, Albany, New York, associated with Albany Medical College, beginning July 1, 1952, for a period of twelve months. Salary ranges from $1,800 to $2,400. (9920)

ALBANY HOSPITAL, Albany, N.Y.

Internships and residencies available in Albany Hospital, Albany New York, 750-bed general hospital, directly associated with Albany Medical College. House officers receive appointments in medical school. Salaries range from a minimum of $300 a year for interns to $1,400 a year for residents. Details on request. (9695)

CHRISTCHURCH HOSPITAL
Christchurch, New Zealand

Applications are invited from qualified medical officers possessing either (a) a higher qualification in radiotherapy plus two years' or more practical experience in the specialty or (b) three years' or more practical experience in radiotherapy, having been qualified for not less than six years, for the non-resident full-time position of

ASSISTANT RADIOTHERAPIST

The salary scale for the position will be £1,260 to £1,560 per annum (New Zealand currency), but during the absence of the Senior Radiotherapist on overseas study leave for approximately six months during 1952 a higher rate will be paid, as determined by the New Zealand Medical Officers' Salaries Grading Committee. In the event of the appointment of an applicant from the United Kingdom, assistance will be granted in the matter of travelling expenses to New Zealand. Conditions of appointment and schedule of duties obtainable from New Zealand House, Strand, London, W.C.2. Applications, by air mail, close with the Secretary, North Canterbury Hospital Board, Christchurch, New Zealand, at 9 a.m. on Wednesday, March 19, 1952. (7593)

QUEEN VICTORIA MEMORIAL HOSPITAL
172, Lonsdale Street, Melbourne, Australia

Applications are invited from legally qualified men and women for appointment as

RADIOLOGIST

to the above 300-bed midwifery and general hospital for women and children. Salary range £1,500 to £2,000 per annum, according to experience. Full- or part-time appointment, with or without limited private practice. Applications, stating age, nationality, qualifications and experience, and enclosing copies of at least three testimonials, and photograph, must be received by the undersigned on or before March 31, 1952.—Nell Stephenson, Acting Manager and Secretary. (7601)

ROAN ANTELOPE COPPER MINES
Northern Rhodesia
MEDICAL OFFICER

Preferably with experience in modern general anaesthesia, for Company's European and African hospitals, catering for community of approximately 3,500 Europeans and 26,500 Africans. Basic salary from £1,200 per annum depending on qualifications and experience, plus cost-of-living allowance (at present £90 per annum), and copper bonus scheme (at present approximately equivalent to £650 per annum). Also pension and life assurance benefits. Write Mine Employment Department, Selection Trust Building, Mason's Avenue, E.C.2. (7579)

HIS MAJESTY'S COLONIAL SERVICE

Applications are invited from male medical practitioners of British nationality possessing qualifications registrable in the United Kingdom for appointment as

RESIDENT MEDICAL OFFICERS (Interns)

at the King George VI Hospital, Nairobi. Appointment will be on agreement for one year in the capacity of a House Physician or House Surgeon. These posts are interchangeable by mutual agreement after six months' experience in either. Officers should preferably be under the age of 30 and single; if married, they should not be accompanied by their wives. "R" practitioners should have completed their period of National Service before applying. Salary £300 a year for the first six months and £350 a year for the second six months. In addition a messing allowance of £144 a year is payable. Income tax at local rates. Furnished quarters including linen, cutlery, china and glassware, together with light, fuel, and water, are provided free of charge. Free passages are provided on appointment, and on satisfactory completion of internship. Eighteen days local leave a year is granted. If selected candidates apply for and obtain appointment to the Colonial Medical Service in Kenya at the expiration of their internships, previous service as Resident Medical Officers will count for leave, but they will be required to serve the usual probationary period. The period of internship will not count for seniority. Ample opportunities for clinical experience with systematic teaching and a large measure of personal responsibility under specialist guidance is afforded. Candidates should apply for forms of application to the Director of Recruitment (Colonial Service), Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/333/1951). (7576)

HIS MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom, with one or more years' experience after qualification, are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH

for general medical and health duties. A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan medical service. Appointment is available (a) on probation for permanent establishment, (b) on employment from the National Health Service, and (c) on short term contract with gratuity. **(a) Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in His Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g. F.R.C.S., M.R.C.P., D.P.M., D.A., etc.) **(b) National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malayan salary on leaving Malaya at the end of their engagements. Emoluments as under (a) including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their Colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. **(c) Contract terms.** The contract will be for three years' resident service, renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a) including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e. those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/242/51). (5187)

UNIVERSITY OF HONG KONG

Applications are invited immediately for the post of

SENIOR LECTURER IN ANAESTHETICS

a post occasioned by expansion to the present establishment. Emoluments (for a married member of the staff normally resident outside Hong Kong or China, and inclusive of allowances) £1,576 by £40 to £1,736 per year. The applicant should be of consultant status and should possess a higher qualification in anaesthesia. The duties will consist of the administration of anaesthetics in the Queen Mary Hospital, the organization of teaching and research in anaesthesia. Limited consulting anaesthetic practice will be permitted. First class sea passages, and furnished houses or flats at reasonable rentals are provided for expatriate staff. Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, 5, Gordon Square, London, W.C.1. The closing date for the receipt of applications is March 31, 1952. (7594)

BERMUDA

An experienced qualified

PSYCHIATRIST

is required in a part-time capacity, to supervise diagnosis and treatment in Government Institutions including a mental hospital, and to advise in the school medical service. He will be free to practice as a consultant in the Islands. There is no qualified psychiatrist at present in practice. Salary from the Government will be according to qualification and experience, but will not be less than £1,000 per annum, free of tax. For further particulars, application should be made to the Director of Health Services, Health Department, Bermuda. (7602)

HIS MAJESTY'S COLONIAL SERVICE
Gold Coast
MEDICAL OFFICERS OF HEALTH

Required for duty in the Medical and Public Health Department of the Gold Coast. Duties include Medical Officer of Health in (a) a port or large town; (b) in a mining, industrial, or rural area; or (c) as a Medical Officer of Health in epidemiology in epidemic teams. Candidates must possess a diploma or certificate in public health. Appointment can be made on a permanent basis with pension (non-contributory) at the age of 45 to 55, or on short term contract with gratuity (reckoned at £37 10s. for each completed period of three months' service) on completion of satisfactory service. Candidates in the National Health Service, on appointment to the Colonial Service, may resign from the National Health Service but retain their superannuation rights during their time in the Gold Coast (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their colonial salary on leaving the Gold Coast at the end of their engagement. Salary scale for pensionable employment ranges from £890 to £1,600 per annum, and for short term contract from £1,030 to £1,800 per annum, with gratuity or National Health Service resettlement grant. Starting salary will be determined according to age, qualifications, and experience. Quarters are provided at rental of £90 to £150 per annum. Free passages in both directions for officer and wife, and assisted passages for children. Income tax at local rates. Tour of service is 18 months. Local leave is permissible and generous home leave is granted after each tour. Candidates must have at least one year's experience after qualification. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/104/51). (7575)

UNIVERSITY APPOINTMENTS

NUFFIELD FOUNDATION

The Nuffield Foundation invites applications from citizens of the United Kingdom for

FELLOWSHIPS AND SCHOLARSHIPS IN DENTISTRY

To help the advancement of teaching and research on dental health and disease, the Foundation is prepared to award a number of Fellowships (i) to enable selected men and women with dental qualifications to receive such additional training in pure and applied science as is desirable to fit them for an academic career in dentistry, and (ii) to enable selected university graduates in medicine and science to receive training that will qualify them to undertake teaching and fundamental research on dental health and disease. The Foundation is also prepared to award a limited number of Scholarships to assist students of outstanding ability attending a university dental school to devote one or two years to further studies of the basic sciences. Applications for fellowships should be received by March 1 annually and for scholarships by June 30 annually. Copies of the conditions of both fellowships and scholarships and the application forms are obtainable from the Secretary, The Nuffield Foundation, 12 and 13, Mecklenburgh Square, London, W.C.1.—L. Farrer-Brown, Secretary of the Nuffield Foundation. (7124)

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL (Bacteriology Department)
ASSISTANT

Required, medically qualified, preferably with experience of bacteriology. Duties consist of teaching and research. Salary scale £700 to £900 per annum, with superannuation benefits and children's allowance. Applications should be made immediately to the Secretary of University College Hospital Medical School, University St., W.C.1. (7528)

UNIVERSITY OF EDINBURGH

Applications are invited for the appointment of

LECTURER IN BACTERIOLOGY

whose principal duty will be the instruction of dental students. Salary scale £1,100 by £100 to £1,500, with superannuation benefit and family allowance where applicable. The successful candidate will be expected to take up duty as soon as possible. Further particulars may be obtained from the undersigned, with whom applications, together with the names of three referees, should be lodged not later than March 15, 1952.—Charles H. Stewart, Secretary to the University. (7596)

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

PERSONAL

NEW CARS STAY NEW IF THE UPHOLSTERY is protected by loose covers. Write or 'phone the Specialists, Car-Coverall, Ltd., 168, Regent Street, London, W.1. MONarch 1601-3.

NOTICES

APPLICANTS ARE ADVISED NOT TO SEND original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

MEDICAL REPRESENTATIVE AND AGENT IN Western Australia requires to import Surgical Instruments, Syringes, etc. Send details.—F. Wellington, Box S.1377, G.P.O., Perth, West Australia.

PRIVATE BEDS AT ITALIAN HOSPITAL (NOT nationalized), Queen Square, W.C.1. Single room, 12 gns.; sharing, 8 gns. Open to patients of consultants of recognized standing.—Ring Secretary, Holborn 6191.

EDUCATIONAL

F.R.C.S. PRIMARY TUITION IN ANATOMY at London Teaching Hospital Anatomy Department.—Box 436, B.M.J.

CHILDREN'S DISEASES (D.C.H.). FEBRUARY 18 to March 1. Daily 5.30 to 7 p.m. Princess Louise Kensington Hospital. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

EXAMINING BOARD IN ENGLAND
by the
ROYAL COLLEGE OF PHYSICIANS OF LONDON
and the
ROYAL COLLEGE OF SURGEONS OF ENGLAND

Notice is hereby given that the following Examinations will commence on the dates stated below:

DIPLOMA IN CHILD HEALTH
Thursday, March 6
DIPLOMA IN MEDICAL RADIO-DIAGNOSIS
DIPLOMA IN MEDICAL RADIOTHERAPY
Friday, April 18

Applications and fees for either or both parts of an examination must reach the Secretary, Examination Hall, Queen Square, London, W.C.1, at least 21 days before Part I of the Examination begins.

FRANCIS M. STENT, Secretary. (7427)

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE

GENERAL SURGERY

A three months' course of postgraduate surgery is arranged to start on March 24, 1952. It is suitable for surgeons requiring a refresher course in the current outlook on general surgery, or for graduates preparing to specialize in surgery; approximately 275 hours of instruction are provided. A similar course will be held starting on September 29, 1952. Fee £31, 10s.

INTERNAL MEDICINE

A course lasting twelve weeks, suitable for graduates wishing a refresher course, or to specialize in medicine, begins on March 31, 1952. These courses consist of 320 hours' instruction, comprising lectures, clinical demonstrations and ward visits. A similar course begins on September 29, 1952. Fee £31 10s.

Additional instruction in Clinical Paediatrics is arranged in conjunction with the course in Medicine, for which there is a small fee: the numbers are limited.

MEDICAL SCIENCES

A three months' course in Applied Anatomy, Physiology, Pathology, Bacteriology and Biochemistry will begin on June 30, 1952. This course is suitable for postgraduates wishing to take the Primary Fellowship examination, as a final preparation in these subjects. Considerable basic knowledge is highly desirable prior to taking this course. Fee £31 10s.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

The nineteenth Fortnight General Refresher course for N.H.I. practitioners will start on May 5, 1952. Fee for graduates not claiming expenses from Government sources, 10 guineas.

Applications for enrolment should be addressed to Director of Postgraduate Studies, Surgeons' Hall, Edinburgh, 8. Applicants for courses, except general practitioners, should supply particulars of qualifications and postgraduate experience.

GROCERS' COMPANY
MEDICAL RESEARCH SCHOLARSHIP, 1952

Applications are invited for the Medical Research Scholarship awarded annually by the Grocers' Company. This is of the value of £450 for the first year of tenure and of £650 in the second, if the holder be reappointed; a further allowance of up to £100 each year is made for research expenses. Applicants must be British subjects and not over 35 years of age. Preference is given to those not holding other remunerative employment, and thus able to devote the whole of their time to the proposed research. The tenure of the Scholarship begins annually on September 1. Applications must be submitted before June 1. Further particulars and application forms may be obtained from the Clerk, the Worshipful Company of Grocers, Grocers' Hall, Princes Street, London, E.C.2. (7597)

INSTITUTE OF UROLOGY
in association with St. Peter's, St. Paul's and St. Philip's Hospitals
POSTGRADUATE COURSE IN VENEREOLOGY
March 3 to April 30, 1952

The course will include systematic lectures and demonstrations, covering the whole subject, outpatient clinics and weekly ward rounds. Fee for the course is 12 guineas. Applications to the Dean, Institute of Urology, c/o St. Paul's Hospital, Endell Street, W.C.2. (6834)

NORTH LONDON POSTGRADUATE MEDICAL INSTITUTE
Bearsted Memorial Hospital, N.16
Chase Farm Hospital, Enfield
North Middlesex Hospital, Edmonton, N.18
St. Ann's General Hospital, Tottenham, N.15
Prince of Wales's General Hospital, Tottenham, N.15

A course in advanced medicine, in preparation for the M.R.C.P. examination, will be held from April 21, 1952, to June 13, 1952, including lectures, clinical and pathological demonstrations, and tutorials. Fee 25 guineas. Application forms from the Dean, The Prince of Wales's General Hospital, Tottenham, N.15. (7577)

OBSTETRICS (D.OBST.R.C.O.G.) WEEK-END. February 9 and 10. All day Saturday and Sunday. Queen Mary's Hospital for the East End, Stratford. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

OBSTETRICS (D.OBST.R.C.O.G.). FEBRUARY 11 to 16. All day. West Middlesex Hospital, Isleworth. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

POSTGRADUATE STUDY. Diploma in Anaesthetics; Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Laryngology; Diploma in Child Health; F.R.C.S.Eng., and all Surgical Examinations; M.R.C.P.Lond. and all Medical Examinations; M.D. Thesis of all Universities; Courses for all qualifying Examinations. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested. Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1.

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SOCIETY OF APOTHECARIES OF LONDON.—Surgery: March 10, April 15, May 12. Medicine and Pathology: March 17, April 21, May 19. Midwifery: March 18, April 22, May 20. Mastery of Midwifery: May and November. Diploma in Industrial Health: July and December. For regulations apply Registrar, Apothecaries' Hall, Black Friars' Lane, London, E.C.4.

TUBERCULOSIS EDUCATIONAL INSTITUTE
Three-day Clinical Courses for Doctors—1952

Intensive three-day clinical courses will be held at the following centres during 1952:

Cheshire Joint Sanatorium, Market Drayton, Shropshire
March 19, 20, and 21. May 14, 15, and 16. November 12, 13, and 14.

King George V. Hospital for Diseases of the Chest, Godalming, Surrey
February 27, 28, and 29. June 4, 5, and 6. October 1, 2, and 3.

Red Cross Sanatoria of Scotland (Tor-na-Dee and Glen o'Dee)
March 19, 20, and 21. May 21, 22, and 23. October 15, 16, and 17.

The fee for each course is three guineas, and applications should be sent to the Secretary, Tuberculosis Educational Institute, Tavistock House North, Tavistock Square, London, W.C.1. (6731)

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Institute of Obstetrics and Gynaecology
(Incorporating the teaching facilities of Queen Charlotte's Maternity Hospital, Chelsea Hospital for Women, and the Department of Obstetrics and Gynaecology at the Postgraduate Medical School, Hammersmith Hospital)

Applications are invited from graduates with a registrable qualification, for enrolment for the Spring Term (March 10 to June 7, 1952). Graduates are allotted to one of the constituent hospitals for clinical work, and attend lectures and special demonstrations at all three hospitals. Enrolment fee £3. Tuition fee £30 for one term, £55 for two terms.

General practitioners wishing further experience in obstetrics may be accepted to attend the course at Queen Charlotte's Maternity Hospital for shorter periods (i.e. two to four weeks) They will be allowed to do normal deliveries and will have the opportunity of attending the combined classes of lectures and demonstrations at the three hospitals of the Institute. Ministry of Health grants are payable to approved general practitioners attending for a period of two weeks.

During vacation, graduates may attend the practice of the hospital at Queen Charlotte's Hospital and at the Postgraduate Medical School. Fee £1 per week.

A Refresher Course for general practitioners will be held from February 25 to March 1, 1952. Fee £5 5s.

Hostel accommodation is available at Queen Charlotte's Hospital and at the Postgraduate Medical School.

Further particulars can be obtained from the Secretary, Institute of Obstetrics and Gynaecology, Dovehouse Street, S.W.3. (7444)

UNIVERSITY OF MANCHESTER
Faculty of Medicine
DIPLOMA IN DIAGNOSTIC RADIOLOGY
(D.M.R./D., R.C.P. and S. Eng.)

Provided a sufficient number of suitable candidates apply, a course of instruction for the above diploma will commence early in March, 1952, and extend over a period of two years. The course is full-time, non-resident, inclusive fee £52. Applications are invited from registered medical practitioners who fulfil the requirements as to previous medical experience laid down by the Examining Board in England (D.M.R./D. Regulations obtainable from the London Conjoint Board, 8-11, Queen Square, London, W.C.1). Candidates should note that no paid posts will be available during the period of training. Application to take the course should be made to the Dean of Postgraduate Medical Studies, the University of Manchester, not later than Friday, February 15, 1952. (7445)

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Caernarvon and Anglesey Hospital Management Committee.—Applications are invited for the following appointment: **Laboratory Technician,** holding the Associateship of the Institute of Medical Laboratory Technology or equivalent qualification, required for the Centre Pathology Laboratory, Caernarvon and Anglesey General Hospital, Bangor. Applications, stating age, qualifications and experience, together with the names of two referees, should be sent to the Secretary, Plas Gwyn, Bangor, N. Wales. (7598)

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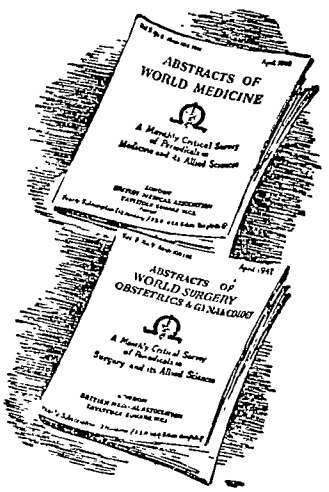

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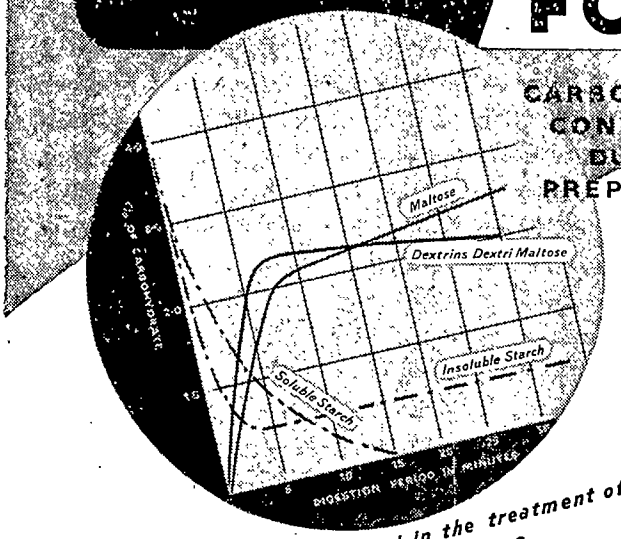

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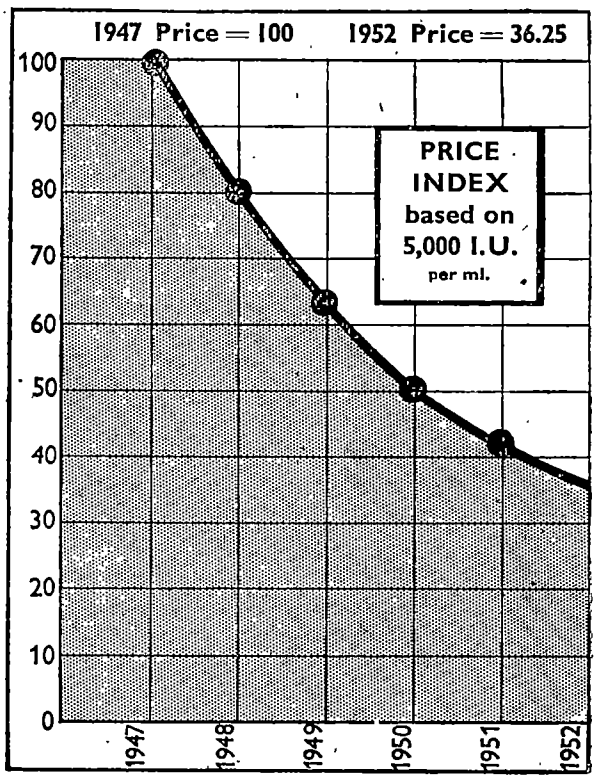

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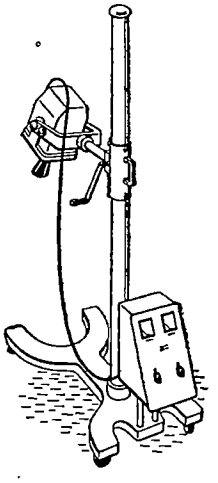

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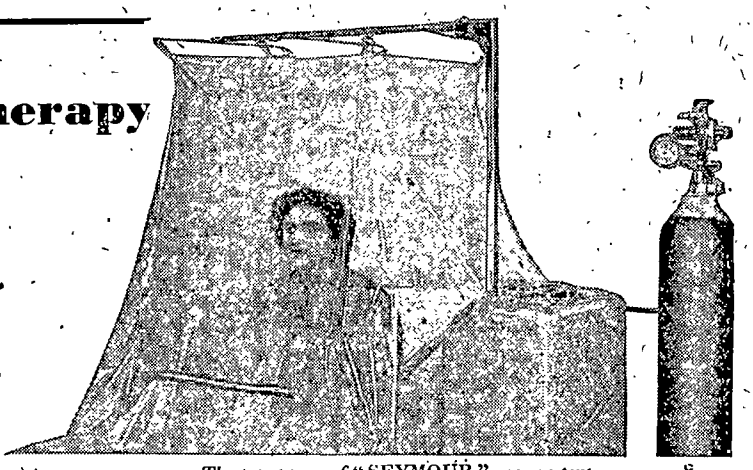

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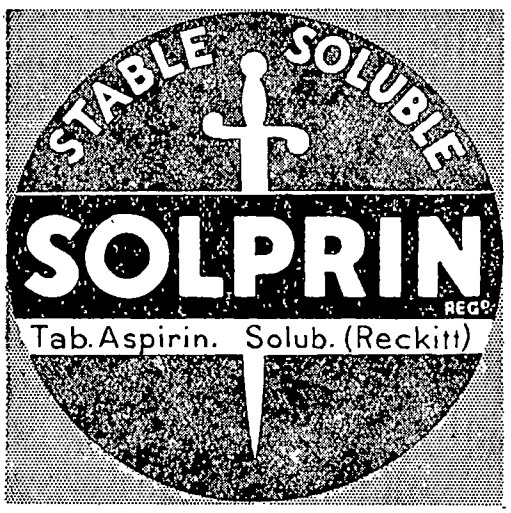

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY FEBRUARY 9 1952

CARCINOMA OF THE STOMACH

BY

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Carcinoma of the stomach is one of the commonest neoplasms, and in 1949 accounted for the death of 8,096 men and 6,157 women (Registrar-General, 1951). It carries a bad prognosis, but examination of the literature reveals considerable discrepancies from one medical centre to another. We have therefore reviewed the experience of the Radcliffe Infirmary, which is well suited to this form of clinical study. Not only has it an efficient records department and a high standard of note-taking, but also, except in a few special branches of medicine, it functions as a community hospital and its patients are representative of the major illnesses in the area.

We have studied the case notes of all in-patients who were diagnosed as suffering from gastric carcinoma during the period 1938–49 inclusive, and have followed their progress. With the help of Miss Eva Spitz, almoner to the Nuffield Department of Clinical Medicine, and by making use of various sources of information—patients, relatives, friends, family doctors, food offices, and registrars of births and deaths—we have obtained satisfactory follow-up data in every case. The length of follow-up varies from 1 to 13 years.

Age and Sex.—Nearly twice as many men as women were admitted with the disease. In both sexes the peak case incidence occurs in the sixties, which is somewhat later than is given by many writers. From Table I, which sets out the distribution of cases by age and sex, it will be seen that gastric carcinoma is uncommon below the age of 30. Relatively more of the men develop the disease below the age of 60 (49% of the men, as opposed to 39% of the women). However, the difference is only at the borderline of statistical significance, so that it is of doubtful importance, particularly as the general population contains a preponderance of women in the over-60 age groups.

TABLE I.—*Case Distribution by Age and Sex*

Age Group	Male		Female		Totals	
	No.	%	No.	%	No.	%
Under 30 ..	4	1·7	3	2·1	7	1·9
30–39	9	3·9	9	6·3	18	4·8
40–49	44	18·9	16	11·3	60	16·0
50–59	57	24·5	27	19·0	84	22·4
60–69	85	36·5	59	41·5	144	38·4
70 and over ..	34	14·6	28	19·7	62	16·5
	233	100	142	100	375	100

Length of History.—The time between the onset of symptoms and admission to hospital varies greatly. Of every 100 patients, 46 were admitted within six months of their first symptoms, 36 between six months and two years, and 18 more than two years after. There was no difference between men and women. If age is taken into account, it is found that a significantly higher proportion of the patients over 60 reach hospital within six months of their first symptoms (Table II). We think that this is most probably due to the fairly wide recognition that dyspeptic symptoms in elderly patients are likely to be caused by malignant disease, so that they are investigated early.

TABLE II

Age	No. of Patients	No. with History Less than 6 Months	%	Difference and Standard Error of Difference
Under 60 ..	169	63	37·3	15·1±5·1
Over 60 ..	201	106	52·4	

Site of Lesion.—The precise site of the lesion was unknown in 34 patients, but in the remaining 341 it was as follows: pyloric end, 198 (58.1%); body, 73 (21.4%); cardiac end, 41 (12%); diffuse infiltrating, 29 (8.5%).

Age and sex have little influence on the site of the lesion. The only significant difference found was a higher incidence of the diffuse infiltrating form among the younger age groups; this occurred in 14% of the under-60 age group, as against 3.8% of older patients. Here we are dealing with a more invasive type of the disease rather than with its site, so that this difference is probably an example of the general finding that carcinoma is less invasive in elderly people.

Symptomatology

For early diagnosis a knowledge of symptomatology is of the utmost importance. The first symptom is one which deserves attention, and Table III shows a rough grouping of such symptoms in 371 patients in relation to the site of the neoplasm. (In the remaining four, carcinoma of the stomach was found at necropsy, the patients having been

admitted for some other condition.) It will be seen that in more than four out of every five patients the first symptom is one related to the gastro-intestinal tract. There is some indication that neoplasms of the fundal end of the stomach are more likely than others to present with constitutional symptoms (anaemia, weakness, lassitude, fever), but the difference is not striking.

TABLE III.—*First Symptoms in Relation to Site*

First Symptoms	Pyloric		Body		Cardiac		Diffuse		Unknown		Totals	
	No. of Pts.	%	No. of Pts.	%	No. of Pts.	%	No. of Pts.	%	No. of Pts.	%	No. of Pts.	%
Symptoms relating to G.I. tract ..	174	88·8	58	80·6	29	70·7	24	82·8	25	75·8	310	83·6
Constitutional	18	9·2	12	16·7	11	26·8	3	10·3	7	21·2	51	13·7
Due to secondaries ..	4	2·0	2	2·8	1	2·4	2	6·9	1	3·0	10	2·7
	196	100	72	100	41	100	29	100	33	100	371	100

Note: Four patients with no symptoms are excluded.

Of the 310 patients with symptoms classified as relating to the gastro-intestinal tract, 219 first complained of "indigestion." Less common first symptoms were vomiting (31 patients), constipation or diarrhoea (13), anorexia (11), lower abdominal pain (10), dysphagia (9), abdominal swelling (5), haematemesis or melaena (5), a palpable lump (3), perforation (3), and hiccup (1). Although a majority of patients present with "indigestion," this is extremely variable in its form, and includes slight epigastric discomfort or belching, epigastric pain related to meals, and continuous epigastric pain.

We have attempted to analyse the symptoms in more detail, particularly with respect to the dyspeptic group. Table IV shows in relation to the site of the lesion the main varieties of dyspepsia which occurred *early* in the patients' history, although they were not in all cases the first symptoms.

TABLE IV.—*Analysis of Early Dyspeptic Symptoms (251 Patients)*

	Pyloric	Body	Cardiac	Diffuse	Totals
Mild*	36	4	8	5	53 (21·1%)
Ulcer type	42	14	4	6	66 (26·3%)
Pain after meals unrelieved by food and alkalis	26	7	3	1	37 (14·7%)
Long history of vague dyspepsia	16	6	4	3	29 (11·6%)
Continuous pain ..	21	19	4	3	47 (18·7%)
Pyloric stenosis ..	16	1	0	2	19 (7·6%)
	157	51	23	20	251 (100%)

* Mild symptoms include vague abdominal discomfort, fullness, belching, regurgitation, etc.

It will be seen that any type of dyspepsia can occur with neoplasms in any situation within the stomach. Symptoms suggesting pyloric stenosis occur mainly in lesions of the pyloric end and, less commonly, in diffuse infiltrating lesions. Continuous epigastric pain was experienced more frequently with carcinoma of the body than with lesions elsewhere. But, with the exception of the symptoms of pyloric stenosis, the most striking fact about the findings is that the site exerts little influence on the type of dyspepsia met with early in the course of the disease. It is also worth noting that, although carcinoma of the pyloric end is very common, the picture of pyloric stenosis is found in only 10% of such cases during the early stages.

Dyspeptic symptoms are experienced by a larger number of patients at the time of their admission to hospital, and continuous epigastric pain and the pyloric stenosis syndrome are more commonly found, between them accounting for 50% of the dyspeptic symptoms. In other words, between the early stage of the disease and admission to hospital the symptomatology has changed towards the conventional "textbook picture" of carcinoma of the stomach.

Dysphagia.—This is a fairly common symptom in carcinoma of the cardiac end of the stomach, and may occasionally occur with neoplasms in other situations. As an early symptom it was present in nine patients, eight of whom had a fundal neoplasm and one a carcinoma of the body. By the time of admission to hospital 13 of the 41 patients with fundal carcinomata and 4 patients with lesions elsewhere had dysphagia.

Haematemesis and Melaena.—Although rarely found as an initial symptom, frank bleeding from the gastro-intestinal tract is common in carcinoma of the stomach. Recognizable haematemesis or melaena occurred in 77 of the 375 patients, and were prominent symptoms in 28. It is sometimes held (for example, Harnett, 1947) that bleeding occurs most commonly from growths at the cardiac end. In the present series the site of the lesion appeared to have little influence on the liability to bleed.

Perforation.—There were eight cases of perforation, of which two occurred in hospital while the patients were under investigation. In three patients the perforation was the first symptom, and there was no previous history of dyspepsia. During the same period (1938–49) approximately 563 cases of perforation of the stomach or duodenum from all causes were treated in the Radcliffe Infirmary. Doll (1950) found 17 cases of perforated gastric carcinoma in a series of 452 gastric and duodenal perforations. He found that in a proportion of cases the diagnosis at operation was that of a simple lesion, and that the diagnosis of carcinoma was made only subsequently. Had all cases of perforation at the Radcliffe Infirmary been followed up in a similar manner it might well be that more cases of carcinoma would have been found.

Physical Examination

The physical examination may or may not be helpful in establishing the diagnosis of gastric carcinoma. The presence of an epigastric mass is of course strongly in its favour. In this series a mass was palpated on admission to hospital in nearly half the patients. A mass was found in 159 (54.1%) of the 294 patients with a "positive history," and in 19 (23.5%) of 81 patients with negative histories. (We defined a "positive history" as one which to us was suggestive of gastric neoplasm.)

It may be that this difference is mainly due to the more thorough abdominal examination of patients with histories suggestive of gastric neoplasm, but another explanation may also be valid—namely, that many gastric carcinomata may not give rise to dyspeptic symptoms until they are large enough to be palpated.

Associated Conditions

Chronic Gastric Ulcer.—In 26 of the 375 patients there was some evidence that the neoplasm might have arisen from a simple gastric ulcer. The relationship of ulcer to carcinoma is a controversial one, and we have discussed the evidence derived from the present series in a separate paper (Swynnerton and Truelove, 1951). For the moment it must serve to remark that we believe a minority only of these 26 patients were truly examples of "ulcer-cancer."

Pernicious Anaemia.—While some workers, such as Kaplan and Rigler (1945, 1947), believe that patients with pernicious anaemia are unduly prone to develop carcinoma of the stomach, others, such as Wilkinson (1945), disagree with this view. Among the 375 patients of the present series, four had a history of pernicious anaemia which clearly antedated the development of their carcinoma. Pernicious anaemia is an uncommon condition, so that these results, though by no means conclusive in themselves, conform with the findings of Kaplan and Rigler.

Double Carcinoma.—Carcinoma of the stomach was not the only malignant neoplasm experienced by five of the

patients, if we include their past histories. The relevant details of the other neoplasms were:

(1) Man aged 57 : Papilliferous adenocarcinoma of kidney, removed three years previously. (2) Man aged 60 : Adenocarcinoma, Broders's grade II of descending colon, removed five years previously. (3) Man aged 67 : Polypoid carcinoma of recto-sigmoid junction concurrently. (4) Man aged 66 : Squamous-cell carcinoma of tongue, concurrently. (5) Woman aged 61 : Squamous-cell carcinoma of left nipple (Paget's disease), concurrently.

It has been stated that the incidence of multiple primary carcinoma is higher than would be accounted for by chance. Barrett, Miller, and Fessenmeyer (1949) quote 14 authorities whose figures vary from 0.3 to 6.8%, with an average incidence of 1.8% of all cancer cases.

Investigations

Radiology: Barium Meal

A barium meal is the most accurate single investigation in the diagnosis of carcinoma of the stomach. Among the present series, 297 patients were investigated by this method, and the radiologists reported a gastric abnormality in 90.5% of these at the first examination. If we include repeat examinations the figure rises to 95.6%. In 7.4% of cases, although an abnormality was detected, the radiologist did not interpret the findings as suggesting carcinoma. This should not detract from the value of the method, because it is the duty of the clinician to make the diagnosis; evidently in 83.1% the radiologist was able to state after the first examination that the lesion was probably malignant.

Fractional Test Meal

The fractional test meal is widely used as a diagnostic measure. It was performed in 183 patients. Table V shows the results according to the following arbitrary classifications: (1) achlorhydria; (2) hypochlorhydria—with peak values less than 20 ml. N/10 HCl per 100 ml.; (3) normal—20–60 ml.; and (4) hyperchlorhydria—over 60 ml.

It will be seen that achlorhydria is a common finding, but that one in every four patients has normal or unusually acid gastric secretions. The findings are similar in the two sexes.

It is interesting to compare these results with those obtained in simple gastric ulcer and duodenal ulcer. The results for the latter were obtained by selecting in sequence from the Radcliffe Infirmary records 100 cases in which the diagnosis appeared certain (Table V). The comparison

TABLE V.—*Results of Fractional Test Meal in Gastric Carcinoma, Simple Gastric Ulcer, and Duodenal Ulcer*

	Gastric Carcinoma (183 Cases)	G.U. (100 Cases)	D.U. (100 Cases)
Achlorhydria ..	58·5%	11%	2%
Hypochlorhydria ..	15·3%	14%	0%
Normal ..	21·3%	56%	55%
Hyperchlorhydria	4·9%	19%	43%

shows that, even on a single test meal, the occurrence of achlorhydria or hypochlorhydria is rare in duodenal ulcer. The practical importance of this finding arises from the circumstance that juxtapyloric lesions may be impossible to locate with exactitude on radiological grounds in the duodenum or pyloric antrum.

By contrast, achlorhydria or hypochlorhydria is found in one of four patients with simple gastric ulcer. In distinguishing between simple gastric ulcer and carcinoma it is clear that the fractional test meal has only limited value: on the one hand, the occurrence of achlorhydria would weigh in favour of carcinoma; on the other, and more important, the finding of normal or hyperchlorhydric gastric secretion is no bar to the diagnosis of carcinoma. This latter conclusion is well known to workers in the field of gastro-enterology but is not yet sufficiently appreciated by the medical profession as a whole.

Occult Blood

Stools were examined for occult blood in 157 patients. Occult blood was present in large or moderate amounts in 84%, and half the remainder showed a trace. The chief value of this test appears to be the focusing of attention on the gastro-intestinal tract in cases of anaemia and others without dyspeptic symptoms.

Gastroscopy

Gastroscopy was normally carried out only when there was some doubt about the diagnosis. In the 33 patients so examined the results were as follows: right diagnosis, 21; wrong diagnosis, 5; failed or unsatisfactory, 7.

Treatment and Prognosis

Table VI shows the prognosis for the whole series. It will be seen that the picture is a gloomy one. Four out of five patients are dead within a year of admission to hospital, and 19 out of 20 within five years. There is no appreciable difference between men and women.

TABLE VI.—*Percentage Survival Rates of the Whole Series*

Length of Follow-up	Totals		
	No.	No. Alive	% Alive
1 year	375	80	21·3
2 years	322	36	11·2
3 ,, ...	282	26	9·2
4 ,, ...	238	16	6·7
5 ,, ...	196	11	5·6
6 ,, ...	173	8	4·6
7 ,, ...	151	5	3·3

More useful information arises from constructing separate survival curves for the groups treated by radical surgery and all others (Table VII and Fig. 1).

TABLE VII.—*Prognosis in Resected Group Compared with that of Remainder*

Length of Follow-up	Resected Group			Remainder		
	No.	No. Alive	% Alive	No.	No. Alive	% Alive
1 year	114	60	52·6	261	20	7·7
2 years	87	32	36·8	235	4	1·7
3 ,, ...	72	23	31·9	210	3	1·4
4 ,, ...	57	14	24·6	181	2	1·1
5 ,, ...	43	10	23·3	153	1	0·7
6 ,, ...	38	8	21·1	135	0	0·0

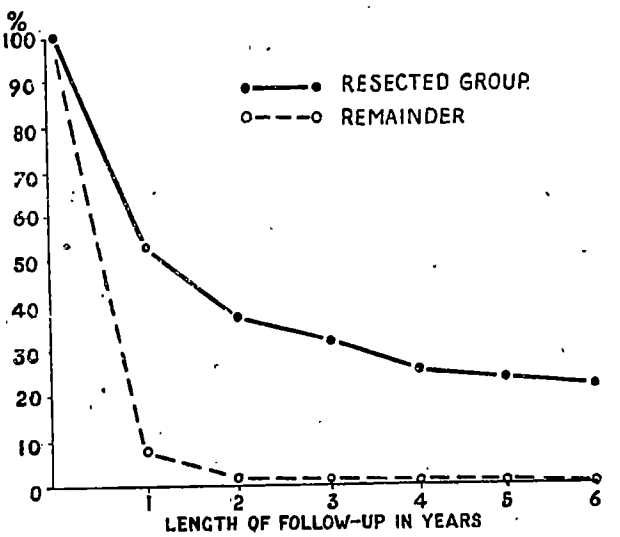

FIG. 1.—Percentage survival rates in gastric carcinoma.

Although the two groups are not strictly comparable in that patients treated by resection are those in whom no widespread metastasis was found, the difference between them is so striking that it is fair to conclude that radical surgery offers the only chance of prolonged survival.

The non-resected group includes 46 patients who were treated by palliative operation and 76 who were explored and for whom nothing was done. Their survival rates do not differ greatly from patients receiving no treatment. There is some indication that palliative surgery may prolong life; but our numbers are small, and it seems likely that palliative surgery has no great influence on expectation of life, although it may be called for to relieve symptoms.

The high rate of fatality during the first year after resection is partly due to a considerable fatality rate in the immediate post-operative period (22%). It is evident that this must be included in any judgment of the value of surgery. Nevertheless, it is of some value to show the survival rates of those patients who survive operation (Table VIII), for two reasons:

(*a*) Many writers base their conclusions on the survival rates of patients who live beyond the immediate operation period. Although we regard this as an erroneous method of presenting the results of surgery, particularly when it is used in isolation, no comparison with their results is possible unless similar data are presented.

(*b*) It is reasonable to suppose that, with improved pre-operative and post-operative care arising from such circumstances as the widespread use of antibiotics, developments in anaesthesia, and the application of biochemical knowledge, the immediate post-operative fatality may decline and the prognosis for the resected group as a whole may in future approximate to that of the patients who survive operation.

TABLE VIII.—*Prognosis in Resected Group, Excluding Post-operative Deaths*

Length of Follow-up	No.	No. Alive	% Alive
1 year	89	60	67·4
2 years	68	32	47·1
3 ,, ...	59	23	39·0
4 ,, ...	46	14	30·4
5 ,, ...	34	10	29·4

Resectability

Altogether, 236 patients were submitted to laparotomy—an operation rate of 63%. It is, however, unfortunate that only 114 of the 375 patients (30%) were judged suitable for resection. During the time covered by our study the proportion of patients treated by resection increased from 22.7% in the first half of the time to 35.7% in the second. Table IX shows that an increased proportion of all age groups were treated by resection during the second period, and the most striking difference is shown in the patients aged 70 and over. We are unable to assess with any precision the extent to which this increased resectability rate was due to earlier diagnosis or to bolder surgery. Whether the recent increased resection rate will be justified by long-term results must await later study.

TABLE IX.—*Percentage of Patients Treated by Radical Resection in Relation to (a) Age, (b) Period of Time*

Age Group	1938–43			1944–50		
	No.	Re-sected	% Re-sected	No.	Re-sected	% Re-sected
Under 50 ..	39	10	25·6	46	20	43·5
50–59	32	8	25·0	52	22	42·3
60–69	59	16	27·1	85	29	34·1
70 and over ..	21	0	0	41	9	22·0
Totals ..	151	34	22·5	224	80	35·7

Length of History and Prognosis

It is axiomatic in clinical medicine that the sooner a diagnosis of malignant disease is made the more likely is surgical resection to effect a cure. We were therefore interested to break down the "resected group" into sub-groups according to the length of history (Table X, Fig. 2). Although the numbers are small the differences between the three groups are quite definite, and prognosis appears to improve with increasing length of history. This is well shown by considering three-year survivals only, as in Table XI, where the differences between the three groups are highly significant.

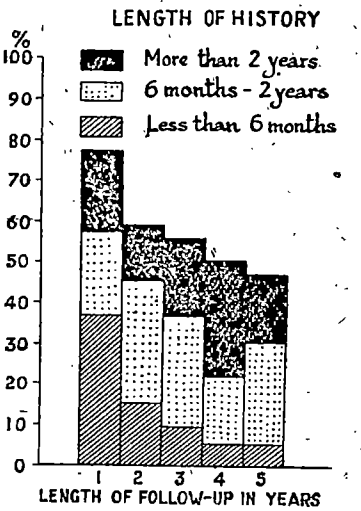

FIG. 2.—Percentage survival rates in relation to length of history of patients treated by resection.

This result is at first sight surprising, because it might be taken to indicate that early diagnosis is disadvantageous. There are several more probable explanations of this seeming paradox, such as: (*a*) The patients with long histories may be examples of slowly growing malignant disease, in which secondary spread is slow. (*b*) The patients with long histories may contain a high proportion of the so-called "ulcer-cancers" with a good prognosis. (*c*) The patients with long histories may have been misdiagnosed, through simple peptic ulcers having been mistaken for malignant disease.

TABLE X.—*Survival Data in Relation to Length of History*

Length of Follow-up	Length of History					
	Under 6 Months		6 Months–2 Years		Over 2 Years	
	No.	No. Alive	No.	No. Alive	No.	No. Alive
1 year	47	17	42	24	25	19
2 years	34	5	29	13	24	14
3 ,, ...	26	2	22	8	24	13
4 ,, ...	23	1	14	3	20	10
5 ,, ...	20	1	10	3	13	6

TABLE XI.—*Three-year Survival Figures*

Length of History	No.	No. Alive	%
Less than 6 months ..	26	2	7·7
6 months to 2 years ..	22	8	36·4
Over 2 years	24	13	54·2

$\chi^2 = 12{\cdot}683$. $n = 2$. $P < 0{\cdot}01$.

We were therefore driven to re-examine our data in the light of these and other possibilities. So far as misdiagnosis is concerned, further scrutiny of our data did not suggest that the criteria governing diagnosis were different in the various subgroups. With respect to the possibility that the patients with long histories were examples of "ulcer-cancers," it is worth mentioning that there were 10 patients in the resected group in whom there was some evidence that the carcinoma might have arisen in a simple ulcer. In one of these the carcinoma was found at operation to be quite distinct from a chronic ulcer, and a number of the remaining nine may have been examples of ulceration in a carcinoma for reasons which we have presented separately. However, even if we assume that all the nine patients were true examples of "ulcer-cancer" this circumstance does not account for the relationship between length of history and

prognosis, because if these nine patients are excluded the findings are unaltered (results not shown).

It will be recalled that in an earlier section it was shown that a significantly higher proportion of patients over 60 years of age were admitted with a short history. It is therefore possible that the poor prognosis of the patients with a short history might be due to their being unduly loaded with elderly patients, who are bad operative risks. That the elderly are less able to withstand operation is shown by the following figures for the group treated by resection:

Age	No.	Post-operative Deaths
Under 60	60	10 (16·7%)
Over 60	54	15 (27·8%)

We have therefore subdivided our data with respect to length of history and three-year survival rates to show what happens in two main age groups (Table XII).

TABLE XII

Age of Patient	Length of History							
	Under 6 Mths.		6 Mths. to 2 Yrs.		Over 2 Yrs.		Totals	
	No.	No. Surviving	No.	No. Surviving	No.	No. Surviving	No.	No. Surviving
Under 60	8	1	14	7	17	7	39	15
Over 60	18	1	8	1	7	6	33	8

Although the numbers are small they are consistent, and they indicate that the length of history is a more important prognostic sign than the age of the patient. Indeed, if we exclude post-operative deaths we are left with the following figures for three-year survivals:

Age	No. Surviving Operation	No. Surviving 3 Years
Under 60	35	15 (42·9%)
Over 60	24	8 (33·3%)

It will be seen that, although the older group of patients had a worse prognosis than the younger, the difference is not great.

The further possibility existed that the length of history might vary according to the site of the carcinoma within the stomach, and thus explain the association between length of history and prognosis. We have therefore analysed our data with respect to both length of history and site of lesion. The pyloric subgroup, which is the only sizable collection of patients, shows a marked association between the length of history and prognosis, which agrees with our finding for the resected group as a whole. The numbers in the other subgroups are small, but those for body of stomach are sufficient to show the same trend. We are therefore consistently finding that the longer the history the better the prognosis among the resected group. It is clear that the age distribution of the patients, the site of the lesion, and the possibility of "ulcer-cancer" do not serve to explain the good prognosis of patients with a long history in the resected group, and we believe that this association is due to the occurrence of slow-growing carcinomata.

We might therefore expect a close association between the length of history and the grade of malignancy as judged by Broders's classification. The figures in Table XIII show no such correlation.

TABLE XIII

Length of History	Broders's Classification	
	I and II	III and IV
Under 6 months	17	30
6 months–2 years	13	28
Over 2 years	9	17

Likewise, if the three-year survivals are related to both length of history and Broders's classification it is found that the length of history is much the more important factor in determining prognosis (results not shown).

Discussion

An outstanding finding in the present study is the marked prognostic significance of length of history among the patients treated by surgical resection. The longer the history the better the prognosis in this group of patients. For reasons which we have given, we believe that this finding is due to the likelihood that the neoplasm is a slow-growing one if symptoms have lasted for more than two years and the growth is still suitable for resection.

We are not the first to uncover this association, for several workers from the Mayo Clinic have come to the same conclusion. For example, Balfour (1937) reported that patients with a history of less than six months who survived resection had a five-year survival rate of 25% as opposed to one of 35% among patients with a history of more than one year, and similar findings were recorded in the later study by Walters, Gray, and Priestley (1942). Our findings are in the same direction, but the prognostic influence of length of history seems to be more pronounced. To some extent this may be due to the smaller numbers with which we have dealt.

This finding should not be taken to indicate that early diagnosis is of little consequence. On the contrary, we believe that every effort should be made to shorten the time between onset of symptoms and the making of the diagnosis. It is important to bear in mind that the improved prognosis with greater length of history applies only to the group of patients treated by resection. Our main concern must be with the prognosis of the whole group of patients with carcinoma of the stomach. Most patients are not suitable for resection by the time they are admitted to hospital, and when considering the good prognosis of the small group with a long history still fit to have a resection we must bear in mind that they are the residue of a much larger group, the majority of whom have died or have become unfit for operation before that amount of time has elapsed.

Early diagnosis is not easy. The symptoms are extremely variable, although it is fortunate that the great majority of patients have early symptoms referable to their gastro-intestinal tract, with some form of "indigestion" as the commonest manifestation. No reliance can be placed upon the type of indigestion, and physical examination is useless for early diagnosis. Undoubtedly, a barium meal is the surest way of demonstrating the presence of a neoplasm, and ideally it should be carried out as a routine in all patients over 40 who develop indigestion. (We find ourselves in sympathy with Jennings (1947), who, writing at a time of milk-rationing, remarked that ". . . the effect of demanding an *x*-ray diagnosis before signing a certificate for extra milk should lead to earlier cases being discovered.") If the barium meal is negative and the indigestion persists, further barium meals should be carried out. Gastroscopy may be useful as an ancillary to the barium meal, particularly in cases with some doubt about the diagnosis.

Summary

During the 12-year period 1938–49 inclusive, 375 patients with carcinoma of the stomach were treated in the Radcliffe Infirmary. Adequate follow-up data have been obtained for all of them.

Nearly twice as many men as women were admitted, and in each sex the peak case incidence occurred in the sixties.

There was great variation in the length of history before admission to hospital. Nearly half were admitted within six months of their first symptom, while at the other extreme nearly one in five had symptoms lasting for more than two years.

The commonest site of neoplasm was the pre-pyloric region and the least common the fundus.

More than four out of every five patients began their illness with symptoms referable to the gastro-intestinal tract, the majority suffering from some form of "indigestion." The type of indigestion was extremely variable.

An epigastric mass was felt in about half the patients by the time of admission to hospital.

A barium meal is the most accurate single diagnostic procedure. In nine out of ten patients the radiologists reported a gastric abnormality at the first examination, and in more than four out of five correctly interpreted the findings.

Achlorhydria was a common finding, independent of the age of the patient or the site of the neoplasm. On the other hand, normal or unusually acid secretions were found in one out of four patients, so that such findings should not be regarded as any bar to the diagnosis of gastric carcinoma.

Most patients had occult blood in their stools.

Laparotomy was carried out in 63% of the patients and resection of the growth in 114 (30% of the total 375). An increased proportion in all age groups were treated by resection during the second half of the period covered by this study.

Resection offers the only hope of prolonged life. For example, nearly a quarter of the resected group were alive after five years, compared with less than 1% of the remainder.

Among the resected group, the outstanding factor influencing prognosis was the length of history. Somewhat unexpectedly, the prognosis was found to improve with increasing length of history. The age distribution of the patients, the site of the lesion, and the possibility of "ulcer-cancers" do not explain this finding, and we conclude that it is due to the occurrence of slow-growing carcinomata.

We wish to thank the physicians and surgeons of the Radcliffe Infirmary for permission to make this study. We are grateful to the records officer, Miss Coombs, and her staff for their assistance; and to Miss Eva Spitz for her help in completing the follow-up of patients. Dr A. H. T Robb-Smith and Dr. Hugh Cowdell very kindly confirmed the histological classification in a number of cases. Clerical expenses were met by a grant from the Division of Medicine, Radcliffe Infirmary.

REFERENCES

Balfour, D. C. (1937). *Ann. Surg* 105 733.
Barrett W D., Miller K. T., and Fessenmeyer, C. R. (1949). *Surg. Gynec. Obstet* 89, 767
Doll, R (1950). *British Medical Journal*, 1, 215.
Harnett, W L (1947). *Brit J. Surg.* 34 379.
Jennings, D (1947) *Brit J Radiol.* 20. 522.
Kaplan, H S, and Rigler, L. G (1945) *Amer. J. med. Sci.*, 209. 339.
——— (1947) *J Lab clin Med* 32 644
Registrar-General (1951) Statistical Review for the Year 1949 for England and Wales Part I. H M S O, London
Swynnerton, B. F., and Truelove S. C. (1951). *British Medical Journal*, 2, 1243.
Walters, W., Gray, H K., and Priestley, J T (1942) *Carcinoma and other Malignant Lesions of the Stomach.* Saunders, Philadelphia and London.
Wilkinson, J F. (1945) *British Medical Journal* 2 664

The Ministry of Transport has just issued a notice (M.358) to shipowners and masters on the cleansing of fresh-water tanks and filters, and recommending the avoidance of sea water in washing up and cooking, especially when near a coast or in harbour. Filters do not guarantee bacteriological sterility, and need cleaning at least once a month.

A SURVEY OF 17,301 PRESCRIPTIONS ON FORM E.C.10

BY

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The relative frequency with which different drugs are prescribed and the form in which they are dispensed is always a matter of interest to a department of therapeutics. In consequence the offer of a large number of representative prescriptions for analysis was gladly accepted. These forms (E.C.10) had already been passed by the Pricing Bureau, and, so that the investigation should be entirely anonymous, the prescriber's name had been deleted before the prescriptions were submitted for analysis.

Material and Method

The prescriptions surveyed covered the month of September, 1949. They had previously been divided by the Prescribing Committee as coming from three main areas in England, the distinction between the areas being based on supposed social or financial differences. The areas were classified as follows: (1) prosperous residential; (2) industrial; and (3) mixed suburban. Each area included four to six districts of dissimilar geographic and administrative distribution. For example, the industrial area represented industrial districts in the North, Midlands, and West of England. The choice of areas and the districts which they included were arranged by the Central Prescribing Committee in such a way as to ensure the widest possible scatter.

In each district the prescriptions came from one chemist only (four to six chemists per area). In consequence the number of doctors whose prescriptions are represented in this survey is smaller than we could have wished. As has been stated, the prescriptions were all anonymous, so that the exact number of doctors involved is impossible of computation, but is certainly not fewer than 140.

The number of E.C.10 forms submitted for analysis was 11,435, but as there were often several prescriptions on a single form the total number studied was 17,301. No practitioners' orders for stocks (Form E.C.10A) were submitted, and the survey gives no indication of the drugs dispensed personally by doctors.

All the information given on each form was tabulated on specially prepared sheets, each sheet containing 14 main headings and 45 subheadings. The information so derived was then transferred to punch cards. The prescriptions from each area were kept separate so as to allow of a comparison being made between them. Certain drugs which were only rarely prescribed were tabulated on a separate sheet and were not transferred to punch cards. This latter group comprised 412 items, representing 18 different preparations.

Results: (1) Proprietary or Non-Proprietary

Each prescription was classified as representing a proprietary or non-proprietary preparation. When the prescription contained both it was classified according to the

predominating preparation. This was not always an easy choice to make, but as the number of such prescriptions was very small any resulting error is insignificant. It will be seen from Table I that there was a considerable variation

TABLE I.—*Absolute Figures and Percentages*

	Areas			
	Residential	Industrial	Mixed Suburban	Total
Proprietary ..	1,455 (27%)	1,323 (21%)	790 (14%)	3,568 (21%)
Non-proprietary ..	3,821 (73%)	4,985 (79%)	4,927 (86%)	13,733 (79%)

in the proportion of proprietary and non-proprietary preparations prescribed in the different areas. As might be expected, a much higher proportion of elegant and expensive proprietary preparations were prescribed in the prosperous residential than in the industrial area. A higher proportion of such prescriptions, however, occurred in the industrial than in the mixed suburban area. In consequence it is probable that the variations in this respect are due more to the prescribing habits of the doctors concerned than to the social groups catered for—a situation which would almost certainly have been very different had the analysis been made prior to the National Health Service Act. That 21% of all prescriptions written were for proprietary drugs would seem to be excessive, and there is every reason to believe that this percentage has risen considerably in the past year.

(2) Type of Preparation

Each preparation was classified as belonging to one of ten types. The frequency with which these types were prescribed and their relative frequency in the different areas are shown in Table II.

TABLE II

	Areas			
	Residential	Industrial	Mixed Suburban	Total
Mixture	1,659 (31%)	2,367 (38%)	2,206 (38%)	6,232 (36%)
Tablet	1,942 (37%)	2,001 (32%)	1,609 (28%)	5,552 (32%)
Powder	102 (2%)	70 (1%)	98 (2%)	270 (1½%)
Nutrient	44 (1%)	44 (1%)	56 (1%)	144 (1%)
Gargle/lozenge ..	141 (3%)	126 (2%)	128 (2%)	395 (2%)
Skin preparations	629 (12%)	705 (11%)	699 (12%)	2,033 (12%)
Ear, eye, and nose (topical) ..	210 (4%)	253 (4%)	225 (4%)	688 (4%)
Dressings/appliances	428 (8%)	589 (9%)	631 (11%)	1,648 (9%)
Injections ..	79 (2%)	118 (2%)	48 (1%)	245 (1½%)
Suppositories/pessaries	37 (1%)	35 (1%)	17 (½%)	89 (½%)

It will be seen that *mixtures and tablets* accounted for 68% of all prescriptions. As in the case of the proprietary and non-proprietary preparations, and for the same reason, the variation in the proportion of mixtures and tablets prescribed in the three areas is probably due to the preference of the individual doctors concerned rather than to the social groups catered for. The prescriptions for preparations other than tablets or mixtures showed a remarkable similarity of distribution throughout the three areas.

Except in the case of children, tablets are usually not only a more accurate but a more convenient form in which to take a medicine. In addition they are generally cheaper than mixtures and the dispensing fee for them is smaller. It is thus most desirable that, whenever possible, tablets should be prescribed in preference to the corresponding mixture.

Powders comprised only 1½% of the total prescriptions. Stomach powders were particularly neglected in favour of the more expensive and cumbersome mixtures. As alkaline powders are less expensive, can be prescribed in larger bulk, and are also more conveniently carried than the corresponding mixture, the powder should generally be prescribed in preference to the mixture.

Dressings and appliances accounted for 9% of the total. Many of these items were expensive, and lint and cotton-wool were often ordered in enormous quantities.

Injections formed only 1½% of the total, which suggests that the parenteral administration of drugs—so unnecessarily popular on the Continent—is not a feature of English medical practice. It has to be remembered, however, that injections have usually to be given by the doctor himself, and will thus in some cases have been ordered on the stock E.C.10A form and not on Form E.C.10.

(3) Actual Drugs or Groups of Drugs

Table III indicates the actual preparations prescribed. Their arrangement is in descending order of frequency, the figures giving the actual number of times they were prescribed.

TABLE III

Order	Group	Preparation	Times Prescribed	Group Total
1	Hypnotics and sedatives	Barbiturates	1,636	2,643
		Bromides	1,007	
2	Stomachics ..	—	—	1,678
3	Tonics	—	—	1,553
4	Antipyretics and mild analgesics	Aspirin	330	1,528
		Codeine preparations	565	
		Others	633	
5	Cough mixtures..	Expectorant	402	1,382
		Sedative	174	
		Combined	806	
6	Vitamins ..	A and D	175	739
		Aneurin	177	
		B complex	126	
		C	66	
		E	27	
		Multiple	168	
7	Penicillin ..	—	—	681
8	Bronchial dilators, analeptics, antispasmodics	Adrenaline	29	637
		Ephedrine	152	
		Aminophylline	69	
		Compound	160	
		Atropine	227	
9	Iron	—	—	623
10	Laxatives ..	—	—	587
11	Sulphonamides ..	—	—	498
12	Cardiac drugs ..	Cardiac glucosides	250	481
		Nitrites	231	
13	Hormones, liver	Insulin	68	477
		Oestrogens	234	
		Liver	50	
		Others	125	
14	Others (see Table IV)	—	—	412
15	Antihistamines ..	—	—	302
16	Urinary preparations	—	—	264
17	Amphetamine ..	—	—	218
18	Strong analgesics	Morphine	57	156
		Diamorphine	37	
		Pethidine, physeptone, etc.	62	

It is a significant commentary on present-day conditions that hypnotics and sedatives should form far the largest single group (15%) of all drugs prescribed. Barbiturates comprised 9.4% and bromides 5.8% of this total. Bearing in mind the numerous unpleasant side-effects of bromides, their continued popularity is surprising, as there is little which bromides can do that phenobarbitone cannot do better. Further, bromides were often prescribed in 10-gr. or 15-gr. (0.65- or 1-g.) doses, not as a general sedative but as a hypnotic to be taken only at night. Bromides have to reach a considerable concentration in the blood before there is a sufficient replacement of chlorine ion to exert any depressant action on the central nervous system. It is therefore doubtful whether such small single doses are any more effective as hypnotics than a draught of salty water, apart from the psychological effect which may be produced by taking such a medicine. Chloral hydrate was only very occasionally incorporated in the bromide mixture. It is strange that this well-tried and valuable hypnotic, which is so peculiarly suitable for children, should be used so seldom.

It was prescribed by itself on only one occasion. Paraldehyde did not appear on a single prescription. Apart from phenobarbitone, the barbiturates were almost invariably ordered under their proprietary names.

Under the heading "*stomachics*" were grouped alkalis, antacids, cholagogues, olive oil, etc. Such preparations formed the next largest group to sedatives, comprising just over 9% of all prescriptions.

Tonics included many elegant and complex recipes which are still manifestly popular, although they must generally be classed as placebos, the justification for which is a matter of considerable current controversy.

Thus sedatives, stomachics, and tonics together formed about one-third of all preparations issued. The conditions requiring the use of these medicines have something in common with each other, and the whole group, though perhaps to a less extent than the sedatives alone, gives an indication of the type of malady for which doctors are commonly consulted at the present time.

Antipyretics and mild analgesics appeared almost as often as stomachics—that is, 8.8:9.1%. The prescription of mist. aspirin. *B.P.C.* was very popular, as was tab. codein. co. *B.P.* and its proprietary equivalents. It is very probable that large quantities of such mild analgesics are bought by patients themselves.

Expectorant cough mixtures were prescribed more than twice as often as sedative cough mixtures, yet the value of expectorants is doubtful. It is supposed that 5 gr. (0.32 g.) of ammonium chloride three times a day will liquefy the bronchial secretions, yet 20 gr. (1.3 g.) three times a day is often employed to render the urine acid without the patient noticing any such expectorant effect. The frequent combination of expectorant and sedative cough mixtures as indicated in Table III would seem to demonstrate some therapeutic confusion.

About 40% of all *vitamins* prescribed were for proprietary preparations. Aneurin and vitamin-B complex made up almost half the total of vitamins issued. Vitamin C formed less than one-tenth of the total. Yet there is probably less justification for the widespread use in this country of aneurin, nicotinamide, and riboflavin than for ascorbic acid. It can be argued that people sometimes do not obtain enough fresh fruit and green vegetables in our long winters and so may run short of ascorbic acid in the spring. Aneurin is apparently used for every imaginable neurological condition in the mistaken belief that it has a beneficial effect on the neuritic pains encountered in this country. The prescribing of large doses of water-soluble vitamins has at least this safety-valve, that the body eliminates them rapidly; but imagination boggles at the thought of the pounds' worth of unwanted synthetic water-soluble vitamins that are now daily lost in human urine. Vitamin E was ordered the least often, but one prescription for this cost over £14 and many about £5. Such prescriptions justify the need to stress the cost of drugs in undergraduate and postgraduate teaching. It might also be made obligatory for manufacturing chemists to include prices in their advertisements. Multiple-vitamin preparations were often prescribed, and are undesirable. They lull the physician into a false sense of security that he has done all that is necessary for the proper nutrition of his patient; they vary widely in composition and may lack the particular vitamin (perhaps not available in synthetic form) which might conceivably help the patient, and may thus create a state of vitamin imbalance by providing an excess of others.

Penicillin in all its forms accounted for about 4% of the total, but only 6.9% of this was for parenteral administration. About 30% of the prescriptions for penicillin were for oral preparations and over 40% for penicillin ointments. As has been suggested above, the seemingly small proportion of prescriptions for penicillin to be given by injection may be accounted for to some extent by the doctors giving it from their own stocks. The percentage of prescriptions for orally administered penicillin was surprisingly high, especially as these orders for small doses were given before a high dosage of oral penicillin had been proved to be therapeutically effective.

It is surprising that *adrenaline* was prescribed so infrequently when asthma is so common. Doubtless adrenaline is often injected by the doctor himself from his own stocks, but it would seem from the figures that the habit of self-injection with adrenaline is not commonly taught to asthmatics.

A preparation of *iron* was included under this heading only if it contained amounts of iron approximating to the dose recommended in the *B.P.* Some of the favourite prescriptions for iron, strychnine, and phosphates contain very little available iron and were classed as tonics. Prescriptions for iron in adequate amounts comprised only 3.5% of the 17,301 items surveyed, and in over half of these it was prescribed as a mixture. In most cases it is preferable to give iron as a tablet, not only for the reasons already advanced regarding tablets and mixtures, but also because of greater palatability and the fact that ferrous sulphate in tablet form does not discolour the teeth. When the high incidence of iron-deficiency anaemia in this country is considered in comparison with the relative rarity of vitamin-deficiency states it is remarkable that iron should have been prescribed only 623 times in comparison with 739 prescriptions for vitamins. No doubt iron preparations are often dispensed at maternity and child-welfare clinics, and such issues do not appear on Form E.C.10, but the same can be said of vitamins.

The total of prescriptions for *laxatives* was smaller than anticipated, and strongly suggests that many people still buy their own laxatives.

Sulphonamides formed 3% of the total prescriptions, so that even in 1949 they were less frequently prescribed than preparations of penicillin. Of the prescriptions for sulphonamides 56% were for tablets, 12% for mixtures, and 10% for skin preparations. In view of the likelihood of evoking sensitivity reactions by the topical application of sulphonamides, this last figure is probably undesirably high.

Only 14% of the prescriptions for *cardiac glucosides* were for tincture of digitalis, which used to be the most popular way to prescribe the drug. It is all to the good that the tincture is gradually being replaced by the powdered leaf—which contains all that the foxglove has to offer—and by "digoxin." These latter preparations keep better than the tincture, and with them the dosage is more accurate. Quinidine did not appear on any prescription.

Diabetes is a common disease, while the megaloblastic anaemias are comparatively rare. Yet *liver* preparations were ordered 50 times, in comparison with only 68 prescriptions for *insulin*. This suggests that liver is often prescribed as a general tonic or for the treatment of anaemic patients other than those specifically requiring the haemopoietic factor. It is very doubtful whether the use of liver is ever indicated except in the treatment of the megaloblastic anaemias.

It will be seen that even two years ago *amphetamine* was becoming popular, and in this survey it was prescribed 218 times, which is half as often again as the prescriptions for ephedrine. It is probable that since 1949 its use has increased considerably. "Dexedrine" is included under this heading. It is very much more expensive than amphetamine, and it is doubtful whether it possesses any advantages over the latter.

Prescriptions for *diamorphine* (heroin) constituted about one-third of the orders for strong analgesics. In view of the great danger of habituation to this drug and the fact that in some countries its use is prohibited, the figure is a high one.

(4) Drugs Rarely Prescribed

It is fortunate that "shot-gun" preparations for iron with folic acid, liver, or hog's stomach, which are justifiable on no sound haematological basis, should not have been

TABLE IV

No. of Times Prescribed	Name of Drug
Under 60	Calcium
„ 50	Iron with folic acid, or liver, or hog's stomach
„ 40	Anthelmintics
„ 30	Phenytoin "Methedrine" and nikethamide Cold vaccines
„ 20	Other vaccines Mersalyl Ergot Ergotamine tartrate "Diparcol" and "trasentin"
7	"Pernivit"
3	"Priscol"
2	Thiouracil Stannoxyl
1	Antimalarial "Tridione" "Myocrisin"

prescribed more than 50 times, and that vaccines for the prevention of the common cold, for the use of which there can be little scientific justification, do not seem to have been popular.

Mersalyl is a valuable drug which was prescribed fewer than 20 times. It is, however, an example of a drug which the doctor often administers from his own stores. Nevertheless the number of times it appeared on these forms seems surprisingly low.

It also seems quite remarkable that *thiouracil* was prescribed only twice out of 17,301 prescriptions. In spite of the fact that it is often used under hospital supervision, it is generally the practitioner who writes the prescription for maintenance treatment. If this practice is general it can only be supposed that the conservative treatment of thyrotoxicosis with thiouracil is less common in England than might have been expected.

Conclusions

The study of a large number of prescriptions provokes certain reflections on the teaching of pharmacology and practical therapeutics in our medical schools. In some schools pharmacology is taught along with physiology as a preclinical subject. In others it is taught in the first clinical year, when the student has seen only a limited number of the disorders the treatment of which is discussed. Thereafter instruction in treatment is often limited to the last ten minutes of a medical clinic, and during the fifth and sixth years of his course the undergraduate often forgets the actions and uses of the drugs which he heard about while studying pharmacology. In consequence many young graduates go into practice with a very inadequate knowledge of applied pharmacology, and tend to rely more and more on the ingenious (sometimes very good, but sometimes very misleading) advertisements of the drug firms which cover his breakfast table. In the days when there were few potent or specific drugs this ignorance of applied pharmacology was of less importance. Nowadays when we are Jove-like in the therapeutic thunderbolts we can hurl—drugs potent for evil as well as for good—it is of paramount importance for us to be thoroughly conversant with the pharmacological tools of our trade. It is suggested, therefore, that a series of simple lectures in therapeutics by a practical physician interested in pharmacology should be given in the last clinical year of the medical course. It is a subject which lends itself to systematic lecturing, and is of more importance than the study of some of the more recondite specialties which at present overload the curriculum.

Courses in pharmacology in medical schools are now usually, and very properly, undertaken by academic scientific pharmacologists, who have revolted against the old-fashioned instruction in materia medica and in the compounding of elaborate prescriptions elegantly flavoured, meticulously bottled, and exquisitely labelled. They have realized that there are few occasions in practical therapeutics which demand the prescription of more than one drug in a bottle, tablet, or powder, plus the vehicle and flavouring agent. Perhaps, however, the pendulum has swung too far in the other direction and that inadequate instruction is now being given in the principles of correct simple prescribing. At a recent oral examination for one of the higher clinical diplomas five consecutive candidates were quite unable to write out a correct prescription for a simple laxative pill containing cascara and belladonna, though they were ready and eager to discuss the most abstruse and recondite clinical syndromes.

It has been the object of this survey to present modern trends in prescribing in an objective and uncontroversial manner. While it is the aim of us all to give our patients the best treatment possible it is also our duty to consider the means at the country's disposal. Good prescribing is often economical prescribing, and it is not improbable that the rewards of thoughtfulness in this respect will be enjoyed by both patient and doctor.

A CASE OF ACUTE BERIBERI COMPLICATING POLYSEROSITIS IN BRITAIN

BY

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Several cases of beriberi developing in Britain have been reported, and the subject has been reviewed by Jones and Bramwell (1939). Most of the cases have been secondary to chronic alcoholism, as in two cases described by Konstam and Sinclair (1940). Similarly vitamin-B_1 deficiency may be found in the absence of alcoholism if the diet has been subnormal over a long period, as in cases described by Yudkin (1938) and Bates (1941).

Apart from deficient food intake, vitamin-B_1 deficiency may arise from either one or more of the following factors (Harris, 1938): (1) imperfect absorption, as in chronic dysentery; (2) imperfect utilization, as in hepatic cirrhosis; (3) increased demand, as in pregnancy.

The case described showed signs similar to those of beriberi secondary to a severe illness, with prompt relief following the intramuscular administration of vitamin B_1.

Case Report

On the night of March 2, 1950, a 12-year-old girl, an only child, complained of headache and pain in the mid-sternal region. She did not sleep that night, and the next day was off her food and vomited at intervals. On the following day her own doctor diagnosed pneumonia, and a course of

sulphonamide was begun. As there was no improvement she was admitted to hospital on March 7. She did not complain of cough or of sputum, had not previously been breathless, and showed no cyanosis. During the previous two months her mother had noticed that she had not wanted to play and that she had been inclined to sweat at night. There had been no loss of appetite, but there was some constipation. She did not complain of sore tongue, and oedema had not been noticed.

She had had whooping-cough complicated by pneumonia at the age of 3, diphtheria thereafter, and then measles with pulmonary congestion at the age of 7. Her mother and father were both alive and well and there was no history or sign of tuberculosis in the family. Her diet prior to admission was quite normal in quality and amount, including meat, liver, bacon and eggs, much milk, vegetables in moderation, and a great deal of fruit. Her mother remarked that the girl appeared to have grown very tall during the previous year and "was going dark under the eyes."

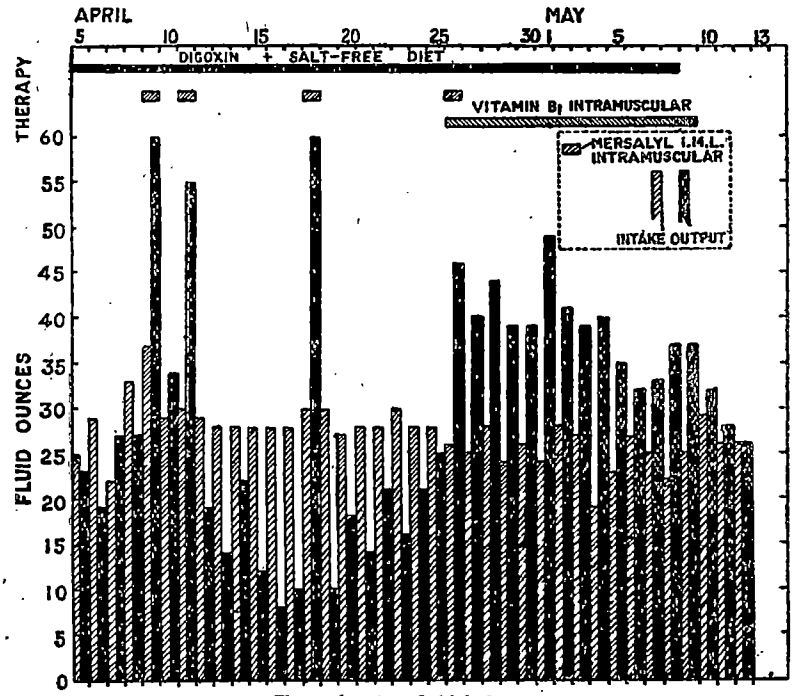

Chart showing fluid balance

On examination on March 7 respirations were rapid and she was pale. The tongue was dry and coated, but there was no evidence of glossitis and the fauces were clear. The pulse rate was 110, regular in time and force; temperature 99.8° F. (37.7° C.), respirations 24. The apex beat was palpable just inside the nipple line, in the fourth left interspace 3 in. (7.5 cm.) from the mid-sternal line. There were no murmurs. The chest moved evenly with respirations and the trachea was central. The percussion note was impaired over the right lung anteriorly and there were inspiratory crepitations in the right mid-zone anteriorly. Breath sounds were bronchovesicular. Vocal resonance and fremitus were normal. Thorough examination of the abdomen and central nervous system revealed no abnormality. Blood white cell count was 24,600 per c.mm.

Treatment was begun with penicillin and sulphadimidine. This produced no improvement, and an *x*-ray film of the chest one day after admission showed the presence of a large pericardial effusion and normal lung fields. At that time she had orthopnoea and a short irritating cough. Re-examination of the heart clinically showed extension of deep cardiac dullness up to the third left rib and muffling of the heart sounds at all areas except the apex.

On March 10 Mantoux 1:1,000 was positive and E.S.R. was 29 mm. in the first hour (micro-method; normal 10 mm.). Pericardial tap was carried out and 20 ml. straw-coloured fluid withdrawn, containing a large number of polymorphonuclear cells and 5.75 g. of protein %. No micro-organisms could be demonstrated in the fluid and microscopical examination for acid-fast bacilli was negative. On March 14 the liver was enlarged to 2½ in. (6.3 cm.) below the costal margin and was tender on pressure. Neck veins were engorged but no ascites was present. On the 17th she began to show some clinical improvement, with decrease in liver size and in the volume of the effusion.

An *x*-ray film of the chest on March 27 showed that the pericardial effusion continued to diminish, but there was a pleural effusion on the right side extending up to the eighth rib. Next day she complained of pains in her elbows, which were red and slightly tender. On the 29th she complained of pain in the left side of the neck, and the left side of the face became oedematous. There was no sign of glandular enlargement of the neck.

On March 30 the left side of the chest was oedematous anteriorly, and dullness to percussion became marked on the right side. The temperature was 100.8° F. (38.2° C.); the pulse rate had risen to 156 and respiration rate to 54. Puncture of the right pleural cavity yielded 9 oz. (255 ml.) of blood-stained fluid which contained 2.5 g. of protein per 100 ml., with lymphocytes and a few polymorphs. A large pleural effusion then became evident on the left side of the chest. Streptomycin, 0.5 g. twice daily, was given intramuscularly from March 31 to May 4.

During the next few days the facial oedema became less and the temperature, pulse, and respiratory rate settled, and E.S.R. on April 4 was only 5 mm. in the first hour. Despite this she became more dyspnoeic and cyanosed. On April 3 pericardial tap was attempted, but no fluid was obtained. Aspiration of the left pleural cavity carried out on April 4 produced 30 oz. (850 ml.) of straw-coloured but not blood-stained fluid. This fluid contained red blood cells and mononuclear cells. From this time, four weeks after admission, she was given a salt-free diet and her fluid intake was restricted to 30 oz. (850 ml.) a day on account of increasing breathlessness and cyanosis. "Digoxin" was begun by mouth and pushed to the limits of tolerance; this was continued in a dosage of 0.25 mg. twice a day until April 11, when it was reduced to 0.25 mg. once daily until May 8. During this period she was extremely ill, requiring continuous oxygen to relieve cyanosis and paraldehyde four-hourly for her restlessness. There was oedema of the legs and sacral region as well as of her left arm and left side of face.

Mersalyl, 1 ml., given intramuscularly on April 9 and 11, on each occasion produced a copious diuresis for one day, as shown in the Chart. By April 10 the respiratory rate, temperature, and pulse rate were more settled, but were 35, 98.2° F. (36.8° C.), and 110 respectively. On April 14 the legs were still very oedematous and the skin of the legs and upper arms was noted to be scaly. Mersalyl, 1 ml., was repeated on the 17th with similar result, but she remained oedematous and the liver was enlarged below the umbilicus. An *x*-ray film of the chest on the 17th showed the persistence of a bilateral pleural effusion, which obscured the heart outline.

The fluid-balance chart illustrates the low output in comparison with the intake between the times on which mersalyl was given, despite digoxin and a salt-free diet. Up to this

time the urine had contained albumin to the amount of 0.5 g. per litre per 24 hours, but there was no microscopical abnormality. On April 24 plasma albumin was 3.4 g.% and globulin 2.85 g.%.

Because of the unusual distribution of the oedema, its lack of response to treatment, and the presence of tenderness of the calves, 25 mg. of vitamin B_1 was given intramuscularly on alternate days, beginning on April 26. There was a rapid and dramatic improvement in the girl's condition. The diuresis, which had begun with an intramuscular injection of 1 ml. of mersalyl on April 26, continued for 13 days. Within 48 hours the oedema of the left arm had disappeared and that of the left leg was much less. On April 29 venous congestion in the neck was much less marked. By May 10 there was no oedema of the face, arms, legs, or sacral region. The calves were no longer tender and the liver was now only one fingerbreadth below the costal margin.

More remarkable than the diuresis, however, was the change in the patient's facies. Within 24 hours of beginning vitamin-B_1 therapy her appearance changed from one of distress to one of convalescence, and she obviously felt much better and much happier. Her appetite improved rapidly and her dyspnoea at rest disappeared. Vitamin-B_1 therapy was stopped on May 19, by which time the fluid intake and output approximated to one another, while an *x*-ray film of the chest showed a normal cardiac outline and the left pleural effusion clearing well, but with only slight improvement on the right side.

She was allowed up for a short while on June 28. A few days later she noticed that her hair was falling out in considerable quantity. The dermatologist (Dr. G. W. Senter) described the alopecia as of the diffuse type commonly associated with serious illness. This loss of hair did not become excessive and she continued to improve. Her serious condition had prevented her being weighed until June 7, when she was 5 st. 7 lb. (34.9 kg.). Thereafter her weight rose slowly to 5 st. 13½ lb. (37.9 kg.) on July 26.

On September 1 there was no evidence of oedema or signs of vitamin deficiency in the eyes, tongue, lips, or skin. Apart from the persistence of her right pleural effusion, the only findings of note were a network of prominent veins over the upper anterior part of the chest in the absence of congestion of the external jugular veins, and purple striae similar to striae gravidarum over the buttocks, lower thigh, and dorsum of the feet, most marked on the left side.

X-ray films of the chest on June 6 and August 29 had shown a slight increase in the right pleural effusion. Because of this, vitamin B_1, 25 mg., was resumed on September 1, being given intramuscularly on alternate days. On September 7, 30 oz. (850 ml.) of blood-stained fluid was withdrawn from the right pleural cavity. To ensure a more balanced intake of the vitamin-B complex, and in view of the increase of the pleural effusion, treatment was begun on September 15 with one tablet three times a day of "benerva" compound, which contains 1 mg. of aneurin, 1 mg. of riboflavin, and 15 mg. of nicotinic acid amide. There ensued an immediate increase in the fluid output, similar to that obtained from vitamin B_1 alone earlier in the illness. This moderate diuresis continued for the next three to four weeks, but with little change in the amount of fluid in the right pleural cavity. On October 10 the Hb was 95%, the white cell count 8,600, and E.S.R. 12 mm. in the first hour. On discharge to a pleurisy unit on October 27 her general condition was excellent despite the persistence of the right pleural effusion. She was eating well and gaining weight, and had no trace of oedema or respiratory distress. The purple striae on the limbs and prominent superficial veins over the chest still persisted, however.

Discussion

This girl's illness may be subdivided into four phases: (1) the prodromal period, culminating in a severe illness with pericarditis and bilateral pleurisy with effusion; (2) temporary improvement during the third and fourth weeks in hospital, when temperature, pulse, and respiratory rate were settling and the E.S.R. was reduced to 5 mm. in the first hour; (3) recurrence of dyspnoea, with appearance of oedema and considerable hepatic enlargement, death appearing imminent from congestive heart failure; and (4) rapid regression of oedema and dyspnoea at the start of vitamin-B_1 therapy and continued improvement thereafter. Although no organism was isolated from the effusions and several guinea-pig inoculations were negative, it is probable that the polyserositis was due to tuberculosis.

The presence of vitamin-B_1 deficiency at the onset of the illness is considered unlikely in view of the absence of any predisposing factors, such as alcoholism, poor diet, chronic dysentery, malabsorption, or hepatic disease. In addition the acute and febrile onset of the illness and the finding of haemorrhagic serous effusions make it unlikely that vitamin-B_1 deficiency was the cause of the initial disease. According to Bicknell and Prescott (1942) the serous effusions in beriberi are of a clear greenish-yellow colour. The dramatic and immediate response to vitamin B_1 intramuscularly suggests, however, that the severe dyspnoea, oedema, and hepatic enlargement which developed after the acute illness were due to deficiency of vitamin B_1. It will be appreciated that vitamin B_1 possesses diuretic properties, apart from its action as a vitamin (Bicknell and Prescott, 1942). The improvement in the patient's general condition in this case, however, was as dramatic as was the diuresis. Jones and Bramwell (1939) state that vitamin B_1 has no effect on the normal heart or on cardiac failure due to other causes. In this case the lack of response to routine treatment makes it unlikely that the severe cardiac failure was due to a simple toxic myocarditis, and indeed Sweeney (1940) states that myocarditis is quite rare in pulmonary tuberculosis and makes no mention of beriberi as a complicating factor. One case of beriberi developing in a man aged 56 with pulmonary tuberculosis was described by Farber and Miller (1945).

Sumner (1949) describes three cases of pulmonary tuberculosis developing signs of vitamin-B deficiency while on streptomycin therapy, but these were signs mainly of riboflavin and nicotinic acid deficiency, and the patients had been on streptomycin over much longer periods. Weiss and Wilkins (1937) found cardiovascular disturbances due to vitamin-B_1 deficiency in 35 of 5,506 admissions to hospital and consider it commoner than congenital heart disease, adhesive pericarditis, or thyroid heart disease. As in a case of beriberi described by Konstam and Sinclair (1940), there was no enlargement of the heart in our patient with the onset of oedema, and consequently no alteration in the size of the heart following vitamin-B_1 therapy. There was little reduction in the pulse rate from the beginning to the end of the vitamin-B_1 injections.

The vitamin-B_1 deficiency in this patient may have arisen from the increased metabolism associated with a severe infection. Himwich *et al.* (1931) and Hendricks (1933) have shown that vitamin-B complex requirements are proportional to the body metabolism. Contributory factors might be the poor diet taken in the first few weeks of the illness, as the body is unable to store vitamin B_1 for any considerable length of time (Harris, 1938).

We have been unable to trace in the British literature any cases of vitamin-B_1 deficiency secondary to severe infection. This is surprising, as the pyrexial illness in this case did not exceed a period of five weeks. One possible explanation of this, apart from any hypothetical constitutional factor, is that at the time of her illness this girl was pubescent. Ashworth and Sutton (1942) have shown the adverse effect of oestrogen on the utilization of the vitamin-B complex. On admission this girl had a good growth of pubic hair and marked early development of the mammae. It may be that the presumably high level of oestrogen in her circulation at that time impaired her utilization of vitamin B_1 and so contributed to the production of clinical signs.

In addition to the deficiency of vitamin B_1 the temporary presence of hyperkeratosis and of some darkening of the skin suggest some deficiency of vitamin A and of nicotinic acid. Both signs regressed completely after cure of the vitamin-B_1 deficiency and the taking of a normal diet. There were never any signs of riboflavin deficiency.

ADDENDUM.—During 1951 it became obvious that constrictive pericarditis had developed. In consultation with Professor I. G. W. Hill and Mr. M. Fallon it was decided to carry out pericardectomy, which was done on June 5, 1951. The patient made an uneventful recovery, and is now (January, 1952) attending school once more. Vitamin supplements were continued until the time of operation. Tuberculous tissue was found in the parietal pericardium removed at operation.

Summary

A case of multiple vitamin deficiency presenting the clinical picture of acute beriberi is reported in a patient suffering from polyserositis, possibly of tuberculous origin.

It is suggested that the toxic process causing the polyserositis also produced the beriberi symptoms.

No similar case has been discovered in the British literature.

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REFERENCES

Ashworth, J., and Sutton, D. C. (1942). *Arch. intern. Med.*, **69**, 15.
Bates, J. (1941). *Lancet*, **1**, 176.
Bicknell, F., and Prescott, F. (1942). *The Vitamins in Medicine*, Heinemann, London.
Farber, J. E., and Miller, D. K. (1945). *Amer. Rev. Tuberc.*, **51**, 315.
Harris, L. J. (1938). *Vitamins and Vitamin Deficiencies*, vol. 1. Churchill, London.
Hendricks, W. A. (1933). *Amer. J. Physiol.*, **105**, 678.
Himwich, H. E., Goldfarb, W., and Cowgill, G. R. (1931). Ibid., **99**, 689.
Jones, A. Morgan, and Bramwell, C. (1939). *Brit. Heart J.*, **1**, 187.
Konstam, G., and Sinclair, H. M. (1940). Ibid., **2**, 231.
Sumner, J. (1949). *Tubercle*, **30**, 62.
Sweeney, J. A. (1940). *Amer. Heart J.*, **20**, 345.
Weiss, S., and Wilkins, R. W. (1937). *J. Amer. med. Ass.*, **109**, 786.
Yudkin, J. (1938). *Lancet*, **2**, 1347.

GRANULOMATOUS ULCER OF THE NOSE TREATED WITH CHLORAMPHENICOL

BY

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Some 35 cases of progressive granulomatous ulcers of the nose, face, and palate of unknown aetiology have been reported since 1896, when McBride first described a case of rapid ulcerative destruction of the nose and face. The literature on the subject has been reviewed by Stewart (1933a), Hoover (1941), Hargrove *et al.* (1946), and Williams (1949). No curative treatment has as yet been discovered; the course of the disease is slowly progressive, ending fatally in most cases. There have been only four reports of recovery. Woods's (1921) second case was healed after implantation of radium needles, and M'Arthur (1925) used *x*-ray therapy successfully. Schütz (1938) is quoted by Hoover as having reported a spontaneous cure, and Hoover himself described an atypical case which recovered. Since the advent of antibiotics there have been reports by Hargrove *et al.* (1946) and Williams (1949). In the case described by Hargrove *et al.* penicillin appeared to control the spread of the lesion, but the patient died of pneumonia. In Williams's first case the patient died from exhaustion despite intensive treatment with penicillin, and penicillin-resistant staphylococci were cultured on numerous occasions from the ulcerated area on the nose, and from other lesions which developed on the arms and legs. The other two cases described by Williams (1949) were also fatal, but the cause of death was stated to be a lymphoma in one case and periarteritis nodosa in the other. The following case of this rare condition is considered worthy of record, as a penicillin-resistant staphylococcus was isolated repeatedly from the ulcerated area and treatment with chloramphenicol controlled the infection and resulted in healing of the ulcer, "aureomycin" previously having failed to do so.

Case Report

A married woman aged 35, employed as a part-time assistant nurse at the Sheffield Royal Infirmary, underwent an operation for submucous resection of the nasal septum on June 26, 1950. The operation was successful in relieving her nasal obstruction and she appeared to recover satisfactorily. On August 10, however, she developed a painful pustule in the left nostril, and was treated with penicillin cream locally and procaine penicillin systemically—600,000 units daily for 10 days. By this time an ulcer extending from the floor of the left nostril to the upper lip was present. She was referred to the skin department on September 4. She was not taking drugs.

Examination revealed an ulcer spreading from the floor of the left nostril to the ala nasi and to the upper lip. The ulcer was covered with a leathery black crust, and the spreading edge was raised and showed firm induration extending 1 cm. beyond the visible margin. At the edge of the crust there were small vesicles. The left cheek and lower eyelid were swollen and oedematous. The regional lymph nodes were not enlarged. Though the ulcer was painful she did not complain of constitutional symptoms and was not febrile. The ulcer was presumed pyogenic in origin, but investigations were carried out to exclude diphtheria, syphilis, anthrax, actinomycosis, and the possibility of an underlying foreign body. No foreign body was found in the nose. Blood Wassermann and Kahn reactions were negative. Radiography of the sinuses and bones of the face and teeth showed no abnormality. A blood count gave 5,000 white cells per c.mm. (52% polymorphs, 38% lymphocytes, 5% monocytes, 5% eosinophils).

Culture of aerobic and anaerobic swabs from the nose and ulcer yielded a mixed growth of a haemolytic streptococcus and *Staphylococcus pyogenes*, and a corynebacterium which was later proved non-virulent to guinea-pigs. No anaerobic streptococcus was isolated. The staphylococcus was found to be sensitive to 1,000 units of penicillin per ml., 500 μg. of streptomycin per ml., 6 μg. of chloramphenicol per ml., and 0.375 μg. of aureomycin per ml. In view of the continued spread of the ulceration the patient was admitted to the ward on September 9 and given aureomycin 250 mg. three-hourly, and applications of saline to the ulcer. On September 14 the ulcer had ceased to extend but showed no sign of healing. Repeated cultures from inside the nose and from the ulcer revealed a *Staph. pyogenes* with the same sensitivity to the antibiotics as above. It was at this stage that a diagnosis of so-called malignant granuloma of the nose was first considered. In view of the grave prognosis if this diagnosis was correct and the success of radiotherapy in the past, superficial *x*-ray therapy, 200 r, was given to the upper lip and the patient was transfused with 2 pints (1.14 litres) of fresh blood.

The aureomycin was stopped, as it was thought to have had little effect, and sulphadimidine was tried. Within two days it became obvious that the ulceration had been controlled by the aureomycin, since the indurated area rapidly extended and the ulcer spread to the left ala nasi. Aureomycin, 250 mg. three-hourly, was recommenced on

FIG. 1.—The condition on September 21.

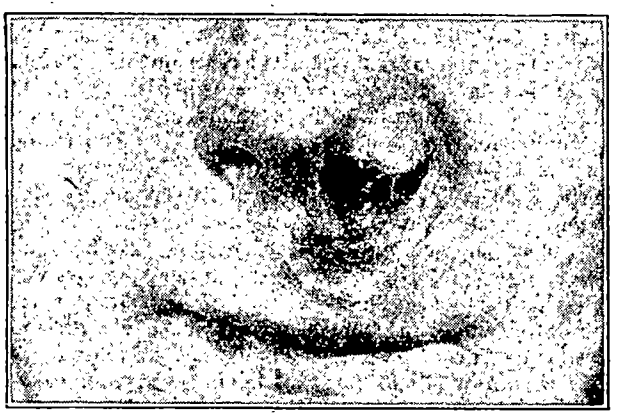

FIG. 2.—Photograph taken on September 28.

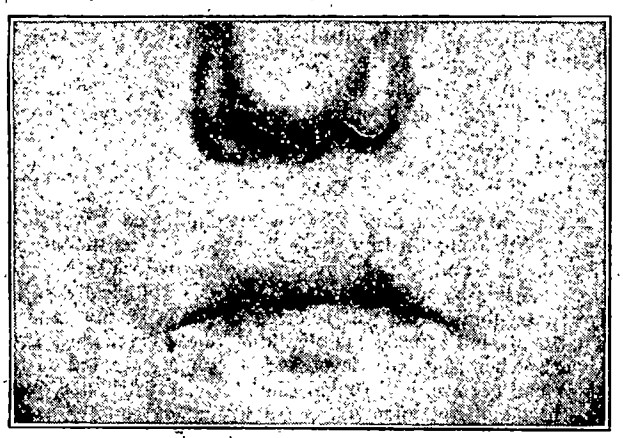

FIG. 3.—Photograph taken on December 27.

September 19, the dosage being raised to 500 mg. three-hourly two days later, when it was found that the serum aureomycin was only 0.75 μg. per ml. Within twelve hours the crusts began to separate and the induration and oedema lessened (Fig. 1). On September 25 the serum aureomycin had risen to 2 μg. per ml., but the most recent culture taken from beneath the crust still revealed a *Staph. pyogenes* which was sensitive to 1.5 μg. of aureomycin. On the 26th the aureomycin was increased to 750 mg. three-hourly, and a solution of aureomycin in water, 1,000 μg. per ml., was applied on gauze to the surface of the ulcer. Despite the high dosage the serum aureomycin did not rise above 2 μg. per ml. The ulcerated area had by now improved, since the main slough was separating and the inside of the nose appeared healed, but there was still slow extension down the lip and over the ala nasi (Fig. 2).

By October 17 the condition appeared stationary, and, in view of the greater ease with which high levels could be obtained in the serum, treatment was changed to chloramphenicol, 1 g. followed by 0.5 g. three-hourly. During the few hours at the change-over of treatment the left side of the face became more oedematous, closing the left eye, and the edge of the ulcer became more red and painful. Within 12 hours these signs had subsided and the ulcer looked more healthy than at any time previously. A further exposure to *x* rays, 100 r, was given on October 24. Next day the serum chloramphenicol was 25 μg. per ml. During the next few days the oedema and induration of the face subsided and the ulcer healed steadily. Numerous cultures taken from the nose and surface of the ulcer were sterile. By November 16 only one small scab remained. The chloramphenicol was stopped and the patient was discharged home on the 18th, but was kept under observation as an out-patient.

On November 28, after a common cold, the oedema of the left side of the face returned and induration reappeared at the edge of the scar, together with several superficial pustules. Chloramphenicol, 0.5 g. six-hourly, was started at once. A culture taken from the pustules before treatment was begun showed *Staph. pyogenes* which was penicillin-sensitive, but in view of its previous success chloramphenicol was continued. The slight recurrence was cleared within a week, but the drug was given until January 4, 1951. Since then she has remained well and is not grossly disfigured, though the scar has retracted her upper lip (Fig. 3). It is noteworthy that throughout the long illness her temperature never rose above normal and her white cell count was never above 6,000 per c.mm., also that no toxic effects arose from the high dosage of antibiotics which were given over a long period.

Discussion

Sensitivity to Antibiotics.—The estimations of the sensitivity of the organisms to aureomycin and to chloramphenicol were carried out by inoculating serial dilutions of the standard antibiotics in phenol-red-serum water (May *et al.*, 1947) with a 1/10 dilution of a 24-hour broth culture. The tube which just did not show growth was taken to be the least concentration of the antibiotic to which the organism was sensitive. The antibiotic content of the patient's serum was estimated by comparing serial dilutions in phenol-red–serum water with standard dilutions of the antibiotic, using *Bacillus cereus* (Lederer No. 5) as the inoculating organism. In view of the instability of aureomycin in a solution of *p*H 7.6 at 37° C. it may be that the organisms tested were actually more sensitive than the *in vitro* tests showed. However, this was not borne out by the progress of the case under treatment.

Diagnosis

The clinical features of the present case correspond very closely with those previously published under the names of malignant granuloma of the nose, progressive lethal granulomatous ulceration of the nose, and chronic infectious granuloma of the nose. Photographs of Lierle's (1942) case are so similar to our case that they could easily be confused. It was perhaps fortunate that the patient, being a hospital employee, was seen at a very early stage in the disease, when it appeared to be an infection and not a neoplasm, such as might have been diagnosed if the ulcer had penetrated the tissues more deeply. For that reason, and the risk of extending the infection, a biopsy was not performed.

Aetiology

The pathological changes in all the cases previously described have been those of areas of necrosis surrounded by a zone of new granulation tissue and a zone of infiltration with inflammatory cells, mainly lymphocytes, with an occasional giant cell. Hargrove *et al.* drew attention to a state of obliterative arteritis affecting the blood vessels beyond the infiltrated area. Stewart (1933b) reviews 10 cases, and in summing up the findings says: "The disease is not one of formation but of destruction." He also draws attention to the complete absence of resistance of the patient to infection. The course of the present case excluded a malignant growth, since the radiotherapy given was not of such dosage as to control a neoplasm. The disease must then be ascribed either to an organism not yet discovered or to an unusual tissue response to infection with known pyogenic organisms.

We believe that the staphylococcus which was found so consistently in the lesion in our case played a prominent part in the cause of the ulceration and was not just a secondary invader. The spread of infection was controlled by aureomycin—rapid extension occurring when the antibiotic was stopped—and during the change-over of treatment to chloramphenicol. When adequate doses of chloramphenicol were given the staphylococcus could not be isolated from the lesion, and healing continued. The slight recurrence was due to infection with a staphylococcus of different sensitivity to antibiotics, and was therefore presumably a fresh strain. This suggests that the granulomatous overgrowth is a non-specific reaction to staphylococcal infection and not to any one particular strain of the organism. Such a theory would explain the occurrence of two attacks separated by an interval of 23 years, as occurred in Hoover's Case 3 and in Lierle's case when a recurrence was precipitated by a blow on the nose. Reinfection with a rare organism would be too great a coincidence. The absence of regional lymph-node enlargement, of leucocytosis, and, in our case, of pyrexia, suggests a failure of the defence mechanism.

That staphylococci are capable of producing indolent inflammatory lesions of the skin has long been known—this is perhaps best characterized by acrodermatitis perstans of Hallopeau; and the common pyogenic granuloma is a good example of exuberant granulation tissue stimulated by staphylococcal infection. Of 17 published cases in which bacteriological findings are given, staphylococci either alone or with streptococci were found in 15: although staphylococci can be isolated by nasal swab from many people, this finding is compatible with our theory.

Summary

A case of progressive granulomatous ulceration of the nose and face is described.

A penicillin-resistant *Staph. pyogenes* was isolated from the lesion, at first in combination with a haemolytic streptococcus and an avirulent corynebacterium; later the staphylococcus was obtained in pure culture.

Aureomycin prevented an extension of the infection, but a staphylococcus sensitive to the drug *in vitro* could still be recovered from the lesion.

Chloramphenicol produced a gradual but complete recovery, with coincident disappearance of the staphylococcus from the ulcer.

The aetiology of the condition is discussed and the suggestion put forward that it is a non-specific but unusual response to staphylococcal infection.

It is suggested that chloramphenicol may be as good as, if not superior to, aureomycin in the treatment of staphylococcal infections.

We should like to express our thanks to Mr. J. H. Cobb for his co-operation and for drawing our attention to the previously published work on the subject.

REFERENCES

Hargrove, S. W. G., Fodden, J. H., and Rhodes, A. J. (1946). *Lancet*, **2**, 596.
Hoover, W. B (1941). *Arch. Otolaryng., Chicago*, **34**, 865.
Lierle, D. M. (194_). Ibid, **38**, 940.
M'Arthur, G. A. D. (1925). *J. Laryng.*, **40**, 378.
McBride, P. (1896). *Proc. laryng. Soc., Lond.* **4**, 18.
May, J. R., Voureka, A. E., and Fleming, A. (1947). *British Medical Journal*, **1**, 627.
Schütz, W. (1938). *Z. Hals- Nasen- u. Ohrenheilk.*, **44**, 244.
Stewart, J. P. (1933a). *J Laryng.*, **48**, 657.
—— (1933b). *Proc. roy. Soc. Med.*, **26**, 1497.
Williams, H. L. (1949). *Ann. Otol., etc., St. Louis*, **58**, 1013.
Woods, R. (1921). *British Medical Journal*, **2**, 65.

PURPURA AND PANCYTOPENIA COMPLICATING ARSENOTHERAPY

BY

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Purpura and other blood disorders are rare complications of the treatment of syphilis by organic arsenicals. The possibility that these drugs might be responsible for the purpuric manifestations was suggested by Labbé and Langlois (1919) only nine years after their introduction. The first to be incriminated was arsphenamine, and Loveman (1932) described 14 cases in the literature up to that date, and added one case of his own which showed a pancytopenia, with thrombocytopenic purpura, agranulocytosis, and aplastic anaemia. Falconer and Epstein (1940) described eight of their own cases of purpura occurring during arsenical treatment. All the organic arsenicals employed in the treatment of syphilis have been suspect, but neoarsphenamine has been involved more often than any other—in part, perhaps, because of its more widespread use. "Mapharsen" was introduced in 1936, but purpura associated with this form of arsenical has been relatively uncommon. However, Wintrobe (1946) mentions having seen three cases, and one further case was reported by Schwartz and Vonder Heide (1945).

Though these complications of arsenotherapy are rare, four cases were admitted to the Royal Victoria Hospital during a period of nine months. These cases had a similar clinical picture but somewhat dissimilar haematological findings, and three ended fatally. These cases are thought worthy of record.

Case 1

A married woman aged 30, with one child aged 8, was first seen by her doctor in July, 1948, having a sore on the vulva. This was treated with penicillin ointment locally and a sulphonamide by mouth; her blood was serologically positive for syphilis. She was referred to the V.D. out-patient department, but refused examination. She was seen again in August, when she had developed a copper-coloured rash, which had been noticed for one day. It was distributed over the chest and abdomen, and to a less extent on the arms and inner sides of the thighs. The cervical and inguinal lymph nodes were enlarged. A small ulcer present on the vulva showed *Treponema pallidum* on dark-ground examination. Her Kahn reaction was ++++, W.R. ++, and Dreyer reading 108. She denied extramarital intercourse, but stated that her husband, who was in the Army, had been home on leave in May of that year.

Penicillin treatment, 3,000,000 units in 10 days, was given. This was followed by courses of combined bismuth and arsenic injections. Over a period of somewhat less than a year she received 3 g. of bismuth, 0.86 g. of mapharsen, and 7.2 g. of neoarsphenamine. Serological tests for syphilis were negative in January, 1949. During the third course of

arsenic and bismuth, in March, 1949, she noticed a dark rash on her body and bleeding from her gums, and she was immediately admitted to the hospital.

On examination she was seen to be a somewhat pale woman of average height and normal build. An extensive petechial rash, almost confluent, was scattered over her face, arms, and legs, being most extensive on the limbs. She was bleeding from her gum margins, and numerous blood-filled vesicles were seen in her mouth. There was no haemoptysis, haematuria, haematemesis, or melaena. Her liver and spleen were not palpably enlarged and there were no haemorrhages into her optic fundi. Pulse was normal, and blood pressure 90/70 mm. Hg. Her blood showed a prolonged bleeding-time and a thrombocytopenia without gross anaemia or leucopenia (see Table).

Penicillin was started, but had to be discontinued after one day because of the development of haematomata at the sites of injection. On the day after admission she had a slight haematemesis and melaena, but the purpuric rash began to fade, and in the absence of further evidence of bleeding no treatment was given. The patient was discharged completely well seven days after admission.

Findings in the Blood of Case 1

	At Onset	After Recovery
Haemoglobin (g./100 ml.)	12·0	17·0
R.B.C. (per c.mm.)	4,300,000	5,950,000
W.B.C. (per c.mm.)	5,700	5,700
Platelet count (per c.mm.)	54,000	240,000
Bleeding-time	25 minutes	3 minutes
Clotting-time	10 ,,	11 ,,
Prothrombin	100%	—
Capillary fragility	Increased	Normal

At biopsy the bone marrow had a total nucleated count of 44,000 cells per c.mm., but the myeloid and erythroid series showed a normal average differential count. There was no eosinophilia suggestive of an allergic reaction. The megakaryocytes were found to be reduced. They averaged 1 per 10,000 nucleated cells of the bone marrow, as against the normal average of 17 per 10,000, and showed a slight reduction of mature megakaryocytes capable of active platelet production.

Case 2

A merchant seaman aged 26 noticed a sore on his penis when in Indo-China in November, 1948. He was referred to a hospital in Saigon, where *Tr. pallidum* was found in the penile sore. He was then referred to Singapore, where he received a combined course of arsenic and bismuth to a total of 6 g. of neoarsphenamine and 1 g. of bismuth. He returned to this country and first appeared in the venereal diseases out-patient department of the Royal Victoria Hospital in April, 1949. The ulcer had now healed and serological tests for syphilis were entirely negative. He received a course of penicillin consisting of 6,000,000 units in 10 days, after which arsenic and bismuth injections were then recommenced. He was given 2.1 g. of "stabilarsan," 2.25 g. of neoarsphenamine, and 1 g. of bismuth.

In July he noticed that he bruised readily, that he had developed a generalized dark rash over his body, that his gums bled readily, and that his urine was dark red in colour. He did not appear to be ill on admission, and was alert, co-operative, and intelligent. He was not anaemic, cyanosed, or jaundiced. There was a general petechial rash on his trunk and limbs, and he was bleeding freely from his gum margins. The urine was a dark reddish colour, and on examination contained albumin and red blood cells. The liver and spleen were not palpably enlarged, and nothing abnormal was found on physical examination of the other bodily systems.

Examination of the blood showed a normochromic anaemia, haemoglobin 9.5 g./100 ml., a leucopenia (3,600 per c.mm.), a slight thrombocytopenia, and a prolonged bleeding-time. Bone-marrow biopsy revealed a marrow hypoplasia.

To relieve the purpura the patient was transfused with 1 pint (570 ml.) of perfectly fresh compatible blood. The next day he was much better and the purpura had almost completely disappeared. Three days later, however, the bleeding from the gums recommenced and fresh purpuric spots appeared on the thighs. A further pint (570 ml.) of fresh blood was transfused. Eight days after admission tonsillitis developed and examination of the blood again showed a normochromic anaemia with a leucopenia (1,900 per c.mm.) and agranulocytosis with thrombocytopenia. One pint (570 ml.) of blood was withdrawn from a case of chronic myeloid leukaemia under treatment in the wards (W.B.C. 112,000 per c.mm.), tested for compatibility, and this was transfused into the patient. This did not produce any significant rise in the neutrophil polymorphs of the peripheral blood. The patient had been on penicillin since the onset. A swab of the tonsillar area gave a pure growth of a streptomycin-sensitive *Bact. coli*, and penicillin was therefore stopped and streptomycin therapy instituted on his ninth day in hospital. Two days later he was clinically very much better; his throat was easier and less inflamed, and the purpura had subsided. On the following day, however, an ecchymosis developed on the left eyelid and spread to involve the whole of the left orbit, and this was followed two days later by a haematemesis, after which the patient became very shocked and cold. Evidence of cerebral involvement quickly followed with severe headache and stiffness and rigidity of the neck. Despite the transfusion of 2 pints (1.14 litres) of fresh blood the patient drifted into coma and died.

Post-mortem Summary.—Aplastic anaemia and purpuric haemorrhages into heart, renal pelves, skin, stomach, and brain, following arsenical therapy. Aplasia of vertebral marrow, confirmed histologically. The immediate cause of death was a massive intracerebral haemorrhage into the cerebellum and occipital lobes of the cerebrum, with subarachnoid extension into the posterior fossa. There was associated cerebral oedema and bilateral tentorial herniation, but no evidence of any disease of the cerebral vessels.

Case 3

A man aged 37 first attended the venereal diseases out-patient department of the Royal Victoria Hospital in March, 1947. His wife, who had sero-positive syphilis, was already attending at this time. He himself had no complaints; no history of gonorrhoea or syphilis, and the last extramarital exposure had occurred four years previously. On examination there were no clinical signs suggestive of syphilis, and serological tests for syphilis were negative. His cerebrospinal fluid was found to be normal. Accordingly no treatment was instituted, but he was kept under observation. In March, 1949, serological tests were positive: Kahn +++, W.R. ++, and Dreyer reading 5.4, and he received a ten-day course of intramuscular injections of penicillin to a total of 6,000,000 units. This was followed by combined courses of arsenic and bismuth injections, and at the end of the second course the serological tests for syphilis were again negative.

When the patient reported for the third injection of his third course in September, 1949, petechial haemorrhages were noted on the skin and he was admitted to hospital. By this time he had received 7.65 g. of neoarsphenamine and 1.8 g. of bismuth. He stated on admission that he had been feeling vaguely unwell for about two months. For about the same time he had also noticed a rash on his face and hands. This had been treated by his own doctor with penicillin cream, gentian violet, and other remedies, without benefit. He complained of some aching in his abdomen and of low back pain. Petechial spots had been noted for a few days before admission and he had had one attack of severe epistaxis. He was an epileptic and had been on phenobarbitone, ½ gr. (32 mg.), night and morning since he was 14. He had received no other drugs, and had suffered from no illnesses apart from an attack of pneumonia in 1937.

Examination showed that he was well nourished, with some pallor of his mucous surfac s. Papular and excoriated eczematous lesions with crusting were present on his beard region, especially on the left side of the chin, with enlargement of the submental lymph nodes. Chronic scaly fissured patches were present on the webs of the thumb and index fingers of both hands, and there were a few patches on the legs. This was considered to be an arsenical dermatitis. Numerous petechiae were scattered over both legs below the knee, with less numerous patches on the back, shoulders, and buccal mucosa. The tongue showed a few petechiae, and there was slight bloody oozing from the gums. The spleen was not palpably enlarged and there were no other bodily abnormalities. Examination of the blood on admission showed: haemoglobin, 10.6 g.%; red cells, 3,230,000; white cells, 2,300 (polymorphs 8%); platelets, 86,000; bleeding-time, 15 minutes; clotting-time, 4 minutes; capillary fragility, positive. Bone-marrow biopsy showed a grossly aplastic marrow with 3% developing myelocytic cells and 2% normoblasts.

A course of dimercaprol (B.A.L.), 1.2 g. in six days, was given. This had little effect on the arsenical dermatitis and none on the marrow aplasia. On the day after admission he was transfused with 1 pint (570 ml.) of fresh compatible whole blood. The next day he complained of a sore throat, and a necrotic ulcer was found on the right tonsil. This was associated with a pyrexia of 101° F. (38.3° C.). A swab from the ulcer showed no microscopical evidence of fusospirochaetes, but on culture gave a profuse growth of penicillin-sensitive haemolytic streptococci. The faucial condition improved and the temperature fell in 24 hours on intramuscular injections of penicillin, 500,000 units daily. On the eighth day another pint (570 ml.) of compatible fresh blood was given, to which he had a pyrexial reaction—temperature 101° F. (38.3° C.)—but without haemoglobinuria. The following day he complained of crampy abdominal pain, with pain and tenderness in the right iliac fossa but no rigidity. This was associated with melaena.

He was maintained with blood transfusions, but on the thirteenth day in hospital he had a haematemesis of about 1 pint (570 ml.). The melaena persisted and blood clots appeared in the faeces. He looked ill and drawn, had abdominal pain, and the abdominal tenderness became more marked. It was considered that he had probably developed an intramural haemorrhage into the intestinal tract. Despite the transfusions his condition deteriorated and he died on the fourteenth day after admission to hospital.

Post-mortem Summary.—Aplastic anaemia following arsphenamine therapy, generalized purpuric haemorrhages into skin, lungs, heart, kidneys, and intestines. Oedema of lungs. The immediate cause of death was massive haemorrhage into the intestinal tract, which was associated with a gross intramural haemorrhage into the hepatic flexure region of the colon, with extension into the perinephric fat of the right kidney. The brain was remarkably free from any evidence of petechial haemorrhages. The bone marrow showed extensive replacement with fat, and only a few basic reticulum cells, plasma cells, and lymphocytes were present.

Case 4

A woman aged 48, with a family of six children, all alive and well, plus one child who died eight years previously, had no history of miscarriages, though her husband had been attending the venereal diseases department since 1939, originally with a sore on the penis and with Kahn ++ and W.R. +++. In January, 1949, she also attended the department with perforation of the hard palate, the only other physical findings on complete examination being the presence of hyperkeratosis of the feet and leucoderma colli. Serological tests were: Kahn ++ and W.R.++. She received three courses of treatment consisting of 13.65 g. of neoarsphenamine and 3 g. of bismuth. The tests remained strongly positive throughout the therapy.

One month after antisyphilitic therapy was started it was noticed that the patient was somewhat anaemic. Examination of the peripheral blood revealed haemoglobin 77% (Haldane) and red cell count, 4,200,000, so she was put on ferri sulph. co. (*N.F.*) 3 gr. thrice daily. The anaemia did not respond to this, and in November, 1949, she was admitted to hospital with severe pallor, nausea, and anorexia, a feeling of tiredness, and breathlessness on exertion.

Examination showed her to be pale, anaemic, well nourished, and without enlargement of the superficial lymph nodes. She was breathless on the slightest exertion, somewhat listless, but co-operative. The tongue was smooth and the abdomen lax. The spleen was enlarged two finger-breadths below the costal margin, but the liver was not palpable. Pulse rate was 90 and B.P. 140/90. The heart showed some enlargement to the right, with a harsh systolic murmur at the apex. On admission the haemoglobin was 21% (Haldane) (3.1 g./100 ml.), red cell count 950,000, white cell count 575, of which 63% were neutrophils. Van den Bergh 1.25 mg. per 100 ml. Bleeding and coagulation times were within normal range. The bone marrow showed aplasia, with marked reduction in the erythropoietic series.

Repeated transfusions of fresh whole blood and a course of dimercaprol were given. She also received injections of 20 μg. of vitamin B_{12}, one ampoule of vitamin K, and 300 mg. of ascorbic acid daily. Six transfusions brought no significant reaction. The seventh transfusion resulted in a marked rigor, so transfusion was stopped. There was no significant improvement in the haematological picture despite the therapy: the white cell count remained low, the haemoglobin ranged between 50% and 29%, and there was constant thrombocytopenia. The patient gradually deteriorated, and died on the 28th day after admission.

Post-mortem Summary.—Aplastic anaemia, haemosiderosis of spleen, slight haemosiderosis of liver, chronic pyelonephritis, and cystitis. The bone marrow showed marked aplastic replacement of both erythroid and myeloid series of cells by fatty tissue.

Discussion

Case 1 is a pure thrombocytopenic reaction to arsphenamine, however this is produced. It showed the characteristic findings peculiar to this type of case—namely, free bleeding from mucous surface, marked fall in circulating platelets, and increased capillary fragility as shown by skin purpura and a positive Hess test. The bone marrow showed no abnormality of the myeloid or erythroid series, and no evidence of the eosinophilia which is usually present in allergic disorders affecting the bone marrow. The megakaryocytes were depressed—few in number, and with maturation arrest—suggesting a direct toxic effect of the drug on the mother cells of the circulating blood platelets. As in most cases of this type, there was a rapid and spontaneous return to normal associated with a rise in the platelet count, which usually begins in 24–48 hours and returns to normal in four to seven days. This good prognosis has been noted in all cases showing this complication of arsenical treatment, and so far no fatalities have been recorded. This differs from the other blood reactions to arsenicals.

Cases 2 and 3 at the onset superficially resembled Case 1, since they developed melaena with bleeding into the skin during the treatment of syphilis with standard courses of bismuth and arsenic by weekly injection. They showed a mild degree of anaemia, with moderate leucopenia, mainly affecting the polymorphonuclear leucocytes, a thrombocytopenia, and prolonged bleeding-time. Despite treatment the haemorrhagic diathesis persisted and the leucopenia progressed to an agranulocytosis with pyrexia and faucial manifestations. This peripheral pancytopenia was associated with a marked aplasia of the bone marrow (panmyelopathy), which affected all elements and was unassociated with any increase in the eosinophil myelocytes, whose increase would have suggested a possible allergic basis for the bone-marrow inhibition. This tendency to massive rather than selective damage of the bone marrow by organic arsenicals has been noted by Plum (1937), who showed that of 47 cases with leucopenia 33 were associated with anaemia or thrombo-

cytopenia. He also pointed out that in arsenical agranulocytosis, in contradistinction to agranulocytosis produced by other heavy metals, there were a relatively high leucocyte count at the onset, a lower age incidence, and a higher incidence in males.

It has been established that heavy metals (including arsenic and gold) exert their toxic effects on a biological system by reacting with the sulphydryl groups of the protein fraction of cellular enzymes to form mercaptides. The sulphydryl groups in the dithiol B.A.L. (dimercaprol; 2:3-dimercaptopropanol) compete with the dithiol protein-metal complex in the tissues, thus combining with and eliminating the offending metal. This restores the enzyme system. The therapeutic efficacy of dimercaprol in some of the toxic manifestations of arsenical poisoning has been dramatic. Its effect on arsenical dermatitis has been good (Carlton *et al.*, 1948), and on gold thrombocytopenia and granulocytopenia encouraging (Lockie *et al.*, 1947; Cohen *et al.*, 1947; Ragan and Boots, 1947).

The results of dimercaprol therapy on the haematological disturbances occurring during arsenotherapy are variable. In 12 cases of agranulocytosis following intensive arsenic treatment for syphilis Fisher, Holley, and Fein (1947) reported good results with combined therapy including dimercaprol. Eagle (1946) treated 11 cases of arsenical agranulocytosis with dimercaprol, and 10 recovered; he found, however, that dimercaprol had no beneficial effect on three cases of aplastic anaemia caused by arsenic poisoning.

The first of our cases (Case 2) with agranulocytosis (and aplastic anaemia) did not receive dimercaprol, while the second (Case 3) was given a course of intramuscular injections of dimercaprol in oil to a total of 1.2 g. spread over six days. There was no essential difference in the clinical course of these two cases and no rise in the peripheral cellular counts of the blood, and both ended fatally. The fact that the associated arsenical dermatitis in Case 3 did not respond to dimercaprol suggests that the condition was of long standing (cf. Eagle, 1946). The damage to the bone marrow was severe, as it showed very few developing cells of either the myeloid or the erythroid series, and may have been irreversible.

Case 4 presented as a gross aplastic anaemia from the onset, and purpuric manifestations were not observed, although the platelet count was uniformly low. Despite blood transfusions, oral iron and ascorbic acid, and injections of vitamin B_{12} and of dimercaprol she showed no clinical or haematological response and her condition proceeded inexorably to a fatal termination.

At the onset the clinical manifestations of a thrombocytopenic purpura of toxic origin are essentially similar to those encountered in the more severe cases of toxic pancytopenia in which all elements of the bone marrow are depressed. Yet the former has a good prognosis and the latter a uniformly poor one. As a case of toxic pancytopenia develops, the initial purpura becomes associated with a gradually increasing anaemia and a leucopenia which proceeds to agranulocytosis. If such severe bone-marrow damage occurs during anti-syphilitic therapy with heavy metals it appears that the prognosis is poor, despite treatment with dimercaprol. All cases of purpura developing during treatment for syphilis should be followed carefully, with repeated blood examinations, to distinguish between the benign and fatal forms which may arise during arsenotherapy.

Summary

Four cases of blood dyscrasia resulting from the toxic effects of organic arsenicals are presented.

One case of toxic thrombocytopenic purpura recovered spontaneously.

The three other cases showed a pancytopenia with marrow aplasia and ended fatally.

The administration of dimercaprol to two of the cases had no apparent effect on the severe toxic manifestations.

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REFERENCES

Carleton, A. B., Peters, R. A.; and Thompson, R. H. S. (1948). *Quart. J. Med.*, n.s. **17**, 49.
Cohen, A., Goldman, J., and Dobbs, A. W. (1947). *J. Amer. med. Ass.*, **133**, 749.
Eagle, H. (1946). *J. vener. Dis. Inform.*, **27**, 114.
Falconer, E. H., and Epstein, N. N. (1940). *Arch. intern. Med.*, **65**, 1158.
Fisher, S., Holley, H. L., and Fein, G. (1947). *Arch. Derm. Syph., Chicago*, **55**, 57.
Labbé, M., and Langlois, S. (1919). *Bull. Soc. méd. Hôp. Paris*, **43**, 786.
Lockie, L. M., Norcross, B. M., and George, C. W. (1947). *J. Amer. med. Ass.*, **133**, 754.
Loveman, A. B. (1932). *Ann. intern. Med.*, **5**, 1238.
Plum, P. (1937). *Clinical and Experimental Investigations in Agranulocytosis.* Copenhagen.
Ragan, C., and Boots, R. H. (1947). *J. Amer. med. Ass.*, **133**, 752.
Schwartz, M., and Vonder Heide, E. C. (1945). Ibid., **128**, 657.
Wintrobe, M. M. (1946). *Clinical Hematology*, 2nd ed., p. 620. Philadelphia.

CARCINOMA OF THE ADRENAL CORTEX WITH ENDOCRINE MANIFESTATIONS

REPORT OF A CASE

BY

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Functioning adrenal cortical tumours can produce various clinical pictures. In women, a group of symptoms associated with virilism is referred to as the adrenogenital syndrome. When such abnormalities as obesity, decreased sugar tolerance, hypertension, amenorrhoea, and hirsuties appear without virilism the name Cushing's syndrome is employed. Considerable overlapping occurs, and cases of adrenocortical tumour may show features of both syndromes.

An unusual case is described below in which hirsuties, obesity, and cutaneous striae appeared in a girl before puberty, and in whom menstruation began normally and continued regularly until six months before her death from a metastasizing tumour of the right adrenal cortex. Virilism was absent and carbohydrate metabolism was normal.

Case Report

The patient, a social worker, was one of 12 children. Both parents were short and stout, and one grandmother was said to be exceedingly fat. She herself was plump from infancy, but not excessively so. At 8½ years she weighed 61 lb. (27.7 kg.). At 10 years pubic and axillary hair appeared. She was then sent to the London Hospital on account of obesity—weight 95 lb. (43 kg.), height 4 ft. 3 in. (129.5 cm.)—and was dieted. The following year increasing obesity made further schooling impossible. Striae appeared in the loins, and the pubic hair assumed the male distribution. She complained of occasional migrainous headaches.

A year later, aged 12, she entered hospital with pain in the left loin. Examination showed marked obesity; weight 104 lb. (47.2 kg.), height 4 ft. 4 in. (132 cm.), rubicund facies, pubic hair extending to umbilicus, with fine dark hair over shoulders and arms (Fig. 2*a*). Blood pressure was 135/95 to 150/80. Investigations showed: blood urea, 21 mg. per 100 ml.; normal intravenous pyelogram and urea-concentration test; cerebrospinal fluid normal; fundi, visual fields, and radiograph of pituitary fossa normal. Radiography showed no cardiac enlargement. In view of the

clinical appearances laparotomy was performed. The adrenals were poorly seen owing to fat, but nothing abnormal was observed except a small lump (? lymph node) on the right kidney: this lump does not appear to have been removed. After discharge she developed left-sided renal colic with haematuria, and subsequently passed a large calculus.

During the ensuing six months she gained 30 lb. (13.6 kg.). Striae were now present not only in the loins but vertically down the abdomen, around the breasts, and on shoulders

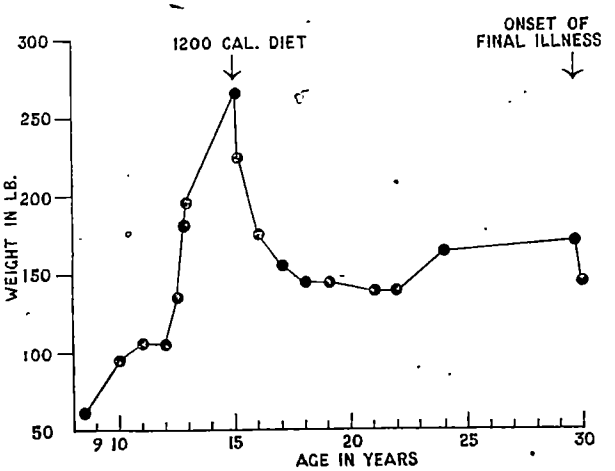
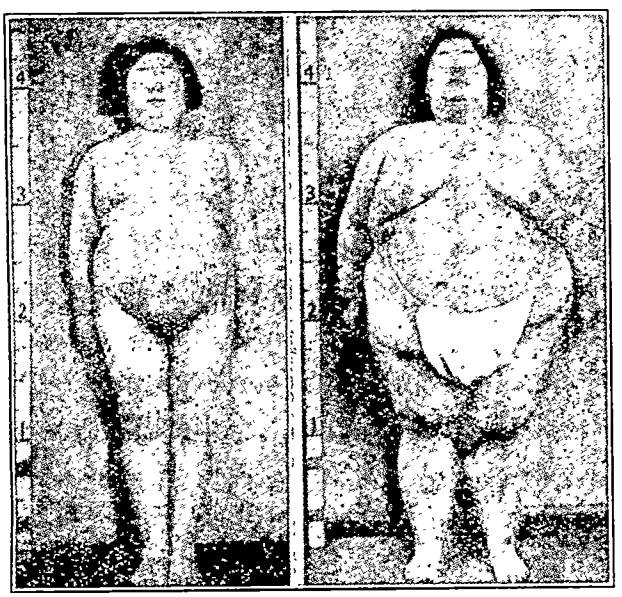


FIG. 1.—The patient's Weight Chart.

and thighs. The hirsuties increased, and she developed some coarse dark hairs on the chin and upper lip, and around the nipples and umbilicus. The breasts became moderately large and pendulous, but showed no evidence of functional activity. There were no signs of sexual precocity, and intellectual development was normal for her age, but she was emotionally immature. Blood pressure was 140/90 to 150/95. A blood count showed: red cells, 4,500,000; Hb, 80%; C.I., 0.88; white cells, 11,600 (polymorphs 75%, lymphocytes 15%, monocytes 9.5%, eosinophils 0.5%). Repeated glucose-tolerance tests showed anomalous values, on one occasion being rather flat and on others normal. At this stage she was presented at the Royal Society of Medicine as a case of obesity and hirsuties of ? adrenal origin (Ellis, 1932). She then received deep *x*-ray therapy to the pituitary fossa (total pituitary dose 1,120 r). At this time she weighed 180 lb. (81.6 kg.), but rose to 193 lb. (87.5 kg.) two months later, and further *x* rays were administered (total pituitary dose 420 r). By the time she was 13 she weighed 225 lb. (102 kg.) and her blood pressure was 210/150. Renal-function tests were normal. Four pounds of abdominal fat was now removed at operation by Mr. Perry.



(*a*) (*b*)

FIG. 2.—(*a*) Patient aged 12. From Harvey Cushing's *Pituitary Body, Hypothalamus, and Parasympathetic Nervous System*. By courtesy of Charles C. Thomas, Publisher, Springfield, Illinois. (*b*) Patient aged 15. From Raymond Greene's *The Practice of Endocrinology*. By courtesy of Eyre and Spottiswoode (Publishers) Ltd., London.

At the age of 15 (Weight Chart, Fig. 1) she weighed 263 lb. (119.3 kg.), her height was 4 ft. 5¼ in. (135 cm.), and blood pressure 150/95. She was admitted to hospital for dieting, and lost 36 lb. (16.3 kg.). Following this her blood pressure was 120/70. A glucose-tolerance test was normal. Her photograph at this time (Fig. 2*b*) shows considerable hirsuties, with generalized obesity. Striae were not well marked, and the face was less moon-shaped than previously.

Her periods began at 16. During the first year she had three periods, each lasting three days, after which they became more frequent and occurred about every 30 days, with occasional intervals of up to two months. The loss at each period was scanty and lasted approximately three days. There was no dysmenorrhoea. She had no interest in the opposite sex.

She lost more weight subsequently, and for the next 14 years, under the dietary supervision of Miss R. Simmonds, she kept below 180 lb. (81.6 kg.). She remained well, active, and at work until three months before her final admission to hospital at the age of 30, when she developed progressive dyspnoea, and a cough with frothy sputum. The headaches became less severe. She began to lose weight (over 2 st.—12.7 kg.—altogether). The sputum became blood-streaked during the month before admission, and for three weeks she had noticed swelling of the ankles and palpitation. Amenorrhoea had been present for six months.

On examination she was afebrile, weight 143 lb. (64.9 kg.), height 4 ft. 6 in. (137 cm.), span 4 ft. 7 in. (139.7 cm.). She was breathless on moving about in bed. There was obesity, especially of buttocks, hips, and abdomen, and the tissues were very lax (Fig. 3). There were widespread pink-and-white striae, generalized hirsuties, and acne of the face and back. The facies was round and plethoric. The hands and feet were small and delicately formed, and the nipples rudimentary, with little underlying breast tissue. Over wrists and forearms were several ecchymoses, some probably spontaneous. The voice was feminine, and the larynx of female shape. External and internal genitalia appeared normal, apart from the male distribution of pubic hair, and in particular there was no gross enlargement of the clitoris. Respiratory system: early clubbing; impaired percussion note at both bases; generalized fine rales. Cardiovascular system: blood pressure 170/120, slight oedema of the legs, but none over the sacrum; jugular venous pressure normal; apex beat impalpable; no cardiac murmurs.

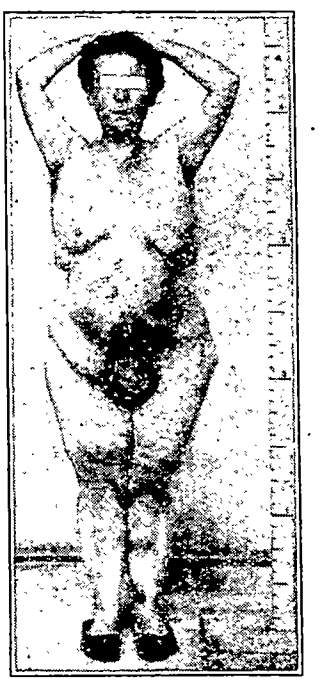


FIG. 3.—Patient aged 30 years, a few weeks before death.

Gastro-intestinal system: paramedian and horizontal abdominal scars; there was a large firm mass palpable in the right loin, dull to percussion, moving with respiration, slightly tender, and with a definable upper border. Central nervous system: normal. Urine: albumin, leucocytes, debris, and profuse growth of *Proteus vulgaris*; sugar absent; normal calcium concentration (Sulkowitch's test).

Investigations

Examination of the blood showed: Hb, 101% (14.9 g.); red cells, 5,100,000; marked anisocytosis and polychromasia; moderate poikilocytosis; E.S.R., 8 mm. (Westergren); white cells, 6,000; urea, 19 mg. per 100 ml.; cholesterol, 187 mg. per 100 ml.; chloride, 595 mg. per 100 ml.; sodium, 320 mg. per 100 ml.; potassium, 19 mg. per 100 ml.; calcium, 11.4 mg. per 100 ml.; phosphorus, 3.9 mg. per 100 ml.; alkaline phosphatase, 41.4 King–Armstrong units per 100 ml.; alkali reserve, 47.2 vols. per 100 ml. Total proteins, 7.2 g.% (albumin 3.9 g., globulin 3.3 g., A./G. ratio 1.2); glucose-tolerance test, 81 mg. per 100 ml. (fasting), 122 mg. (half an hour), 150 mg. (one hour), 136 mg. (one and a half hours), 150 mg. (two hours), 100 mg. (three hours); no glycosuria. *X*-ray examination:—Chest: multiple pulmonary metastases, with mediastinal adenopathy. Skull: normal sella turcica. Dorso-lumbar spine: no evidence of secondary deposits. Hands: no osteoporosis. An intravenous pyelogram showed the right kidney to be displaced downward. An electrocardiogram was normal.

Endocrine assays gave the following results. 17-ketosteroids (see Table).

Specimen	Total (Normal 4–22 mg. per 24 hrs.)	β-fraction (Normal up to 10% of Total)	Colour Reaction for Dehydroisoandrosterone (Allen *et al.*, 1950)
1	221	34%	Strongly positive
2	256	34%	,, ,,
3 (3 days before death)	150	19%	Positive

Reducing steroids (Dr. C. L. Cope): total neutral reducing steroids were 2.6 mg. a day, using deoxycortone acetate as standard, this being a low normal figure for the method used (Cope and Bain, 1951). Cortisone output, estimated by a biological method (Cope, 1951), was 250 μg. daily, a high figure.

Clinical Course.—Progressive dyspnoea with cyanosis, terminating in sudden death on December 2, 1950, four weeks after admission.

Post-mortem Examination

Necropsy (Dr. C. V. Harrison) confirmed the clinical diagnosis of adrenal cortical carcinoma with metastases.

Cardiovascular System.—The heart weighed 266 g. The right ventricle was 6 to 7 mm. in thickness, the left 17 mm. The coronary arteries showed a little atheroma. The inferior vena cava was invaded by tumour from the right suprarenal, extending upwards into the right atrium.

Respiratory System.—The right lung weighed 1,135 g. and was largely replaced by innumerable metastases, averaging 2 cm. in diameter. The left lung weighed 532 g. Fine white spots averaging 1 mm. in diameter were scattered throughout, suggesting intravascular tumour. There were also a few metastases up to 1 cm. in diameter in the lower lobe posteriorly. The main left pulmonary artery at the entrance to the lung was occluded by tumour.

The *liver*, weighing 2,356 g., was directly invaded by tumour in the upper posterior part of the right lobe. Within the liver the mass of tumour measured 13 by 10 by 6 cm., but there were no other deposits, and the rest of the liver appeared normal.

Endocrines.—The thyroid weighed 24 g. and was of normal shape. One small 1-cm. fleshy nodule was present in the middle part of the right lobe posteriorly. The right adrenal gland weighed 965 g. and measured 18 by 11.5 by 7 cm. It was nodular, had displaced the kidney downwards without involving it, and was adherent to and invading the liver. Most of the tumour was necrotic, but the surviving parts were pale pink and soft. Innumerable vessels were attached to it, and it had invaded the inferior vena cava. The left adrenal weighed 4.5 g., measured 5 by 1.3 by 1 cm., and was normal in position. On section a narrow (1 mm.) line of yellow cortex was visible. The parathyroids (two found) and pancreas appeared normal.

Reticulo-endothelial System.—The spleen weighed 286 g. and showed four metastases in the upper pole, the largest 2 cm. in diameter. Lymph nodes: two large malignant lymph nodes were found in the anterior mediastinum, just above the pericardium. Cervical, axillary, and supraclavicular nodes were normal. Spinal and sternal bone marrow were normal.

Genito-urinary System.—The right kidney weighed 220 g. and showed several recent infarcts. Two metastases, 1.5 and 1 cm. in diameter, were seen. The left kidney weighed 250 g., and also showed fresh infarcts and a 1.5-cm. metastasis near the outer border. Ureters, bladder, and vagina were normal. The uterus was 7.5 cm. long, 4.5 cm. wide, and 2.5 cm. thick at the fundus. The cervical canal constituted most of the uterus, being 4 cm. long. Both ovaries were of normal size, and contained numerous small yellow flecks, but no recognizable corpus luteum. Tubes were normal.

Central Nervous System.—The brain weighed 1,145 g. and appeared to be normal.

Skeleton.—The spine was straight and there was no osteoporosis macroscopically.

Histology

Adrenal Tumour (Fig. 4).—The tumour cells were arranged in solid alveoli and columns separated by fine fibrous strands containing wide vascular channels. The cells varied enormously in size from about 15 μ up to multinucleate syncytial masses. The nuclei were round, hyperchromatic, and vesicular, and the cytoplasm was homogeneous, ground-glass, and eosinophilic. Mitoses

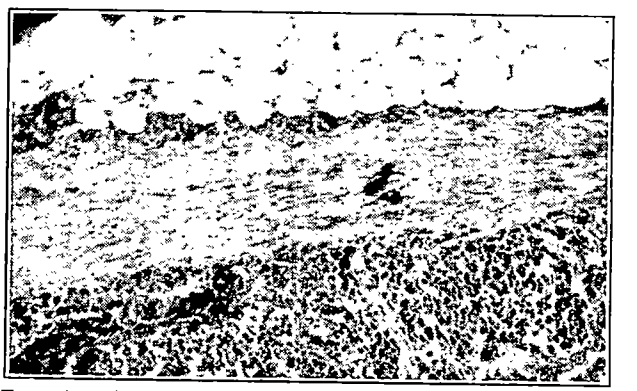


FIG. 4.—Histological section of adrenal tumour, showing trabecular arrangement. H. and E. (×90:)

were uncommon. Vines's androgenic stain was negative. Gomori's alkaline phosphatase stain (Gomori, 1939) was strongly positive in the tumour cells as well as the endothelia of stromal vessels. The Ashbel–Seligman histochemical test (Ashbel and Seligman, 1949), reputedly specific for ketosteroids, was strongly positive. The Sudan IV stain for fat was positive, but this fat was not anisotropic.

The *left adrenal* was qualitatively normal, and contained rather less lipoid than average, but this was anisotropic. Vines's stain was negative. Both *lungs* showed many metastases in arteries and invading the lung tissue. There was considerable interstitial fibrosis in the left lung, of uncertain origin Some might have been a reaction to the tumour cells, and some a result of chronic infection. The *thyroid*

was normal, but appeared to have been a trifle inactive. In the *ovary* ripening follicles of various ages were present, but no corpus luteum; there were, however, plenty of corpora albicantia and several stomal foci of large, pale, foamy theca lutein cells. The *endometrium* was thick, and showed a proliferative reaction, but lacked mitoses. Both breasts showed gross atrophy and could be readily mistaken for male breasts. *Bone:* twelfth dorsal vertebra and first metacarpal were normal. There was no loss of trabeculae.

Pituitary (Dr. A. G. E. Pearse).—Macroscopically the gland appeared smaller than normal. Microscopically, three main changes were present. First, there was a large (3 mm. diameter) chromophobe adenoma containing a few acidophils, ghosts of hyaline basophils, and some mucoprotein secretion. Three smaller chromophobe adenomata were also noted. Secondly, the number of acidophils was considerably reduced, large degranulated forms and small deeply granulated types predominating. Thirdly, over 60% of the basophils were of Crooke's hyaline variety (Fig. 5)—a high proportion by comparison with other reported cases.

FIG. 5.—Histological section of anterior pituitary, showing hyaline changes in the basophils. Trichrome periodic-acid-Schiff stain. (× 1,150.)

Discussion

The most striking feature of this case is the length of time during which symptoms suggestive of Cushing's syndrome were present before malignant changes supervened. A search of the literature reveals no comparable case.

The age of onset (8½ years) also appears to be unusual; most of the reported cases developed symptoms either before the age of 5 years or after puberty.

The diagnostic problem which our patient presented is evident from her history. In view of the absence of clitoral enlargement her case would presumably fall into the category of Cushing's syndrome rather than adrenal virilism (the adrenogenital syndrome). If this is so, the absence of amenorrhoea (except terminally) and of disturbed carbohydrate metabolism is atypical.

Cushing's syndrome has been observed in association with neoplasms and hyperplasia of the adrenal cortex, and with basophil adenomata of the pituitary. In the present case a carcinoma of the adrenal cortex was present, with four chromophobe adenomata of the pituitary; and, considering the long history, it seems highly probable that the initial adrenal lesion at the age of 8½ was either hyperplasia or adenoma. It is difficult to believe that pituitary adenomata can produce Cushing's syndrome except by stimulating the adrenal cortex—and such a belief would certainly complicate our present conception of adrenocortical hormone action. The administration of glucocorticoids produces many of the changes found in this condition (Sprague *et al.*, 1950), and adrenocorticotrophic hormone (A.C.T.H.) will produce such changes only if the adrenals are intact.

Indeed, pituitary basophil adenomata are sometimes found at necropsy in individuals not exhibiting endocrine abnormalities, and are often absent in florid cases of Cushing's syndrome. Admittedly, however, the incidence of such tumours is higher in these patients. The point will doubtless be settled when reliable methods are available for the determination of A.C.T.H. in blood and urine, as a normal blood level would exonerate the pituitary from aetiological responsibility. Such methods are now being developed (Bornstein and Trewhella, 1950).

It is possible that in cases of Cushing's syndrome previously reported as being due to basophil adenoma of the pituitary the likelihood of anatomical or functional adrenal hyperplasia was not sufficiently considered; the histological criteria of hyperplasia are notoriously difficult to assess.

It has been thought from time to time that the regular occurrence in Cushing's syndrome of hyaline changes in the pituitary basophil cells (Crooke, 1935) indicated a causal relationship. However, Kepler (1945) was strongly of the opinion that these changes were secondary to adrenal hyperfunction—a view previously expressed by Bauer (1936) and supported by Albright (1942–3). Also, Laqueur (1950) has observed similar histological appearances in the pituitary following cortisone administration in man. This requires confirmation.

Crooke (1946) stated that hyaline cells do not occur in the hypophyses of patients with virilism alone, but Mellgren (1944) did find such cells in four cases of virilism. In no reported case of virilism, however, has the percentage of hyaline basophils exceeded 5, whereas much higher figures are recorded in Cushing's syndrome.

The results of hormone assays in our case conform to the usual 17-ketosteroid excretion pattern found in functioning adrenocortical tumours (Crooke and Callow, 1939)—namely, high total values, high β-fraction, and a strongly positive colour reaction for dehydro*iso*androsterone.

The atypical corticoid excretion may possibly be correlated with the atypical clinical picture: it is usual for total reducing steroids to be raised in Cushing's syndrome.

Summary

A case is described in which obesity began in a girl aged 8 years 6 months, and was followed by hirsuties, cutaneous striae, and hypertension. The clitoris did not enlarge, carbohydrate metabolism was normal, and menstruation was unaffected until shortly before death at the age of 30 from a metastasizing carcinoma of the right adrenal cortex. The pathogenesis of Cushing's syndrome is discussed.

Our thanks are due to Dr. Russell Fraser and the staff of the Department of Pathology, Hammersmith Hospital, for their invaluable advice and help in the preparation of this paper. We are also indebted to Dr. A. C. Crooke and Dr. Stuart Mason for details of the early history, to Miss P. M. Burrows for the diagram, and to Mrs. M. E. Connolly of the photographic department.

REFERENCES

Albright, F. (1942–3). *Harvey Lectures*, **38**, 123.
Allen, W. M., Hayward, S. J., and Pinto, A. (1950). *J. clin. Endocrinol.*, **10**, 54.
Ashbel, R., and Seligman, A. M. (1949). *Endocrinology*, **44**, 565.
Bauer, J. (1936). *Schweiz. med. Wschr.*, **66**, 938.
Bornstein, J., and Trewhella, P. (1950). *British Medical Journal*, **2**, 678.
Cope, C. L. (1951). Ibid., **1**, 271.
—— and Bain, M. (1951). *Clin. Sci.* In the press.
Crooke, A. C. (1935). *J. Path. Bact.*, **42**, 339.
—— (1946). *Proc. roy. Soc. Med.*, **40**, 43.
—— and Callow, R. K. (1939). *Quart. J. Med.*, **8**, 233.
Ellis, R. W B. (1932). *Proc. roy. Soc. Med.*, **25**, 722.
Gomori, G. (1939). *Proc. Soc. exp. Biol. N.Y.*, **42**, 23.
Kepler, E. J. (1945). *J. clin Endocrinol.*, **5**, 70.
Laqueur, G. L. (1950). *Science*, **112**, 429.
Mellgren, J. (1944). *Acta path. scand.*, Suppl. 54.
Sprague, R. G., Power, M. H., Mason, H. L., Albert, A., Mathieson, D. R., Hench, P. S., Kendall, E. C., Slocumb, C. H., and Polley, H. F. (1950). *Arch. intern. Med.*, **85**, 199.

ISLET-CELL TUMOUR OF THE PANCREAS

BY

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We should like to put on record another case of this disorder, which presented an unusual feature—the coincidence of hypoglycaemic attacks with the menstrual periods.

Case History

The patient, a single typist aged 20, had no significant previous medical history. In October, 1950, on the first day of the period, after rising in the morning, she had an episode lasting about an hour in which she felt "dazed." Her mother described her behaviour as "trance-like and automatic," and she was slow to respond. She had difficulty in eating breakfast, and was found in the kitchen going through the motions of bread-cutting with empty hands. Nothing else abnormal was noticed, and the trouble cleared during the day.

In November, again at the time of the menses, a similar episode took place, her mother finding it difficult to get her roused and off to work. In December, when the symptoms occurred again, she was taken to her doctor, who found no abnormality and considered that it was either petit mal or a neurosis.

In January, 1951, on the first day of the menses, she had an episode in the late evening in which she flung her arms about in a trance and knocked things over. Her father observed that she perspired freely. By the time the doctor arrived, an hour later, she was normal again. In February a similar "dreamy state" recurred. In between these attacks she lived a normal life, continuing with work and social activities.

In March, on a Saturday at the time when she was due for her period, her mother found that she had not got out of bed after being called. She seemed to be in a "coma-like" state and was unable to do anything for herself. This lasted for a matter of hours, but by early afternoon she improved, her confusion cleared, and she went to bed normally. During the night she was extremely restless and "flung her arms about continuously."

The following day, Sunday, she was "semi-stuporous," but became more lucid towards the evening. During these two days she ate normal meals except for breakfast. That night she was again restless, and the mother reported that occasional "muscular spasms" occurred, when she clenched her hands and stiffened her legs; but her parents managed to feed her with rum and hot milk, which brought about an improvement in her condition, and in the early morning she emerged from the stupor and was perfectly orientated, recognizing her doctor without difficulty and chatting brightly with him.

She remained well all that day, Monday, and in the evening entertained a friend to supper. She went to bed at 10 p.m., but during the night the restlessness recurred with purposeless movements of her arms and legs, and she was not responsive to normal stimuli. Her respirations were rapid and stertorous and her temperature seemed to be raised.

She was admitted to hospital at 2.30 p.m. on Tuesday, March 13. On examination she was in a deep coma, temperature 101° F. (38.3° C.), respirations 30, and pulse 64. Tendon reflexes were increased, abdominals absent, plantars extensor. An electroencephalogram showed a diffuse disturbance of low frequency and high voltage indicative of a generalized metabolic disorder. Blood-sugar estimation gave 64 mg. per 100 ml.

She was given glucose per rectum and later intravenously, but without response. She died the following night, 33 hours after admission, without recovering consciousness. The blood sugar shortly before death was 20 mg. per 100 ml.

Pathological Findings

At necropsy the pituitary gland was enlarged to one and a half times the normal size, projecting upwards round the stalk, and was golden yellow on section. Histologically the enlargement was in the anterior lobe, in which conspicuous blocks of eosinophil cells were seen. The proportion of these cells was high, but was not significantly beyond normal limits. The thyroid was inactive, with much colloid.

The pancreas contained a rounded dark-red, soft, solid tumour ½ in. (1.25 cm.) across projecting forwards from the gland at the junction of the left and middle thirds. Histologically this consisted of solid islet tissue and was devoid of capsule; it was invading blood vessels, but in view of the remarks of Frantz (1940) it is not possible to maintain that it was malignant, as no metastases were found. The suprarenals, thymus, and ovaries were normal. Apart from oedema of the lungs, no other abnormality was found.

Discussion

Over 400 cases of islet-cell tumour of the pancreas are now on record (Howard, Moss, and Rhoads, 1950). The following particular points are of interest in the present case.

(1) The comparatively short time between clinical onset and death—just under six months.

(2) The occurrence of the symptoms only at the time of onset of menstruation or the day before. Taken together with the enlargement of the pituitary, this suggests that the activity of the tumour is affected in some way by the hormones of the pituitary–ovarian complex. We do not feel competent to speculate on the nature of this interconnexion, but a search of the literature shows that at least four other cases are on record in which hypoglycaemic symptoms coincided with the onset of the period (Whipple and Frantz, 1935 (2 cases); Mitchell *et al.*, 1938; Howard, Moss, and Rhoads, 1950). It may be no more than an expression of the alteration of the metabolic rate which occurs at that time, but if this is so it is difficult to see why symptoms are not provoked by exertion or hunger, etc., occurring in the normal course of events at other times. This periodicity can mislead so far as the differential diagnosis from epilepsy is concerned, because, as is well known, this disorder may show itself only at the time of menstruation.

(3) As Duras (1951) points out, the blood-sugar level is no criterion for diagnosis. In this instance the blood sugar on admission was 64 mg. per 100 ml., although the patient was in deep coma. Similar blood-sugar levels, and higher ones, are often found in "prolonged coma" following insulin treatment for schizophrenia, and in these cases it would seem that the prolonged hypoglycaemia causes a cessation of cerebral metabolic processes, since even massive doses of glucose intravenously may produce no effect; it is known, however, that if this glucose is followed by a small dose of insulin the successful termination of "prolonged coma" can sometimes be brought about, and it has therefore been suggested that the second dose of insulin acts as a stimulus to cerebral metabolism. We suggest, therefore, that in the treatment of coma due to pancreatic hypoglycaemia, or of suspected cases, a normal blood sugar should not be allowed to negative the diagnosis, and that after glucose has been given intravenously, without response, a small dose of insulin—for example, 5 to 10 units—might be tried. Rectal

administration of glucose may serve as a first-aid measure, but it is now considered that absorption is very slow and incomplete (Peters and Van Slyke, 1946).

Summary

A fatal case of functioning islet-cell tumour of the pancreas in a woman of 20 is described.

The regular association of symptoms with the start of the menstrual period is noted.

Pathological findings are given, and some suggestions are made about treatment in the light of experience with insulin coma therapy in schizophrenia.

We wish to thank Professor R. A. Willis for his opinion on the pituitary gland and Dr. T. M. Cuthbert, physician superintendent, St. Luke's Hospital, for his advice and opinion on the electroencephalogram.

REFERENCES

Duras, F. P. (1951). *British Medical Journal*, **1**, 702.
Frantz, V. K. (1940). *Ann. Surg.*, **112**, 161.
Howard, J. M., Moss, N. H., and Rhoads, J. E. (1950). *Surg. Gynec. Obstet.*, **90** (Inst. Abst. Surg.), 417.
Mitchell, H. L., *et al.* (1948). *J. nerv. ment. Dis.*, **107**, 545.
Peters, J. P., and Van Slyke, D. D. (1946). *Quantitative Clinical Chemistry*, London.
Whipple, A. O., and Frantz, V. K. (1935). *Ann. Surg.*, **101**, 1299.

Medical Memoranda

Intra-partum Uterine Rupture

Uterine rupture, whether in the upper or the lower segment, is one of the most serious catastrophes in obstetric practice, but it is not generally recognized that, of the two, rupture in the lower segment is much the more dangerous.

Dugger (1945) collected 105 cases of uterine rupture (65 died and 40 recovered)—34 were ruptures of upper-segment section scars (27 recovered and 7 died) and 71 were of lower-segment rupture (58 fatal). Watt (1950), in an analysis of 15 cases of uterine rupture occurring in the Toronto General Hospital, found 9 of the lower-segment type with 3 maternal deaths, and 6 in the upper segment with no maternal deaths. Simons (1950) described three cases of lower-segment rupture occurring in women of high parity, and all terminated fatally. Sheehan (1948), in 147 necropsies on patients dying from obstetrical shock, found 20 cases of rupture of the uterus, most of which had been undiagnosed in life. Only one of these was of the upper-segment type, all the others being lateral tears in the lower segment.

Rupture in the lower segment is at the onset extraperitoneal, except in the rare case of posterior rupture. The extraperitoneal rupture which has been given the unfortunate name of incomplete rupture—thereby implying a less serious condition than the transperitoneal rupture—may extend into the plexus of large veins situated in and around the lower segment, or into the uterine veins themselves, without producing any immediate and dramatic change in the patient's condition. The bladder may be involved at the same time. Thus rapid venous bleeding may be taking place and remain undiscovered until the patient suddenly collapses. The earliest clue to the true state of affairs is weakening or cessation of the pains; and recognition of its true significance is absolutely vital, and must not be confused with uterine inertia.

Examination of the patient may now reveal that the presenting part has risen from the pelvis and may be lying in the iliac fossa, and that vaginal bleeding is occurring. Both these signs, however, may be missed at this stage if the significance of the sudden cessation of labour pains is not realized. If the true state of affairs remains unrecognized, then acute circulatory deficiency soon becomes evident, and finally the peritoneum overlying the rapidly developing haematoma ruptures and acute peritoneal shock is added to acute blood loss. Furthermore, the muscle of the lower segment is unable to contract down upon the bleeding vessels, and blood continues to pour out as long as the heart can maintain a circulation. In this type of case bleeding takes place so rapidly that ordinary transfusion methods cannot supply blood at an adequate rate, and early diagnosis and laparotomy offer the only hope of saving the patient's life.

In contrast, rupture in the upper uterine segment as a rule gives a fairly clear-cut picture of the acute abdomen with intraperitoneal bleeding, but once the uterine contents have been extruded into the peritoneal cavity the uterus can and does act as its own haemostat, contracting down firmly on the bleeding vessels. In this case immediate operation is not an absolute necessity, and time can be taken for resuscitation before operation.

The following cases illustrate the above points.

CASE 1

The patient was a 38-year-old 11-gravida whose expected date of delivery was October 10, 1948. Her previous delivery was by classical caesarean section for severe antepartum haemorrhage due to placenta praevia. The operation had to be terminated rapidly owing to her poor condition, and she was advised to undergo hysterotomy and sterilization for any subsequent pregnancy, as the quality of the uterine repair was suspect. She had ignored this advice and had not attended any antenatal clinic during the present pregnancy.

At 9 a.m. on October 4 she had sudden severe abdominal pain and was admitted to hospital two hours later. On admission she was extremely collapsed, pale, clammy, and restless, with an almost imperceptible pulse and unrecordable blood pressure. The abdomen showed generalized tenderness and rigidity and the presence of free fluid. A foetal limb could be felt lying superficially under the left costal margin. There was no vaginal bleeding. A diagnosis of ruptured upper-segment scar was made, and morphine ⅙ gr. (11 mg.) was given intravenously. Plasma transfusion was begun, followed by cross-matched blood. At 5 p.m.—that is, eight hours after rupture—the blood pressure was 76/40, and laparotomy was carried out. Foetus, placenta, and blood were removed, and the uterus was found to be ruptured along the line of the previous incision, and was so firmly contracted that it was almost turned inside out. A subtotal hysterectomy was performed, and at the end of the operation the blood pressure was 92/60. The patient made an uneventful recovery and was discharged on the 12th day.

CASE 2

A 4-gravida aged 35, whose expected date of delivery was April 10, 1950, had her first confinement in Norway in 1946. She was for three days in strong labour; forceps delivery and a pyrexial puerperium followed, and she was in hospital for a month after delivery. The subsequent deliveries were in a nursing-home in this country, the first being a stillborn breech, birth weight 8 lb. 5 oz. (3.8 kg.), after 20 hours in labour, and the second a normal vertex delivery, birth weight 7 lb. 6 oz. (3.2 kg.), after four hours in labour. At the 36th week of the present pregnancy the presentation was a breech, which was easily rotated to a vertex. There was no placental tissue palpable in the lower segment, and the true conjugate measured 4 in. (10 cm.). The inlet was slightly android, but the cavity and outlet were normal. These clinical findings were confirmed by *x*-ray pelvimetry. The presentation remained a vertex, and she was admitted in labour at full term.

On admission her condition was good, blood pressure being 134/80 and pulse rate 80; pains were occurring regularly every five minutes, and the head was engaged at the brim. After a further two hours in strong labour the presenting part was entering mid-cavity with the cervix two-thirds dilated. At this point the patient had a sensation

of continuous retropubic discomfort, and 20 minutes later the pains ceased completely. I saw her 10 minutes later, when her pulse rate was 86 and blood pressure 126/76. There was no clinical evidence of any deterioration in her general condition. There was marked tenderness on pressure above the pubis, the foetal head could not be felt at the pelvic brim, and rectal examination showed the presenting part to be no longer in the pelvis. There was a moderate bright-red vaginal loss. A diagnosis of rupture of the lower segment was made, and the patient was taken immediately to the theatre, where laparotomy was begun 35 minutes after cessation of the pains, a blood transfusion having been started meanwhile. By the time the operation was begun the blood pressure had fallen to 76/38, the pulse was 126, and the patient was showing evidence of severe blood loss. The peritoneal cavity contained 4 pints (2.2 litres) of blood. There was a ragged tear across the anterior surface of the lower segment extending round the right border of the uterus and down into the cervix on that side. The right uterine vein was completely torn across and was bleeding profusely.

The foetus (weight 9 lb. 3 oz.—4.2 kg.) and placenta lay free in the abdominal cavity, and the body of the uterus was firmly contracted.

Bleeding was controlled, foetus, placenta, and blood were removed, and a subtotal hysterectomy was carried out. At the termination of the operation the blood pressure was 84/40, 2 pints (1.1 litres) of blood having been given. Subsequent progress was uneventful, and the patient was discharged on the 14th day.

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REFERENCES

Dugger, J. H. (1945). *Surg. Clin. N. Amer.*, 25, 1414.
Sheehan, H. L. (1948). *Lancet*, 1, 1.
Simons, P. (1950). *J. Obstet. Gynaec. Brit. Emp.*, 57, 953.
Watt, G. L. (1950). *Amer. J. Obstet. Gynec.*, 59, 490.

Acute Phlegmonous Colitis

As this condition has not, so far as I can find, been described in this country, the following case is of interest. Two cases of acute phlegmonous caecitis were described by Nardell (1949) and a third by Shove (1950). The lesion in the present case lay in the medial wall of the ascending colon adjacent to the ileo-caecal valve. Eleven similar cases were reviewed by Spivack and Busch in 1943.

CASE REPORT

A man aged 22 was sent to hospital by his own doctor in the early hours of January 28, 1949, with a diagnosis of acute appendicitis. Abdominal pain had begun the previous night. During the previous day he had eaten his breakfast and lunch but not his evening meal, and his bowels had been opened once normally. On the night of admission the pain became very acute and he vomited several times. He had been feeling unwell for several weeks, and had been attending his doctor for a boil on his left forearm and an ulcer on his tongue. In March, 1948, he had been in hospital with left lobar pneumonia, and in 1946 he had had a mastoid operation for left-sided acute otitis media. He had been demobilized from the Army in February, 1948, after serving with the Army of Occupation in Germany.

On examination his temperature was 100° F. (37.8° C.), pulse 136, and respirations 32. He appeared pale and shocked. The whole abdomen was acutely tender, with muscle guarding in the right iliac fossa. This prevented any mass from being felt. Rectal examination revealed nothing abnormal. There was a healing boil on the left forearm and a small circular midline ulcer on the dorsum of the tongue near the tip.

An intravenous infusion of glucose 5% and normal saline was begun immediately. An hour later operation was performed under general anaesthesia. When the abdomen relaxed a distinct mass could be felt high up in the right iliac fossa. A gridiron incision was made and only a small amount of serous fluid was found in the peritoneal cavity. The appendix was hanging free from its mesentery and showed no macroscopic abnormality. A solid mass about the size of a golf ball was felt in the ascending colon, and was exteriorized for inspection; it was situated in the medial wall of the ascending colon immediately adjacent to the ileo-caecal valve. The peritoneal surface was pink and grossly oedematous and there were two small areas where the surface was grey and rough. The lesion was well localized, though affecting the ileo-caecal valve and caecum at its periphery. The ileo-caecal valve was not obviously obstructed. The oedema extended into the mesentery, in which several greatly enlarged soft lymph nodes could be felt. The appendix was not removed and the mass was returned to the abdomen. The abdomen was closed without drainage.

The intravenous drip was continued post-operatively, and sulphadimidine, 1 g., and penicillin, 100,000 units, were given by injection four-hourly. The patient's condition, however, rapidly deteriorated: the pulse rate and temperature rose and the blood pressure fell. He died 20 hours after operation.

At necropsy, which was performed by Dr. Richard Pearce, it was noticed that the right thigh was larger than the left. On tapping it with the flat of a knife blade it gave a resonant note compared with the left. Extensive gas gangrene was discovered in the abdominal musculature round the operation wound, in the right ilio-psoas muscle, and in the muscles of the anterior compartment of the right thigh. There was no general peritonitis. The intestinal lesion consisted of an area of acute cellulitis, involving the whole thickness of the intestinal wall, measuring 2 to 3 in. (5–7.5 cm.) across. Except for this area the whole gastro-intestinal tract appeared normal. No trace of ileitis or diverticulitis was found, and there was no obvious ulcer or injury to the mucosa covering the inner aspect of the lesion. The ileo-caecal valve, though involved, was not completely obstructed. There was haemorrhage into the right suprarenal gland and signs of active chronic inflammation in the cells of the left mastoid. Both lungs showed some terminal basal pneumonia and old pleural adhesions. A section of the lesion examined under the microscope showed "spreading anaerobic infection of the whole thickness of the bowel wall." A section of the ulcer of the tongue was reported as "granulomatous ulcer non-specific."

COMMENT

The pathology of this lesion corresponded with that described as the circumscribed type of acute phlegmonous caecitis by Nardell (1949), Bulmer (1947), and Spivack and Busch (1943). It seems likely that the lesion began as a haematogenous focus from the mastoid or the boil on the forearm. The gas-forming organisms then traversed the lesion from the lumen to the adjacent abdominal muscles. In the cases described in the literature there is no record of gas gangrene as a sequel to this lesion. A case of gas gangrene complicating carcinoma of the colon was reported by Wyman (1949), who briefly reviewed other cases of endogenous gas gangrene. Although Spivack and Busch came to the conclusion that removal of the lesion when circumscribed is unjustifiable, it is conceivable that in the present case resection might have prevented the onset of gas gangrene.

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REFERENCES

Bulmer, J. Wesley (1947). *Med. Times, N.Y.*, 75, 66.
Nardell, S. G. (1949). *British Medical Journal*, 2, 1210.
Shove, R. F. (1950). Ibid., 1, 190.
Spivack, A. H., and Busch, I. (1943). *Amer. J. Surg.*, 61, 54.
Wyman, A. L. (1949). *British Medical Journal*, 1, 266.

Reviews

DISEASES OF THE EYE

Systemic Ophthalmology. Edited by Professor Arnold Sorsby. (Pp. 733; 309 figures and 38 coloured plates. £4 4s.) London: Butterworth and Co. 1951.

This book should have comprehensive appeal to a wide range of readers. "Systemic ophthalmology" is interpreted as covering the innumerable conditions wherein ocular disease is associated with disturbances elsewhere in the body, and, liberally as this is interpreted in the present volume, it embraces much of ophthalmology and also much of medicine. Some indication of its scope is seen in the subjects reviewed. The first section is about the bearing of experimental embryology on ocular problems, the ocular conditions (particularly retrolental fibroplasia) related to premature birth, intrauterine infections (syphilis, rubella, and toxoplasmosis), and the host of genetically determined anomalies which play so obvious a part in ocular pathology. The second part is on inflammations, allergies, and bacterial, rickettsial, viral, mycotic, and other infections which affect the eyes and at the same time have systemic implications; in this section those infections (brucellosis, leprosy, and tropical conditions) which are not particularly common in Britain are extensively discussed. The third part is on nutritional, metabolic (including diabetes and rheumatism), and endocrine disorders; the fourth on central nervous disturbances; the fifth on cardiovascular and haemopoietic conditions; and the sixth comprises a general miscellany which includes the ophthalmic implications of skin diseases, injuries, and intoxications, and such problems as the metastases of tumours, and senile changes.

The book is of composite authorship by a large number of the most prominent among British and American ophthalmologists; the editor must be congratulated on the eminence and distinction of his team. Moreover, the editing has been good in that there are fewer contradictions than are usually seen in work of this type, and little overlapping of the various subjects. As in all such books, the chapters differ in quality, but most of them are good and some excellent—particularly those by Reese and Blondi on retrolental fibroplasia, by Woods on ocular infections, and by Nevin and Kiloh on organic central nervous disturbances. Most chapters show a nice blend of established and new information, giving a fair presentation of the present state of our knowledge and an indication of emergent trends. Finally, the general production of the book is excellent and the abundant figures are often particularly informative.

STEWART DUKE-ELDER.

VITAMINS

Vitamins. A Digest of Current Knowledge. By Leslie J. Harris, Sc.D., D.Sc., Ph.D., F.R.I.C. (Pp. 244; 84 illustrations and 111 structural formulae. 15s.) London: J. and A. Churchill. 1951.

In a small book of some 200 pages Dr. Harris has compiled an excellent digest of current knowledge of the vitamins. The historical approach has been rightly used throughout the book to give the student a balanced insight and understanding of the problems under discussion. A useful list of references is given at the end of each chapter. The book is profusely illustrated with photographs, line drawings, and graphs. Dr. Harris describes concisely and lucidly the clinical, chemical, and pathological effects which result from deficiency of the various vitamins in man and in animals. By the inclusion of an appendix the book is brought right up to date and includes even such recent information as the relationship of vitamin B_{12} to Castle's intrinsic and extrinsic factors.

The physician interested in nutrition may perhaps feel that too great a proportion of the book has been devoted to pathology and chemistry and more should have been given to clinical aspects of nutrition, including such vexed questions as the existence and recognition of subclinical states of vitamin deficiency in man. In the preface Dr. Harris says that the object of his book is to supply a relatively brief and summarized account of the vitamins which will be useful to science students, medical students, dietitians, and others who wish to gain an impression of the present state of knowledge on this subject. The author can be congratulated on successfully accomplishing this object by producing a small book which is pleasant to read, excellently illustrated, and packed with useful information.

L. S. P. DAVIDSON.

GUIDE TO JUNG'S WORK

The Psychology of C. G. Jung. By Dr. Jolande Jacobi. Fifth edition, new and revised. (Pp. 204; 19 illustrations. 12s. 6d.) London: Routledge and Kegan Paul. 1951.

The writings of Professor Jung, dating from 1902, amount to thirty-five books and almost a hundred contributions to various journals. His work has been that of a pioneer and he has made no effort to systematize his psychological theories and research. The purpose of this book is to provide a synopsis and guide to the essential features in Jung's teaching. This is a wellnigh impossible task, and particularly so because Jung's work is undogmatic in character—the very antithesis of a closed and finished system.

The volume grew out of a lecture, and it still retains something of the lecture atmosphere, particularly in the first two chapters, which occupy two-thirds of the book. A diagram on the blackboard is apt to lose vitality when reproduced in print, and there are too many diagrams here. The third part, on the practical application of Jung's theory, is much more interesting. Here the author gives Jung's views on transference and discusses the dialectical quality of analysis, the therapeutic application of Jung's theory of types, the hypothesis of the collective unconscious and archetypes, the compensatory relationship between the conscious and the unconscious, the process of individuation, and the place in therapy of spontaneous drawing and painting.

The book will be of special interest to those who have read at least some of Jung's books. For the beginner it is too condensed and, alas, too dogmatic, especially in its comments on the psychological aspects of religion. A biographical sketch of Jung provides much interesting material and gives a glimpse of Jung himself. There is also the most complete bibliography of Jung's writings yet published. The translation is somewhat ornate, and there is a tendency to use ungainly neologisms such as influenceability, paradoxicalness, perturbedly. The index is useful and impeccable.

E. A. BENNET.

DICTIONARY OF SCIENTISTS

Chambers's Dictionary of Scientists. By A. V. Howard, B.Sc. (Cols. 500; 70 illustrations. 12s. 6d.) London and Edinburgh: W. and R. Chambers. 1951.

This must have been a difficult book to compile, covering as it does all branches of science from Hippocrates to the present time in a volume of only 250 printed octavo pages. The biographical literature to be consulted is considerable, and there are many dates and particulars still in doubt in spite of the wealth of current historical research. There is evidence in the book that Mr. Howard has read widely and competently assessed the value of conflicting material. His main difficulty, the solution of which makes shrewd demands on the scholarship of the selector, was to decide what to omit. The inclusions, where there are so many obvious possibilities, can readily be determined and justified, but the rejected raise doubts almost beyond solution. We have

for example drawn up a list of some 150 notable biologists who do not appear in the present work. The list includes:

B. S. Albinus, Allman, Martin Barry, P. J. van Beneden, Berengarius Carpensis, Bojanus, Bonnet, Borelli, Camper, Casserius, Charleton, delle Chiaje, Coiter, Cowper, Dalyell, Erasmus Darwin, Delage, Dohrn, Dufour, Dujardin, G. J. Duverney, John Ellis, Estienne (Stephanus), Fernel, Frederick II Emperor of the Romans, Isidore Saint-Hilaire, Goethe, Goodsir, J. S. Haldane, Head, Hernández, Highmore, Kowalevsky, Lacaze-Duthiers, Ledermüller, Leidy, Leuckart, Martin Lister, Looss, Lower, Lyonet, Maupas, J. F. Meckel, Mundinus, Monro Secundus, Walter Needham, Newport, Oken, Oudemans, Pallas, Perrault, Piso, Pliny, Poli, M. G. Retzius, Roesel v. Rosenhof, Romanes, Rudolphi, Ruini, Rumphius, Ruysch, Salviani, the two Sars, Schaeffer, Seba, Severino, Siebold, Straus-Dürckheim, Theophrastus, D'Arcy Thompson, Tyson, Vejdovsky, Vicq-D'Azyr, Vieussens, C. F. Wolff, E. Wotton, and Zittel.

Nevertheless Mr. Howard's dictionary contains 1,300 biographies and 70 portraits, many of the latter having an unfamiliar appearance. There is also a very useful subject index, and a list of Nobel Laureates from 1901 to 1950. Our author may justly claim that his work is concise, authoritative, and even unique, since it is in a way an outline history of scientific discovery and theory distilled from the lives of the men who did the work.

The following corrigenda should be included in subsequent editions of the book: Agricola, b. 1494. Alcmaeon, fl. 510–480 B.C. Anaxagoras, b. probably 500 B.C. Beneden, b. 1846. Belon, b. 1517. Cesalpini, b. 1525. Cushing, d. 1939. Erasistratus, 304–257 B.C. Eustachio, b. 1524. His important *Opuscula* were published during his lifetime in 1563–4. Fabricius, b. 1533. Faber suggested the name *microscope* in 1625. Fontana, 1580–1656. Godlee died at Whitchurch, Oxon. Harvey was not knighted. Herophilus, b. at Chalcedon. Hippocrates died c. 360 B.C. According to Singer there is no evidence that *any* of the writings forming the Hippocratic Corpus were written by him. W. His, add senior. Jansen should be Janssen. Kircher, b. 1602. Lécluse, b. 1526. Libavius, b. 1546. Magendie, b. October 16. Manson was not a bacteriologist but a parasitologist. Mayow, b. December, 1641. "Milne-Edwards" not a hyphenated name—he was of Welsh descent and should be catalogued under Edwards. Fritz Müller, b. 1822. J. Müller's birth certificate gives his name as Johann Peter. He dropped the Peter, and preferred the German–Latin Johannes to Johann. The naturalist who "revealed to the world the new animal kingdom of Infusoria" was Leeuwenhoek and not O. F. Müller. Paré, b. 1510. Ray, b. 1627 (Wray until 1670). Redi, d. 1696. Steno, d. November 25, 1686. W. Turner, b. 1508. Vallisneri is the correct spelling.

We congratulate Mr. Howard on the completion of his novel and valuable work, which will doubtless pass through many revised and extended editions.

F. J. COLE.

NAIROBI DOCTOR

Under the Sun. (A Memoir of Dr. R. W. Burkitt, of Kenya.) By J. R. Gregory. (Pp. 109. 10s. 6d.) Kenya: The English Press, Ltd.

The doctor's bookshelves are filled for the most part with works of reference. Here is one which, for its entertainment value and the glimpse it gives into a world of exploration and adventure, is well worth the modest price asked for it.

Dr. Gregory recounts the life of his friend and senior colleague, "Kill or Cure Burkitt," the first and for many years the only doctor in private practice in Nairobi, and one of the most colourful characters in the history of the development of British East Africa. He has the Irishman's gift for telling a story, and takes us into history, politics, botany, zoology and ethnology. He tells us of Burkitt's uncompromising views on religion and the treatment of malaria; of his journeys into the wilds when roads were non-existent and motor-cars were open and unreliable; of early experiments with crops; of the old harbour of Mombasa, into which the Arab dhows come crowding in the north-east monsoon, the white flag of peace flying at their mastheads, and their decks echoing to songs of thanksgiving as their colourful crew furl the large lateen sails; of a zebra hunt by lions and a lion hunt by Masai. *Under the Sun* has the spontaneous charm of a traveller's yarn told by the fireside, and it is at the fireside at bedtime that it should be read.

HENEAGE OGILVIE.

TESTS AND TABLES

Clinical Pathological Data. Compiled by C. J. Dickinson, B.A., B.Sc. With foreword by C. E. Dent, Ph.D., M.D., M.R.C.P., F.R.I.C. (Pp. 32. 4s. 6d.) Oxford: Blackwell Scientific Publications. 1951.

The aim of this slim notebook is to provide in a simple but convenient form tables for the interpretation of clinical pathology data. These are arranged in eight convenient tables. Next, there is a section of practical notes on tests which can be performed without elaborate equipment. This contains some tests which might have been superannuated, such as Haldane's method for haemoglobin estimation, Loewi's test for pancreatitis, and the tests for bile acids and salts in the urine; I cannot believe that these last are of practical value in the investigation of a case of jaundice. Finally there is an index to disease conditions which provides a quick reference to data for the diseases listed in the tables.

The dangers of a book of this kind are easy to see and to overestimate. The advantages are the great saving in time in having information so easily available. An improvement would be to punch a hole in the top left-hand corner so that the book could be hung on the wall in the test-room or consulting-room.

L. J. WITTS.

HISTORY OF NURSING

The Story of the Growth of Nursing as an Art, a Vocation, and a Profession. By Agnes E. Pavey, S.R.N. With foreword by Sir John Weir, K.C.V.O. Third edition. (Pp. 498. £1.) London: Faber and Faber. 1951.

This book tells the story of "the birth and development of each phase of nursing from its earliest beginning to its present form." It is obviously based on wide reading of the literature of the history of medicine and of nursing. The author recognizes that nursing may be an art, a vocation, or a profession, and she has rather artificially divided the subject into three parts concerned with three periods of time. From the dawn of history to the fourth century A.D. is the first period, during which nursing is called an art. This we consider rather unjustified, for there is no evidence that there was any nursing care in prehistoric or early historic times. Garrison gives a more likely account when he states that "the spirit of antiquity towards sickness and misfortune was not one of compassion." The second part is on the period from the beginning of Christianity to A.D. 1850, and during this period nursing is called a vocation. The military and secular nursing orders and the various religious nursing foundations fully justify this title, though the period also covers a time in the seventeenth and eighteenth centuries when nursing was neither an art nor a vocation nor a profession, but merely a lowly and sometimes low occupation. The third part of the book is on nursing as a profession; it starts with an account of Florence Nightingale and brings the subject up to date. In this third part the author gives much useful information, even tracing the effect of the National Health Service on the nursing profession.

The book contains much more than an account of nursing. The reader will find a short history of early medicine in the first 82 pages, and in the second part will learn much about the origin of hospitals. The variety of information provided may have contributed to the popularity it enjoys.

V. ZACHARY COPE.

The column "Books Received" has been discontinued.

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HEALTH SERVICE CHARGES

The Government's main purpose in deciding to charge patients for drugs and certain appliances obtained through the Health Service is to prevent abuse of it and thereby make it more economical to run. The Chancellor of the Exchequer declared in the House of Commons on January 22[1] that the proposals were designed "to preserve the scope and purpose of the various measures, while correcting or avoiding abuse or faulty emphasis. The real danger to the social services . . . comes from the threat of bankruptcy." Two days later the Minister of Health, winding up the debate, referred[2] to the rising number of prescriptions in the last three years—from 202m. to 207m., and now to 229m. The total bill for them, he said, is over £50m. a year, and "the consumption of medicine has risen enormously." The same desire to reduce the demand for medicine was no doubt in the minds of the Government elected in 1945, for, when Mr. Attlee, then Prime Minister, announced in 1949 that his Government proposed to introduce charges for prescriptions, he said that the purpose was to reduce excessive and in some cases unnecessary resort to doctors and chemists.[3] But he added that the financial saving was not the primary purpose of the charge.

Though the present proposals are open to certain objections, there is little doubt that some patients are importunate in their demands for medicine and cotton-wool, and the figures given by the Minister of Health show that more and more prescriptions are being written. As we pointed out recently,[4] doctors are ready to educate their patients out of the bottle-of-medicine habit if given half a chance, and a paper by Professor D. M. Dunlop and his colleagues at page 292 indicates that this chance ought to be given. Analysing over 17,000 prescriptions given on Forms E.C.10, they found that 15% of them—the largest single group—were for barbiturates and bromides, and prescriptions for vitamins are surprisingly high in the list for a country where the food, though often dull, is probably adequate and cheap enough to prevent vitamin deficiency if properly chosen and prepared. Again, some figures given in the *Supplement* at page 50 show remarkably wide variation in prescribing costs between different parts of England. In each of the three last months of 1950 the average cost per person of prescribing was in Chester consistently more than twice what it was in Huntingdonshire. It is difficult to account for discrepancies such as these on purely medical grounds.

While a tax on prescriptions may encourage patients to buy the ordinary household remedies at the chemist's instead of bothering their doctor for aspirins or saline aperients—and in that respect there is much to be said for it—the method proposed to collect this money will have the effect of turning dispensing doctors into tax collectors. The onus is put on the dispensing doctor of obtaining the shilling from his patient, for his remuneration will have a sum of money deducted from it in accordance with his prescribing. Therefore if he fails to extract his shilling—or a larger sum for elastic hosiery—he may be by that much out of pocket.

A wider objection to this scheme is that it is not nearly selective enough. Certain types of patient are exempted from paying the charges—namely, war pensioners being treated for their disability and persons or their dependants receiving grants from the National Assistance Board. Yet it is illogical that a person with a long and serious illness should have to continue paying out shilling after shilling when the declared purpose of the scheme is to prevent abuse of the Health Service. The purpose of the charge seems to have been lost sight of. It is not these patients who plague their doctor for that "ceaseless cascade of medicine which is pouring down British throats," as Mr. Bevan once described it. But the scheme is a blunderbuss that hits them as surely as it does the tonic addicts. Again, it is essential that a scheme of this kind should not constitute a financial barrier between doctor and patient. A shilling, or even a few shillings, is a small sum and to a great many people is not a barrier. But there are certain groups of people to whom it is—in particular old-age pensioners. It is quite wrong that these should be charged under the Health Service or be offered the alternative of undergoing a means test before receiving help from the National Assistance Board.

Sooner or later the Government will have to define its social policy more clearly. The idea behind the National Health Service was surely not that it should be free—for such an idea is in fact absurd—but that it should be available to all without a financial barrier between the sick and their treatment. There is little doubt that few can resist the temptation to get something apparently for nothing—especially out of the

1 *Hansard*, Vol. 495, No. 28, p. 55.
2 Ibid., Vol. 495, No. 30, p 483.
3 *British Medical Journal*, October 29, 1949, p. 989.
4 Ibid., January 19, p. 149.

State. The introduction of charges in the Health Service—begun by the Labour Government—will, it may be argued, induce a greater sense of responsibility in those who use it and will lead to its being used more intelligently. Last year the people of this country spent, according to Mr. Gammans, £778m. on tobacco, £488m. on beer, £650m. on gambling, and £107m. on going to the cinema. In the face of this it is difficult to argue that Britons cannot afford token charges for certain medical services. To call such charges financial barriers to treatment is a misuse of language, though there are problems to which thought should be given—old-age pensioners, for example, should be directly exempted from such charges. And doctors should not be employed as collectors. Nevertheless, and economic factors apart, it is surely time to re-examine the implications of a something-for-nothing policy—which to a large extent is the policy of the Welfare State. Some limits must be set to paternal government; a paternism that saps initiative and responsibility will bring in its train not health but sickness.

CARCINOMA OF THE STOMACH

Carcinoma of the stomach, although strongly challenged by carcinoma of the bronchus, remains the principal cause of death from cancer in this country. In 1940, 13,402 deaths were attributed to cancer of the stomach and duodenum—that is 19% of all the deaths caused by malignant tumours. In 1949 the number of deaths had risen to 14,253, but the proportion had fallen to 18% of all cancer deaths. The increase in the number of deaths can be accounted for by the increase in the number of people alive at ages when cancer is common, and it is not necessary to postulate a real increase in the incidence of the disease. In fact, the death rate from cancer of the stomach and duodenum at ages 55 and above fell during the same period from 1,373 per million to 1,314 per million.

The last decade has seen great advances in the application of gastric surgery: more patients than ever before are being treated by radical resection of their growths, and it is therefore disappointing not to find a greater improvement in the death rate from gastric cancer. However, the proportion of cases in which a radical cure is attempted is still very small, and Jennings[1] has estimated that even under the age of 70 it is likely to be less than 12% of all the patients throughout the country. No other form of treatment has proved to be of general value: no radioactive isotope has been found with a sufficiently great affinity for gastric cancer, and it has not been practicable to treat it by intragastric radiation in the way that intravesical radiation has been used for growths of the bladder. Some success has been claimed with direct irradiation of the stomach exposed at operation,[2] but the results have not justified widespread adoption of the technique. Hopes of reducing the mortality have been centred on earlier diagnosis, more general use of resection, and more extensive removal of the growth by total gastrectomy.

Not all surgeons are agreed about the value of partial gastrectomy. As a palliative operation it relieves distress and eases the patient's last months, but the extent to which life is lengthened is uncertain. The five-year survival rate among patients who recover from the operation of resection for carcinoma varies in different clinics between 22%[3] and 35%,[4] but the proportion of all patients admitted to hospital for gastric cancer who survive five years is only between 3%[5] and 7%.[3] The difference is due to the great number of cases which are not considered operable when first diagnosed in hospital. The question therefore arises whether the improved outlook in the operated group is to be attributed to the operation or whether it is due to the selection for operation of that group of cases which is, in any event, likely to live longest.

The answer could most clearly be provided by a clinical trial in which a number of patients suitable for resection were treated palliatively and were compared with a similar group in which the growths were resected. It is doubtful whether in the present state of knowledge any surgeon would be prepared to undertake such an investigation, and it becomes necessary to try to assess the results of surgical treatment by comparisons between series treated at different places or at different times. The comparison between groups of patients treated at different hospitals is full of pitfalls because of the differences that occur in the types of patient presenting themselves for treatment—differences, for example, in age and in suitability for operation. In these circumstances the detailed follow-up of 375 patients with carcinoma of the stomach reported by Drs. B. F. Swynnerton and S. C. Truelove in this issue is of interest. Their results gain in importance because of the completeness of the follow-up—information was obtained about every patient—and because the Radcliffe Infirmary, at which the patients were treated, "functions as a community hospital and its patients are representative of the major illnesses in the area." It may therefore be

1 *Brit J Radiol.* 1947, 20, 522.
2 Fairchild, G C, and Shorter, A., *British Medical Journal*, 1947, 2, 243.
3 State, D., Moore, G, and Wangensteen, O. H., *J. Amer. med. Ass.*, 1947, 135, 262
4 Pack, G T., and McNeer, G., ibid, 1947, 135, 267.
5 Harnett, W L, *Brit. J Surg.*, 1947, 34, 379.
6 *Cancer Registration in England and Wales. Studies on Medical and Population Subjects No.* 3, 1950, H.M.S.O., London.
7 *Surg. Gynec. Obstet.*, 1951, 93, 129.

hoped that the type of case attending the hospital will be similar at different periods and that any improvement achieved in the final results can be attributed to earlier diagnosis or improvement in the method of treatment.

Swynnerton and Truelove's figures are in close agreement with other series reported : 5.6% of all patients followed for five years remained alive ; of those subjected to radical resection the proportion was 23.3% and of the remainder it was 0.7%. The outstanding observation, however, is that among the patients treated by radical resection the survival rate was greater when the pre-operative history was long and less when the pre-operative history was short. With a history of under six months the three-year survival rate was 8%, with a history of six months to two years it was 36%, and with a history of over two years it was 54%. These results could not be explained by any association between a short history and the age of the patient or the site of the growth, nor by there being a preponderance of "so-called ulcer-cancers" in the group with a good prognosis. Swynnerton and Truelove concluded that the patients who gave long histories must have had slowly growing cancers, and that this was the explanation of their longer survival.

It is not the first time that an association has been recorded between a long history and a good prognosis in cancer of the stomach. It has also been noted for cancer of a number of other sites : in fact, in the first report issued by the General Register Office of the results obtained by the national system of cancer registration, Stocks[6] found that "the only kinds of cancer . . . which show a definite advantage to those with short intervals since earliest symptoms are epithelioma of the skin and cancers of the breast and prostate." For cancer of the stomach, the proportion of patients alive at the end of one year was greatest in those with histories of 18 to 24 months, and was greater in those with histories of over two years than in those with histories of under one year. The importance of such findings has been discussed in detail, by Park and Lees,[7] who refer particularly to cancer of the breast. They conclude that the apparent curability of cancer of the breast by operation can be explained entirely in terms of the variation of the growth rate of the tumours ; that it has not been proved that the survival rate of cancer of the breast, as measured by the proportion surviving five years, is at all affected by treatment ; and that, if treatment is at all effective, the effectiveness cannot be greater than that required to increase the overall survival rate by more than 5 to 10%. It is doubtful whether the nature of the material analysed by Park and Lees is adequate to justify their detailed calculations, but they have made a strong case for attributing much of the benefit customarily allowed to surgery to the selection of patients with a naturally good prognosis.

In the absence of a controlled trial, investigations such as Swynnerton and Truelove's offer the best hope of assessing the true value of radical resection. If it can be assumed that the types of patients coming for treatment to a district hospital are comparable over a number of years, an improvement in the five-year survival rate with an increase in the proportion of cases treated by resection can be taken to indicate a real advantage for surgery. Patients over 70 provide a particularly suitable field for study. Before 1944 radical resection was not attempted at the Radcliffe Infirmary in any patients over 70 ; since then it has been carried out in 22% of such patients. The total numbers are small, but if they could be combined with figures for two or three other hospitals it might be possible to determine on a firmer basis and without great delay the value of resection in gastric cancer. Meanwhile, if patients are to face the operative risks attendant on total gastrectomy, it is to be hoped that a controlled trial will be undertaken to demonstrate the advantages of this operation over partial gastrectomy.

A GREAT THINKER

When Jung's name is mentioned it recalls the triad of pioneers in psychiatry—Freud, Jung, and Adler. Certainly there were links between these three in days gone by. But the developed work of Jung is unique and has little in common with Freud's psycho-analysis or Adler's individual psychology.

Professor Jung, who will be 77 next July, has retired from active practice, but he is still a prodigious worker and writer. He was born in Switzerland, the son of a Swiss pastor, and he has always lived and worked there. His contributions to psychology, to psychiatry, and to related subjects make a library in themselves. The importance and originality of his mind are attested by the fact that he holds honorary degrees from eight universities, including Oxford and Harvard. He is also an Honorary Fellow of the Royal Society of Medicine.

Jung took his medical degree at Zurich University, and after qualification he worked for eight years in close collaboration with his distinguished chief, Eugen Bleuler. On looking back we can see how much Bleuler and his enthusiastic staff did to replace the old descriptive work of Kraepelin by a new interpretative psychiatry. Jung himself in these years was carrying out intensive psychological and physiological

studies upon the patients, in order, as he put it, to detect the intruders of the mind. In 1906 he published his *Psychology of Dementia Praecox*, the fruit of three years' experimental investigation and clinical observation. From then on Jung's position as a pioneer was established.

The hypothesis of mental life outside consciousness —the unconscious—was of course well known before his time. But its nature and aim (if any) was a mystery. Jung examined the hypothesis of the unconscious critically, and he proved, by methods which others could repeat, that the unconscious was a reality and that it acted autonomously. The term *complex* was coined by him to describe the concentration of mental energy, within the unconscious, around certain ideas. The complex was not a theory but an observable fact, and its effect could be demonstrated objectively. But he was still unable to explain the psychological mechanism which brought the complex into being. When we are in the grip of a complex the limitations of "will-power" soon become evident. It is exactly as though another person interfered and prevented us from carrying out our conscious intentions. He quickly realized that Freud's views on repression threw a new light upon the origin and meaning of this. Working independently they had reached complementary conclusions concerning the unconscious. Bleuler and Jung were the first orthodox psychiatrists to give public backing to Freud at a time when his highly controversial views were subject to intense criticism.

But, while freely admitting the importance of Freud's work, Jung retained an independence of judgment. He was unable, for example, to ascribe to the infantile sexual trauma the exclusive importance seemingly attributed to it by Freud. Jung felt then—as indeed he feels to-day—that psychology was too young a science to formulate dogmas, and he declined to give "an unconditional surrender" to the dogma of the infantile sexual trauma. The publication of Jung's *Psychology of the Unconscious* showed clearly that his views had diverged considerably from Freud's, and thereafter the two worked apart.

The terms *extravert* and *introvert*, current in every branch of psychology—not to mention everyday conversation—were introduced by Jung. As a physician he was forced to take account of the peculiarities of individuals, and he noted that in some people interest, mental energy, flowed naturally outwards. The object, the outer world, claimed attention. Interest was projected, or perhaps injected, into life. For others interest lay in the inner, subjective sphere. The former he designated extraverts and the latter introverts. This typology expressed only the relative predominance of one or other mechanism, for everyone expresses both mechanisms in his life rhythm. This grouping of personalities into two general attitude types, showing the prevailing direction of mental energy, was later supplemented by what Jung called the basic psychological functions (thinking, feeling, sensation, and intuition), and each of these appears in extraverted or introverted form. By this typology psychic data could be classified, and this opened the way for a comprehensive study of the psyche itself and the formulation of theories about its structure. Facts first and theories later is the keynote of Jung's work. He is an empiricist first and last.

Typology has had a considerable vogue, and we have had classifications in terms of physique, physiology, and a mixture of physical and psychological traits. Jung's typology is different: his attention is focused upon the mind itself. He makes no claim that his typology is perfect or even complete. But he values his type theory because, like a compass, it enabled him to orientate himself in the intricacies of human psychology.

Jung's most significant work has been in the study of the unconscious. He recognizes two divisions in this realm: the personal unconscious—a superficial layer derived from repressed or forgotten conscious material—and a non-personal or collective layer not derived from personal experience, but inborn. The former was first described by Freud—a great achievement. But Jung, from his observation of clinical facts and his knowledge of human history, came to see that psychology was more than a personal discipline. His analysis of abnormal people (and so-called normal people too) constantly revealed material which he could not account for in terms of the life history of the patient. This material, he felt, could be comprehended only by postulating a collective background from which the individual consciousness arises.

The collective unconscious is, in brief, a non-personal functional system manifested in pre-existing forms or archetypes which do not develop individually but are permanent attributes of mankind. None of Jung's empirical concepts has met with so much misunderstanding as this hypothesis. Are there or are there not such universal forms? If they exist—and Jung has advanced considerable evidence to show that they do—then there *is* a region of the psyche which one can call the collective psyche, and psychological explanation must take notice of it. As Jung points out, even the most individualistic psychology accepts the hypothesis of instincts, which, as all agree, are by no means personal peculiarities, but specifically formed motive forces which act in

their inherent directions despite any degree of enlightenment. There is reason, therefore, for assuming that the archetypes of the collective unconscious are the images of the instincts themselves.

Many have found Jung's concept of the collective unconscious difficult to understand, and some have even reproached him with being a mystic. Yet our minds, like our bodies, have their history, and each gives evidence of a long ancestry. Research into the unconscious reveals discoveries analogous to those made in studying comparative anatomy. There is nothing mystical or obscurantist in this. When we examine the basic structure of the mind, as Jung has done, we find these collective, pre-existent, supra-personal forms. We do not, however, find the evidence for them without some hard work.

Therapy in Jung's system of analytical psychology is largely influenced by his views upon mental structure. The outlook is prospective rather than retrospective, for the concept of an autonomous psyche brings with it teleological implications. The attempt to explain neuroses and other disabilities in terms of long past events is of much less importance than the significance of the present problems and the future possibilities of the individual. Hence his emphasis upon dreams—which show the direction in which the unconscious is moving—and upon painting and drawing, which give an outlet for the creative power of the mind. The effect of these often crude pictures upon patients is widely known, and art therapy is now practised in practically every mental hospital. The aim of therapy, Jung says, is to bring about a state of mind in which the patient begins to experiment with his own nature—a state of fluidity, change, and growth.

Those without experience of such things as dream interpretation and painting therapy may naturally prefer more familiar weapons. Jung would share their prejudice. But he has evolved his methods out of the necessities of therapeutic work and has proved their worth. He makes no claim, however, that his is the only right way but retains the open and inquiring mind. His modesty is indeed disarming.

Jung's greatness nevertheless does not lie in devising therapeutic tools but in the light he has thrown upon the hinterland of the human mind. Toynbee, in recounting his efforts to understand the ebb and flow of civilizations, found inadequate the many would-be scientific explanations, and adds, "If I had been acquainted at the time with the works of C. G. Jung they would have given me the clue." Those who have read the work of Jung with an unbiased mind will agree that man's understanding of man has been vastly enriched by the genius of this great thinker.

SLEEPING POSTURE IN PHTHISIS

A number of diseases in the lung—including lung abscess, bronchiectasis, and pulmonary tuberculosis—can be caused or spread by bronchial aspiration of infective material. Helm[1] has shown that spread of tuberculosis may occur during sleep, and that the distribution of the disease in the lungs may depend on the patient's posture. Spread of tuberculous disease to parts of the lungs not previously affected is common after severe haemoptysis, or in patients with a bronchopleural fistula. It also occurs quite often in patients whose bronchial trees are not so obviously flooded with infected material. Two patterns of distribution are especially common: in patients with cavities in the left apex the disease spreads to the axillary sub-segments of the right upper lobe, and in those with cavities at the right apex to the corresponding part of the left upper lobe and also to the lingula. If postero-anterior radiographs only are taken, a wedge-shaped lesion in the middle zone will be seen, with its apex towards the hilum.

The distribution of any fluid which enters the trachea or bronchial tree is determined by gravity, provided it does not excite a cough reflex. When the patient is lying on his back it will run into the bronchi to the apical segments of the lower lobes, for those will be the most dependent. Brock[2] has stressed the importance of posture in the aetiology of post-operative lung abscess, which most commonly occurs in this segment: during anaesthesia septic material may be aspirated, and if the patient is supine the bronchus to this segment is the one it is most likely to enter. If the patient lies on his right side fluid will run along the lateral wall of the trachea and right main bronchus and then into the upper-lobe bronchus; it will enter the anterior and posterior segmental divisions about equally, and flow particularly to their most dependent parts, the axillary sub-segments. It is unlikely to enter the middle-lobe bronchus, because its origin lies anteriorly. If the patient lies on his left side the fluid similarly enters the upper-lobe bronchus and reaches the axillary part; it also runs into the lingula, since its bronchus is a branch from the inferior wall of the upper-lobe bronchus. Such a distribution, expected on anatomical grounds, can be demonstrated with radio-opaque oil, as was shown by Wu and T'Ang.[3] During sleep the cough reflex is depressed, and tuberculous sputum could be aspirated into dependent lung in the same way.

Helm reviewed 1,200 tuberculous patients. Among them were 157 with unilateral cavernous disease and contralateral bronchogenic spread, and 93 with unilateral cavernous disease and a normal opposite lung. He studied the posture in which these patients slept. Many of those with spread to the opposite lung slept constantly on the side to which spread occurred; but most of those without spread slept on the side of their cavity. The figures were statistically significant and give strong support to the theory that bronchial aspiration during sleep is an important factor in the spread of tuberculosis

[1] *Thorax*, 1951, **6**, 417.
[2] *The Anatomy of the Bronchial Tree*, 1946, London.
[3] *Amer. J. Roentgenol.*, 1937, **37**, 180.

from a cavity. As a corollary, Helm recommends that all patients with unilateral disease should be instructed to sleep on the side of their lesion.

EPIDEMIOLOGY OF SCARLET FEVER

For well over half a century mortality from scarlet fever has been falling. The great quickening of this trend after the introduction of sulphonamides is evidence of the effect of improved methods of treatment, but there can be no doubt that there has been for a long time a steady decline in the severity of the disease. Wide fluctuations in its severity—sometimes it has been regarded as a very grave illness and at other times as trivial—have been characteristic of scarlet fever since the days of Sydenham, but modern therapy should help to offset any future tendency of the disease to lose its present mildness. The decline in mortality has not been accompanied by reduced prevalence, and there is evidence that the disease is as common as ever. This failure to control the prevalence of scarlet fever is not surprising if Okell's[1] conception of its epidemiology is accepted. His view was that scarlet fever appears merely in a small proportion of those infected with haemolytic streptococci, the victims lacking antitoxic immunity to erythrogenic strains. Scarlet fever cannot be controlled by measures that are not also directed to the control of non-scarlatinal streptococcal infections. When sharp outbreaks occur, or when the infection is spreading in a school or similar community, bacteriological investigations will give essential help to those attempting to control the spread, but it would be impracticable to apply such investigations as a control measure in the general community.

The report[2] by the World Health Organization on the trend of scarlet fever during recent years provides figures of incidence throughout the world since the end of the war. In a large part of the African and Asiatic continents the disease has been relatively insignificant. In general the same has been true of the American continent with the exception of Canada and the United States. Incidence in Europe during this period, however, greatly exceeded that in Canada and the United States, and an interesting comparison is made between the post-war trends in North America and Europe. In the United States between 1946 and 1950 the annual number of cases fell from 116,000 to 57,000, whereas in the European continent notifications rose from 239,000 to 520,000. The trend during this period, therefore, has been in opposite directions on the two sides of the Atlantic. The attack rate also has shown wide differences, for in 1950 the rate in the U.S.A. of 37.7 per 100,000 was less than one-tenth of that experienced in Berlin and Finland. The attack rate in the United States has been well below 100 per 100,000 for the whole of the post-war period, though before the war it kept steadily above this level. Whether the reduction means that the community is developing resistance to the numerous strains of haemolytic streptococci remains to be seen.

[1] *Lancet*, 1932, **1**, 867.
[2] *W.H.O. Epidemiological and Vital Statistics Report*, 1951, **4**, 355.

FAMILY RESEARCH AT PECKHAM

Two years ago the Pioneer Health Centre at Peckham had to close its doors through lack of funds, and last May the land, buildings, and equipment were sold to the London County Council for £60,000. At a meeting of the L.C.C. on February 5 the health committee presented a report containing proposals for the establishment of a medico-sociological research unit at the Peckham centre (now known as the Queen's Road Health Centre, Camberwell). The general aim of this research unit will be the study of the conditions required for the healthy development of the family and the extent to which medical and associated social services provide these conditions. Among the problems which it is hoped to investigate is that of morbidity—its definition, the methods of assessing it (including minor deviations from health), and the estimation of the nature and amount of morbidity in the community. Upon this will follow a study, with particular reference to general practice and the medico-social services, of the means by which and the extent to which illness is treated. It is proposed to establish at the centre a family club. The members of the club, together with persons attending the clinics and other activities at the centre, will, if they are willing, form the raw material for the research workers. It is hoped also that with the co-operation of local general practitioners some of their patients will take part in the investigations. No one, of course, will be included in the research without his or her consent.

The research programme requires the engagement of a director with a small staff, and the appointment of a governing body to deal with administrative matters. It is suggested that the governing body might include two members of the county council, its medical officer of health and education officer, two representatives of the local medical committee (at least one of whom shall be a local practitioner), a representative of the London School of Hygiene and Tropical Medicine, and of other postgraduate or undergraduate schools. The director would be a qualified medical practitioner of maturity and outstanding ability, for whom an appropriate salary would be about £2,500 a year, and under him would be research assistants. The London County Council has no powers under the National Health Service Acts to carry out research of the type proposed, but it is hoped that funds will be made available, say for five years, from one of the trusts or foundations interested in medico-sociological research, or from the Medical Research Council. By establishing a family research unit on these lines the L.C.C. will help to keep in being what has been described as "the only experimental station where mankind can pursue one aspect of his proper study—man in his environment."[1]

The next session of the General Medical Council will begin on Tuesday, February 26, at 11 a.m., when the President, Professor David Campbell, will take the chair.

[1] Hubble, D. V., *British Medical Journal*, 1949, **1**, 20.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

COMMON CAUSES OF CURABLE BLINDNESS

BY

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> On peut dire sans paradoxe que selon toute vraisemblance si les hommes étaient condamnés à vivre cent cinquante ans, ils seraient tous aveugles.—P. BAILLIART, 1950.

Bailliart's statement is a reminder that some half of those blind enough to require subsidy or support in a modern industrial community are not, and never have been, susceptible to treatment. Even those who are treatable respond during a limited period only, so that for the sake of the community, as well as for the sake of the individual, diagnosis should be made early and treatment should be adequate. Space limits this article to a consideration of the commonest treatable causes of blindness in Great Britain—namely, trauma, iritis, acquired glaucoma, cataract, and myopia.

Trauma

Blindness from trauma is as spectacular as it is unnecessary, and, though the actual incidence of binocular traumatic blindness in England is relatively low, it provides an important field for prophylactic ophthalmology. Industrial blindness is largely monocular, patients losing the sight of one eye being 10 times as numerous as those who lose the sight of both. But only half the cases of traumatic blindness are industrial. Children are particularly prone to trauma, and, although many penetrating wounds are from unlikely and unforeseeable causes, in at least two fields precautions are possible For instance, any child who sets off a firework by himself should wear "anti-gas" or similar goggles. Accidents from air-guns are also preventable; at least seven times in the past two years I have wished that air-guns could be sold with a large red "L" on the butt, to be planed off only when a boy is certified by a responsible person as understanding the ordinary routine of handling a gun. Motor accidents, too, play their part in causing traumatic blindness, usually by producing optic atrophy from basal fracture. A crash helmet might be "required wear" for motor-cyclists in this country; in Belgium they seem to have become *de rigueur* as a matter of fashion.

In the industrial field the value of goggles remains relatively unrecognized. It is true that goggles are not always comfortable to wear, but there is no doubt that where their use can be enforced by precept or example the incidence of industrial eye injuries drops to practically nothing. In industry 63% of eye injuries are due to abrasive particles; these require careful removal, as they tend to combine chemically with the surface of the cornea, just as they do with the back of a pair of glasses. If the particle is carefully removed, with the surrounding "rust ring," with a cataract needle under cocaine and in good illumination, most of these injuries heal fairly rapidly, although it is advisable to insert a mydriatic and to keep a daily watch until the eye is healed. If the injury is slight, homatropine 2% should be used for mydriasis rather than atropine, as the latter leaves vision blurred for 10 days. If infiltration occurs round the abrasion the case is best referred to a specialist, as this may foretell a hypopyon.

Six out of every 1,000 miners employed have eye injuries annually, mostly small corneal ulcers due to a foreign body which becomes loose and disappears by the time the eyes are examined. The use of 30% sulphacetamide drops in all cases of eye injury in pits has in some areas halved the average time lost from work.

Injuries from chisel particles comprise some 13% of all injuries and are very much more serious than those due to abrasives. A particle which flies off and is sharp-edged may penetrate into the interior of or right through the eye. If a patient states that he was striking a metallic object or a stone with a hammer or a chisel and that a fragment struck his eye, unless that fragment is visible on the surface, he should be sent to hospital to be radiographed. The entry wound of many such particles is invisible except on careful ophthalmic examination. Such particles are of magnetic steel, and, with the aid of an electro-magnet, can as a rule be removed. Unfortunately, however, the damage done to the lens often leads to a cataract, and though this can be removed in young people by linear extraction the eye will not focus until corrected by a strong lens. The wearing of such a lens produces diplopia in most people. A contact lens (where tolerated) may allow binocular vision, but the introduction of a small plastic lens between the lens capsule and iris, a technique described last year by Harold Ridley, may, if tolerated indefinitely, open up new possibilities. The longest period recorded so far is two years, and the technique has until now been used by only a few surgeons. In many cases fibrous tissue formed as a sequel to the transit of the particle through the vitreous leads to an untreatable retinal detachment.

Corneal burns are not uncommon from molten metal, acids, or alkalis. Molten metal should be removed so far as possible at the first-aid station, but no attempt should be made to neutralize acids or alkalis chemically. The best immediate treatment is to put the face under a running tap or in a basin or bucket of water with both eyes open in an attempt to wash out as much of the chemical as possible. Of all corneal opacities the chemical burn responds worst to corneal grafting.

Iritis

The differential diagnosis of iritis from glaucoma is a classical ophthalmic problem, and, while some cases are clear-cut, others may present difficulties to the most expert. An inflamed eye with a clear cornea, unstained by fluorescein, and a muddy iris indicates iritis. If the cornea shows a generalized haze the probabilities are in favour of interstitial keratitis in a young person, and of primary or iritic glaucoma in the middle-aged. The pupil is the most reliable guide in these cases, in glaucoma being semi-dilated and vertically oval, and in iritis (unless atropine has been used) smaller than that in the normal eye and irregular in shape (Fig. 1). The presence of posterior keratic precipitates is not always a reliable distinction, for though they are always present in iritis they can also occur to a

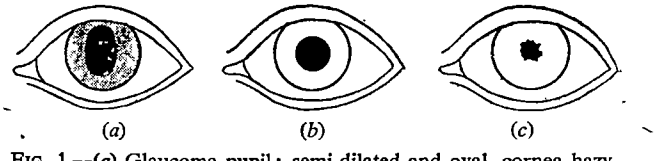


FIG. 1.—(*a*) Glaucoma pupil: semi-dilated and oval, cornea hazy. (*b*) Normal pupil. (*c*) Iritic pupil: contracted and crenated.

lesser extent in primary glaucoma. In cases of doubt the patient should be sent to an expert, but if this is not possible he should be treated temporarily for glaucoma.

Obvious iritis, even if accompanied by secondary glaucoma, should be treated initially as iritis. Here the chief difficulty is to find the cause. The happy certainty of our grandfathers that iritis was largely syphilitic and could be cured by inunctions, of our fathers that it arose from septic foci and could be treated by extraction of teeth or drainage of sinuses, or of our Continental colleagues that it is tuberculous and should be treated by tuberculin has been replaced by a degree of therapeutic nihilism. Tests should be carried out to exclude these possible causes, but in most cases they will be found to be negative. A certain number of cases have been attributed to sarcoidosis, and these benefit from the controlled administration of calciferol by mouth.

In general, the treatment of iritis consists in covering the eye, applying heat by spoon bathing (for 10 minutes three times a day) or short-wave diathermy, and giving 1% atropine sulphate eye ointment once or oftener a day to keep the pupil dilated. When synechiae are marked the injection of "mydricain" (a mixture of atropine, cocaine, and adrenaline) subconjunctivally may be effective. Cortisone drops (5 mg. per ml.) four-hourly are the most recent effective measure. A similar effect is probably obtained indirectly by the more severe measure of pyretotherapy (intravenous injection of 1 ml. of T.A.B. vaccine diluted to 25 million organisms per ml., to be followed in 72 hours by a further 2 ml.).

Where possible the use of atropine and rest of the eyes should be continued for two to three weeks after the eye has become "white," though dark glasses may replace the eye-pad. If after the attack has subsided the pupil is completely bound down, the iris bulging forward, or the tension raised, iridectomy is indicated.

Congestive (Narrow-angle) Glaucoma

In all cases of migraine or neuralgia the eyes must be examined, as traditionally acute glaucoma is associated with acute supra-orbital pain and vomiting. These symptoms are not always present, however, and the main diagnostic feature in a patient over 40 is a history of rainbow rings round lights and blurred vision when tired. The acute attack is usually, though not invariably, a more severe version of previous minor attacks. It should not be forgotten that the "halo" appears colourless to some patients. The cornea is usually small, hazy, and surrounded by ciliary injection; the anterior chamber is shallow. The pupil is semi-dilated and oval: this is the most important diagnostic feature. Traditionally the eye feels harder than normal, but as the "tactus eruditus," if it exists, is probably possessed by few people, it is better to rely on visual rather than tactile signs. Berens, of New York, has recently produced a cheap plastic tonometer for the general practitioner's use, but this is not yet available in Great Britain.

If pain is a feature of the case, morphine ¼ gr. (16 mg.) should be given, and 0.5% eserine drops in oil inserted half-hourly in the eye. If in two to three hours the pupil is not contracted and the cornea is still hazy, the patient should be sent to an ophthalmologist, as iridectomy will probably be necessary. This difficult operation has been greatly simplified by what is known as the *ab externo* technique, in which a cut with a knife of the Gillette D type is gradually made through the sclera behind the limbus until the iris prolapses. A large iridectomy is then performed. The prognosis of this operation is good, 90% of the cases being cured.

In some cases a severe crisis never occurs. The patient has a series of minor attacks with haloes and dimness of vision which produce a gradual cupping of the optic nerve and diminution of the visual field as in chronic non-congestive glaucoma. The cornea is clear and smaller than normal, the pupil reaction to light is sluggish, and the tension is raised during the attacks, though it may be normal between them. Pilocarpine 0.5% drops may control the attacks as indicated by the disappearance of the halo, but if attacks recur at intervals of a month or two the tension is best measured by tonometer and operation should be considered. In these more chronic cases the effect of basal iridectomy can be reinforced by cutting away the anterior lip of the scleral incision with punch forceps (irido-corneo-sclerectomy). The prognosis is not so good as in the acute type.

Non-congestive (Wide-angle) Glaucoma

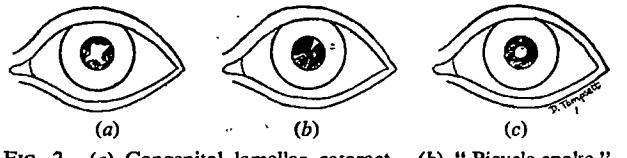
This condition is difficult both to diagnose and to treat. Externally the eye may look normal; the anterior chamber may be deep and its angle wide, though the pupil reaction may be sluggish to light. The patient complains of little except difficulty in reading, and the presbyopic patient who requires his reading-glasses changed more than once every two years should always be suspected of this condition; his optic disks should be examined to see if they are pale or "cupped." The clearest indication of "cupping" is that the vessels appear to stop short at the edge instead of running to the centre of the disk and are crowded to the nasal side. If there is any doubt, a careful examination of the visual field by an ophthalmologist and tonometry in the early morning after imbibition of fluid are required.

Once the diagnosis is made 1% pilocarpine drops are instilled once or oftener a day to keep the tension below 25 mm. Hg, and the patient is advised to lead as unexciting and regular a life as possible, avoiding spirits and coffee. Reading and cinema-going are permissible so long as the eyes do not feel strained or blurred. Progress is checked by testing the visual fields at intervals of one, two, or three months with a perimeter, and, if the field is contracting, a safety valve is produced by turning down a conjunctival flap and trephining a 2-mm. hole through the limbus—a small piece of iris invariably prolapses and is excised. In some patients, particularly the aged with traces of cataract, the disease may live up to its sobriquet, "the thief in the night," and contract the field to 10 degrees before it is detected. If the expectation of life is short this diminished visual field may be retained by pilocarpine or eserine drops, even if the tension remains above normal. A good life expectancy indicates operation, iridencleisis being preferred. However, no matter what operation is employed, 40% of eyes with wide-angle glaucoma get worse, some in spite of a normal tension and others because of the development of nuclear cataract.

Congenital Cataract

Congenital cataract may occur in one or both eyes and may range from a pattern of fine dots in the lens nucleus, allowing moderate vision, to completely opaque lenses. It may be familial, associated with the ridged teeth of defective calcium metabolism, or related to maternal rubella. No general agreement has been reached on the value of giving convalescent serum to pregnant women exposed to rubella, or on whether pregnancy should be terminated if the mother contracts the disease in the first four months.

Any baby after the first 12 weeks of life who pays scant attention to bright objects, or who has squint or nystagmus, should be examined ophthalmoscopically after administering 1% atropine sulphate eye ointment daily for a few days, when the pictures shown in Fig. 2 may be seen. If cataract is complete in both eyes operation is indicated as soon



(a) (b) (c)

FIG. 2.—(a) Congenital lamellar cataract. (b) "Bicycle-spoke" cataract, causing polyopia. (c) Nuclear cataract, causing "old sight." The areas shown white appear black against a red background when the eye is examined with an ophthalmoscope.

as the child is weaned. If the vision is good enough to allow the child to get about, operation should be deferred to the age of 2½ years, when surgical results are better. "Needling" has now been superseded by "linear extraction," in which most of the lens is removed by passing a keratome through the limbus into the lens itself and removing or expressing as much lens matter as possible by irrigation. Glaucoma or retinal detachment not infrequently supervenes in early adult life, so that one eye only is treated in this way, the other being kept in reserve. In 56% of congenitally cataractous eyes other obvious defects are present and the visual prognosis is poor. Even when apparently normal the central vision may remain poor after a successful operation owing to a (postulated) retinal dysplasia.

Acquired Cataract

Most of these cases are of senile—that is, unknown—origin. Cataract may be suspected when a patient of 45 or over complains (in addition to the usual reading difficulty) of monocular diplopia with bright objects, visual failure in the distance, or photophobia for which there is no external cause. In sexagenarians these symptoms may actually be accompanied by "old sight"—that is, ability to read without spectacles. With the ophthalmoscope the cataract can be seen as dark "bicycle spokes" or as a central haze against the red background (Fig. 2). In such cases ophthalmological examination is essential while a clear view can be obtained of the fundus to exclude glaucoma and macular degeneration. Later, when the cataract progresses, the fundus becomes invisible and its functional value uncertain until after operation.

There is no agreed medical treatment of cataract, and, as the problem approximates to unboiling a hard-boiled egg, this is not surprising. Nevertheless, provided that glycosuria and focal sepsis are excluded or treated, that adequate glasses are provided, that care is exercised in not reading when the eyes are tired, and that physical trauma is avoided—a jarring fall may mature a cataract—the changes in vision are usually slow, and most cataracts take 10 to 15 years to reach a point where extraction is required. That is to say, most never require operation.

Should a patient be told that he has a cataract? In some cases the patient's temperament makes this unwise, but in general, and provided the diagnosis is accompanied by adequate explanation, it is better to tell anyone complaining of increasing or persistent visual defect. Ultimately the search for the elusive "correct" glasses will end by the patient becoming aware of his trouble and believing it to be worse than it is.

Cataract extraction is performed under local analgesia. It was confined at one time to those cases in which the lens was "ripe"—that is, as opaque as "sunlight" soap—because autolysis of the translucent lens material remaining after extraction of the cataract by the extracapsular method (Fig. 3*a*) caused iritis. Of recent years greater risks have been taken with cataracts confined to the nucleus in patients over the age of 60, but post-operative iritis still occurs in 13% of cases. With the more recent and more difficult intracapsular operation, in which the lens is removed in its capsule (Fig. 3*b*), the incidence of iritis is much lower, and the only criterion of ripeness in a physically and mentally fit patient is whether he has enough sight to carry on his business or, if retired, to read. It seems strange to find an eminently operable condition like cataract high on the list of the causes of blindness, but severe diabetes, hypertension, chronic bronchitis, or disabilities of temperament may render patients poor operative risks.

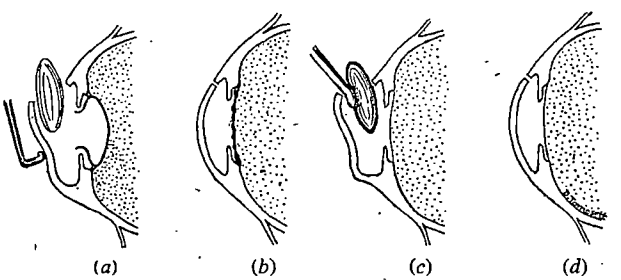


FIG. 3.—(*a*) Extracapsular extraction: capsule and cortex remain. (*b*) Extracapsular extraction: capsule must be needled. (*c*) Intracapsular extraction: entire lens removed. (*d*) Intracapsular extraction: clear pupil.

Myopia

Most of the blindness in myopia occurs from macular degeneration due to high myopia in late middle age. The patient usually complains of a dark central spot that remains fixed (not floating) at the centre of the sight, which indicates the final stages of macular degeneration. Whether the effects of such malignant myopia are of purely genetic origin and uncontrollable, or whether the wearing of the correct glasses, an education with a minimum of reading, and the administration of calcium by mouth exercise any influence in youth is uncertain. Most ophthalmologists adhere to these principles in the early treatment of such cases.

One form of blindness usually associated with myopia and susceptible to surgical treatment is detachment of the retina. The patient generally has moderate myopia and complains of floating black specks, flashes, or areas of light on moving the eye in the dark and, if the detachment is in the upper half of the retina, a defect in the lower visual field. Any patient who develops a spontaneous vitreous haemorrhage without obvious systemic cause should also be suspected of a detachment. A combination of any two of the above symptoms, particularly after a blow to the eye or head, requires a careful examination under homatropine mydriasis. If the grey area indicative of a detachment is found, the patient, unless obviously hopeless, is admitted to hospital as a surgical emergency and is nursed recumbent with both eyes bandaged to localize the tear (or tears) at the site of the initial detachment. If the detachment diminishes in size the prognosis is improved.

In 1929 Gonin showed that if a thermocautery is pushed through the sclera at the site of the tear the subretinal fluid leaves the eye and the resultant choroiditis round the site of the cautery puncture produces adhesion between the retina and choroid. In this way he was able to cure some 29% of all detachments. To-day by using electro-diathermy in a similar way we cure 43%. It is possible to carry classification further than this: in some young people with slight myopia and a small easily localized tear some 90% are cured, while large detachments in the aged with high myopia and large or multiple tears are almost incurable. It is essential that all detachments be treated as early as possible, for if they reach the macula the ultimate central vision is greatly reduced even if the retina is ultimately replaced. Detachments in aphakic eyes have a poor prognosis with the diathermy operation, but the more recent procedure of posterior sclerectomy, in which a strip of sclera 24 by 4 mm. is removed from behind the muscle insertion and underneath the area of greatest detachment, is proving effective in some otherwise hopeless cases.

Next Refresher Course Article.—"Frequency of Micturition," by Mr. H. P. Winsbury-White.

In future all Social Security (health service) prescriptions obtained from chemists in New Zealand will carry an extra red label with the words "Keep all medicines out of reach of children." This is an attempt to reduce the number of deaths and illnesses among children who accidentally get hold of medicines. An original article in the *Journal* on ferrous sulphate poisoning in children recently (1951, **2**, 1112) advocated various ways of lessening this risk in Britain, and suggestions were made in subsequent letters showing that doctors are well aware of the danger, but so far no official action has been taken in this country.

COAL AND CORTISONE

MAN-POWER IN A SICK SOCIETY

BY

FFRANGCON ROBERTS, M.D.

Consultant Radiologist to the East Anglian Regional Hospital Board

The cost of the Health Service being usually expressed in money, we tend to forget that the only purpose of money is to buy labour and raw materials. If these are not forthcoming in sufficient amount money is of no avail. Medical labour, whether used directly in the treatment of the sick or indirectly in the production of drugs and equipment for their benefit, is drawn from a pool common to all forms of labour, including the part engaged in our export trade, upon which our survival depends. If this trade were to languish through shortage of raw material, rearmament, foreign competition, or other causes, it might be possible to transfer some of the workers thus rendered idle to the Health Service, but any improvement in the Service which might ensue would be more than counterbalanced by the deterioration in the standard of health due to the diminished import of food. Even if a satisfactory market for our exports continues, our standard of living will depend upon the maximum allocation of labour to industry. It is therefore of the highest importance to determine the optimum share of the national labour pool which can be spared for health and other social services.

While our relations with other countries are partly beyond our control, and therefore impossible to forecast, our future domestic circumstances can be predicted with some accuracy. The figures for total population and age distribution given in the *Report of the Royal Commission on Population*, 1949, tell us the number of mouths which will have to be fed, the man-power which will be available for production, and the social burden which the non-workers will cause to the workers. From these figures we can predict the changes likely to occur in the incidence of disease, and from the combined information we can deduce our ability in man-power to cope with it.

Table I shows the age distribution for England and Wales calculated from the figures given for Great Britain in the Population Report.

TABLE I.—*Age Distribution, England and Wales, in Millions*

Year	0–14	15–40	41–64	65 and Over	Total	Dependants per 100 Workers
1947	9·2	16·1	13·2	4·5	43·0	47
1962	9·3	15·0	14·9	5·6	44·8	50
1977	8·7	15·3	13·9	7·3	45·2	55

The Available Man-power

Taking 1947 as the starting-point, in 1962 workers will have increased by 0.6m., but the non-workers by 1.2m., made up of 1.1m. aged and 0.1m. children. Thus dependants per 100 workers will have risen from 47 to 50. In the following 15 years the situation will worsen appreciably, for the workers will decline by 0.7m., while a fall of 0.6m. in children will be more than offset by an increase of 1.7m in the aged, bringing the number of dependants per 100 workers to 55. Even this underestimates the gravity of the situation, for in the first period the increase in workers is confined to those aged 41–64. While they are increasing by 1.7m. those aged 15–40 are declining by 0.9m. Industry is therefore gaining in experience but losing in health and vigour The loss of younger workers is already having its effect, for at the moment there are 400,000 industrial vacancies which cannot be filled. This predicament is far from temporary, for in the second period the older group will decline by 1.0m., while the younger group will recover by only 0.3m.—a slight gain to industry in health and vigour but a heavy loss in experience.

The Incidence of Ill-health

Age Group 65 and Over.—The rise in the aged of 0.9m. in the first period, followed by a further rise of 1.7m. in the second, making a total of 62%, will of course be reflected in a great increase in the incidence of diseases to which this group is prone. In a previous communication (Roberts, 1949), based on the latest figures then available—namely, those of the Beveridge Report -I estimated the increase between 1941 and 1971 at 50%. For mental illness, since, according to the Ministry of Health, 75% of patients are 65 or over, it follows that by 1977 the number of patients will have increased by 47%. Meanwhile, during the year ended December 31, 1949, overcrowding in mental hospitals increased from 12.2 to 14.0%—a fact which seems to suggest that the much-vaunted new methods of treatment are not keeping pace with the increase in incidence.

Age Group 41–65.—The older half of this group is associated with the incipience of degenerative diseases and of those, such as cancer, which run a prolonged course but are not classed as chronic sickness. Apart from the increase in incidence due to the increase in numbers, continued medical progress will effect a further prolongation in a state of invalidism, while an increasing proportion will survive to enter and swell the ranks of the aged. Between 1962 and 1977 this factor will diminish owing to the decline in numbers.

Age Group 15–40.—The fall of 1.1m. by 1962 will cause little easement, because this group is the least prone to ill-health.

Age Group 0–14.—By 1962 there will be little change; after that, a fall. Upon this group elaborate preventive measures are being lavished—antenatal and post-natal clinics and so forth. Yet although these have been in operation for some years there appears to be no sign that they are effecting any diminution in juvenile illness.

The overall prospect, therefore, is one of steadily mounting ill-health, but confined to the older members of the community.

Idle Dreams

Such, then, is the problem—a death-struggle between economics and morbidity, between national and individual survival—a problem which would be grave enough even if international relations were harmonious. How does the Ministry propose to solve it? The answer is to be found in the Ministry's memorandum entitled *The Development of the Consultant Services* (1950). This must be read in conjunction with the recently published Report for the year ended March 31, 1950 (Cmd. 8342), which shows the stage reached on December 31, 1949.

The purpose of the memorandum is to indicate to regional hospital boards their duties "against the background of the long-term organization of the Service." It deals with each class of disease in turn. In many instances requirements are based on hearsay evidence. The phrases, "It is said that...," "It has been suggested that...," occur again and again. The planners seem to have accepted without question the extravagant estimates submitted by representatives of each interest in turn. They express beds and man-power usually in terms of requirements for populations of 100,000–120,000; in the less common diseases for 1,000,000 or for a region. They make no attempt to add up the separate estimates so as to show the needs for the treatment of all diseases in the whole country. Had they done so the result might have surprised them. Adopting the axiom that the

whole is equal to the sum of its parts, I have taken the liberty of making good the deficiency by simple multiplication and addition. Since in some places the memorandum is not free from ambiguity the calculation has not been easy. I hope, however, that I have interpreted its meaning with reasonable accuracy, and I apologize for any mistakes. The result, together with the bed-provision existing at the end of 1949, is shown in Table II.

TABLE II

	Beds Allocated Dec 31, 1949	Total Beds Required	Total Senior Staff Required (Estimated as Full-time)	
			Consultants	Registrars
General hospitals:				
General medicine	33,739	97,700	1,170	1,170
General surgery	32,312	70,400	1,170	780
Unclassified	15 169			
Gynaecology	7,320	12,900	} 430	430
Obstetrics	17,385	38,700		
Paediatrics	9,470	22,500	215	430
Cardiology	324	800	21	14
Chest diseases (other than sanatorium)	126	7,800	34	*a*
Dentistry	126	*b*	1,640	
Dermatology	1,585	4,300	129	129
E.N.T.	5,427	19,500	390	390
Neurology	828	5,400*c*	108	*d*
Neurosurgery	579	3,500	108	*e*
Ophthalmology	3,524	8,200	312	78
Plastic surgery	941	2,200	23	29
Radiotherapy	1,526	2,600	72	29
Thoracic surgery	1,206	5 200	34	34
Traum and orthop. surgery	11,846	31,300	390	390
V.D.	693	2,600	344	
Other specialist units	6,768			*a*
Total	150,914	335,600	6,590	3,903
Other hospitals:				
Infectious diseases	21,848	25,800	258	*a*
Mental } Mental deficiency }	198,713	163,000 } 86,000	} 752	*a*
Tuberculosis	28,307	86,000	645	*a*
Chronic sick	54,587	58,600	*f*	*f*
Convalescent	6,664			
General practice	7,864			
Private pay-beds	6,647			
Staff not included above:				
Anaesthesia			780	780
Pathology			1,660	
Physical medicine			258	129
Diagnostic radiology			410	260
Grand total	475,544	755,000	11,353	5,072

a, Numbers not stated. *b*, Included in other beds. *c*, Includes chronic cases. *d*, "Assisted by such whole-time registrars and junior staff as may be necessary." *e*, "On the same lines" as *d*. *f*, These beds to be under general physicians.

Hospital Beds

Table II shows that beds of all kinds are deficient by nearly 300,000. In other words, existing beds need to be increased by 63%. General hospital beds need to be nearly doubled. The deficiency applies in varying degree to all diseases, with two exceptions—infectious diseases and chronic sickness. For the former ample provision is of course essential in order to meet epidemics, but the Ministry's view that the provision for the chronic sick is nearly sufficient is contrary to general experience.

From Table II an interesting calculation can be made. Deducting 35,000 beds closed for cleaning and redecorating, there will always be 300,000 general hospital beds in use. Taking 18 days as the average stay of each patient, each bed will be occupied annually by 20 patients. The population being 43m., this means that the Ministry expects one person out of seven to do his duty by spending 18 days in a general hospital every year. To these must be added the convalescents, those permanently or semi-permanently immured in mental, mental deficiency, tuberculosis, and chronic sick hospitals (for whom 420,000 beds are to be provided), the thousands in bed at home "with the doctor" (or without), and the hordes besieging general practitioners' surgeries and contributing to the 35.3m. attendances in casualty and out-patient departments. So much for a healthy nation.

Senior Staff

It might have been thought that estimates of future senior staff could be based only on figures showing the existing staff expressed as full-time labour. Such figures, however, are apparently not available. The report for 1949–50 enumerates full-time and part-time *appointments*, many of the latter being multiple. For instance, 1,310 whole-time and 12,372 part-time consultant appointments were held by 5,200 *persons*. On a similar calculation 686 whole-time and 2,891 part-time senior hospital medical officer-appointments involved 1,100 persons, giving a total of 6,300 persons. Since some of the multiple part-time appointments were collectively not full-time, we may take the full-time labour at about 5,000—that is, less than half the number required according to the memorandum. Registrars and junior hospital medical officers are given as 3,972 whole-time and 831 part-time. The amount of full-time labour of these grades employed in 1949 was therefore approximately the same as the amount which will ultimately be required.

More significant, however, is the consultant/registrar ratio. The overall ratio aimed at is about 2:1, but for some reason not explained it varies widely between 4:1 for ophthalmology and 2:3 for general surgery. One suspects that the planners have accepted the views of consultants given with no thought for the fate of their assistants. The ideal ratio should of course vary according to whether establishment is static or expanding, and according to the purpose of registrarships. If establishment is static and each consultant has one registrar of six years' tenure, he will have five registrars during his 30-years term of office. But, of these, only one will reach consultant rank. If establishment is expanding, a condition which can at best be only gradual and temporary, perhaps two will gain promotion. The system of registrarships is therefore workable only on the condition that the majority of the holders cannot expect to attain consultant rank. Whether this is just to them or in the best interests of medicine I do not propose to discuss. It may well be that a registrarship in general medicine is a good preparation for general practice, but the same cannot apply to plastic or thoracic surgery.

It was the belated discovery of this situation which led the Ministry in the autumn of 1950 to announce its decision drastically to reduce the number of registrars, recommending those discharged to seek employment abroad or in general practice. That this was to be the fate of some registrars was mentioned in the memorandum which we are discussing and which was published in the same year. But here comes the interesting point. The memorandum in almost identical form had been issued *confidentially* to regional hospital boards early in 1948. It contained this passage:

> "In this memorandum the term 'registrar' is used in a generic sense where it is desired to suggest the employment of officers senior to the house-physician or house-surgeon and considered to be passing through a probationary period of training in a specialty. Some practitioners may start on such a career and, after a period of a year or two, turn to training in some other consultant field or to general practice. Others will continue, acquire a full period of training, emerge as consultants for more senior appointments on hospital staffs. It is not possible to estimate the numbers in either group, and as a result estimates of the numbers of registrars given in later sections include both these groups."

It would be interesting to know why the Ministry informed the predominantly lay regional hospital boards two years before it informed the medical profession.

Total Personnel

Table III shows the figures for non-medical personnel. With the medical staff the total came to about 220,000 reckoned as whole-time. Even so, nurses were short by 41,263 and midwives by 2,344. If we add 20,000 general practitioners, their secretaries, the pharmaceutical chemists,

TABLE III.—*Non-medical Personnel, December 31, 1949*

	Whole-time	Part-time
Professional and technical	13,271	5,311
Administrative and clerical	23,797	
Maintenance, transport, etc	26,210	
Regional headquarters staff	1,320	
Blood-transfusion centres	1,107	
Nurses	125,131	23,624
Midwives	8,888	969
Total	199,724	29,904

and the number, unknown but certainly very large, engaged in the medical trades we arrive at a total which forms a substantial part of the nation's labour force. If the additional 63% of beds were forthcoming, hospital personnel would have to be increased by 140,000, giving a total of 360,000. The truth, of course, is that this extra labour is not and will not be available, for the simple reason that it does not and will not exist.

Thus the authors of the memorandum live in a world far removed from reality. They show throughout no evidence that they recognize any economic limitations to their plans. Indeed, the only limiting factors which they admit are the existing shortages in buildings and trained specialists, but they confidently assume that these shortages cannot fail to be remedied in course of time. In a mood of joyful anticipation they portray the future in glowing colours—the future, that is to say, for hospital staffs. They envisage a kind of clinical *Republic* on the Platonic model in which the medical guardians work in ideal surroundings and are paragons of virtue and industry, exhibiting in perfection give-and-take, willingness to co-operate, and anxiety to improve their efficiency—qualities which, to do them justice, most of them already display without any Ministerial prompting.

But the facts must be faced. The numbers engaged in the Health Service must be determined, not by national needs, but by national earnings abroad. If these decline, the Health Service must suffer. If we want cortisone we must sell more coal. There is no other way. Those who wail against any cuts are crying for the moon, and politicians, to whatever party they belong, who promise that there will be no cuts are promising the moon. The advice which the Ministry is giving to hospital boards is therefore grossly misleading and a direct encouragement to extravagance. Even though the incidence of ill-health is destined to increase, long-term policy should be framed with the prospect of enforced contraction in view.

The point of immediate importance is the entry into the Service. The years quoted in the projections given above are not so far off as they seem. In 1962 those now entering medicine will be in the registrar stage, if it still exists, and in 1977 they will be at the height of their powers. Whether we like it or not, it is a logical corollary to the establishment of the Health Service that the State must control and reduce the intake of medical students to meet the economic future so far as this can be predicted, so as to ensure a balance between the treatment of ill-health and productive capacity. We cannot tolerate a situation in which youth in its thousands hammers at the doors of the medical schools while industry cries out for labour. The Health Service is no haven from the economic storms which will batter us, perhaps to pieces.

Certain consequences of this limitation should be noted. First, every year added to the duration of medical training reduces the number of persons effectively employed. For instance, 20,000 general practitioners are reduced by about 700. The same applies to study-leave, aggravated by the fact that this is invariably expansionist in effect. Apart from those branches of medicine in which exceptional skill and experience are required, is it really true that a person is not fit for independence and responsibility until he is in his middle thirties—that is, until half his life has been spent? Secondly, reduction in the number of the junior grades means that seniors will have to undertake many of the duties from which they are now relieved. The latter will therefore have to be increased in number by raising the retiring age to 70.

Such, then, is the prospect as I see it. Four years ago in this *Journal* (Roberts, 1948) I asked the question, Where are we going? I still don't know, but at least I know where the Ministry wants us to go. To plenty in the midst of poverty; to a medical heaven in the midst of a bankrupt, bedridden, and hungry hell.

REFERENCES

Roberts, Ff. (1948). *British Medical Journal*, 1, 485.
—— (1949). Ibid., 1, 293.

CONCERNING THE EPILEPTIC

[FROM A CORRESPONDENT]

A general practitioner with a list of 2,000 patients will probably have four or five epileptics under his care. These people will be handicapped in varying degrees by their fits, and by the attitude of mind about epilepsy of those with whom they come into contact. The social handicap is usually by far the greater burden.

In the public mind, epilepsy is associated with mental disorder. Now, while it is true that fits are common among mental defectives and the insane, most epileptics living outside institutions, apart from the occurrence of their fits, are essentially normal individuals, mental deterioration being unusual in those with only a moderate number of fits. Anomalies of temperament, however, are not uncommon: in some cases the temperament is affected by the disease, and the anomalies, like the fits, are a manifestation of the paroxysmal dysrhythmia of cerebral cells, but often temperamental changes are a secondary phenomenon, the result of social frustration. There is also a common belief that the outlook for an epileptic is necessarily bad. This is quite untrue. Many people who have had fits during childhood and adolescence become quite free of attacks in adult life, and in others the administration of drugs usually results in effective control or at least lessening of the fits.

The Harm of Concealment

The knowledge that epilepsy tends to run in families aggravates a common impulse to conceal the occurrence of fits. Concealment can only harm the patient and increase anxiety all round. The social handicap from the familial tendency to epilepsy can be lightened by frankly facing the facts. Even marriage, and the prospect of having children, may in some cases be quite justifiable for an epileptic if the prospective partner is shown to have a normal electro-encephalographic record. Near relatives of an epileptic who have dysrhythmia of an epileptic type have the same chance of producing epileptic offspring as a frank epileptic.

Parents are often ashamed that a child of theirs should have fits, and are over-anxious about the occurrence of a fit in public. At school, fits may cause a great disturbance in the class, and as a result of this the epileptic child comes to be avoided by his fellows. An awareness that he is not wanted soon gives the child a strong sense of inferiority; he becomes desperately lonely, and takes on to himself the shame and anxiety shown by his parents. As a result of this unhappy train of events, the child's fits increase in number. An epileptic child should be allowed as much freedom as possible, even at some risk. Parents must hide feelings harmful to the child; they must take him about with them and treat him as a normal individual. Teachers and pupils at school must learn to regard fits as a natural occurrence, causing no special concern. Whenever possible an epileptic should have a normal home life and education, but if the child has a great number of fits, or his home conditions are bad, the school medical officer will arrange for his admission to a special school for epileptics. Here medical supervision can be more thorough than at home, and the child loses the feeling of being alone and inferior. Early advantage should be taken of institutional care when necessary.

Employment of Epileptics

During the war physically handicapped people previously considered to be unemployable were encouraged to train for essential work. Thousands of these took their places as wage-earners, and by April, 1950, the names of 15,078 epileptics appeared on the *Register of Disabled Persons*; of these, 13,563 were actually in work. This is particularly encouraging, as occupation and interest are direct anticonvulsants.

The task of finding work for an epileptic now officially falls to the disablement resettlement officer, who is guided by the report he receives from the patient's own doctor at the time of registration. However, continued supervision and encouragement by a social worker is often a determining factor in keeping an epileptic at work. Also knowledge of the patient in his home surroundings, visits to prospective employers, and consultation with the patient's doctor do much to ensure that the individual epileptic is placed in work for which he is most suited.

British Epilepsy Association

The British Epilepsy Association, formed in 1950 as a memorial to the work of Dr. J. Tylor Fox, aims at educating the public in the nature and social effects of epilepsy, and so help epileptics to take their proper place in the community. Parents of epileptics, or the patients themselves, often welcome the knowledge that their difficulties are understood and shared by other families. The association forms a unit of which they can become members. An attempt is made to find a solution to individual social problems. In addition, simple explanatory pamphlets have been published, designed to help parents and employers, and these can be obtained from the British Epilepsy Association, 7, Victoria Street, London, S.W.1.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Pethidine Hypersensitivity and Histamine

SIR,—In the last year there have been communications to the *Journal* describing severe hypersensitive reactions to pethidine.[1 2] The possibility that pethidine might produce the symptoms of the hypersensitive reaction by releasing histamine is suggested by the observation that it causes a triple response on injection into human skin.[2 3] This possibility is further supported by experiments demonstrating that the pharmacologically related opium alkaloids do actually release histamine.[3 4] Also, the urticarial rash and oedema of the lips and eyelids following pethidine administration in the patient of Dr. E. B. Butler are strikingly similar to the signs occurring when histamine is released from the tissues of unanaesthetized dogs following administration of histamine-releasing drugs. I would therefore like to mention here results shortly to be published in detail which demonstrate that pethidine, under certain conditions, is an effective releaser of histamine.

It was shown that the intra-arterial injection of relatively small amounts of pethidine into an isolated, perfused preparation of cat's skin released large amounts of histamine. In the intact cat, intravenous injection of large doses of pethidine produced increased plasma histamine levels.

The clinical picture of circulatory collapse, urticarial rash, and facial oedema occasionally seen following pethidine may therefore well be due to the release of histamine in patients who, for an as yet obscure reason, release histamine much more readily than others after administration of this drug. Since mepyramine considerably mitigates the signs accompanying histamine release in response to a histamine-releasing drug (although the histamine release persists),[5] the antihistamine compounds may be effective agents in combating the rare but alarming hypersensitive reactions to this drug.—I am, etc.,

National Institute for Medical Research, Mill Hill, N.W.7. M. SCHACHTER.

REFERENCES

1 Zuck, D. (1951). *British Medical Journal*, **1**, 125.
2 Butler, E. Blanche (1951). Ibid., **2**, 715.
3 Nasmyth, P. A., and Stewart, H. C. (1950). *J. Physiol., Lond.*, **111**, 19*P*.
4 Feldberg, W., and Paton, W. D. M. (1950). Ibid., **111**, 19*P*.
5 Paton, W. D. M., and Schachter, M. (1951). *Brit. J. Pharmacol.*, **6**, 509.

Allergy and Rheumatoid Arthritis

SIR,—The letter of Dr. R. W. Barter (January 12, p. 109) referring to the use of antihistaminics and a postulated condition of hypersensitivity in rheumatoid arthritis recalls the case history of a patient which may be of interest.

The patient, a girl aged 14 in 1932, commenced with a disturbance affecting most of the joints of the body, including the elbows, knees, wrists, and small joints of the hands. This consisted in sudden painful swellings of the joints, subsiding after a week and recurring at about monthly intervals. These attacks were repeated for about six months, and then a condition typical of rheumatoid arthritis followed.

The joint disturbance at the onset was not associated with any rise in temperature, splenic enlargement, or any systemic sign or symptom of note. The sudden onset of the swelling appeared to me at the time typical of that associated with angioneurotic oedema.

In addition to the usual antirheumatic therapy of that period, anti-allergic treatment consisting in calcium injections and injections of milk was given, with no benefit. It is possible that treatment with the modern antihistaminics would have been of use here. The patient at present presents all the features of an advanced crippled state of rheumatoid arthritis. Arthroplastic operations on both elbow-joints and knee-joints have recently been performed.

The mode of onset of the disease in this case, and the subsequent history, would indicate that a condition of hypersensitivity is associated with rheumatoid arthritis.—I am, etc.,

Manchester. JACK CARR.

Acute Infectious Lymphocytosis

SIR,—In Dr. H. G. Dunn's very interesting article on acute infectious lymphocytosis (January 12, p. 78) he describes infestation with *Giardia lamblia* occurring at the same time and suggests this association is worthy of future investigation. I should like to add another case in which the two diseases appear to have coincided.

In August, 1951, a boy of 3 admitted to hospital for investigation of a congenital cardiovascular defect was found to have slight coryza and mild diarrhoea. Investigation of stools revealed many cysts of *Giardia lamblia*, and he had at that time a total leucocyte count of 49,000 per c.mm., of which 72% were normal small lymphocytes and 24% eosinophils. He was treated for five days with "atebrin," and after three weeks the leucocytes fell to 5,900 per c.mm. with 45% lymphocytes and 25% eosinophils, and no cysts or ova could be found. After another month the eosinophilia also had disappeared. There was nothing clinically to suggest glandular fever, leukaemia, or whooping-cough, and the child's subsequent history has been uneventful.

This case would thus appear very similar to those of Dr. Dunn.—I am, etc.,

Ashford, Middlesex. JEAN M. WEBSTER.

SIR,—The article by Dr. H. G. Dunn (January 12, p. 78) prompts me to report two further similar cases recently seen.

These were brothers, aged 3 and 1½ years, admitted in November with a history of loose stools and vomiting for one day. No abnormality, apart from slight nasal discharge, was found on physical examination, but stool specimens from both children showed cysts and flagellate forms of *Giardia lamblia*

White blood counts (W.B.C.) were: elder brother, total 83,600 (80% lymphocytes, 5% eosinophils); younger brother, total 85,600 (89% lymphocytes, 4% eosinophils, 1% monocytes). They were each given a short course of mepacrine, the diarrhoea settled, and the stools revealed no *Giardia* on several occasions. The lympho-

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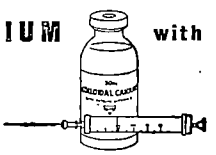

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cytosis and eosinophilia persisted for several weeks, but the W.B.C. eventually returned to normal. Paul-Bunnell tests and Mantoux series were negative for each child. As in the other reported cases, no abnormal leucocytes were seen in the blood films (the excess being due to mature small lymphocytes), there was an absolute eosinophilia, and there was evidence of a mild upper respiratory tract infection (nasal discharge) in both boys.

It is interesting to note that the younger brother had been in hospital on three previous occasions with a history of diarrhoea: repeated stool examinations had then failed to reveal any *Giardia* and the W.B.C. was normal. Incidentally, the above are the only two proved cases of giardiasis found in this large general hospital in the last five years.

Although in Dr. Dunn's article and in the annotation (p. 96) doubt is cast upon the significance of the association between giardiasis and "acute infectious lymphocytosis," surely it is more than coincidental that this association was found in five of Dr. Dunn's six cases and in the two cases reported here, especially as Dr. Dunn himself states that "it is well known that *Giardia lamblia* may be found only after repeated testing of stools."

The fact that in some of Dr. Dunn's cases giardiasis was apparently present without a concomitant lymphocytosis can, I think, be discounted, as one could well postulate that in those cases the host and invading organism had achieved a state of symbiosis, whereas in those presenting with lymphocytosis and eosinophilia a temporary lowering of the host's resistance (as by the commonly associated upper respiratory tract infection) had allowed the giardia to become pathogenic.

Surely we should think of a relatively simple explanation such as this before attempting to create a new disease entity.—I am, etc.,

Bebington, Wirral. MARGARET E. HALL.

Surgical Treatment of Sciatica

SIR,—In your comments on the surgical treatment of sciatica (December 15, 1951, p. 1448), having listed the results reported in certain large series, you go on to say that there are indications that the results are not in general so satisfactory, and as evidence of this you refer the reader to two reviews of compensation cases. I think it would be only fair to draw attention to certain details of these reviews. Both of the reviews deal only with cases treated prior to 1945, in the United States, and for this reason alone are hardly evidence of the present level of the surgical treatment of sciatica in this country.

The report of Aitken and Bradford (1947) deals with 170 cases operated on between 1940 and 1944; 67 patients had no disk lesion—i.e., 40% of the cases submitted to operation were wrongly diagnosed. In this regard the authors comment as follows: "It should be noted that we have included in the disk series all cases in which a disk is said to be found. There are several cases in which we had reason to question the findings." There were 10 cases of neurosis in the disk cases and 16 cases of neurosis in the non-disk cases, and in each instance there was ample evidence of such a neurosis before operation. Twenty cases were operated on within two months of the onset of the symptoms and some of these within one month. In some instances there were widespread explorations involving five or six vertebrae. There were five deaths. The complications included nine cases of sepsis, four of phlebitis, one of persistent headaches, two of post-operative drop-foot, and three of post-operative paralysis of the quadriceps. The authors are prepared to admit that the desire for financial imbursement influenced the end results.

The series reported by Marble and Bishop (1945) deals with 496 industrial cases, of which 92 had operative treatment. The diagnosis was confirmed at operation in 75% of these cases. Thirty-four cases are listed as having a good result, as they returned to normal work within six months, nine had fair results, being able to return to normal work within a year. It is said that the disability of the remaining 49 lasted for over a year, and in some the disability still continued. Presumably, in the other cases, the disability had disappeared and it would seem important to know when and in how many of the 49 cases the disability eventually disappeared. The fact that most of the failures occurred in cases which had been fused makes a true estimation of the results more difficult.

I doubt, therefore, if the reviews of compensation claims to which reference has been made justify the general statement that "the results of operation are poor in many cases." It does not seem fair to point to the results of too exuberant surgery of about 10 years ago as indicating the poor results of surgery to-day. The important thing is to assess the results not of surgical treatment but of a single method of treatment in which both conservatism and surgery play properly assigned roles and to compare these results with the results obtained with the haphazard conservative treatment of low backache and sciatica 20 years ago.—I am, etc.,

Burton-on-Stather, Lincs. DAVID F. THOMAS.

Specific Language Disability

SIR,—The annotation on the subject of specific language disability (January 5, p. 36) raises many important points and should be pondered deeply by all who are associated with learning children. These disabilities, as is stated, have long been recognized, and there is already an extensive but too little known literature on the subject. The most recent comprehensive work is Goldstein's *Language and Language Difficulties*, and perhaps the earliest is by Rosinus Lentilius, who, writing in 1698 in the *Miscellanea Medico-practica Tripartita*, tells of a left-handed epileptic girl who wrote with her left hand "*inveris literis*," which could be read only in a mirror.

There is no doubt that developmental aphasia, in varying degree, is the greatest single cause of backwardness in intelligent children—the children of whom school reports too often say, "This child could do better if he tried." The pathology is not yet fully clear, but it would seem that the commonest cause is crossed cerebral dominance, the emotional or psychiatric factor being secondary. It runs in families. To the spelling, writing, and reading difficulties in school must be added stammer, and, in everyday life, slowness in distinguishing left from right, impaired spatial orientation, poor skill in games with a small, fast-moving ball, and, in short, any activity needing speedy co-ordination of hand and eye.

Skilled remedial teaching, especially about the time the child is learning to read and write, is always indicated, and, if the subject is normally intelligent, usually successful. Unless such measures are taken, the backwardness remains and brings with it discouragement and a feeling of failure, which soon permeate all the child's attitudes.—I am, etc.,

London, W.1. WILLIAM MOODIE.

SIR,—The annotation on specific language disability (January 5, p. 36) brings up a subject of considerable importance. Apart from the question of a possible neurological disorder, there are a number of interesting points about children suffering from this disorder which may throw light upon its nature. The first of these is the concreteness of their imagery.

I have had the opportunity to use non-verbal techniques in the study and treatment of a number of these children, and the improvement that has followed, both in writing and reading, suggests that it is unlikely that a fundamental neurological defect should be present in them, though there is nothing in what I have observed to militate against a possible familial grouping. The question, it seems to me, that arises is whether the condition is an exaggeration of the normal tendency to "concretize" perceptions, or whether the disability arises, as is suggested in your annotation, from some new factor.

Language, whether written or read, is basically a procession of abstract symbols to which we have agreed to attribute certain fluid meanings. I say fluid because it is the fluidity of significances of the same forms, in the English language particularly, which constitutes part at least of the difficulty of these children. To some children shapes drawn on paper or printed in a book have an exclusively concrete significance (as was beautifully illustrated in *The Wallypug of Why*, by G. E. Farrow, where the heroine goes for an excursion to the sea with the alphabet). No concrete objects have the same significance in all positions—an upright with a loop at the end is p in one, but becomes b in another, or even d if turned over. This is clear to us, but completely confusing to this type of child.

A second source of difficulty is the inability some children have of recognizing on their own initiative that the same sound, or

even the same shape of letters in a word, can have two (or more) entirely separated and different meanings. Most children grasp this spontaneously, but some do not, and the various meanings they hear attached to the sound or shape run together into a blurred confusion which makes it impossible for them either to recognize when printed, or to reproduce in writing, that word or phrase.

Considering how serious an effect this disability, if it persists, can have upon a child's practical future, it might be well worth while to set afoot some research on this point. Research in this case should be directed not so much to investigation of the efficacy of remedial teaching as towards study of the imagery of these children. If a child's imagery is very vivid and concrete, and his interest in the benefits of understanding abstractions is not aroused, my experience goes to show that a certain number of these children do not emerge spontaneously from this stage to develop a capacity for abstract thought; instead they become increasingly hopeless about their failure to grasp what is so obvious to their neighbours, and the help given them in remedial teaching, by its further emphasis upon abstract thinking, only increases their confusion.

Opportunity to express their ideas in concrete material can both give the observer information about the processes going on in the children's heads and give the children a possibility of sorting out their ideas without the, to them, puzzling intervention of abstract symbols. In my experience, when the confusion and hopelessness are lessened, appreciation of the meaning and use of symbols begins to dawn upon the children, and, if at this point good remedial teaching is given, in many cases normal reading and writing can follow.—I am, etc.,

London, W.11. MARGARET LOWENFELD.

Meyer and Bleuler

SIR,—While fully supporting your reviewer's opinion (January 5, p. 32) that the translation of the late Eugen Bleuler's book *Dementia Praecox or the Group of Schizophrenias* is of great importance, I think he is mistaken in inferring that the late Adolf Meyer's conception of "reaction types" was in any way antithetical to the "pluri-dimensional" approach which developed in Europe on the basis of Bleuler's work.

From the early years of this century Meyer put Bleuler's views before American psychiatrists. In 1906 and 1908 Meyer put forward descriptions of a number of mental "reaction types" rather than "diagnoses," and at the same time wrote that every such abnormality had "its infrapsychic components (somatic disorders or disorders of special organs, including nutritional and histological disturbance of the nervous system) and components which are fully sized up only with psychological conceptions, either overt or substitutive." Meyer attracted Bleuler to read a paper to the opening of the Henry Phipps Psychiatric Clinic in 1913. There teaching from its opening was directed to the question, How much and what is structural, functional, somatic, metabolic, neurogenic, constitutional, psychogenic, social, etc., in any reaction? In tracing the evolution of the dementia praecox concept at the 1925 meeting of the Association of Research in Nervous and Mental Disease, Meyer stated that in his belief "the line of progress would lie in following the pluri-dimensional character of the facts involved." In the textbooks of his pupils the Meyerian attitude to diagnosis is summed up thus (Muncie, 1939): "The diagnostic formulation stresses factual statements of actual overt and implicit performance as action and reaction pointing out the principal and incidental disorders and how they have come about in a genetic-dynamic fashion . . . the formulations of empirical reaction sets of various sorts which are in no way mutually exclusive."—(Kanner, 1935): "Psychiatric diagnosis is a synthetic procedure and differs from non-psychiatric diagnosis by the virtue of the greater complexity and manifoldness of psychiatric symptoms . . . psychiatric diagnosis is a reformulation of the complaint on the basis of the available data . . . taking in the whole situation with its genetic-dynamic aspects, and speaks of the person rather than of his disease." Bleuler and his followers on the Continent were certainly dynamically and pluralistically oriented, but Meyer and all those he stimulated in America and elsewhere were also.

I think it is worth while mentioning these facts, as soon Meyer's collected works will be on the bookstalls for the first time and it is to be hoped that they will be very widely read by young psychiatrists.—I am, etc.,

London, S.W.7. W. CLIFFORD M. SCOTT.

Hypnosis and Asthma

SIR,—I would like to comment on the reply in "Any Questions?" (January 19, p. 173). The questioner asked, "Is there any evidence that hypnotic treatment can benefit sufferers from chronic asthma? What might be its danger, particularly with children?"

As I have been using hypnosis as a form of psychotherapy for bronchial asthma for several years, my own answer to part one of the question is strongly in the affirmative. In answer to the second part the reply given was, "The child may develop a habit of having anaesthesia, disturbance of memory, or tetany which may continue in the waking state." In a long experience dealing with many children I have never seen this happen. Children are good subjects for hypnosis and the results are excellent. In time this will be the method of choice in the treatment of this psychosomatic symptom.—I am, etc.,

London, W.1. A. P. MAGONET.

SIR,—You have been kind enough to publish letters from me in the past (*Supplement*, March 12, 1949, p. 142; *Journal*, August 25, 1951, p. 497) dealing with the controversial subject of hypnosis.

Now that hypnotherapy has been accepted by the B.M.A. as a recognized medical procedure and semi-positive steps in the right direction have taken place to prevent the technique of hypnosis from being displayed on stage, film, and television, it seems absurd that the issue is still raging in the Press, radio, and television. I venture to suggest, and humbly of course, that had the medical authorities taken a more positive stand several months ago, and when stage hypnotism was obviously getting out of hand, the issue would now be clear cut and any legislation contemplated would have been easier to achieve. I would also suggest that even at this late hour, if a really positive attitude is taken by the profession itself, stage hypnosis, which is so obviously dangerous, degrading, and lowering to a recognized therapy used by many physicians, surgeons, and psychiatrists, would cease.

It is, of course, the medical profession which is largely to blame for this state of affairs. I have spoken to lay people who are appalled at the lack of interest displayed by the profession to the abuse of hypnosis by unqualified persons. It is not good enough to dismiss the subject by saying, "It's not important enough." It is important enough, as witness the constant barrage of rubbish written by, and to, the popular press on this subject. The public should be guided by a strong and understanding profession and not led by stage hypnotists and the Press to a knowledge of the subject.—I am, etc.,

London, N.15. GORDON AMBROSE.

Are Neurotic Symptoms Imagined?

SIR,—Your leading article entitled "The Bottle of Medicine" (January 19, p. 149) was interesting and pertinent. But surely to describe symptoms as either "real" or "imagined" betrays a lack of understanding of modern psychiatric thought. No matter how convenient these terms may be, they should have no place in a serious discussion of neurosis. Can symptoms ever be unreal, outside frank malingering? The neurotic will not thank you for telling him that his pain, weakness, paraesthesiae and fears are unreal, and in fact he is liable to contradict you loudly by demonstrating his "imaginary" flatulence, breathlessness, or diarrhoea in unmistakable fashion.

One has often felt that some at least of the patients seen at psychiatric out-patient departments would be better treated by the general practitioner, as attendance at hospital seems to confirm them in illnesses which otherwise might

have been fleeting. It is recognized, however, that the G.P., even if he has the inclination and the knowledge, seldom has the time to treat neurotics. Moreover, as the powers that be are intent on reducing the registrar population, there is little doubt that the vast army of neurotics will shortly have no alternative but to be satisfied with the placebo and the pat on the head that were their portion in the bad old days when all illness that was not frankly organic was obviously imaginary.—I am, etc.,

Crichton Royal, Dumfries. J. K. W. MORRICE.

Preventive Medicine

SIR,—I find myself becoming more and more exasperated by pompous statements, in the medical and lay press alike, exhorting the general practitioner to give more of his attention to preventive medicine and health education. One such nebulous utterance is included in a recent memorandum from the Birmingham Executive Council, while from Leeds comes the observation that "the Health Service shows a lack of balance between preventive and curative medicine."

Would it be an unfair question to ask of these arm-chair advisers what precisely they imply by the practice of preventive medicine by general practitioners?

Meanwhile I suggest that the balance must continue to weigh heavily on the curative side so long as there is a serious shortage of houses and hospital accommodation, food restriction, financial stress, unhappy marriages, and the like. Preventive medicine must inevitably follow in the footsteps of the slowly rising standards of society, depending for its more spectacular successes upon advances in medical research. At the same time I myself believe that the contribution of the general practitioner is much greater than is generally realized, since it is essentially of a subtle and individual nature and cannot be expressed—and heaven forbid that it should—in terms of "social medicine," "social therapy," and "group health."—I am, etc.,

London, S.W.7. W. DYKES BOWER.

Shortage of X-ray Films

SIR,—Since I work in a chest clinic badly hit by the recent *x*-ray film shortage, I have read your leading article of January 12 (p. 94) and the subsequent correspondence with great interest.

I am firmly convinced that, unless present facilities for radiography of suspects and contacts are maintained and extended, long-term economy will not be secured. For instance, in this area the ultimate cost to the community of one or two missed early cases of tuberculosis may well be more than that of a year's normal supply of film.

Recent pronouncements from the Ministry of Health do not encourage me to believe that the supply of *x*-ray film will keep up with the ever-rising demand. If this is so, will it not be best to press for fundamental research into potentially superior radiographic methods rather than to resort, with a bad grace, to essentially second-rate or third-rate techniques, such as screen-photography of the mass radiography type, or even simple fluoroscopy?

I refer, of course, to the possibility of electronic enhancement of the brilliance of the fluorescent-screen image, so that instead of peering at dim outlines in darkened rooms we could examine a brilliant moving image of the living structures. Only an occasional 35-mm. photograph would then be required for record purposes, and our demands for *x*-ray film would disappear overnight. This is, of course, the development at which Dr. A. Orley is hinting (January 26, p. 219). Research work in America has been reviewed by F. I. G. Rawlins (*Brit. J. Radiol.*, 1950, **23**, 460), and since then I have impatiently awaited news of further developments towards what I would call "television screening." With this tool we could study living pathology where at present we are confined to still pictures or occasional glimpses at operation, and could confidently expect great advances in our understanding and treatment of chest diseases. Moreover, frequent nation-wide chest screenings would become an immediate practical possibility. Since three-quarters of to-day's new cases of tuberculosis have been infected from unknown sources, discovery of these sources would soon enable us to break the back of the tuberculosis problem.

There is one awful possibility. While welcoming technical advances, I dislike any severing of the proper doctor-patient link. I shudder to think of the day when the diagnostician sitting at ease in his study will be able to talk to his patient over the "Tannoy" while observing him on ordinary television, switching over when desired to the *x*-ray television screening. Speedy and efficient, perhaps, but I still prefer the personal touch to the voice of this unseen new *deus ex machina*.—I am, etc.,

Leeds. JOHN ASPIN.

SIR,—I suggest that an important factor in the unnecessary use of *x*-ray films lies in the fear of litigation. Practitioners must frequently call for an *x*-ray knowing that it is most unlikely to be of material assistance in the diagnosis; but they realize that should the case go wrong the admission that they failed to have an *x*-ray will weigh the scales heavily against them in the event of an action for damages. To neglect to do so is to go in the teeth of the advice frequently given by the medical defence societies.

It would be in the interests of national economy and a good thing for medicine if practitioners could feel free to exercise their clinical judgment and use *x*-rays at their discretion. I suggest, Sir, that the B.M.A. would be doing a service if it sought from the Ministry of Health an assurance that it would give its utmost support to a practitioner accused of negligence provided that he was able to show that he had exercised reasonable care and used his clinical judgment to decide that an *x*-ray was unnecessary (even though events showed him to be mistaken).

It seems urgently necessary for our courts of law to be made aware of the limitations as well as the uses of *x*-rays.—I am, etc.,

Horley, Surrey. T. W. PRESTON.

T-piece Anaesthetic Technique

SIR,—I would like to make a few comments on Dr. John Bullough's excellent paper (January 5, p. 28) entitled "A T-piece Technique for General Inhalational Anaesthesia." As Dr. Bullough points out, the original T-piece technique was devised primarily for endotracheal anaesthesia in small children, and also for some intracranial operations. It is true that in my original paper an oxygen flow of only two litres a minute was recommended, but this was intended for very small and weakly infants, and subsequent experience caused me to modify the technique so that larger flows were employed. It is now my practice to administer nitrous oxide and oxygen in varying proportions through the T-piece with a total flow of four to six litres a minute. In cleft palate operations a flow of two litres of oxygen and two to four litres of nitrous oxide is usually combined with supplementary ether, and this will maintain a light plane of surgical anaesthesia with quite small amounts of ether over a long period of time. During the latter part of the operation the ether is reduced, or discontinued, so that when the operation is ended the patient should have regained consciousness, and will usually cry or phonate immediately the endotracheal tube is removed. I believe this is the experience of most anaesthetists who use the T-piece method.

In order to achieve the maximum success with the T-piece, two points are essential. First, the patient should be taken to the first or second plane of the third stage before the T-piece is connected, as it is essentially a method for *maintaining* a light plane of anaesthesia over a long period. Secondly, a length of tubing should be attached to the distal portion of the T-piece so that a small reservoir is formed in which the gases can collect. The length varies from eight inches for a 3-months-old baby, up to 18 inches or more in the case of an adult undergoing an intracranial operation. If this tubing is omitted obviously more ether will be required to counteract the large volume of air admitted

through the open end of the T-piece. Carbon dioxide accumulation does not appear to occur in clinical practice, probably because the gaseous mixture in the tubing is continually washed out by the relatively high flow of four to six litres a minute.

These comments are intended to clear up any misunderstanding which may have arisen concerning the original T-piece technique, and are in no way meant to detract from Dr. Bullough's very interesting paper, which may well prove to be a most valuable addition to our standard methods of anaesthetic administration.

In conclusion, I am surprised to read that Dr. Bullough considers the fitting together of the T-piece and a small length of rubber tubing to be cumbersome or tedious. In my younger days I am afraid that, when visiting other clinics, I have sometimes been guilty of slipping the apparatus in my pocket, in case (like the lady who took her harp to the party) I should be asked to demonstrate its use.—I am, etc.,

Newcastle-upon-Tyne. PHILIP AYRE.

A Forgotten Tourniquet

SIR,—The fatal accident reported by your Medico-Legal Correspondent (January 26, p. 225) recalls to my mind a rule that should be universally adopted. For many years it was my privilege to administer anaesthetics for most of the orthopaedic operations performed both in hospital and in private by my late friend Mr. R. C. Elmslie and, through that connexion, several other orthopaedic surgeons. In so doing I was early assigned and willingly accepted the duty of applying the tourniquet when, as frequently, such a proceeding was required. From the first I adopted the very stringent rule that as I was the individual who applied the tourniquet I was the one person responsible for ensuring that it was not only loosened but entirely removed to a distance from the patient. I endured without complaint, and indeed with some satisfaction, the chaffing to which I was sometimes subjected for my fussiness in the matter. It is with the rubber bandage type of tourniquet that its complete removal from the operating-table is particularly necessary, as otherwise the loosening of the lower turns of the bandage only, though apparently adequate, may still leave sufficient obstruction to the free circulation by the upper turns to have serious consequences. It should be an accepted rule that it is the duty of whoever puts on such a dangerous appliance himself to remove it, or at least visually satisfy himself that it has been not only loosened but banished to a distance from the patient.—I am, etc.,

Esher. C. F. HADFIELD.

SIR,—As long as the Esmarch rubber bandage is "hidden by the theatre gown . . . and by towels" (your Medico-Legal Correspondent, January 26, p. 225), for just so long will the risk of these nightmare tragedies of the forgotten tourniquet continue. The orthopaedic team must become as tourniquet-conscious as the abdominal team are swab-conscious. To this end, the routine adopted in the hospitals at which I work may be of interest. It is this:

1. For lower limb operations, a long Esmarch bandage is always used. Its free end is brought forward in a loose bight, and made fast with a clove hitch to one of the levers at the base of the table. It is felt that an attempt to drag the theatre table after the trolley of a departing patient would be a reminder.
2. The time of putting on the tourniquet is chalked up on the theatre blackboard or slate.
3. Before the patient leaves the table, the surgeon, his assistant, the theatre sister, and the anaesthetist must ask (or hear the answer to) the question, "Tourniquet off?"

—I am, etc.,

London, S.W.16. JOHN IVES.

Xylocaine

SIR,—Your annotation in praise of "xylocaine" (January 26, p. 211) seeks to elevate this agent to the place of honour in epidural analgesia, and recommends a 1% or 2% solution for this purpose, alleging that the effects obtained with xylocaine are more certain than with other agents.

In a series of more than 400 cases in which epidural block was included in the anaesthetic technique for surgery below the diaphragm it has not been my experience that xylocaine was any more *certain* than other analgesic agents in suitable concentrations. Failures can occur with any drug used, but they are usually referable to faulty technique or equipment, and not to the drugs. Few would quarrel with the claim that xylocaine is swift in action; it is this speed of action which is often confused with greater certainty of effect. Other agents require up to 20 minutes to achieve a full epidural block. In the interval a surgical stimulus will elicit a response from the patient and unfavourable comments from the surgeon—an unhappy state of affairs that could have been avoided by inducing the block a little earlier. And so the anaesthetist who is behind schedule in an operating list will choose xylocaine rather than nupercaine or amethocaine, knowing that the former will more certainly produce a quicker block. But this does not mean that the final effect is more certain.

Furthermore, claims of ultra-long action (five hours or more) have not been substantiated, in my hands at any rate, when xylocaine is used in the epidural space. With concentrations of adrenaline between 1:250,000 and 1:150,000 the duration of action of a 1.2% xylocaine solution has been between two and a half and three and a half hours. An equipotent solution of nupercaine (1:600) has the advantage of a longer duration of action over a period of three and a half to four and a half hours.

Lastly, it is one of the virtues of the epidural technique that by it a differential spinal block is easily obtained, in which the more lightly insulated neural elements are blocked while the larger and more heavily myelinated motor nerves escape. Thus, while reflex flaccidity is achieved by interruption of the afferent pathways, the final common motor pathway is intact and intercostal respiration unimpaired by sensory and sympathetic blocks of the entire thoracic region. Xylocaine in strengths of 1% to 1.2% will provide such a differential block. The 2% solution that you mention in your annotation will cause a full paralysis of all afferent and efferent pathways in the segmental distribution of the block, and in doing so vitiates one of the great advantages of the epidural technique.—I am, etc.,

Emsworth. P. R. BROMAGE.

Trichlorethylene Analgesia in Labour

SIR,—The opinion expressed by Mr. O'Donel Browne and others (December 29, 1951, p. 1556) and shared by your correspondent, Dr. O. Ll. Lander (January 12, p. 108), on the portability of Minnitt's gas-air apparatus was undoubtedly based on the original model, weighing 27 lb. (12 kg.). I feel attention should be drawn to the fact that the current model weighs only 12½ lb. (5.6 kg.), complete with cylinder, and is approved by the Central Midwives Board.—I am, etc.,

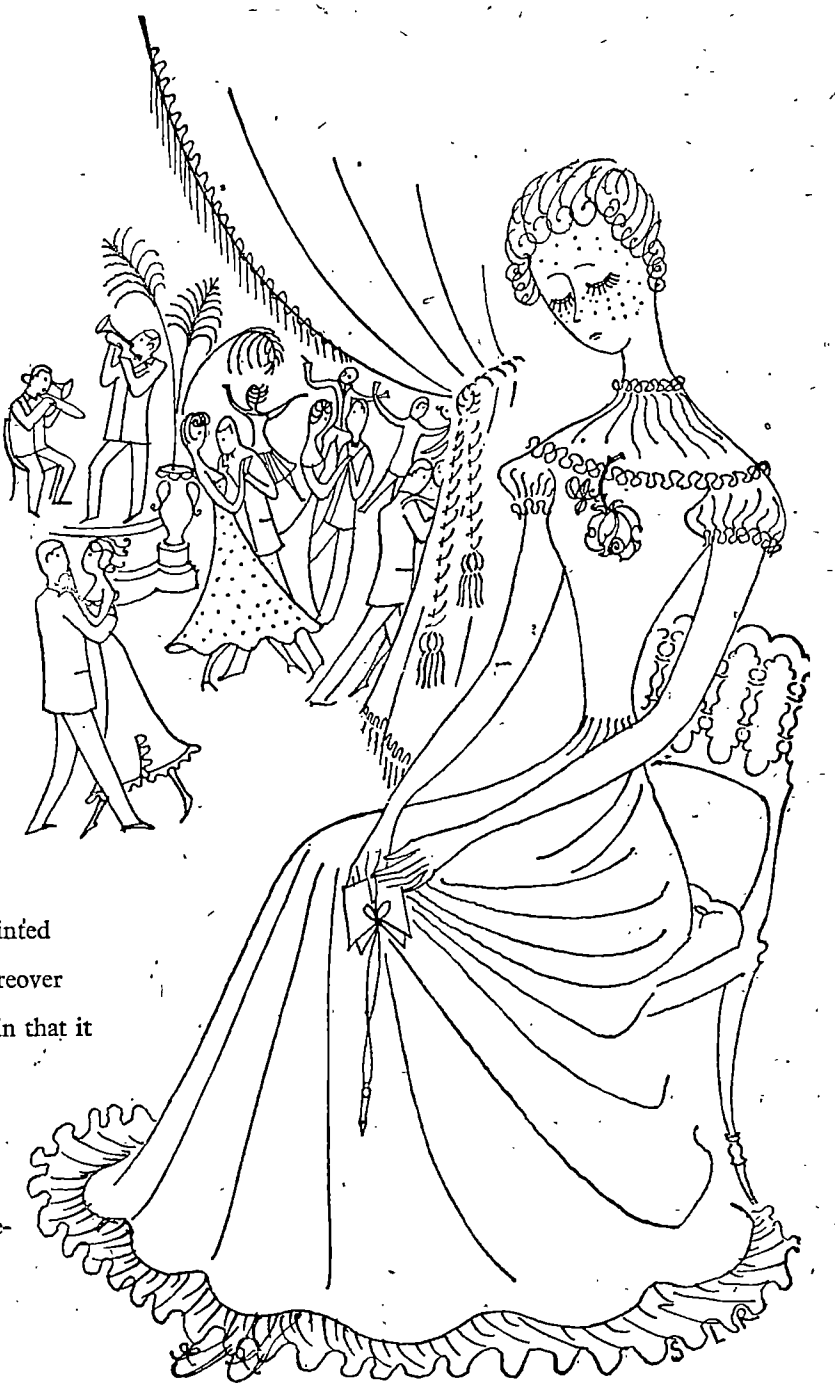
London, W.1. A. CHARLES KING.

Male Infertility

SIR,—My intention when writing to you on the subject of male infertility (January 12, p. 106) was merely to point out to your readers, and especially to those who may be in charge of fertility clinics, that Roman Catholics, a considerable proportion of the population, experience serious difficulty when asked to supply a specimen of semen by the usual methods recommended. I am quite aware that the post-coital test is permissible on ethical grounds, but in my experience, in this country at least, this test is rarely mentioned to those seeking advice at fertility clinics. Furthermore, it is not quite as simple to perform as your correspondents would suggest. If it proves impossible to collect a specimen of semen by this method, then the only other method applicable to those who hold these principles is that of testicular biopsy.

It was not my intention to prove to your readers that masturbation is in fact a perversion, but to point out that

to help your acne patient get back "in the swing"



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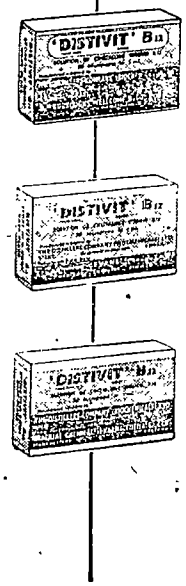

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Roman Catholics believe it to be so. I have no desire to use your columns for an ethical debate, but I would beg your indulgence to answer some of the points made by Dr. G. I. M. Swyer (January 26, p. 218).

It is not the principles and practice of Roman Catholic theology that are involved in discussing the problem of masturbation, but rather the conclusions which result, in the light of pure ethics, from a consideration of the natural law—i.e., the sum-total of all that our reason prescribes as necessary for the proper moral ordering of our lives. It would take up too much space to describe in detail the reasoning involved in determining the moral norm of the use of the sexual faculty, but any who are interested can consult textbooks of ethics written by abler pens than mine. Briefly, then, I would reiterate firmly that masturbation is a perversion of the sexual faculty, and its use is gravely sinful and not permissible under any circumstances. The questions of whether masturbation is used for the purpose of investigating fertility or whether or not pleasure is obtained by its use are quite beside the point. If the action is wrong the presence or absence of pleasure does not affect the issue.

I can assure Dr. Sawyer that no Catholic priest can sanction masturbation—no more than any bishop, archbishop, or even the Pope can alter the rulings laid down by considerations of the natural law.

I feel that I need hardly discuss Dr. Swyer's argument whereby he seeks to throw doubt upon the perversity of masturbation by pointing out, on eminent authority, that it is frequently indulged in by human males and monkeys. Come, Dr. Swyer, are the Ten Commandments or the laws of the land invalid because they are broken every day? Finally, Sir, I would apologize for the very brief and incomplete exposition of the ethical principles involved, but would repeat that those interested will find abundant literature on the subject.—I am, etc.,

Manchester. F. N. VALDEZ.

Interesting Tumour of the Palate

SIR,—Simple tumours such as adenoma, fibroma, papilloma, and dermoid cyst are rare and only occasionally seen.

The patient was a woman aged 41 years with a four-years history of a small lump appearing in the hard palate region on the left side and gradually increasing in size. It was 1 in. by ½ in. (2.5 by 1.25 cm.), ovoid, edge well defined, and consistence hard. It was attached to the mucous membrane by a short stalk. There were no other lumps present and no enlarged glands.

As it appeared benign and causing an ill-fitting denture it was decided we should remove it and send a section for pathological report. The patient was lightly anaesthetized and removal attempted with a scalpel, but the stalk proved too hard. However, a diathermy needle was used and the lump removed. Haemostasis was secured and the stump touched up with carbolized resin. The patient has had no further trouble.

Pathological Report.—Appearance, an oval hard mass 2 cm. in greatest width; incision shows a dense fibrous stroma. Sections show a purple submucosal fibroma with zones of calcification and occasional collections of chronic inflammatory cells. The appearances suggest a response to chronic irritation.

Since such simple tumours are rare we presume that this one was the result of chronic irritation over years, and it was large enough to cause trouble, hence removal was needed and was a complete success.—We are, etc.,

A. T. H. GLANVILL.
Honiton. B. MARTYR.

Treatment of Tuberculous Meningitis

SIR,—After reading the article by Dr. S. Russell Jamieson (January 12, p. 83) on his cases of tuberculous meningitis I would like to make the following observations, as I cannot agree with his dosage of streptomycin, criteria for continued bed-rest, or the relation of B_{12} and increase in weight in these cases.

The daily injections of streptomycin both intramuscularly and intrathecally for six months continuously may give the impression that this is a generally accepted scheme of dosage and in my opinion may lead to unnecessary over-treatment It is well known that even to-day there is no general agreement on the optimum dosage for these patients, owing to the difficulty in finding an adequate dose to cure the patient without producing toxic effects which may be avoidable: the tragedy of curing a patient yet leaving him stone deaf is only too common. Combined with this is our lack of knowledge about the development of drug resistance, although experience has shown that treatment is usually still effective long after resistance may have been expected to have developed.

I wish to emphasize that whatever principle of treatment is adopted the intensity and length of treatment are mainly determined by the response of the patient and not by an arbitrary dose decided on beforehand. Most authorities agree that an intensive course of daily injections is required until the patient shows a satisfactory response. This may occur at any time, often between the eighth and tenth week. After this has occurred a rest from daily intrathecal injections is both desirable, from the point of view of the patient, and quite safe, as the patient is under the closest observation should a relapse occur. It is again the patient's progress which determines the length of subsequent treatment, and, although most schemes employ daily or alternate daily injections with varying rest periods, it is of interest that recent views in this country and America suggest that twice-weekly injections may be just as effective as daily ones. Twice-weekly injections have indeed been used with satisfactory results on patients who have responded to the conventional daily dosage. It may well be the answer in avoiding the neurotoxic effects of streptomycin in the future.

It is well recognized that the protein content of the cerebrospinal fluid may remain raised for very many months, and, provided progress is otherwise satisfactory, it does not seem justified to keep the patient completely in bed until the C.S.F. is normal in this respect, though obviously the closest observation is required until this occurs.

I do not feel that Dr. Jamieson has made a convincing case for the association of vitamin B_{12} with gain in weight in these patients, as a steady increase in weight occurs anyway when the patient is responding to treatment, and in the later stages is probably the most important guide to satisfactory progress.—I am, etc.,

Northampton. C. J. ZERNY.

Technique of Shock Therapy

SIR,—Dr. D. T. Maclay mentioned Dr. A. Stephen and myself in his letter about the technique of shock therapy (December 15, 1951, p. 1464); Dr. J. L. Esplen (January 12, p. 109) suggests that this technique may be improved by the use of thiopentone. In view of these letters, and the association of my name with the first, I should like to set out some facts and express a few opinions about electroplexy modified by curare and other drugs ("flaxedil," decamethonium iodide, and "celocurin"). I hope shortly to write of this subject in a paper, the material for which has been collected for the past six years; in the meantime I should be sorry to see the defence of a valuable method neglected for want of a letter.

My colleagues and I have given doses of curare of between 5 and 15 mg. to the conscious premedicated patient on over 6,000 occasions. The premedication in use for the past two years has been hyoscine 1/200 gr. (0.3 mg.) and atropine 1/200 gr., given together. The incidence of breathlessness sufficient to cause complaint has been very low; it occurs sufficiently rarely to cause comment among the staff when it does happen. Other complaints of fears of various kinds are certainly not uncommon, but these are associated with any method of treatment, and do not bear any relation to the giving of a particular drug or injection. The patients who are most afraid are those suffering from obsessional and phobic disorders; a knowledge of the psychopathology of these diseases would seem readily to explain the frequency with which fear is a symptom in such cases. Some patients suffering from schizophrenia are also more apt to be frightened than the average patient. Melancholia is perhaps more commonly treated by electroplexy than are other diseases; in the straightforward case of melancholia it is our experience that complaint of breathlessness does not arise. However, endogenous depressive illness, occurring earlier in life, may show different characteristics. In the case of a Pole who, owing to his marked muscular development, received 15 mg. of curare, there was a severe reaction. He became panic-stricken—partly no doubt on account of the language difficulty—and a struggle ensued, in which he became cyanosed. This case was, however, exceptional in many ways, not the least in the size of the dose of curare.

It is not possible in the space of a letter to go into the reasons which prompt a psychiatrist to use curare, but it is pertinent to remark that in its use by us no deaths have occurred (though some patients were gravely ill physically and mentally) and only two known fractures were sustained (both crush fractures)—the circumstances under which they occurred being again quite exceptional. If the aim of treatment is to safeguard the skeletal system and yet give adequate treatment by electroplexy, then curare with premedication has seemed to myself and my colleagues to be adequate for more than three-quarters of our cases. Several hundred cases during this time have received thiopentone or other form of anaesthesia, but it seems inescapable that there is then an added risk, and there is certainly a greater expenditure of time by both nurses and doctors. In my view there is no doubt at all that thiopentone increases the danger of laryngeal spasm, particularly if it is not given in sufficiently large doses. It seems that the nervous patient is the one particularly likely to show vagal over-activity, especially after the onset of unconsciousness, when large-scale sympathetic over-stimulation due to fear probably comes to an abrupt end.

I would add that a distressed patient can very often be reassured effectively by being given between three and nine grains of sodium amytal by mouth at about the same time as the premedication is given by injection. So far as I know, this barbiturate given by mouth has no influence in producing untoward symptoms and may probably prevent them by inducing greater relaxation and calmness.

May I make a plea that electroplexy should not be called shock therapy? This is a most misleading term.—I am, etc.,

London, W.1. E. BERESFORD DAVIES.

SIR,—The letters of Dr. D. T. Maclay (December 15, 1951, p. 1464) and of Dr. J. R. Esplen (January 12, p. 109) lead me to anticipate what was to have been the subject of a later communication.

It appears desirable, on behalf of the patients about to be treated by electrotherapeutic techniques, to bring to wider notice the existence of new short-acting muscle relaxants which in my view so alter the principles of treatment that "straight" E.C.T. may be considered to be outmoded. I refer to the drugs described by Ottolenghi, Thesleff, Von Dardel, and Scurr which produce satisfactory relaxation for a minute or two and are therefore specially suitable for the purpose. By the kind action of the manufacturers experimental quantities of succimethonium iodide have been made available and have been found so valuable that uncomplicated cases can be treated as out-patients in about the time taken by straight E.C.T., with all the efficiency and muscle control of previous long-acting relaxants. It has been found possible to do away with the pre- and post-treatment atropine and oxygenation, and, since very much less than the usual dose of intravenous barbiturate (miscible with the relaxant, provided the mixture is used immediately) is necessary to cover the prodromal symptoms, the patient is awake within two or three minutes and movable within a few more. The net result is complete elimination of all the possible skeletal troubles, anxiety, restlessness, noise, and furor. Naturally it is early days yet to produce a statistically accurate, analysed statement, but, in the interest of patients everywhere, I will of course be happy to send details of the technique so far elaborated to anybody interested.

Incidentally, Dr. Maclay's letter gives a false impression of the frequency of bone fractures and other strains occurring in straight E.C.T.; with proper technique and reliable apparatus, accidents of this kind are almost unknown to-day.

I would add that I have been assisted very greatly in widening the field for these trials by the kind co-operation of Dr. E. B. Strauss, my chief, and Drs. D. O. Macaulay and J. Gould, my colleagues, in the Department of Psychological Medicine, St. Bartholomew's Hospital, Dr. J. F. Perredes, of the Lowestoft and North Suffolk Hospital, Dr. A. H. L. Baker, and others.

—I am, etc.,

London, W.1. LOUIS ROSE.

REFERENCES

Report of Congress of Anaesthetists (1951). *British Medical Journal*, 2, 668.
Scurr, C. F. (1951). Ibid., 2, 831.
Thesleff, S. (1951). *Nord. Med.*, 46, 1045.
von Dardel, O., and Thesleff, S. (1951). Ibid., 46, 1308.

Gastro-duodenal Perforations

SIR,—The recent observations (see January 19, p. 164) on the subject of gastro-duodenal perforations are timely and of great interest. The following case gives some of the points that confront a surgeon in treatment.

A man aged 73 started suffering from peptic ulcer dyspepsia, with pains in epigastric area after meals (½–1 hour), relieved by powders; had constipation and reported attacks of vomiting food in January, 1950, when he was diagnosed as gastric ulcer and treated by medical means. His pains were controlled, but vomiting tended to increase in severity and frequency. No loss of weight and appetite good. In January, 1951, he perforated his ulcer, and was admitted into hospital, where the surgeon sutured a "perforated gastric ulcer." Further progress was satisfactory and he was discharged in February.

From February to December, 1951, the patient was free from all symptoms, gained weight, had a good appetite, and was well on his way to what he termed "complete recovery." During Christmas, however, his symptoms reappeared suddenly, with severe pains, vomiting, and loss of appetite. Investigations revealed a neoplasm of stomach. On January 8, 1952, laparotomy revealed an inoperable carcinoma of stomach covering the site of previous suture.

Thus, (i) The incidence of ulcer-perforation rises in the older age groups, and it is in these groups that carcinoma usually occurs. (ii) Perforation of gastric carcinoma is not very uncommon, the polypoidal and ulcerative type being particularly known for this complication. (iii) At the time of closure oedema and inflammatory exudate sometimes make it impossible to say if the ulcer is benign or malignant, and its exact site (viz., duodenum or pylorus) cannot be determined. (iv) About 5% of benign peptic ulcers which perforate and are sutured undergo a malignant change: this transformation is seen in the elderly group and is fairly rapid. (v) Biopsy in a doubtful case of perforation is not a routine procedure: even if it were carried out, the result may not be very conclusive in all cases. (vi) It would be interesting to work out the percentage of gastric carcinomata that first declare themselves as a perforation. (vii) Do any of these problems make the claim for partial gastrectomy at the time of first operation (provided the patient is in a fairly good condition), or, as in gastro-duodenal haemorrhage, at a later date, any stronger? (viii) It can be deduced that all patients past middle age who have a perforation sutured should be kept under constant observation, failing which a subtotal gastrectomy should be carried out a month after the suture. (ix) The conservative regime, in this elderly group, carries an obvious risk. (x) Is the mortality rate of partial gastrectomy in cases of gastro-duodenal haemorrhage (under "selective surgical 'intervention'") any lower than that of a similar procedure in suitable cases of perforation?

—I am, etc.,

Orsett Hospital, Essex. M. ISMET-ANWAR.

Nomenclature of Diseases and Operations

SIR,—A leading article in the *Journal of the American Medical Association* for December 8, 1951, deals with a new edition of *Standard Nomenclature of Diseases and Operations* and its relation to the *International Statistical Classification of Diseases, Injuries, and Causes of Death*. It points out that the two are by no means interchangeable: "The Standard system, as a clinical system, is necessary for the proper separation of individual differences in diseases for reading and research purposes," whereas "the International system applies mainly to much broader disease groupings for statistical purposes."

This difference has been emphasized since the International classification was adopted in my own H.M.C. area under the N.H.S. and has replaced the M.R. Classification I formerly used.

As the *J. Amer. med. Ass.* suggests, I find the new classification unsatisfactory for a number of purposes in which I am interested. It suggests that the World Medical Association might appropriately consider a combined clinical and statistical system, and perhaps you could bring your influence to bear on this if, as I think will prove the case, widespread adoption of the International classification is unsatisfactory for clinical purposes.—I am, etc.,

Hove. W. A. BOURNE.

Obituary

W. S. HAUGHTON, M.D., M.Ch.

Professor W. S. Haughton, who died at his home in Dublin on October 12, 1951, will be missed not only within the medical profession, but also by a large collection of friends in sporting and musical circles.

William Steele Haughton was born in Dublin on September 26, 1869, the youngest son of Samuel Haughton, M.D., D.C.L.(Oxon), a Senior Fellow of Trinity College, Dublin, and a distinguished mathematician, geologist, and theologian. He was nurtured in the bosom of science and medicine, and was closely associated with Dublin University all his life. His formal education was undertaken at the Abbey School, Tipperary, and Portora Royal School. His early years at Trinity College, Dublin, were devoted to the study of experimental science, for which he gained a gold medal on graduation. When he graduated in medicine in 1894, he remained for five years as chief demonstrator in anatomy with Professor D. J. Cunningham. Within a matter of weeks of Röntgen reporting his discovery of *x* rays (1895) Haughton was operating a most primitive and fearsome tube and producing films which compare well with those taken to-day. No doubt his skill as an amateur photographer was of great assistance here. He was thus the pioneer of *x* rays in Ireland, and was honoured as president of the Radiological Society of Ireland from its foundation.

Haughton shared his father's interest in "animal mechanics," and this, enhanced by his personal background of experimental science, anatomy, and radiology, made bone and joint surgery his natural goal. His publications in the *Transactions of the Academy of Medicine in Ireland* indicate his early interests: they include "Mechanical Structure of Bone demonstrated by Röntgen Stereoscopy" (1901) and "The Healing of Wounds: Aseptic versus Antiseptic Methods" (1904). At the turn of the century he visited Kocher in Berne to study his aseptic technique, and at home he came under the influence of Swan, the pioneer who founded the orthopaedic hospital for children in Merrion Street. He was appointed an honorary surgeon to Sir Patrick Dun's Hospital in 1895, but resigned to undertake similar work at Dr. Steevens's Hospital in 1899. During the 1914–18 war he held the rank of major in the R.A.M.C., and worked in close co-operation with Sir Robert Jones, chiefly at the military hospital in Blackrock. During the second world war he continued at the orthopaedic hospital for children—working without his usual assistants, who were away on war service—and he carried through the task of removing the hospital from Merrion Street to more suitable premises in Clontarf.

At work Haughton was a painstaking surgeon, giving endless attention to detail, a rigid disciplinarian in theatre and wards, and yet held in affectionate esteem by patients and staff alike. From his earliest days he kept himself fit for surgery by regular devotion to outdoor pursuits. At college he was a keen oar and a skilled yachtsman. He was steeped in the lore of nature. Wildfowling and fishing of all kinds were his constant recreations. Sportsmanship was for him a struggle against a harsh opponent—Nature—in the form either of a rough sea or a sagacious wild animal, and the fun was to overcome Nature by planning ahead to cope with every possible emergency. He was a born teacher, and gifted with a clear and emphatic exposition. He revelled in instructing both young and old, be it in the handling of a Thomas's wrench, a fishing-line, or a tiller, and the same thoroughness was given to each subject. The only pity is that he was not given to recording the results of his half-century of clinical experience in the form of scientific articles. This is an omission which perhaps his pupils may make good. Haughton was a Fellow of the British Orthopaedic Association and an honorary member of the International Society of Orthopaedic Surgeons. His work was recognized by his own university in 1923, when he was made honorary professor of orthopaedic surgery, and in 1936 he was granted the degree of M.Ch.

An ardent musician, he was possessed of a rich and powerful tenor voice. Frequently he was called upon to organize the musical programmes at college and professional functions, as, for example, during the Trinity Tercentenary Celebrations. As a lifelong friend of Dr. Marchant, the organist at St. Patrick's Cathedral, he was in close touch with all the musical activities there, and in leisure moments he was often in demand himself for a solo at medical dinners.

In 1909 he married Jane Eliza, daughter of the Very Reverend John Halahan, Dean of Ross, and a great granddaughter of Dr. John Halahan, a founder of the Royal College of Surgeons in Ireland. He is survived by his widow, a daughter, and a son.

SIR RALPH BIGNELL AINSWORTH, C.B., D.S.O., O.B.E., M.R.C.S.

(Major-General, A.M.S., ret.)

Major-General Ralph Ainsworth, formerly commandant and director of studies at the Royal Army Medical College, died in London on January 27, aged 76.

Ralph Bignell Ainsworth was the second son of the late Captain W. Ainsworth, of Lancashire. He was educated at St. Paul's School and St. George's Hospital, qualifying in 1899. In the following year he was commissioned in the Royal Navy as a surgeon, but he transferred to the R.A.M.C. in 1902. He was always keenly interested in hygiene and took the D.P.H. in 1907. While in India he served as special sanitary officer to the 6th Division (Poona). He was promoted captain in 1906, major in 1914, brevet lieutenant-colonel in 1919, lieutenant-colonel in 1924, colonel in 1930, and major-general in 1932. Throughout the first world war he served in France, and in 1919 he was in Russia for a few months. Three times mentioned in dispatches, he was awarded the D.S.O. in 1916, and, by the French Government, the *Médaille des Epidémies*. In 1923 he was appointed O.B.E. After a period of service in Egypt he returned to London as professor of hygiene at the Royal Army Medical College in 1928, and two years later he was made commandant and director of studies there, a post which he retained until his retirement in 1935, when he was appointed C.B. He then became director of medical services of the Joint War Organization of the British Red Cross Society and Order of St. John. His work during the second world war in this position was of the highest importance, and he was knighted for his services in 1946.

Ainsworth was a delightful personality, with great charm of manner and invariable cheerfulness. He

brought to all he undertook a very high sense of duty, and he was devoted to his Corps, which he served so long and faithfully. In 1903 he married Florence Gipsy, only daughter of Imre Kiralfy, of New York. The sympathy of his many friends and admirers will go out to Lady Ainsworth and his two daughters in their great loss.

Dr. A. MACBETH, of Owston Ferry, near Doncaster, died in Glasgow on December 10, 1951. Archibald Macbeth was born in Carradale, Kintyre, Argyllshire, on October 9, 1899. He was educated at New Cumnock School, Ayrshire, and was dux of his school; after winning a scholarship he passed on to Whitehall School, Glasgow, and remained there until 1917. He then joined up as a combatant at the age of 17. He was badly gassed in France when only 17½ years old, and was demobilized in 1919, when he became a medical student at Glasgow University, where he won several medals and prizes in both clinical medicine and clinical surgery. After graduating M.B., Ch.B. in 1924 he held one or two resident posts at the Royal Infirmary, Glasgow, and then became assistant to Dr. James Craig in Glasgow. He married Dr. Craig's daughter, Eileen Gillespie, she also being a medical graduate. Some time later Dr. Macbeth bought his own practice at King's Park, Glasgow, and remained there until 1933. After selling this practice he bought his last practice at Owston Ferry, and remained there up to the time of his illness. This latter practice was a large rural one and required much hard work. His services were always given unstintingly and he was extremely popular with his patients. He was indeed a very sound general practitioner and one who always put his patients first. He was of a quiet, retiring disposition, but he was always a regular attender at meetings and lectures of the local Branch of the B.M.A. "Mac" had a very happy family life. He is survived by his widow, two daughters, and a son, to whom the deepest sympathy is extended.—W. H. B.

Dr. JOHN ISDALE GREIG, who was for 40 years in general practice in Kirkcaldy, died on January 6, aged 69. Before studying medicine at Glasgow University, where he graduated M.B., Ch.B. in 1905, he had taken the degrees of M.A. and B.Sc. After qualification he held the appointments of house-surgeon and house-physician at the Victoria Infirmary, Glasgow. He came to Kirkcaldy in 1911, where he remained for the rest of his life. As well as practising there he took an important part in local medical affairs, being honorary secretary of Kirkcaldy panel committee for 36 years, president of the Fife Branch of the B.M.A. from 1928 to 1929, and chairman of the hospital management committee of the East Fife group for a short time. He was also medical superintendent of the Hunter Hospital in Kirkcaldy. His ceaseless and untiring energy in his work won him many friends among the medical profession. During the first world war he served in the R.A.M.C. and was appointed M.B.E. for service in Africa. Dr. Greig was a keen sportsman, and was at one time president both of the Raith and Abbotshall Curling Club and of the Kirkcaldy Rugby Club. He is survived by his widow and three children. His son is a physician in Stornaway, and his younger daughter is also a doctor, and in fact assisted her father latterly in his practice.

In the obituary notice of Dr. GEORGE LESTOCK THORNTON (January 12, p. 110) mention has been made of his many years of distinguished service with the Ministry of Pensions. May one who knew him through those years express in some measure the affection and respect in which he was held by all his colleagues? Thornton was of the old school, distinguished in looks, courtly in bearing, gracious in manner. To him you were always a welcome and honoured guest, a valued friend. Should it be your lot to disagree with him, he listened attentively, considered courteously your arguments, and with benign charm acceded here and dissented there. But rarely, if ever, did anyone convince him he was not right, and, whilst duly submissive to authority, none knew better than he how and when to go his own way. And rightly so, for the guiding purposes of his life had a broad charity and vision surpassing regulations. A most lovable man, distinguished in intellect as in heart, bearing good will towards all men, meeting good fortune with modesty and ill with tranquil courage, he was one whom to meet was memorable and whose friendship was precious.—A. S.

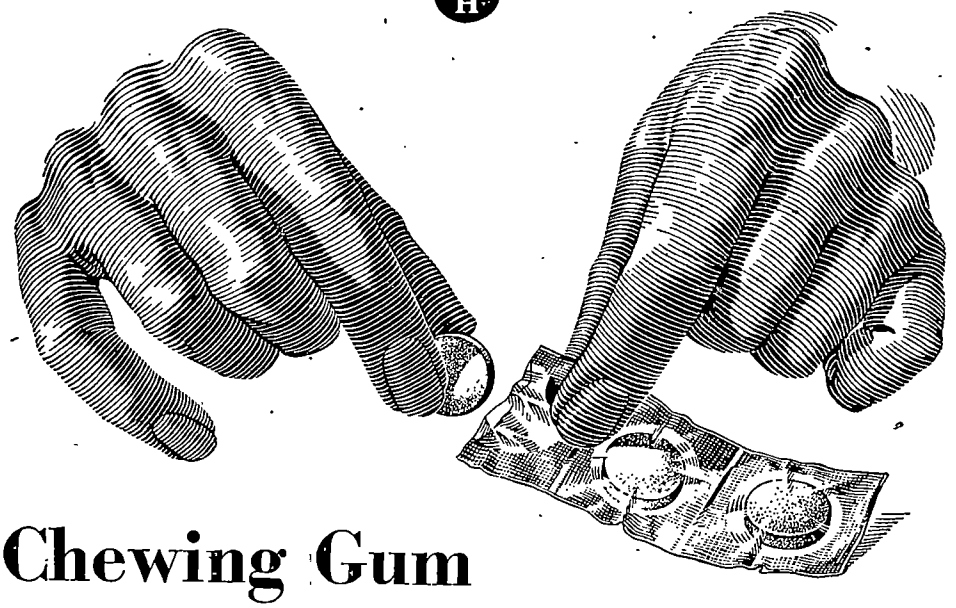
Dr. J. A. S. PURVIS, anaesthetist to the National Temperance Hospital and Samaritan Hospital for Women, died in London on January 19, aged 53. John Allen Spottiswoode Purvis was educated at Rugby School and went into the Army via the Royal Military Academy, Woolwich. During the first world war he served in France in the Royal Artillery and lost his right leg as a result of a wound received in 1918. He then took up the study of medicine, and graduated M.B., B.Ch. at Queen's University in 1925. Deciding to specialize in anaesthetics, he eventually became anaesthetist to the Samaritan Hospital for Women, the National Temperance Hospital, the West End Hospital for Nervous Diseases, and the Western Ophthalmic Hospital. At the time of his death he still held appointments at the first two of these hospitals. Those whose privilege it was to have his help in their work will miss his regular attendance, unless ill-health prevented, the care, skill, and good judgment which he brought to his duties, his consideration for his patients, and the feeling of support and co-operation which he gave to the surgeons. He made up for the loss of his leg by his interest in his garden, at his riverside residence, and in his car, which it was his pleasure to service. It was also his pleasure to entertain his friends on the river. His kindly, steadfast, and generous personality will be sadly missed, perhaps not least by hospital residents, to some of the less reverent of whom he was known as "Uncle John," and so-called to his face by a few. The sympathy of his many friends and colleagues goes out to his widow, Mrs. Barbara Purvis.—R. A. K.

The death occurred at Paignton on January 19 of Dr. JOHN PRINCE STALLARD in his 95th year. He was the son of Josiah and Susannah Stallard, of Worcester, and was educated at Rossall School and Edinburgh University, where he graduated M.B., C.M., in 1881. He proceeded M.D. in 1896. He was in general practice for many years near the centre of Manchester, and in addition held several hospital posts, including those of anaesthetist to the Victoria Dental Hospital, honorary surgeon at the Hulme Dispensary, and honorary physician to children at the Southern Hospital before and after its amalgamation with St. Mary's Hospital, where in his later years he took part in the obstetric practice. He published a number of papers on local and general anaesthesia, including one entitled "Removal of Haemorrhoids Rendered Painless by Injection of Cocaine" in this *Journal* in 1886. He retired in 1914 and went to live in the south-west of England. At the time of his death he had been a member of the British Medical Association for 70 years. He is survived by his second wife and by two sons, both doctors, one of whom has retired from practice.

The Services

Surgeon Captains M. Brown and J. H. B. Crosbie, R.N., have been appointed Honorary Physicians to the King.

Air Commodores F. E. Lipscomb and R. H. Stanbridge, O.B.E., R.A.F., have been appointed Honorary Physicians to the King in succession to Air Commodores C. T O'Neill, O.B.E., and A. Briscoe, C.B.E., R.A.F., respectively, who have vacated the appointments on retirement from the R.A.F.



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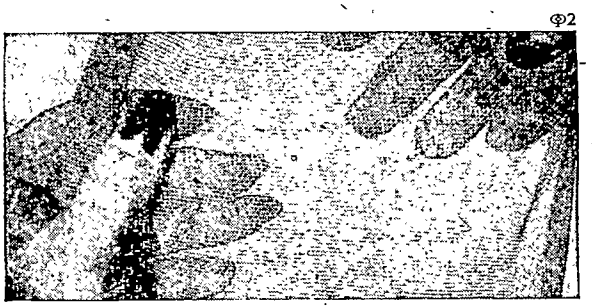

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Medical Notes in Parliament

ECONOMICS AND THE HEALTH SERVICE

THE NEW CHARGES

Mr. R. A. BUTLER, on January 30, moved that the House agree that measures should be urgently taken in all matters where action would benefit the overseas balance and the strength of sterling. He said he had made a full statement on the subject on the previous day and did not propose to speak again.

Mr. H. GAITSKELL examined the statement referred to by Mr. Butler critically. Touching on the cuts proposed in the Health Service, Mr. Gaitskell observed that he did not think there had been serious reactions to the charges previously imposed, which had left its cost at £400m. In making those charges the late Government was not attacking sick people. The Chancellor in his present proposals was discouraging people from going to the dentist to save their teeth. It was difficult to explain how there could be any saving if the dentists were to do the same work on the children. It was true that the Labour Government had proposed a charge of 1s. on each prescription, but that had been dropped largely through the administrative difficulty of levying the charge while old-age pensioners were exempted. That was the reason why the present Government was not exempting old-age pensioners. The charge was now to be levied on people who were sick and might find themselves in a state of great hardship. For such reasons the Labour Party would fight Mr. Butler's proposals.

Mr. P. THORNEYCROFT pointed out that the Labour Party had put a ceiling on the Health Service and that Sir Stafford Cripps had said that Parliament could not go on expanding one service after another but must absorb increases within a fixed total.

Mr. CLEMENT DAVIES asked whether Mr. Butler really thought that, when there was sickness in any house and prescriptions had to be written out, that was the moment for imposing charges, when there was probably less money available and more anxiety. He asked whether the charge was to be made on the first prescription or on every time the same prescription was used. To his mind this was the first retrograde step taken since the first national health service had been introduced in 1911. He suggested that Mr. Butler should look into the administration of the National Health Service in his endeavour to save £20m. Mr. Davies said he would be surprised if cutting out waste and extravagance did not save more than the £20m. envisaged by the Chancellor and produce a more satisfactory service.

Mr. A. BLENKINSOP said the Labour Party, when in office, had recognized the need to hold back hospital development because of the demands upon capital resources as a whole. Last year some of the unfortunate cuts which the Labour Government had to make in the health service had been more than balanced by increases in other parts. The charges in the ophthalmic service gave an opportunity for developing a service based on specialist investigation and advice such as was originally intended in the Health Service Act. He remarked that the proposal for a charge on dental treatments was a serious blow at an essential part of the preservation of the health of the people. Even if it were possible to increase the attention given to children's teeth a good deal of that attention would be wasted unless it was maintained at a later age.

In dealing with appliances the Labour Party had provided that such aids as surgical belts, hearing-aids, and so forth, were to be issued on the basis of a medical check by specialists. That was now apparently to be scrapped and a heavy charge imposed. He asked what was to be done to ensure that the war-disabled would continue to get free help of this character, as they had before the introduction of the health service. It was perfectly clear from the estimates made by Mr. Butler of the yield from these charges that there must be many other charges which, so far, had not been mentioned.

The Doctor's Fee

The prescription charge had been proposed to correct the abuse which was apparent in the provision of drugs and medicines. There was still abuse in that field, but it had become clear to the Labour Party that it would be impossible to apply the charge, without hardships, to a vast number of people. It might deter a small minority who abused the service, but at the expense of a vast number who did not abuse it. The charge would make it more difficult for a doctor to see patients at the time when he desired them for an early diagnosis. What was needed was to make it easier for the doctor to give an honest judgment on needs, and that involved revision of the method of payments to medical practitioners. He was glad that discussions on that subject were being held, and he hoped these would establish a system of payment which would enable medical practitioners to give an honest judgment upon the medical needs of their patients. He noted the absence of any indication of concessions to the chronic sick—diabetics, and so on.

Sir IAN FRASER said he was certain that free medicine and free treatment had always been a fundamental mistake.

The debate was resumed on January 31.

Purpose of Labour's Charges

Mr. C. R. ATTLEE then moved an Amendment to Mr. Butler's Motion, expressing disapproval of a tax on the social services and the other measures, many of which were irrelevant, unnecessary, and unfair. He said that when the Labour Government took action on the health service it desired to spend more on hospitals and less and less on other things, and the question then was not one of raising revenue but of restraining abuse and of getting a balance. The cuts now proposed were entirely different, deterring people from going regularly to the dentist.

Mr. ANEURIN BEVAN asked why the Conservative Party was trying to undermine the National Health Service. They had fought it, and now they were trying to destroy it. The National Health Service was crippled not only by the direct charges but by being unable to raise the ceiling of expenditure while the cost of living was going up. Therefore the country got more and more overheads, with less and less service to the patients. All the apparatus would be kept, but would be used less and less. The House should remember that large numbers of children were treated in the general dental service. It had always been the intention that the general health service should absorb the school dental service; because the general health service was more competent.

Hardship Among Workers

Mr. WILLIAM BLYTON asked whether the miner was to pay for any surgical appliances which he needed as a result of an accident in his employment. The National Insurance (Industrial Injuries) Act made provision whereby the Minister could provide for surgical appliances out of a fund under the Act. Those powers had not been used because of the operation of the National Health Service Act. Was the House to understand, now that the Chancellor intended to cut benefits under the National Health Service Act, that men and women in industry who needed medical appliances would receive them free under the Industrial Injuries Act?

Mr. JAMES GRIFFITHS said he understood that pensioners, men who were on sickness benefit, and men who had compensation would have to pay the prescription charge. So presumably would the man who was suffering from pneumoconiosis who went to the doctor for a prescription to help him over the first two or three hours every morning when he struggled for life. The Government was now discarding its pledges.

Mr. H. F. C. CROOKSHANK closed the debate. He said that by putting on charges in the Health Service Parliament

would in fact get a better-balanced scheme. If it happened to be cheaper it was not necessarily bad on that account. What the Government was doing was to get the priorities right.

Mr. Attlee's Amendment was rejected by 309 to 278, and Mr. Butler's Motion was carried by 306 to 275.

On February 1 Mr. H. F. C. CROOKSHANK introduced the National Health Service Bill, which was formally read a first time. (See *Supplement*, p. 47, for details of the Bill.)

HEALTH AND NUTRITION

NEED FOR BETTER FOOD

Lord DOUGLAS OF BARLOCH in the House of Lords on January 29 called attention to the incidence of illness and disability, and stressed the need for preventive measures, such as building up resistance by better nourishment. He spoke of the investigation made by the Pioneer Health Centre at Peckham before the war, which showed that out of 1,000 families only 10% showed no sign of bodily disorder, although 60 to 70% considered themselves to be well. This indicated that a National Health Service which proceeded on the principle of treating disease in those who sought medical attention would never raise the health of the people to a reasonably high level. His view was that unsuitable and insufficient diet was the main cause of sickness to-day. It was difficult to exaggerate the cumulative effects of chemical manipulation of foodstuffs, their contamination in handling, their poor quality, the abstraction from food of valuable nutritive elements, and the lack of balance in the diet of most of the population.

Lord CHORLEY said that the greatest contribution to positive health in the last few years has been the discovery of vitamins, but doctors were warned that these tablets were too expensive and that something cheaper must be prescribed. In a recent issue of the *British Medical Journal* there was an interesting article on the ordinary bottle of medicine. It was calculated that the nation spent £5½m. a year on bottles of medicine which were of no value. If this sum were spent on vitamin tablets it would make a great deal of difference to the health of the community.

Agenized Bread

Lord CHORLEY referred to the use of agene in bread, and said that many people, including Sir Edward Mellanby, thought this a dangerous addition.

Lord HORDER remarked that people were living longer and children were taller, heavier, and sturdier. The nation could not go on living longer and at the same time be faced with more sickness disability. What happened to the children was a good criterion. There was no evidence at present that the use of chemicals in food was a factor in the increased incidence of cancer, and he was satisfied that they could not trace to the use of agene any nervous complaint now prevalent.

Lord SEMPILL said that Dr. Badenoch, of Edinburgh, and Dr. Coghlan, of Hull, had shown the evils of the agenization of flour. Dr. Coghlan had shown that since agene was introduced into flour in 1921 deaths from heart disease had risen rapidly and were still rising.

Healthier Children

Lord HADEN-GUEST regretted that no mention had been made during the debate of the work done by the school medical departments of the L.C.C. and other education authorities which carried out health examinations. Children now growing up were better developed and better balanced than children often had been in the past. He felt that the dangers which were supposed to be lurking at present had been overstated. There never was a time when the health of the people and particularly of the children had been better than it was to-day.

Lord ONSLOW, speaking for the Government, said the high rate of disability per 100 persons in the survey of sickness included cuts, colds, and industrial accidents. The real rate was much lower. He pointed out that smallpox was hardly heard of now, and that since the immunization scheme introduced in 1942 the incidence of diphtheria had gone down. All parties in all Governments should share in the credit for the improvement which had occurred in the last few years. The high standard of health now enjoyed was largely due to the preventive measures introduced in this country and to the work of the local health authorities.

After Lord DOUGLAS OF BARLOCH had reaffirmed his conviction that the general diet at present was not properly balanced and had deficiencies, the motion was withdrawn and the debate closed.

Tuberculosis in Scotland

Mr. MALCOLM MACPHERSON drew attention in the House of Commons on January 29 to tuberculosis in Scotland. He said that in the post-war years there was a considerable increase in its incidence, but during the last two and a half years there had been a sharp decline in notifications, in deaths, and in the whole incidence of tuberculosis in Scotland. He was not sure whether the reasons behind that were even partly understood. He asked whether the use of B.C.G. should not be extended.

Commander T. D. GALBRAITH said the variations in the death rate from 1938 to the present day had been extraordinary. At present the policy was that there should be no general extension of the arrangements for B.C.G. vaccination. It was a supplementary provision, and not an alternative to existing preventive measures of local health authorities. During 1950 23,735 persons were tested with a view to vaccination, and 4,500 were successfully vaccinated. That continued on an increasing scale, but the value of the vaccine had not yet been satisfactorily scientifically established. Four mobile radiography units had been added to the two static units in Edinburgh and Glasgow, and another two would shortly be in operation—one in the west and one in the north-east of Scotland. An additional 1,173 beds had been provided in the last three years in hospitals and sanatoria, bringing the total number of beds for tuberculous patients to 5,967 on December 31 last. All but 286 of these beds were now fully staffed. Waiting-lists for admission to hospital had been reduced from 2,877 at the end of 1949 to 1,700 at the end of 1951. One hundred and eighty beds had been provided in sanatoria in Switzerland, and the first group of patients flown out was due to return to this country in March. The great majority of these would be fit to be discharged to their homes. In conclusion he affirmed that the Government intended to do everything possible to speed up the improvement which had recently been obtained.

Tribute to Lord Addison

In the House of Lords on January 30 Lord SALISBURY moved that the House adjourn as a mark of respect to the memory of the late Viscount Addison and in appreciation of his long and distinguished public service. He said such an adjournment was a very rare event, and the procedure had last been invoked in memory of his own father. Earl JOWITT, Lord SAMUEL, and Lord WEBB-JOHNSON were among those who spoke in support, and the motion was agreed to unanimously, and the House adjourned.

Fees for Cremation Certificates

Mr. JOSEPH REEVES moved on January 30 that leave be given to introduce a Bill relating to cremation and to purposes connected therewith. He said the Bill did not go beyond the proposals made by the inter-Departmental Committee which had reported in 1950. It proposed that the Home Secretary might, by regulations, prescribe maximum fees for the completion of medical certificates which the regulations required. This would be done after consultation with the appropriate medical authorities. Mr. Reeves

mentioned that whereas in 1902, when the Cremation Act was passed, 451 cremations took place in this country, in 1951 over 100.000 were registered.

The Bill was then read a first time without division.

Efficiency of the Health Service

Sir HERBERT WILLIAMS asked on January 31 what steps the Minister of Health proposed to take to restore the medical service to the people to the standard of efficiency which prevailed prior to July 1, 1948, in view of the heavy increase in mortality in the first three years of the service as compared with the three previous years.

Miss PAT HORNSBY SMITH replied that after allowing for relevant factors in each of the periods specified the difference in mortality was extremely small, and Mr. Crookshank was unable to accept the implication in the question.

Smoking and Cancer

Commander C. FLETCHER-COOKE asked on January 31 whether the attention of the Minister of Health had been drawn to the report of the Medical Research Council relating to the incidence of cancer of the lung among heavy smokers.

Miss PAT HORNSBY SMITH replied that Mr. Crookshank had been advised that there was not yet sufficient evidence of the exact relationship between heavy smoking and cancer of the lung to justify a publicity campaign. Further investigations were in progress.

Cortisone.—Special supplies of cortisone are being given by the Ministry of Health to hospitals for treatment of certain eye diseases, but the treatment of rheumatism is still a matter for investigation in which the M.R.C. is co-operating.

Ministry's Annual Report.—It is hoped that the Ministry of Health's next report will cover the 21 months from April 1, 1950, to December 31, 1951, and will appear before autumn, 1952. Thereafter reports will relate to calendar years and be issued more promptly.

Crematoria.—In England and Wales some 127 local authorities, or groups of local authorities, have applied for permission to build new crematoria since the war. No authorization has been given to any private company.

Medico-Legal

REFUSAL TO INCLUDE OPTICIANS IN LIST

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

Two Glasgow ophthalmic opticians who had practised for 27 and 25 years respectively before the National Health Service (Scotland) Act, 1947, came into force applied for their names to be included in the Health Service list, but had their applications rejected. They therefore brought an action against the Secretary of State for Scotland and the Central Professional Committee for Opticians, on whose advice the Secretary of State acts in accepting or refusing applications, for a declaration that they were entitled to be included in the list.

Lord Sorn dismissed the action on the ground that the Court could not inquire into the way in which the committee prepared themselves to advise the Minister any more than it could into advice coming from his other advisers. The opticians appealed to the First Division of the Court of Sessions.[1] The First Division reversed Lord Sorn's decision.

The Court held that the Secretary of State had no absolute discretion to decide whether an optician who applied for inclusion in the list was qualified or not, but was bound to act on the committee's advice. That meant he must not act against the committee's advice. The Court could therefore investigate whether the committee had acted illegally by directing its attention to the wrong issue or by failing to direct its attention to the right issue, or had acted oppressively by treating the applicants so unfairly and improperly that its finding must be set aside. The Lord President, in referring the action for trial, criticized the drafting of the regulations, which had inaccurately copied an English model. He said that it was enough for the disposal of the appeal to say that it was impossible to hold that there was not a case for inquiry.

This is a most important decision. It has established that, under the National Health Service (Scotland) Act at any rate, opticians who are aggrieved by exclusion from the list are not debarred from challenging their exclusion in the courts.

[1] *The Scotsman*, June 9.

Universities and Colleges

ROYAL COLLEGE OF PHYSICIANS OF LONDON

At a quarterly comitia of the College held on January 31, with the President, Dr. W. Russell Brain, in the chair, Lord Moran was appointed representative to attend the Health Congress of the Royal Sanitary Institute to be held at Margate from April 22 to 25; Dr. Noel Harris representative on the Council of the National Association for Mental Health; and Dr. C. A. Keele a member of the Poisons Board.

The President announced the award of the Conway Evans prizes to Sir Gordon Holmes, F.R.S., and Professor S. P. Bedson, F.R.S.

The following candidates, having satisfied the Censors' Board, were elected Members of the College: H. Barcroft, M.D., R. A. Barker, M.B., S. Benaim, M.B., T. J. Bresnahan, M.D., D. J. Charley, M.D., R. S. Crow, M.B., P. S. Davis, M.B., F. E. Dische, M.B., R. A. Douglas, M.B., M. D. Eilenberg, M.B., M. G. Fitzgerald, M.B., A. Freedman, M.B., W. M. Fyfe, M.B., A. O. M. Gilmour, M.B., G. L. Glasgow, M.B., J. H. H. Glyn, M.B., G. J. Goldberg, M.B., J. H. Gough, M.B., C. H. Gray, M.D., O. P. Gray, M.B., Zaida M. Hall, B.M., J. I. E. Hoffman, M.B., K. Hugh-Jones, M.D., D. H. Isaac, M.D., A. M. Johnson, M.B., T. W. G. Kinnear, M.B., P. J. B. Landy, M.B., H. G. Ll. Lloyd-Thomas, M.B., Margaret R. Miller, M.D., J. Parkyn, M.B., Faith C. Poles, M.B., H. McL. Raffan, M.D., A. P. Roberts, M.B., G. A. Rose, B.M., I. P. Ross, M.B., Lieutenant, R.A.M.C., R. E. Rossall, M.B., J. T. Scott, M.B., G. B. Sinha, M.B., L. B. Strang, M.B., P. Strickland, M.B., D. Sutton, M.D., Brenda D. Van Leuven, M.B., F. W. Walton, M.B., W. R. Wardill, M.B., A. Wiener, M.B., J. A. C. Wilson, M.B.

Licences to practise were conferred upon 135 candidates (including 24 women) who had passed the final examination in medicine, surgery, and midwifery of the Conjoint Board and who have complied with the necessary by-laws of the College: A. C. D. Abdool Raman, L. D. Abrams, Pauline A. Adams, R. K. Allday, A. H. Askew, Margaret E. Atkins, Elizabeth R. Bakirgian, A. H. Barker, D. T. C. Barlow, W. G. Barry, F. J. A. Bateman, Bella Bernstein, Joan M. Bishop, A. S. Blake, H. M. J. Bogaerts, C. J. Booth, P. A. Bramley, Louise A. Brandram, D. W. Bray, L. H. Brearley, L. G. Brewster, A. MacD. Brown, C. G. Brown, Hilda M. Brunt, W. A. J. Bufton, C. V. Bullen, F. D'U. Burgess, T. K. H. Burnham, D. M. J. Burns, B. R. Carson, Stephanie J. Carter, C. E. Channon, A. R. Coshan, L. G. Couch, Barbara M. St. J. Coventry, E. Davies, Y. H. de la Bastide, E. M. Douglas, M. L. Ellis, J. R. Evans, A. Fairley, L. M. Fenton, K. Firth, Freda Fleischer, R. T. Gaukroger, A. H. Goodspeed, H. Graham, K. L. Granville-Grossman, Elizabeth I. Greenlaw, J. D. V. Griffiths, W. G. Griffiths, J. W. Hallewell, A. C. Helme, Josephine C. M. Heylen, J. B. Hickling, E. P. Hilary-Jones, J. A. Holmeyr, P. N. A. Holden, D. J. C. Horwood, D. J. Hosking, E. G. Hughes, M. M. Husainee, P. E. Kapff, S. G. Kent, G. A. Kerr, R. S. Lambie, A. V. Large, P. Lebon, I. Lenox-Smith, W. G. Lewis, W. H. McBay, D. A. F. McGill, C. L. Mansfield, G. A. Marin, Elsa M. Mellor, Morag J. R. Millar, J. A. S. Mitchell, Eleanor Morrison, E. A. Murray, Joan M. Newton, Margaret A. Norman, O. K. Ogan, H. B. O'Neill, P. B. M. O'Reilly, R. B. Parker, Gillian F. Peacock, F. O. P. Pearce, R. D. Pearson, B. J. Penry, Anne T. A. Phillips, D. W. L. Phillips, K. R. S. Pool, T. P. S. Powell, G. H. D'A. Power, Sylvia E. Prebble, J. H. Price, R. J. H. Pritchard, Anne M. Ranken, D. S. Robinson, J. Robinson, A. R. Roffe, B. H. Ross, E. M. Rosser, E. N. Rudland, G. J. Ryder, H. Schapira, G. G. Scott, Janet E. Sharp, N. E. Shaw, F. C. Shelley, A. Sladen, E. D. Sonnenfeld, G. B. Sparke, E. M. Sproston, F. Stacpoole-Ryding, Mary J. Starbuck, G. F. Stone,

D. Stuart, G. V. Sutton, G. G. Tandy, Patricia M. Thompson, M. E. Tunstall, A. S. Viner, G. W. Waddy, R. S. Wambeek, R. W. Ware, C. D. Weeks, B. K. Wharton, G. T. Whitaker, D. C. Wilkins, D. F. Woodhouse, R. J. H. Xavier, J. E. York, S. A. A. Zaidi, L. M. Zinkin.

Diplomas were awarded, jointly with the Royal College of Surgeons of England, to the following successful candidates:

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.—A.-F. Abdul-Kadir, M. E. Barry, A. B. Dick, C. E. Hartley, Hla Tin, Maung Lwin, J. H. McLaughlin, R. N. Nauth-Misir, A. B. Paltrinieri, F. J. Wickremasinghe.

DIPLOMA IN PUBLIC HEALTH.—J. P. Agrawal, Frances C. Myatt, T. A. Pace, A. C. B. Singleton, W. J. Smither, E. D. H. Williams.

Diplomas in Psychological Medicine, in Laryngology and Otology, in Medical Radiodiagnosis, in Medical Radiotherapy, in Anaesthetics, in Industrial Health, in Pathology, in Ophthalmic Medicine and Surgery, and in Ophthalmology were also awarded, jointly with the Royal College of Surgeons of England, to the successful candidates whose names were printed in the report of the meeting of the Royal College of Surgeons of England in the *Journal* of January 19 (p. 168).

UNIVERSITY OF OXFORD

The following degrees were conferred in Congregation on January 24:

D.M.—M. Weatherall.

B.M.—J. D. Abrams, M. L. Harris, R. G. Tucker, S. B. Furnass, G. J. Renwick, H. E. Emson, I. A. Hill, J. R. Billinghurst, M. J. A. Menagé, D. E. P. Jones (in absence).

Notices of University scholarships, fellowships, studentships, and prizes are printed in a *Supplement* to the *Oxford University Gazette* dated January 30. The list includes a number of scholarships, etc., of interest to medical students and practitioners.

UNIVERSITY OF CAMBRIDGE

Applications for Berkeley Bye-Fellowships for research in (*a*) medicine, or (*b*) any branch of natural science, excluding medicine, should reach the Registrary, Gonville and Caius College, Cambridge, by April 1. Candidates must be male and not less than 26 years of age. The tenure of the bye-fellowship is from one to three years and the emoluments are from £500 to £1,000 according to standing.

The following degrees were conferred in Congregation on January 26:

M.B., B.CHIR.—*M. W. A. Haward, R. F. Ingle, G. W. Pearson, *A. P. Blower, *D. M. J. Burns, *D. Churchill-Davidson, *A. Paneth, *L. P. Sheil, *J. A. J. Smith, *A. C. Beatty, *D. L. Harrison, *J. F. Higgins, M. J. F. Courtenay, R. T. Gaukroger, *K. E. K. Rowson, *K. J. Martin, *P. F. Plumley, *J. L. Somervell, J. D. M. Howat, *R. Keeley, *N. A. Miles, *C. W. Savile, *R. L. Huckstep, G. S. Banwell, *P. H. Swinhoe, *H. M. Gough, *J. W. E. Mark, *A. A. El Nakeeb, *K. A. Taylor, H. Gough-Thomas, G. P. Greenhalgh, E. B. D. Hamilton, *J. F. Andrewes, R. V. Fiddian, T. F. D. Oram, G. T. Whitaker, *J. C. B. Fenton, *Mrs. Christine M. Maxwell, Mrs. Gwenhwyfar Cole, Alison M. Harington, June M. Phillips, P. S. Greaves.

*By proxy.

UNIVERSITY OF LONDON

The title of Professor of Biochemistry in the University has been conferred on Walter Thomas James Morgan, D.Sc., F.R.S., in respect of the post held by him at the Lister Institute of Preventive Medicine.

Vital Statistics

Infectious Diseases

The chief variations in the number of notifications of infectious diseases in England and Wales during the week ending January 19 were increases in scarlet fever by 156 and dysentery by 119, and decreases in acute pneumonia by 187 and whooping-cough by 45.

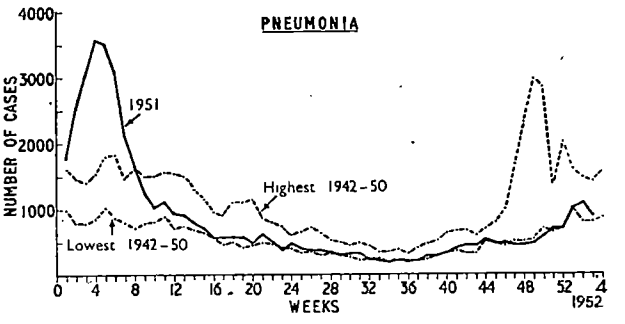
A small rise in the incidence of scarlet fever was reported from every region except the northern, where a small fall occurred. The largest fluctuations in the returns for whooping-cough were rises in Warwickshire 66 and Yorkshire North Riding 34. There were 11 fewer notifications of diphtheria than in the preceding week; the chief feature of the returns was a decrease of 3 in Cambridgeshire. Large fluctuations were recorded by a few counties in the number of notifications of measles, although the total for the country was only 12 less than in the preceding week. The largest fluctuations were a decrease in Staffordshire of 75 and Cheshire of 73, and a rise of 46 in Warwickshire.

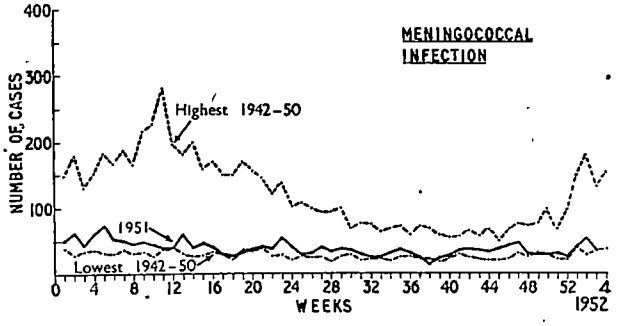
The number of notifications of acute poliomyelitis were 8 fewer for paralytic cases and 7 more for non-paralytic cases than in the preceding week. The cases were more widely spread and involved 25 counties, compared with 19 in the previous week. The largest returns were 3 in each of the counties of London and Kent.

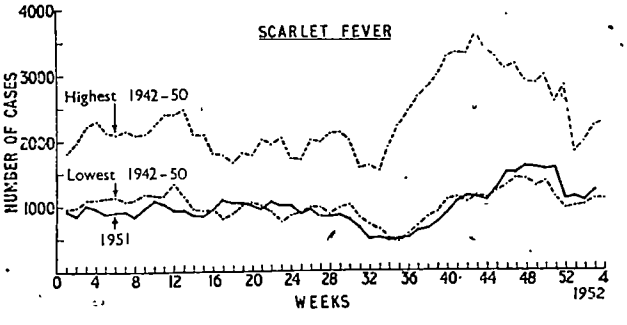
Two fresh outbreaks of dysentery were reported from Wales during the week: Glamorganshire, Cardiff C.B. 22, and Pembrokeshire, Haverfordwest R.D. 12. A further 52 cases were notified from the outbreak in Norwich C.B., a rise of 21 above the total of the previous week. The other large centres of infection were London 56 (Islington 12, Fulham 10); Devonshire 45 (Exeter C.B. 23); Lancashire 58; Yorkshire West Riding 28 (Leeds C.B. 10); Middlesex 25; Southampton County 20 (Portsmouth C.B. 14); Surrey 16; Leicester 15 (Leicester C.B. 10); Durham 15; Kent 13.

Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1942–50 are shown thus -------, the figures for 1951 and 1952 thus ———. Except for the curves showing notifications in 1951 and 1952, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.







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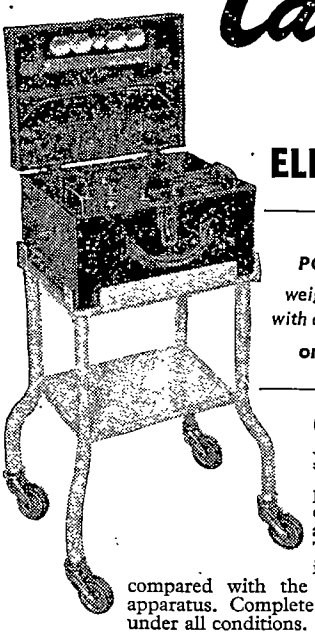

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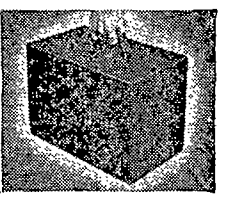

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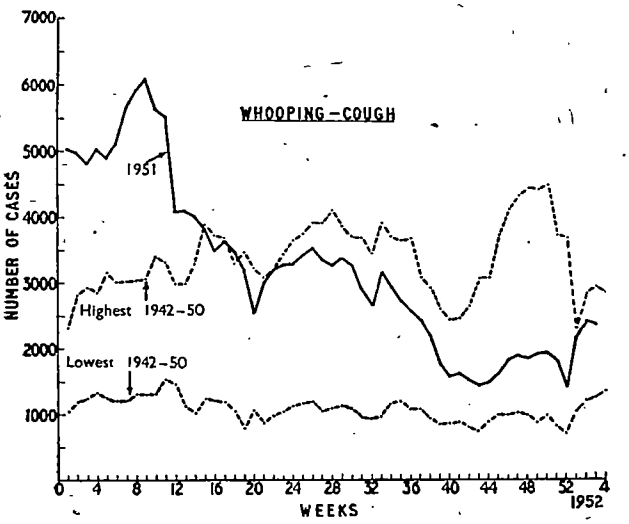

Scotland in 1949

Chief causes of death in Scotland in 1949 were heart disease, cancer, cerebral haemorrhage, and tuberculosis in that order, according to the *Annual Report* of the Registrar-General. Almost a third of all the deaths were due to heart disease; the death rate from cancer was 185 per 100,000 of population—four above the rate for 1948.

The infant mortality rate for 1949 of 41 per 1,000 of population was the lowest figure ever recorded in Scotland. It compares with a rate of 51 in Eire, 43 in Canada, 32 in England and Wales, 31 in the U.S.A., and 20 in Sweden.

The number of deaths registered in Scotland during 1949 was 63,488—an increase of 2,509 compared with the previous year. This gives a death rate for the year of 12.3 per 1,000 of population, 0.5 more than the rate for 1948. A comparison between the number of road accidents occurring in 1949 and in pre-war years shows an improvement. In 1949 there were 517 deaths compared with an average of 704 in 1931–5 and 653 in 1936.

Deaths from the principal epidemic diseases were 569, an increase of 205 over the previous year, chiefly because of an increase in deaths from influenza and whooping-cough.

Industrial Accidents and Diseases

The number of workpeople (other than seamen) in the United Kingdom whose deaths from accidents in the course of their employment were reported in December, 1951, was 99, compared with 117 (revised figure) in the previous month and 116 for December, 1950. Of these deaths 26 were underground in coal mines and 15 were in building operations.

The following cases of industrial disease were notified during the month: lead poisoning 1, epitheliomatous ulceration 7, chrome ulceration 10; total 18. There were no deaths (*Ministry of Labour Gazette*, January, 1952).

Week Ending January 26

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,293, whooping-cough 2,573, diphtheria 27, measles 2,837, acute pneumonia 836, acute poliomyelitis 27, dysentery 547, paratyphoid fever 10, and typhoid fever 2.

Census Changes.—Population figures obtained at the 1951 census show that there are now 160 great towns (population over 50,000) in England and Wales instead of 126, and 17 principal towns (population over 30,000) in Scotland instead of 16. Therefore the 1952 figures for deaths, births, and stillbirths in these countries, published weekly in our Table, cannot be accurately compared with those for 1951, which are printed in italics. The 160 great towns in England and Wales have a population about 10% higher than in the 126.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **January 19** (No. 3) and corresponding week 1951.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 160 great towns in England and Wales (London included), London administrative county, the 17 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot	N. Ire.	Eire
Diphtheria	22	3	11	0	0	42	2	9	2	4
Dysentery	434	56	58	6		727	86	132	1	
Encephalitis, acute	3	0	0	0		3	0	0	0	
Enteric fever: ..										
Typhoid	4	0	0	1	1	4	0	0	0	1
Paratyphoid ..	6	0	1 (B)	0		2	0	5 (B)	0	
Food-poisoning ..	123	19		0		66	5		0	
Infective enteritis or diarrhoea under 2 years				15	22				9	15
Measles*	2,828	44	349	145	70	15,979	2185	182	53	146
Meningococcal infection	35	1	8	1	2	44	7	33	3	1
Ophthalmia neonatorum	36	6	4	2		31	1	11	0	
Pneumonia† ..	869	43	257	10		3,047	217	757	115	43
Poliomyelitis, acute:										
Paralytic ..	25	2	3	3	2	29	1	5	0	2
Non-paralytic ..	10	1				7	0			
Puerperal fever§ ..	232	34	7	4	1	106	8	12	3	1
Scarlet fever ..	1,211	76	229	26	34	1,009	51	194	34	77
Tuberculosis:										
Respiratory ..			96	30				145	31	
Non-respiratory..			17	0				33	4	
Whooping-cough ..	2,349	82	346	144	68	4,811	452	813	42	90

DEATHS ‡ in Great Towns	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	0	0		0	0	*0*	0	*0*	0	2
Dysentery	0	0		0			0		0	
Encephalitis, acute		0			0		0			0
Enteric fever ..	0	0		0		*0*	0	*0*	0	
Infective enteritis or diarrhoea under 2 years	18		2	0	1	*15*		*0*	2	0
Influenza	45	6		0	1	*1,099*	108	*113*	83	23
Measles		0		1	0		2	*0*	0	1
Meningococcal infection		0					1	*4*		
Pneumonia ..	279	49		7	11	*843*	118		60	37
Poliomyelitis, acute	7	1			0	*3*	0			0
Scarlet fever ..		0		0	0		1	*0*	0	0
Tuberculosis:										
Respiratory ..	147	18	21	2	7	*249*	37	*35*	18	13
Non-respiratory..		2	2	0	0		1	*7*	2	0
Whooping-cough ..	2	0		0	0	*8*	1	*4*	0	1
Deaths 0–1 year ..	283	24	29	14	30	*326*	33	*45*	17	24
Deaths (excluding stillbirths) ..	6,026	866	658	143	195	*9,868*	1511	*1240*	425	375
LIVE BIRTHS	7,477	1213	913	212	438	*7,401*	1256	*868*	243	373
STILLBIRTHS	222	29	26			*190*	26	*23*		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.
‡ See "Census Changes" opposite.

Medical News

First Appeal to Privy Council.—Dr. A. J. Daly has lodged an appeal with the Judicial Committee of the Privy Council against the decision of the Medical Disciplinary Committee of the G.M.C. to erase his name from the *Register* (*Supplement*, December 15, 1951, p. 264). This is the first appeal to be made under the Medical Act of 1950, which made appeal possible against decisions of the Disciplinary Committee.

A New Quarterly.—*Laboratory Investigation*, a quarterly journal of technical methods and pathology, sponsored by the International Association of Medical Museums, will be issued this spring. Edited by a board appointed by the council of the association, the journal will be devoted to publication of the experimental techniques, original investigations, and observations in the basic medical sciences. It will cover papers dealing with pathology, histochemistry, cytological and histological methods, tissue culture, electron microscopy, radioactive tracer methods, museum techniques, objective teaching methods, photographic and injection methods, cardiac anomalies, teratology, and comparative pathology. *Laboratory Investigation* will be published by Paul B. Hoeber, Inc., Medical Book Department of Harper and Brothers. Subscriptions will be $8 per year in the U.S.A. and countries of the Pan-American Postal Union, $8.50 elsewhere. Subscriptions and inquiries for advertising space should be sent to the publishers at 49, East 33rd Street, New York 16, New York.

Catalogues of Micro-organisms.—The Canadian Committee on Culture Collections of Micro-organisms has published a directory and catalogue of collections maintained in Canada. A loose-leaf volume has been adopted to enable rearrangement and additions to be made. A directory of collections and list of species maintained in the United Kingdom and Crown Colonies has also been prepared. Details may be obtained from the secretary of the United Kingdom National Committee on British Commonwealth Collections of Micro-organisms (38, Old Queen Street, London, S.W.1).

Emergency Bed Service: Applications and Admissions.—During the seven days ending February 4 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,240, of whom 81.29% were admitted. A white warning, indicating that the percentage of admissions fell to 82½, was issued on February 4.

COMING EVENTS

Course on Chronic Rheumatic Diseases.—A concentrated week-end course, with lectures, ward rounds, and practical demonstrations, is being held at the Rheumatism Unit of St. Stephen's Hospital on Saturday and Sunday, March 29 and 30. The course is being opened by Sir Adolphe Abrahams, whose subject will be the rheumatic diseases in relation to general medicine. Details may be obtained from Dr. L. Cudkowicz, Rheumatism Unit, St. Stephen's Hospital, S.W.10.

Study Tour in Italy, 1952.—The Italian Hospital Federation has invited the International Hospital Federation to hold a study tour of hospitals in Italy this year. The tour will begin in Milan on Sunday, May 25, and will end in Genoa on Saturday, June 7, including visits to hospitals and allied establishments at Sondalo, Brescia, Sirmione, Bologna, Florence, and Rome. It is open to all members of the Federation and their families in the first instance; non-members will be able to take part only if numbers allow. The registration fee will be £1 10s. for members of the I.H.F. and for each member of their families, and £2 10s. for non-members. The total cost has not yet been estimated. Details may be obtained from the Federation, 10, Old Jewry, E.C.2.

Strasbourg Summer School.—A summer school on "the healthy family" will be held at Strasbourg, France, from August 6 to 20. The course is intended for teachers, nurses, health visitors, social workers, and all who are interested in the family as the basic social unit and in the factors conducive to its physical, mental, and spiritual health. The cost will be approximately £32, which includes registration, second-class travel from London and back, full board and lodging in the university hostel, and tuition. Further inquiries should be addressed to the Secretary, British Social Biology Council, Tavistock House South, Tavistock Square, London, W.C.1.

IV Interamerican Cardiological Congress.—The congress will be held in Buenos Aires from August 31 to September 7. Those who wish to participate in it as titular members should apply before April 1. The fee is $250 (pesos). Members wishing to give communications must send before April 1 by way of the national society of cardiology to which they belong (or directly if there is no society of cardiology in their country) a summary of each work that must not exceed 200 words, and, if possible, written in Spanish or Portuguese and in English. All the correspondence should be addressed to the Administrative Secretary's Office of the Congress, Larrea 1132, Buenos Aires.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Monday

INSTITUTE OF PSYCHIATRY, Maudsley Hospital, Denmark Hill, London, S.E.—February 11, 5.30 p.m., lecture-demonstration for postgraduates by Dr. E. Stengel.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—February 11, 8.30 p.m., "*Assessment of Therapeutic Trials*," discussion to be introduced by Professor A. Bradford Hill and Dr. F. Avery Jones.

OXFORD UNIVERSITY—At Radcliffe Infirmary (Neurological Library), Oxford, February 11, 5.30 p.m., Film: "*Embryological Development of the Eye*," by Dr. George K. Smelser (New York).

Tuesday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 12, 5.30 p.m., "*Growth of the Human at the Time of Adolescence*," by Dr. J. M. Tanner.

CHELSEA CLINICAL SOCIETY.—At South Kensington Hotel, 41, Queensgate Terrace, London, S.W., February 12, 8.30 p.m., 5th ordinary meeting of 55th session. "*Starvation*," discussion to be opened by Sir Jack Drummond, D.Sc., F.R.I.C., F.R.S. Illustrated with lantern slides.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 12, 5.30 p.m., "*Lupus Erythematosus*," by Dr. B. Russell.

INSTITUTE OF PHYSICS: SCOTTISH BRANCH.—At The University, Glasgow, February 12, 7 p.m., "*Electron Microscopy*," by Dr. V. E. Cosslett, F.Inst.P.

MANCHESTER MEDICAL SOCIETY: SECTION OF SURGERY.—At Large Physiology Theatre, Medical School, Manchester University, February 12, 5 p.m., "*Portal Circulation*," by Professor R. Milnes Walker.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—February 12, 5 p.m., "*An Interpretation of Statistical Trends in Tuberculosis*," Milroy Lecture by Dr. V. H. Springett. (See also February 14.)

Wednesday

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 13, 5.30 p.m., "*Mycology—Allergy and the Serological Diagnosis of Fungus Infections*," by Dr. R. W. Riddell.

INSTITUTE OF PHYSICS: SCOTTISH BRANCH.—At The University, Edinburgh, February 13, 7 p.m., "*Electron Microscopy*," by Dr. V. E. Cosslett, F.Inst.P.

INSTITUTE OF UROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., February 13, 4.30 for 5 p.m., "*Bladder Growths*," by Mr. R. Ogier Ward.

MANCHESTER MEDICAL SOCIETY: SECTION OF PATHOLOGY.—At Physics Theatre, Medical School, Manchester University, February 13, 4.30 p.m., "*Some Aspects of the Pathology of Infantile Toxoplasmosis*," by Dr. E. G Hall; "*The Diagnosis and Treatment of Congenital Toxoplasmosis*," by Dr. A. Macdonald

PHYSICAL SOCIETY: COLOUR GROUP.—At Institute of Ophthalmology, Judd Street, London, W.C., February 13, 3.30 p.m., 65th science meeting. "*An Experimental Study of Colour Preferences*," by Dr. G. W. Granger.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW, 242, St. Vincent Street, Glasgow.—February 13, 5 p.m., "*Myasthenia Gravis,*" by Professor Andrew Wilson.

ROYAL SANITARY INSTITUTE, 90, Buckingham Palace Road, London, S.W.—February 13, 2.30 p.m., "*Port Health Control,*" discussion to be opened by Dr. H. C. Maurice Williams.

SCIENTIFIC FILM ASSOCIATION.—At Meverstein Lecture Theatre, Westminster Medical School, Horseferry Road, London, S.W., February 13, 5 p.m., film show: (1) "*Cardiac Output in Man*"; (2) "*Blood Cells.*"

Thursday

ALFRED ADLER MEDICAL SOCIETY.—At 11, Chandos Street, London, W., February 14, 8 p.m., "*The Aims of Therapy,*" by Dr. James Moore.

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 14, 5.30 p.m., "*Methods of Research in Industrial Medicine.*" by Dr. Donald Hunter.

●HUNTERIAN SOCIETY.—At Savoy Hotel, Strand, London, W.C., February 14, 7 for 7.30 p.m., annual dinner.

●INSTITUTE OF CHILD HEALTH, Hospital for Sick Children, Great Ormond Street, London, W.C.—February 14, 5 p.m., "*Burns,*" by Mr. A. B. Wallace.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 14, 5.30 p.m., "*Histopathology of Bullous Eruptions,*" by Dr. H. Haber.

LIVERPOOL MEDICAL INSTITUTION, 114, Mount Pleasant, Liverpool.—February 14, 8 p.m., ordinary meeting. "*Some Problems in Dermatology,*" by Dr. R. M. B. MacKenna.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—February 14, 5 p.m., "*An Interpretation of Statistical Trends in Tuberculosis,*" Milroy Lecture by Dr. V. H. Springett. (See also February 12.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—February 14, 5 p.m., "*Swellings of the Neck in Childhood,*" Hunterian Lecture by Sir Lancelot Barrington-Ward.

ROYAL INSTITUTION, 21, Albemarle Street, London, W.—February 14, 5.15 p.m., "*Respiratory Pigments,*" by Professor H. Munro Fox, F.R.S.

ST. ANDREWS UNIVERSITY.—At Lecture Theatre, Materia Medica Department, Medical School, Small's Wynd, Dundee, February 14, 5 p.m., "*The Child's Heritage,*" by Professor J. L. Henderson.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—February 14, 4.30 p.m., lecture-demonstration in psychiatry by Dr. L. T. Hilliard.

Friday

EUGENICS SOCIETY.—At 26, Portland Place, London, W., February 15, 5 p.m., "*The Genetics of Mental Deficiency,*" Galton Lecture by Dr. J. A. Fraser Roberts.

FACULTY OF RADIOLOGISTS.—At Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C., February 15, 2.15 p.m., Radiodiagnosis Section Meeting. "*The Lateral Position in Chest Tomography,*" by Dr. George Simon; "*Carcinoma of the Middle Lobe Bronchus,*" by Dr. G. Brian Locke.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 15, 5.30 p.m., "*Lupus Erythematosus,*" clinical demonstration by Dr. B. Russell.

●INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 15, 5.30 p.m., "*Pulmonary Stenosis,*" by Dr. Paul Wood.

KENT AND CANTERBURY HOSPITAL, Canterbury.—February 15, 8 p.m., clinical meeting.

OXFORD UNIVERSITY.—At Magdalen College, Oxford, February 15, 5 p.m., "*The Neurophysiological Basis of Mind,*" Waynflete Lecture by Professor J. C. Eccles, F.R.S.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—February 15, 8 p.m., "*Addiction,*" by Mr. G. B. McAulay.

UNIVERSITY COLLEGE, Physiology Theatre, Gower Street, London, W.C.—February 15, 5.30 p.m., "*Some Recent British Contributions in the Field of Pharmacotherapeutics,*" by F. Bergel, D.Sc.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At Hammersmith Hospital, Ducane Road, London, W., February 15, 8 p.m., clinical evening.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Laws.—On January 29, 1952, at Sheffield, to Dr. Pamela Laws (formerly King), wife of Dr. John W. Laws, a daughter—Susan.

Lowe.—On February 3, 1952, at Simpson Memorial Maternity Pavilion, to Barbara (formerly Barlow), wife of Dr. R. C. Wilson Lowe, Hillwood, Clermiston Road, Edinburgh, a son.

Priest.—On February 3, 1952, at Leamington Spa, to Marianne (formerly Burgess), wife of Dr. Michael Priest, a daughter.

Stradling.—On January 31, 1952, to Dr. Peggy Snow, wife of Dr. Peter Stradling, a son.

Whalley.—On January 25, 1952, at Newcastle-upon-Tyne, to Joy (formerly Brooks), wife of Dr. G. Hamilton Whalley, twin brothers for Bruce—David and Peter.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Attempted Suicide

Q.—*In the event of a patient being seen, examined, and thought to be a possible case of attempted suicide is there a responsibility on the medical practitioner to notify the police of his suspicions?*

A.—The attempted suicide problem is a fairly common one, and raises an important issue on the fundamental relationship of mutual trust which is so important in general medical practice. It is true that attempted suicide is a misdemeanour, and that if information were laid to show that an attempt had occurred the police would have to make inquiries and could, if the evidence were sound, make a charge at the magistrates' court. Little advantage would ensue either to the accused or to the police—and the spectacle is depressing.

No statutory obligation exists to force a doctor's hand in the matter, and the general practice (which has the tacit approval of the law) is for the doctor to treat, rather than report, his patient's unhappiness. A form does exist in the Metropolitan Police stations which asks a hospital to which an attempted suicide has gone for treatment to report the day of anticipated release. This is not obligatory—it is merely a request which forms a part of the police action already set in motion. It can hardly be ignored, but to reply to a request for information is not the same as to volunteer a breach of the confidence the patient has a right to expect of his doctor. Neither doctor nor hospital authority need *start* an inquiry.

A History of Repeated Miscarriage

Q.—*A woman of 42 has had seven pregnancies, with two normal children, four miscarriages, and, in the last pregnancy, a mongol who died shortly after birth. She wishes to have more children. Does this kind of history suggest that future pregnancies are likely to end by miscarriage or perhaps with an abnormal child? How should she be advised?*

A.—If other causes have been excluded there is a real possibility that the abortions were due to malformations of the foetuses. At any rate the history is very suspicious, and, bearing in mind that the advanced maternal age also increases the risk, the chance of foetal malformation in the next pregnancy may well be very high. It is impossible to assess the risk accurately without more details about the abortions. The patient should be told that the history suggests that if she embarks on pregnancy she has a much greater than average risk of abortion and foetal malformation, but that a normal child is not impossible. The decision about further child-bearing is then a matter for the couple in question.

Fits from African Worms

Q.—*What African helminthic infestations can give rise to Jacksonian epilepsy in man? How are they excluded?*

A.—Epileptic convulsions may arise from infection with *Schistosoma haematobium* and from cysticercosis (*Taenia solium* infection). The latter is rare in Africa. Infection with schistosomes can be escaped by avoiding exposure in infected water; *Taenia solium* infection by avoiding undercooked pork. The diagnosis of schistosomiasis is made by finding the eggs in the urine or the faeces. Skin sensitivity reactions may help to confirm the diagnosis. The diagnosis

of cysticercosis may be difficult. It is important to establish the history of possible exposure. Excision and examination of the subcutaneous nodules which may be present may lead to the identification of the larval stages of the worm. It may be necessary to examine the whole body, including the head, by radiographs in order to identify the shadows of calcified cysts.

Boy or Girl?

Q.—*A well-developed healthy child was noticed at birth to have no scrotum. The child is now 3 months old. The penis and prepuce are well developed, slightly larger than usual for the age, but the skin posterior to the penis is smooth, and shows a slight dimpling in the middle line with a faint outline on the skin suggesting a vulva. No testes can be felt. How should the sex be established? What treatment is advised?*

A.—If there was a maldevelopment of the penis and urethra, such as hypospadias, one would be more concerned with the possibility of pseudohermaphroditism. As, however, these appear to be normal it seems more likely that the condition is one of congenital defective or delayed development of the scrotum. In such a case I have seen the scrotum develop adequately after daily local inunction of 1 g. testosterone ointment (containing 25 mg. testosterone propionate to the gramme) for several weeks. If a scrotal sac is thus developed, it is not unlikely that the testicles will descend into it, but if not injections of gonadotrophins might be considered at a later stage.

Speaking more generally, if the sex is in doubt, the only sure way of establishing it is to do a biopsy of the gonads. Where they are not externally palpable an abdominal laparotomy will be necessary.

Multiple Myelomatosis

Q.—*What are the latest views on the aetiology, treatment, and prognosis of multiple myelomatosis?*

A.—It is generally agreed that multiple myelomatosis is a malignant neoplasm arising in bone-marrow, histogenetically related to the myeloid leukaemias and to the lymphoid tissue tumours. The cell type involved is believed to be an abnormal plasma cell. As in malignant disease generally, the aetiology is unknown, and there is no satisfactory evidence that chronic infections, trauma, or exposure to any known irritants act as predisposing factors.

Multiple myelomatosis is always progressive and fatal. The average duration of life is three years, but some cases survive 10 years. Spontaneous remissions lasting several months may interrupt the progress of the malady, and in some cases the patients can lead almost normal lives for a large part of the course. Death is usually due to complications such as renal failure, chronic urinary infection supervening on compression paraplegia, intercurrent respiratory infections associated with chest deformities and multiple rib fractures, progressive anaemia, and sometimes haemorrhagic states.

There is no specific treatment. Apart from the treatment of the various symptoms as they arise—for example, excision of growths encroaching on the spinal cord and nerves with resulting relief of paraplegia, or chemotherapy for intercurrent infections—radiotherapy offers the best chance of relieving pain, and may be given repeatedly in short courses to successively painful sites. When the pains become generalized and no longer within the scope of radiotherapy, some patients gain temporary relief from such drugs as stilbamidine isethionate, urethane, oestrogens, nitrogen mustards, and radioactive phosphorus, the use of which requires close supervision, but in most cases these substances are of little help and may induce unpleasant side-effects. The particular circumstances of each case require careful consideration before prescribing a course of one of these drugs. Thus stilbamidine is said to be most effective when given in conjunction with a low-protein diet, which is clearly not desirable for a debilitated patient. Stilbamidine is also contraindicated if renal function is impaired, which is frequently the case. The injections cause sweating, tachycardia, and vasodilatation, and a common delayed effect is anaesthesia of trigeminal distribution. Stilbamidine is therefore best avoided until other methods have been tried. Urethane may be given orally for long periods but often causes depression, anorexia, nausea, and vomiting. Like nitrogen mustard and radioactive phosphorus it induces leucopenia, and when these drugs are used repeated blood counts, including differential leucocyte counts, are a necessary accompaniment of treatment.

NOTES AND COMMENTS

Fatal Wasp Stings.—Dr. A. M. WOOLMAN (Switzerland) writes: In the answer to the question on wasp stings ("Any Questions?" November 17, 1951, p. 1231), treatment with ephedrine or *iso*-propyl-*nor*-adrenaline and an antihistaminic is recommended. It does not appear to be widely known that the intravenous injection of a calcium salt can be as dramatic in affording relief as the injection of a preparation of the adrenaline type. In view of the dangers associated with intravenous injections of adrenaline derivatives, this method deserves wider recognition. Continental doctors are more calcium-minded than British doctors, and several reports on the calcium therapy of bee, wasp, and hornet stings have appeared in Continental literature. Some striking cases are described, for instance, by Schapschal, Serjakoff, and Kifaloff (*Schweiz. med. Wschr.*, 1940, **70**, 374). They employed the double salt of calcium gluconate and calcium lactate, and recommend intravenous injection of 10 ml. of the 10% solution.

OUR EXPERT writes: In my answer I emphasized the value of adequate subcutaneous adrenaline and intravenous aminophylline in the treatment of severe anaphylactic (allergic) reactions to wasp stings. The literature to which Dr. A. M. Woolman refers can be read in a summarized form in English in "The Emergency Treatment of Bites and Stings with 'Calcium-Sandoz.'" issued by Sandoz, Ltd. (Switzerland). The results recorded are certainly quite striking, as Dr. Woolman points out. The value of calcium therapy in allergic conditions is debatable and has been the subject of much attention over many years, and on this subject Dr. R. A. Cooke, one of the leading American authorities on allergy, writes: "First the blood calcium was said to be low in allergy, and when this was disproved it was then claimed that the amount of ionized calcium was too low. When this was not verified the idea was put forth that the ratio of calcium to other bases as potassium and sodium was abnormal. Actually there is no evidence that there is any disturbed calcium metabolism or that calcium therapy by mouth or vein has any effect on any allergic reaction" (R. A. Cooke, *Allergy in Theory and Practice*, 1947, p. 548, London). Dr. L. Tuft, another leading American authority on allergy, writes: "In spite of the absence of adequate laboratory or even clinical proof of its efficacy in allergic conditions, calcium therapy still is employed extensively in treatment of such allergic conditions as urticaria, angioneurotic oedema, and serum disease. Its value is doubtful" (L. Tuft, *Clinical Allergy*, 1949, p 124, London). My personal experiences with intravenous calcium in acute allergic episodes of the angioneurotic oedema type have not been in any way so consistently or dramatically beneficial as is suggested by the literature to which Dr. Woolman draws our attention. I regret I cannot support Dr. Woolman. May I also comment on "Continental doctors are more calcium-minded than British doctors"? This is certainly not my impression from recent visits to the Continent, although my experience is, of necessity, limited to individuals especially interested in allergic conditions, individuals, I may add, of international fame.

Correction.—The name of Dr. N. W. Rawlings, who has been promoted to Commander (Brother) in the Venerable Order of the Hospital of St. John of Jerusalem, was omitted from the list of promotions in, and appointments to, the Order published in the *Journal* (January 19, p. 160).

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499 TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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SUPPLEMENT TO THE

BRITISH MEDICAL JOURNAL

LONDON SATURDAY FEBRUARY 9 1952

CONTENTS

Health Service Charges - - - - - - - 47
Adjudication Expected in March - - - - - 47
Young Doctors Hit - - - - - - - - 48
Health Centre for New Town - - - - - - 49
Radiology and Pathology - - - - - - - 50
Cost of Prescribing - - - - - - - - 50
Exchange Visits with Canada and U.S.A. - - - 51
Hospital Allocations Cut - - - - - - - 51
Heard at Headquarters - - - - - - - 51
Annual Meeting, Dublin: Provisional Programme - 52
Doctors' Hobbies - - - - - - - - 54
Correspondence - - - - - - - - 54
B.M.A. Library - - - - - - - - - 57
H.M. Forces Appointments - - - - - - 57
Association Notices - - - - - - - - 58

HEALTH SERVICE CHARGES

1s. ON PRESCRIPTIONS

The Chancellor of the Exchequer, Mr. R. A. Butler, announced in Parliament on January 29 that the following changes in the Health Service would be introduced:

(1) A charge of 1s. on prescriptions.

(2) A charge for some appliances such as surgical belts and boots, hearing-aids, and wigs when these are supplied through the hospital service to out-patients.

(3) Hospital amenity beds will cost more.

(4) The powers of local authorities to charge for the use of day nurseries will be extended.

(5) In the dental service £1 will be charged, or the full cost if less, for all treatment except dentures, where a charge is already made. This new charge will not apply to children or to expectant and nursing mothers.

The Chancellor stated that in cases of hardship help would be given in meeting the charges.

Estimated Revenue

The shilling on prescriptions in general practice will bring in some £12m. in a full year, and on hospital out-patient prescriptions about £500,000. Charges to hospital out-patients for appliances are expected to save a little less than £500,000, and increased charges for day nurseries just under £250,000. The amenity bed charges will bring in some £200,000, and the dental charges about £7½m.

Emergency Meeting

The General Medical Services Committee held an emergency meeting on February 7 to discuss the new charges. Its views will be reported here next week.

THE NEW CHARGES

The charge of 1s. on prescriptions is to be made under the National Health Service (Amendment) Act, 1949.

The other charges are to be made under a National Health Service Bill introduced by the Minister of Health on February 1. Under this Bill 1s. will be charged for drugs and medicines supplied through hospital out-patient departments. A charge up to half the cost will also be made for surgical boots and shoes, surgical abdominal supports (not hernia belts), elastic hosiery, wigs, and hearing-aids and batteries. It is proposed to charge the full cost of repairs undertaken through the Health Service. Exempted from charges are children under 16 or in full-time attendance at school, persons or their dependants receiving national assistance, and war pensioners in respect of an accepted disability.

The full cost of dental treatment (apart from dentures) will be charged up to £1. Excluded are schoolchildren, expectant and nursing mothers, and hospital patients. Where both treatment and dentures are provided the total cost to the patient must not exceed the present maximum of £4 5s.

The Bill empowers local health authorities to charge for the use of day nurseries in accordance with the person's means. (At present they may charge only for meals and articles provided.)

The charge for amenity beds in hospitals is to be doubled. The new charges will be half the cost up to 12s. a day for a single room and a quarter of the cost up to 6s. for a bed in a small ward.

Penalties for Evasion

For deliberate evasion of charges a fine not exceeding £100 may be imposed, or imprisonment for three months, or both.

ADJUDICATION EXPECTED IN MARCH

As announced last week, respective counsel of both sides met Mr. Justice Danckwerts on January 30 to discuss the procedure for the hearing of the general practitioners' remuneration claim. As a result of this meeting it is expected that the actual hearing will take place during March. Further details will be announced as soon as possible. Meanwhile frequent meetings are being held with counsel and the team of advisers who are completing the case to be submitted to the judge.

DETAILS OF GENERAL PRACTICE SCHEME

Dispensing doctors and chemists are the people that the scheme makes responsible for collecting the charges from the patients.

One shilling is to be charged in respect of an item or items ordered on any one Form E.C.10 or supplied by a dispensing doctor on any one occasion. The definition of "any one occasion" is as

follows: drugs and appliances will be deemed to be supplied on one occasion, even though supplied at different times, if they are supplied at or following a visit or attendance and before a succeeding visit or attendance takes place. A repeat supply is not deemed to take place on the same occasion as the original supply even though there has been no intervening visit or attendance.

Doctors are asked not to increase the quantities normally ordered on any one occasion.

The following charges will be made for elastic hosiery; 5s. each for elastic anklets, knee-caps, leggings, and thigh pieces; and 10s. each for elastic knee-leggings, stockings, thigh knee-caps, knee stockings, thigh leggings, and thigh stockings.

Dispensing doctors are required to collect and retain the charges. Their remuneration will be adjusted in accordance with the following scheme.

Doctors Paid on Drug Tariff

Adjustment of Executive Council Payments.—A deduction of 1s. will be made in respect of each form submitted for pricing which does not contain an order for elastic hosiery, and an appropriate deduction will be made (5s. or 10s.) in respect of each item of elastic hosiery supplied.

Payment on Account.—This will be calculated on the same basis as at present but will be reduced by 1s. in respect of each form declared when the prescriptions are submitted for pricing. This reduction will be adjusted when the pricing office certifies the correct amount after making additional deductions in respect of elastic hosiery.

Dispensing Doctors Paid by Capitation Fee

An appropriate deduction will be made (5s. or 10s.) from the doctor's payments for dispensing each item of elastic hosiery. A prescription to claim payment for elastic hosiery should be written on a separate form. A deduction of 1s. will be made for each prescription for any other item or items on the special list supplied on any one occasion for a particular patient (for definition of "any one occasion" see above). Such items when given to a patient on one occasion should, for purposes of payment, be written on one prescription form.

Refund Claims by Patients

Patients being treated for a war disability accepted by the Ministry of Pensions may claim a refund for drugs or appliances prescribed in the treatment. Persons or their dependants receiving assistance grants from the National Assistance Board may apply for a refund if there is hardship.

People claiming these refunds should be given a receipt on Form E.C.57, supplies of which will be sent to dispensing doctors and chemists.

Other people may also claim for a refund on grounds of hardship through the National Assistance Board, but will be required to disclose their means.

SOME COMMENTS

The Amendment Act

The Act enabling the Minister of Health to make charges in the Health Service is the National Health Service (Amendment) Act, 1949, which became law on December 16, 1949, when Mr. Aneurin Bevan was Minister of Health. The relevant words in it (Section 16) are as follows:

> Regulations may provide for the making and recovery, in such manner as may be prescribed, of such charges, in respect of such pharmaceutical services, as may be prescribed, and may provide for the remission or repayment of the charges in the case of such persons as may be prescribed.

The First Announcement

It was on October 24, 1949, that Mr. Attlee, then Prime Minister, announced his Government's proposal to make a charge of not more than 1s. for each prescription under the National Health Service. He said that the purpose was to reduce excessive and in some cases unnecessary resort to doctors and chemists. The resultant saving would contribute about £10m., although this was not the primary purpose of the charge. Old-age pensioners would not have to pay it. The clause giving effect to this proposal was inserted into the N.H.S. (Amendment) Bill in the House of Lords on November 17, 1949.

Views of Annual Conference

Meanwhile the Annual Conference of Local Medical Committees had met on October 27, 1949. It carried unanimously the resolution:

This Conference places on record its opinion that under no circumstances whatever shall the doctor be required to be an agent to collect a Government charge on prescriptions.

Views of Representative Body

At the last Annual Representative Meeting held in June, 1951 (*Supplement*, June 23, 1951, p. 272), *a motion proposing a token payment was lost.* It read as follows:

> That, in the interest of national economy and in order to minimize both abuse of the Service and of general practitioners' time, this meeting favours the imposition of a token payment for every prescription or similar service rendered by a practitioner, this confirming the decision previously made by H.M. Government.

Speakers favouring the token payment argued that it would improve the doctor–patient relationship and deter excessive demands for drugs. Speakers against the motion emphasized that there should be no financial barrier between the patient and all necessary treatment, that the suggestion was impracticable, and that it was impolitic.

Isle of Man Experience

There is already a 6d. charge on prescriptions in the Isle of Man Health Service. It has been working for just over a year, after an initial dispute between the Tynwald (the Manx Parliament) and the doctors and chemists.

Charge and Counter-charge

In a statement on the new National Health Service Bill issued by Mr. Aneurin Bevan on February 1 he said: "If this is carried into law it means that the free Health Service is dead. The present charges on dentures and spectacles were to end in 1954. This Bill makes them permanent. . . . The temporary financial crisis has been eagerly seized upon as an excuse to destroy the National Health Service."

Speaking in London on February 2, Mr. David Gammans, Assistant Postmaster-General, said (*The Times*, February 4): "Mr. Bevan wants us to believe that a country which spends £778m. on tobacco, £488m. on beer, £650m. on gambling, and £107m. on going to the cinema every year cannot afford this charge of £10m. to put the National Health Service on a sound basis."

See leading article in Journal at p. 312.

YOUNG DOCTORS HIT

NEW HIRE-PURCHASE ARRANGEMENTS

The Government has decreed that for any article bought by hire-purchase a deposit of at least one-third of the price must be paid, and payment must be complete within 18 months. This scheme will seriously affect young doctors starting in practice.

A car is essential for them, but some doctors have already reported to B.M.A. Headquarters that they cannot find the money to put down the deposit of one-third; nor would they be able to pay off within 18 months. The position is particularly serious, because the doctor must take up a car as soon as it becomes available; otherwise it passes to the next man on the list who can pay for it.

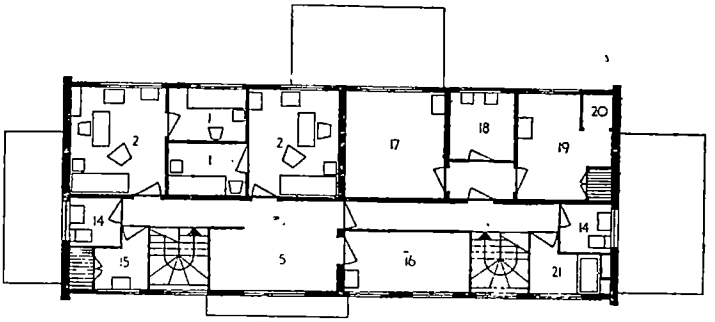
The B.M.A. is bringing the matter before the Treasury.

HEALTH CENTRE FOR NEW TOWN

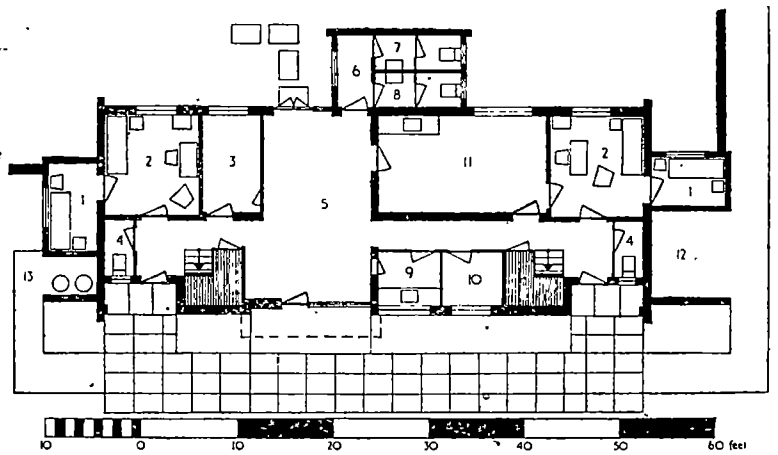
PIONEER DEVELOPMENT IN ESSEX

The new town of Harlow, which is rising out of the void in the flat country of Essex, has 664 dwellings completed, 978 in course of erection, and a further 462 out to contract. It has also 11 factory units occupied, 12 in course of erection, and 9 projected, and 25 shops are under construction and due to be completed within a few weeks. A temporary primary school has been opened, two club-rooms are available, and a cinema is threatened for the autumn. The town is ringed and intersected with 14 miles of roads, and is planned to be self-contained, not to be another dormitory suburb of London, 20 miles away.

Amid all this hustle of development a health centre has been established and is busily at work. It is a finished job, including the two cheerful waiting-rooms, the four consulting- and examination - rooms, and the accommodation for the local authority clinics, down to the kitchenette and the pram shed. The centre had been already in service for a week when it was officially opened on January 28 by Mr. A. E. Marples, Parliamentary Secretary deputizing for the Minister of Housing and Local Government. The company present included Sir Ernest Rock Carling, a trustee of the Nuffield Provincial Hospitals Trust, which has made this venture possible by means of a grant, Dr. Stephen Taylor, a member of the Harlow Development Corporation, who has been the moving spirit in the whole affair, and many members of Essex local authorities and of the medical profession in the area.



FIRST FLOOR PLAN



GROUND FLOOR PLAN

1. Examination
2. Consulting-room
3. Office
4. W.C.
5. Waiting-room
6. Lobby
7. Women's toilet
8. Men's toilet
9. Kitchenette
10. Nurses or cleaners
11. Weighing and neo-natal
12. Pram shed
13. Dust-bins
14. W.C. and lavatory
15. Clinical side-room
16. Minor ailments and consulting
17. Main dental surgery
18. Dental mechanics' room
19. Subsidiary dental surgery with x-ray
20. Dark-room
21. Cleansing-room

Reprinted from *The Nuffield Provincial Hospitals Trust Report*, 1948-51, p. 46.
Architects: E. Maxwell Fry and Jane Drew.

General Practitioners and County Clinics

This health centre claims to be the first in which general practitioners and county clinics are working under the same roof, and such a pioneer effort in the middle of what appears to be at first glance a vast estate given over entirely to builders and contractors, a town in the making, has been possible only as the result of specially good fortune. No permanent premises for health centre purposes could be provided by the Essex County Council until the population of the new town reached 10,000, and it is at present some 2,000. The Harlow Development Corporation, however, felt that the forelock of time should be vigorously pulled, and that health services should function from the very beginning and be grouped to avoid so far as possible the growth of individual practices attached to houses. This meant a compromise in the acceptance of a minimum of space and of expenditure and the rendering of a maximum of service and co-operation. A pair of semi-detached "lower-income-group" houses (three-bedroomed) were made into one unit to serve as a centre for group practice and local authority clinic services.

The county council and the local executive council gave assistance, the former by leasing from the Development Corporation part of the accommodation for five years for their own clinics, and the latter by agreeing to the direct letting by the Corporation of accommodation for medical and dental practice. The financial problem, however, had still to be solved, for the Government subsidy on the two houses would be forfeited, and the cost of conversion, adaptation, and furnishing had to be faced. At this juncture the Nuffield Provincial Hospitals Trust stepped in and made a grant of £2,450 towards the cost of the building, which, including the equipment, is expected to be about £6,500.

Economical Use of Space

The accommodation at the centre is small, even inconveniently small. Each of the consulting-rooms measures only about 10 ft. by 10 ft., but built-in cabinets and other devices ensure the use of every inch of space, and the usual facilities for general-practitioner examination are available. Adjoining each consulting-room is a smaller examining-room containing couch and lamp. There are four sets of consulting- and examination-rooms. One of them is fitted up as a dental surgery, with a subsidiary surgery containing *x*-ray apparatus, and beyond this a dental mechanics' room and a dark-room. Only two of the three doctors' consulting-rooms are so far furnished, and only one doctor at present works at the centre. As the population grows there will be a second and a third doctor. The appointments are the responsibility of the local executive council.

There are two waiting-rooms, one on each floor, curtained and carpeted to give a homelike appearance, with chairs of different sizes, small for children, and capacious for portly adults, and an electrical indicator which informs the waiting-patient that the doctor is disengaged. Other rooms in the building are fitted for the purpose of a maternity and child welfare clinic, a clinic for minor ailments, and the school medical service. The nearest general

hospitals are at Epping and Bishop's Stortford, but there is not any special link with the centre.

Use It Well

It is considered that the centre will be capable of serving ultimately a population of 10,000. After the five years' lease has expired it may be necessary to put up a special-purpose building instead of using adapted private houses. The doctors, we understand, will each pay a rent of about £275 a year for their premises, with the facilities. The day-to-day running of the centre is to be done by a small house committee, to consist of the doctors and the dentist, with representatives of the county council and the Development Corporation.

The centre is named Haygarth House, and a portrait of John Haygarth, M.D., of Chester, hangs in the waiting-hall. There appears to be no local link with Haygarth; the name was chosen because it suggested a good example of the old-time family physician, who was also an epidemiologist.

At a luncheon following the opening the Minister congratulated all concerned, especially the woman architect (Jane Drew) who was responsible for much of the skilful and pleasing design. A tablet was unveiled on which it was stated that Haygarth House is a place of healing and health planned for the people of Harlow. It placed on record an appreciation of the timely help of the Nuffield Trust, and concluded with the exhortation: "This is your health centre: use it well."

RADIOLOGY AND PATHOLOGY

ACCESS FOR GENERAL PRACTITIONERS

It has often been contended that general practitioners should have easy access to *x*-ray and pathology facilities, and especially that the contact should be direct with the department—the "open door" policy. Critics have contended that there might be far too many requests, so that the departments would be overloaded with work, or that a considerable number of the requests would be ill-informed and the better for being weeded out early on. Some general practitioners have direct access to such departments, but many others have not. The latter are prevented from having it partly, perhaps mainly, because the departments are already full of work and feel that their services might be abused if they opened their doors to the family doctor.

In order to obtain some evidence on this state of affairs from pathologists and radiologists, an inquiry has been carried out among 10 of them by the General Practice Review Committee of the B.M.A. This Committee is inquiring into all aspects of the conditions in general practice by means of questionaries and personal interviews. A short account of the evidence given by the pathologists and radiologists is set out below.

Practically No Abuse

The outstanding point they all make is that there is practically no abuse of their services. As one pathologist puts it: "In general we do not find that general practitioners abuse any facilities that are available to them." Another says, "Occasionally an examination may be requested that seems to us to be pointless, but a short talk on the telephone usually clears up the trouble, and we are either convinced that this is a reasonable request and deal with it or we convince the practitioner that it is not reasonable and throw the specimen away." "With the exception of pregnancy diagnosis," another pathologist states, none of the requests are frivolous, but he does think that requests from one or two practitioners are sometimes unnecessary. He links this with the amount of private practice they have, and he mentions that one doctor uses the laboratory "to impress his private patients with the speed with which he can get investigations done."

A radiologist, who states that frank abuse of his department is rare, points out that general practitioners recognize the use of it as a privilege which they would be loath to lose. He finds that tactful handling of wasteful requests is essential, and he refuses to do certain kinds of unnecessary routine work. Two radiologists who refer to abuse of their services say that more of it comes from inside the hospital than from outside.

Useful Relationship

Most of these consultants agree that while the open-door policy brings more work it also brings a useful and friendly relationship between themselves and the general practitioners. But one of them doubts whether in fact the work is increased.

A radiologist, agreeing that direct contact improves the relationship between hospital and general practitioner, adds that the open-door policy "should be confined to the general-practitioner hospitals" because of the amount of work in the radiological departments. Another radiologist draws a distinction between private and N.H.S. patients. He thinks that in private practice direct contact between general practitioner and radiologist is in the best interests of the patient and of economy. But for N.H.S. patients he concludes that a closed hospital department for *x*-ray examinations is in the best interests of patients: "Being N.H.S. cases, there tends to be less direct consultation with the radiologist, and so it is better that patients should be referred from the out-patient department for their *x*-ray examinations."

While welcoming improved relations with the general practitioners in their areas, several consultants regret that there is too little personal consultation with them.

ACTION OF G.M.S. COMMITTEE

During recent months the General Medical Services Committee has made repeated representations to the Ministry of Health to increase pathological and *x*-ray facilities direct for the general practitioner. The Ministry's response is sympathetic. It states that in about four-fifths of hospital centres there is at least one hospital which provides these direct facilities. Senior administrative medical officers in the remaining areas have been asked to remedy the position as soon as practicable.

Where lack of these facilities is causing difficulties local medical committees have been asked to take the matter up with the local hospital management committee or board of governors. If these requests fail, the G.M.S. Committee will take up individual cases with the Ministry of Health.

COST OF PRESCRIBING

LOCAL VARIATIONS

The latest information from the Joint Pricing Committee for England shows that the average total cost per person of prescriptions varies a good deal between one locality and another. In October, 1950, the average cost per person for England as a whole was 16.79d., in November it was 18.57d., and in December it was 17.64d.

Of the executive councils, Chester headed the list in each of these three months with an average cost of 25.65d. in the first, 29.43d. in the second, and 28.12d. in the third. In each of the three months Huntingdonshire came bottom of the list with an average cost of 10.33d. in the first, 11.21d. in the second, and 10.90d. in the third.

Wigan came second in the list after Chester in each of the three months, and Bournemouth came third in October and November, Southport being third in December, with Bournemouth fourth. Above Huntingdonshire at the bottom of the list came Shropshire in each of the three months, and Northamptonshire came just above that.

See leading article at page 312 of the Journal.

EXCHANGE VISITS WITH CANADA AND U.S.A.

The scheme initiated last year, with the approval of the Bank of England, for exchange visits between members of the American, British, and Canadian Medical Associations will be continued this year.

Exchanges with Canada: Two doctors from Britain may visit Canada in exchange for two doctors from Canada. Each doctor from Britain will be required to make all his own travel arrangements and to deposit up to £200 with the B.M.A. in London. On arrival in Canada he will be met by a representative of the Canadian Medical Association, who will present him with the equivalent in Canadian dollars. Similarly, each Canadian doctor on arrival in Britain will be met by a representative of the B.M.A., who will present him with the sum deposited in sterling.

Exchanges with the U.S.A.: Three doctors from Britain may visit the U.S.A. in exchange for three doctors from the U.S.A. Each doctor from Britain will be required to make all his own travel arrangements and to deposit up to £200 with the B.M.A. in London. On arrival in the U.S.A. he will be met by a representative of the Medical Society of the State of New York, who will present him with the equivalent in U.S. dollars. Similarly, each U.S. doctor on arrival in Britain will be met by a representative of the B.M.A., who will present him with the sum deposited in sterling.

The duration of the visits is left to the discretion of the doctors concerned. The American, British, and Canadian Medical Associations cannot accept any responsibility for a doctor who allows his visit to outlast the money placed at his disposal.

Applications are invited from members of the B.M.A. to take part in such exchanges in 1952. Each applicant must state the object of his visit. Medical practitioners in all branches of the profession, including general practice and public health, are eligible. Applicants should also give approximate dates of the visit desired. (Successful applicants will in due course be required to give exact dates and details of travel.) Applications must be received by the Secretary of the B.M.A. by March 1.

HOSPITAL ALLOCATIONS CUT

The Ministry of Health has told hospitals that they may now spend only 80% of the ordinary capital allocations to them. The previous figure was 85%. Shortage of steel is responsible. In addition investment from a central reserve will not be found for any large schemes unless they have already been awarded starting dates.

APPOINTMENT OF OPHTHALMIC MEDICAL PRACTITIONERS ON OPHTHALMIC SERVICES COMMITTEES

The B.M.A. and the Faculty of Ophthalmologists are at present seeking nominations in connexion with the appointment of ophthalmic medical practitioner members to ophthalmic services committees for the 1952–3 session. A communication has been addressed to every ophthalmic medical practitioner on the Central Ophthalmic List on this matter, but the response so far has been disappointing. There are nearly 400 vacancies to fill, and the co-operation of every ophthalmic medical practitioner willing and able to serve on these committees is sought.

Ophthalmic medical practitioners are therefore asked to nominate any of their colleagues who are willing to serve on the local committee as soon as possible. Additional copies of the appropriate nomination form can be obtained from B.M.A. House, Tavistock Square, London, W.C.1, and should be completed by the nominator and the candidate and returned to the Secretary of the B.M.A. *not later than Friday, February 15.*

Heard at Headquarters

Common Sense on Social Problems

The Council at its long meeting on January 23 was preoccupied with many matters internal to the Association, especially the vexed question of economy, and therefore two pieces of work of a kind which the Association does superlatively well slipped through without appreciative comment. One of these was a memorandum of evidence which a committee under Dr. Dain has drawn up for submission to the Royal Commission on Marriage and Divorce. The proposals put forward were marked by a sound common sense, although one never knows what prejudices may be encountered in such a field. The other piece of work, by a committee under Dr. Doris Odlum, was the evidence which it is proposed to furnish to the Ministry of Education committee on maladjusted children. Here proposals were put forward which may have an important bearing on the future of child guidance clinics and indeed on child psychiatry generally. The evidence of these committees will be reported when it is made public.

Surgeon Prime Minister

London during recent weeks has had the opportunity of hearing several speeches by Sir Godfrey Huggins, Prime Minister of Southern Rhodesia (he has been Prime Minister for nearly 19 years), who is also a Fellow of the Royal College of Surgeons of England and manages to combine with high executive office the practice of his profession in the wide spaces of South Central Africa. Sir Godfrey Huggins's address to the Royal African and Royal Empire Societies the other day showed him to be an alert and forceful speaker. It was said some time ago that he was accustomed to devote two hours each morning to his professional work, and then to take on his daily task of Prime Minister. During recent years he has conducted at least two major operations on governors of Southern African territories. Medicine makes such claims on those who follow it that few medical men have reached high office in the State, but South Africa a generation ago offered another example in Sir Starr Jameson, who was at one time Prime Minister at the Cape. Incidentally, both Jameson and Sir Godfrey Huggins qualified in London, and for health reasons settled in South Africa and took up practice there.

National Presidents

One of the consequences of holding the Annual Meetings of the Association only in certain large centres—a course which is now being proposed—is that the President of the Association, instead of being elected on the nomination of the local Branch, would be elected on a national basis. The method which has obtained up to now, of nomination by the Branch acting as host to the meeting, has resulted on many occasions in bringing to the office of President a man of national eminence in medicine. But with meetings held mostly in the provinces it has meant that many men in London whom it would have been desirable to have as Presidents have necessarily been passed over. It has been necessary often to explain to outsiders why it is that some eminent figure in medicine has never been President, and, occasionally, why someone who was not known beyond his own locality has been chosen for that office.

British Medical Association and Irish Medical Association

JOINT ANNUAL MEETING—DUBLIN, JULY 3-11, 1952

President-Elect: P. T. O'FARRELL, M.D., F.R.C.P.I., D.T.M., D.P.H., Dublin

PROVISIONAL PROGRAMME

The 120th Annual Meeting of the British Medical Association will be held in Dublin from Thursday, July 3, to Friday, July 11, 1952, as a joint meeting with the Irish Medical Association.

The first part of the Meeting—the Annual Representative Meeting—will be held in the Round Room, Mansion House, Dublin, starting at 10 a.m. on Thursday, July 3, and concluding on Monday, July 7.

The Overseas Luncheon and Representatives' and Ladies' Dinners will take place on Thursday, July 3; and there will be all-day excursions for Representatives and their Ladies on Sunday, July 6.

The adjourned Annual General Meeting and President's Address will take place at Trinity College on the evening of Monday, July 7, and will be followed by the President's Reception.

At an early stage of the second part of the Meeting—the Annual Meeting proper—there will be two Religious Services, Protestant and Catholic, held concurrently at 9 a.m. on Tuesday, July 8, preceding the opening Plenary Scientific Section, to be held in the Round Room, Mansion House.

The holding of three Plenary Scientific Sessions on the mornings of July 8, 9, and 10, in addition to the meetings of the Scientific Sections, is an innovation which it is hoped will prove of interest to the majority of members. These Plenary Sessions will be addressed by a number of experts and then opened for questions or general discussion. The subjects chosen are: "Death in Early Adult Life," "The Relief of Pain," and "Body Fluids and Water Balance."

In addition to the Plenary Sessions there will be 14 Scientific Sections, meeting in the afternoons of Wednesday and Thursday, July 9 and 10, and all day on Friday, July 11, at Trinity College and University College, Dublin. These Sections will be:

Medicine	(Two sessions) July 10 (p.m.), 11 (a.m.)
Surgery	(Two sessions) July 9 (p.m.), 10 (p.m.)
Obstetrics and Gynaecology	(Two sessions) July 11 (a.m. and p.m.)
Anaesthetics	(One session) Date not settled
Cardiology	" "
Child Health	" "
Ophthalmology	" "
Orthopaedics	" "
Oto-rhino-laryngology	" "
Pathology	" "
Psychiatry	" "
Radiology	" "
Social Medicine and Occupational Health	" "
Tropical Medicine	" "

Individual programmes for these Sections will be published in a later issue of the *Journal.*

The Annual Dinner of the Association will be held on Thursday, July 10, and it is hoped that the Popular Lecture will be given on the evening of Friday, July 11.

Among the many social functions to be arranged it is hoped to hold a Reception for Overseas Delegates on the evening of Tuesday, July 8; a State Reception on the evening of Wednesday, July 9; a Garden Party at Trinity College on the afternoon of Thursday, July 10; and a dance at the Royal College of Surgeons in Ireland on Friday, July 11.

It is proposed to hold the Secretaries' Conference in Dublin on the afternoon of Tuesday, July 8, and the Overseas Conference on the afternoon of Wednesday, July 9.

The Reception Room for registration in University College, Earlsfort Terrace, will be opened on Monday, July 7, at 9 a.m. The Ladies' Club will be situated at Newman House, St. Stephen's Green, and will be open throughout the Meeting.

The Annual Exhibition of Surgical Appliances, Foods, Drugs, and Books will be housed in University College, Dublin. The official opening will take place on Monday, July 7, at 9 a.m., and the Exhibition will remain open on July 8, 9, 10, and 11, from 9 a.m. to 6 p.m.

It is hoped also to hold a small Scientific Exhibition in University College, Dublin (in place of the Pathological Museum); particulars of this will be given later.

ACCOMMODATION AND TRANSPORT

Dublin is a capital city of great charm and beauty which cannot fail to provide something of interest to every visitor. It is rich in history, architecture, variety of scenery, and variety of entertainment.

There is adequate hotel accommodation in the city itself, but for those who prefer it there are, within easy travelling distance, a number of seaside and country areas where pleasant accommodation can be found.

An abridged list of hotels, together with approximate costs, is given below, and members are asked to make their reservations direct with the hotel concerned, and to state that they are attending the B.M.A. and I.M.A. Meeting. The Irish Tourist Association, of 14, Upper O'Connell Street, Dublin, is available for information and advice to any members who would like further particulars regarding accommodation.

There are a number of alternative routes open to members visiting Dublin, but traffic on *all* these routes during the summer months is very heavy. For the comfort and convenience of members, therefore, the Association has approached the transport companies with a view to securing reservations on trains and 'planes. These reservations can be made, however, only if the companies receive in good time an indication of the number of passengers likely to travel by the various routes.

The Shirley James' Travel Service, Ltd., of Tavistock House South, Tavistock Square, London, W.C.1, the official Travel Agency for B.M.A. House, has been asked to handle these travel inquiries, and members are invited to communicate with this Agency *as soon as possible,* stating the route selected, the proposed date of travel to and from Dublin, and the number of passengers. Briefly, the alternative direct routes open to visitors to Dublin are as follows:

Air	*Rail and Sea*
Birmingham–Dublin	Holyhead–Dun Laoghaire (Kingstown)
Bristol–Dublin (restricted service)	Liverpool–Dublin
Glasgow–Dublin	Glasgow–Dublin (restricted service)
Liverpool–Dublin	
London–Dublin	
Manchester–Dublin	

GENERAL INFORMATION

Passports or travel permits are necessary when visiting Ireland, but no ration cards are required. There is no Customs restriction upon taking in reasonable personal effects.

Visitors may hire motor-cars in Dublin, thus avoiding the expense and trouble attached to taking cars over. The cost of hire is approximately £12 12s. a week for self-driven cars, and chauffeur-driven cars may be hired for about 1s. 3d. a mile. Those wishing to take over their own cars are advised to get in touch with the A.A. or R.A.C. as early as possible, as facilities are restricted.

FIRST LIST OF HOTEL ACCOMMODATION

Name and Address of Hotel	No. of Rooms.	Bed and Breakfast per Day From	Full Board per Day From (Minimum 3 Days)
DUBLIN CITY			
*Central, Exchequer Street ..	107	21/6	34/-
*Clarence, 6–8, Wellington Quay	70	30/-	—
*Four Courts, 9–12, Inns Quay	82	20/-	—
Ivanhoe, 7, 8, Harcourt Street	40	18/6	31/-
*Jury's, College Green	77	25/-	—
*Royal Hibernian, Dawson Street	88	30/-	47/6
*Russell, 102–104, St. Stephen's Green	35	30/-	—
Standard, 82, Harcourt Street	70	21/-	32/6
*Wicklow, Wicklow Street ..	33	21/-	—
*Wynn's, 35–39, Lower Abbey Street	62	30/-	—
DUN LAOGHAIRE (7 miles from Dublin)			
*Pier, 3, Victoria Terrace ..	24	21/-	37/6
*Ross's, Victoria Terrace ..	63	21/6	36/-
*Royal Marine	102	21/6	39/-
HOWTH (9 miles from Dublin)			
*Claremont	25	25/-	35/-
*St. Lawrence, Harbour Road ..	32	18/-	35/-
LUCAN (8 miles from Dublin)			
*National Spa and Hydro ..	44	21/-	33/-
BRAY (13 miles from Dublin)			
*Bray Head, Esplanade ..	52	21/-	36/-
*Esplanade, Esplanade	36	21/-	36/-
*Royal, Quinsboro' Road ..	60	19/6	30/-

* Licensed hotels.

TIME-TABLE OF MEETING

Thursday, July 3

9.00 a.m.—A.R.M. Inquiry Office opens at Mansion House, Dawson Street.
9.30 a.m.—Ladies' Club opens at Newman House, St. Stephen's Green, for registration of Ladies and for tours.
10.00 a.m.—Annual Representative Meeting opens at Mansion House, Dawson Street.
11.00 a.m.—Welcome by Lord Mayor of Dublin to A.R.M.
1.00 p.m.—Overseas Luncheon, Royal Hibernian Hotel, Dawson Street.
2.30 p.m.—Excursions for Ladies.
7.30 p.m.—Dinner for Representatives at Gresham Hotel, O'Connell Street.
7.30 p.m.—Dinner for Representatives' Ladies at Metropole Restaurant, O'Connell Street.
The dinners will be followed by a Reception and Dance at Gresham Hotel.

Friday, July 4

9.00 a.m.—A.R.M. Inquiry Office open, Mansion House.
9.30 a.m.—Ladies' Club open, Newman House.
9.30 a.m.—A.R.M., Mansion House.
2.30 p.m.—Excursions for Ladies.
7.30 p.m.—Abbey Theatre or evening excursions.
7.30 p.m.—Edinburgh Graduates' Dinner.

Saturday, July 5

9.00 a.m.—Council Meeting, Council Chamber, Royal College of Physicians.
9.00 a.m.—A.R.M. Inquiry Office open, Mansion House.
9.30 a.m.—Ladies' Club open, Newman House.
10.00 a.m.—A.R.M., Mansion House.
2.30 p.m.—Excursions for Ladies.
7.30 p.m.—Glasgow Graduates' Dinner.
7.30 p.m.—Welsh Dinner.
7.30 p.m.—Abbey Theatre or evening excursions.

Sunday, July 6

a.m.—Long excursions by coach.
p.m.—Short excursions by coach.
Evening Concert.

Monday, July 7

9.00 a.m.—A.R.M. Inquiry Office open, Mansion House.
9.00 a.m.—Opening of Exhibition by President-Elect, University College, Earlsfort Terrace.
9.00 a.m.—Reception Room opens at University College, Earlsfort Terrace, for registration.
9.30 a.m.—A.R.M., Mansion House.
10.00 a.m.—Annual Meeting, Irish Medical Association, Physics Theatre, University College, Dublin.
12.30 p.m. (or as soon thereafter as the business of the A.R.M. is concluded).—Annual General Meeting, Mansion House.
Council Meeting (at conclusion of A.R.M.).
8.30 p.m.—Adjourned Annual General Meeting and President's Address, Trinity College.
9.30 p.m.—President's Reception, Trinity College.

Tuesday, July 8

9.00 a.m.—Roman Catholic Service, Pro-Cathedral.
9.00 a.m.—Protestant Service, Christ Church Cathedral.
9.00 a.m.—Reception Room and Exhibition open, University College.
9.30 a.m.—Ladies' Club open, Newman House.
10.45 a.m.—Scientific Plenary Session, Mansion House.
2.30 p.m.—Secretaries' Conference, Royal College of Physicians.
8.00 p.m.—Reception for Overseas and Foreign Representatives and Delegates.

Wednesday, July 9

8.30 a.m.—Annual Medical Missionary Breakfast.
9.00 a.m.—Reception Room and Exhibition open, University College.
9.30 a.m.—Ladies' Club open, Newman House.
10.00 a.m.—Scientific Plenary Session, Mansion House.
10.00 a.m.—Notts Ladies' Challenge Cup Golf Competition.
10.00 a.m.—Leinster and Childe Cup Golf Competition.
10.00 a.m.—Excursion and tours.
12 noon.—Visit to St. James's Brewery.
2.30 p.m.—Overseas Conference, Royal College of Surgeons.
2.30 p.m.—Scientific Sections, University College and Trinity College.
2.30 p.m.—Short tours.
8.00 p.m.—State Reception.

Thursday, July 10

9.00 a.m.—Reception Room and Exhibition open, University College.
9.30 a.m.—Ladies' Club open, Newman House.
10.00 a.m.—Scientific Plenary Session, Mansion House.
10.00 a.m.—Treasurer's Cup Golf Competition.
10.00 a.m.—Excursions and tours.
12 noon.—Visit to St. James's Brewery.
2.30 p.m.—Short tours.
2.30 p.m.—Scientific Sections, University College and Trinity College.
4.00 p.m.—Garden Party at Trinity College.
7.30 p.m.—Annual Dinner.

Friday, July 11

9.00 a.m.—Reception Room and Exhibition open, University College.
9.30 a.m.—Ladies' Club open.
10.00 a.m.—Scientific Sections, University College and Trinity College.
10.00 a.m.—Excursions and tours.
2.30 p.m.—Scientific Sections, University College and Trinity College.
8.00 p.m.—Popular Lecture.
9.30 p.m.—Dance in aid of R.M.B.F. Society of Ireland at Royal College of Surgeons in Ireland.

DOCTORS' HOBBIES

EXHIBITION AT ANNUAL MEETING

It is proposed, if sufficient response from intending exhibitors is received, to hold an exhibition of doctors' hobbies at this year's meeting of the B.M.A. and I.M.A. in Dublin.

The exhibition will be of paintings, drawings, literature, practical handwork, and collections of various objects from stamps to silver and glassware. Will those willing to ensure the success of this venture please communicate at once, giving particulars of proposed exhibit, with Dr. F. S. Bourke, 14, Fitzwilliam Square, Dublin? Any articles loaned for exhibition will be covered by insurance.

Correspondence

Sale of Goodwill

SIR,—Scarcely a week passes without one or more letters appearing in your columns complaining of difficulties created by that part of the National Health Act which prohibits the sale of practices or partnerships. Hundreds of recently qualified doctors are unable to get into practices; older doctors are unable to leave the busy urban practices and finish their time in quiet country areas; retiring doctors find that the compensation offered is hopelessly inadequate with present-day costs; widows are afraid to sell their houses to incoming doctors, and so on, *ad infinitum*.

It would be interesting to know exactly *who* has benefited by these oppressive and cumbersome clauses in the Act. They have certainly done no good to the patients, and it is clear that they are nothing but an incubus to the profession. However, Socialist principles, as laid down by the late unlamented Minister of Health, were satisfied.

I suggest that, now that Socialism has been rejected by the country, these clauses should be wiped out of the Act, and the profession should regain the right to sell and buy "goodwill." The country would save the £66m. and interest payments thereon, and the *Journal* would soon be full of columns of practices and partnerships for sale. But what about the £8m. or so of "compensation" already paid to certain doctors? This could be repayable to the Ministry on subsequent sale of the practice or, better still, wiped out as one of the losses caused by Socialist mismanagement—on a par with the groundnuts.—I am, etc.,

Coventry. D. MURRAY BLADON.

Trainee Assistant Scheme

SIR,—I have been in communication with many trainee assistants, past and present. From these statements, and very little from my own personal experience, I have come to the following opinion. In theory it is an excellent scheme, but in practice it is merely feather-bedding many of those fortunate practitioners who have been allowed to take on a trainee assistant.

I am convinced the scheme should be either withdrawn and the training brought into the medical curriculum, and thus save a small sum of money for the country, or else there should be laid down (1) definite facts about what the trainee should be taught, and (2) what is considered to be the minimum off-duty for the young doctors undergoing initial training in the ways of practice (it must be stressed at this point that the assistant is not paid by the practitioner).

The local medical committee should be made to take a greater interest in the work that the trainee is being asked to carry out, and not merely to give the said permission to established practitioners (these doctors are themselves usually associated with the committee) and then lose complete interest in the young medical man.

I agree with Dr. R. P. Gammie (*Supplement*, January 12, p. 13), who stated that no practitioner or firm should be allowed more than three trainees—consecutive or otherwise. Since so many of the trainees have so varied off-duty, I ask, What is considered to be the minimum off-duty of complete freedom that a *trainee* should expect to receive?—I am, etc.,

Evesham, Worcs. P. J. LEWIS.

SIR,—So Dr. R. P. Gammie (*Supplement*, January 12, p. 13) feels that having had a trainee assistant for three years he should now be able to get a further grant because his latest trainee has been taken into partnership. And he goes so far as to say: "From the start my partners and I set out to facilitate the introduction of an assistant to the practice with the definite aim of offering a satisfactory trainee a practice share. . . ."

Surely this is an abuse of the trainee scheme, as it appears that an assistantship with a view would have met the requirements of this practice. So far from helping young doctors to enter practice, the trainee scheme directly hinders them because of such abuse, and its total abolition is much to be desired.—I am, etc.,

Northampton. J. LEAHY TAYLOR.

Frequent Change of Doctor

SIR,—In the "Evidence from Birmingham" (*Supplement*, January 19, p. 18) it is stated that "the introduction of the waiting period of 14 days before people can change their doctors does not seem to have had as much deterrent effect as expected." It is my very strong impression that it has had none at all.

Those who wish to change seem to do so either because their home location is nearer to the doctor of their choice or because they have no use for their old doctor, and they are not to be put off by a stupid bit of red tape. All the procedure appears to effect is waste of time of patient and of doctor (two interviews of five minutes—about long enough for a *very busy* G.P. to see two patients), waste of time of the executive council's clerk and of paper and envelopes, doubling the postage, and irritation all round—and all this at a time when rigid economy is said to be of paramount importance.—I am, etc.,

Thame, Oxon. C. H. BARBER.

Charge on Prescriptions

SIR,—I wonder if it is generally realized how the charge for prescriptions will affect the rural doctor who does his own dispensing? The actual collection of the shilling will in many cases have to be done by the doctor in person, and this unprofessional conduct will undoubtedly spoil the good relationship existing between a doctor and his patient which is vital for good medical practice.

I hope it is not too late for our legislators to think again before taking a step which will undermine the prestige of the country medical practitioner. Collection of contributions by a doctor in person was unknown in club and contract practices before the Health Service. In many cases the doctor will pay the proposed shilling himself rather than take this retrograde step to the position of the "Sixpenny Doctor" of the Victorian slum areas.—I am, etc.,

Bishop Auckland, County Durham. L. CAMA.

Public Health Award

SIR,—Assistant medical officers will be heartened to know that at the meeting of the staff side of Whitley Committee C on January 22 (*Supplement*, February 2, p. 42) the question of the revision of the assistant medical officers' salary award under the Industrial Court was raised.

The cost of living has increased 12% during 1951 and shows no sign of halting. It is not unreasonable to ask that the staff side will not accept an increase of less than this amount. The practitioners of preventive medicine should not receive a lower betterment factor than their colleagues in general practice, whose case is now due to go to arbitration.

I understand that 20% of the local authorities have not implemented the award of the Industrial Court to public

health medical officers. Whatever the figure, what does the Association propose to do now that its bluff of "black listing" and "important notices" has been called? My resolution in the name of the Darlington Division to the 1951 Annual Representative Meeting that "in the event of an authority having failed to implement the award of the Industrial Court in full by September 1, 1951, the matter should be referred to the Ministry of Labour" was scorned as serving no useful purpose. Events have proved that I was right and the Association wrong. The general practitioners have obtained arbitration at long last by naming a date of withdrawal from the Service if it was not granted. This indicated that they meant business.

If the office bearers do not wish the Association to be brought to derision by their failure to have the award implemented, then I suggest that the British Medical Guild be instructed forthwith to notify the Minister of Labour that a dispute exists with these authorities which have not implemented the award to date, requesting him to refer the dispute to an industrial tribunal. Unless the Association takes this action, what hope is there of a revision being accepted?—I am, etc.,

MAURICE B. GRIFFITH,
Hon. Sec., Durham County M.O. Guild.

Darlington.

"Piracy"

SIR,—I am sure that there must be many besides myself who would wish to applaud most heartily the letter from my old fellow house-man Dr. H. B. Walker (*Supplement*, January 19, p. 22). I have been hoping for some time that some abler member of the depressed class than myself would take up the cudgels in defence of the rights of private property. The profession has surely sunk to about the lowest depth when the ordinary right to dispose of one's own to the highest bidder is stigmatized as "piracy."

Deprived of the right to sell our practices to the best advantage and offered instead so-called compensation on the lowest terms, having no right to superannuation, it seems that we are expected meekly to hand over our houses on similar terms, as Dr. Walker says, to "some individual whom I do not know on the instructions of some committee whom I shall certainly despise." To read some of the letters of your correspondents it would seem that the only option to be left to us of the older generation is to be the freedom of the gas oven. *O tempora, O mores!*—I am, etc.,

C. J. GORDON TAYLOR.

Bridlington, Yorks.

Unhelpful Attitude

SIR,—I read with interest Dr. Wand's address (*Supplement*, January 12, p. 9) to the Annual Meeting of the Executive Councils Association. We all expect help and guidance from our executive council. But the following case would show how the unhelpful attitude of an executive council can cause untold misery to a doctor.

Just before July, 1948, I set up practice in unsuitable premises. I asked for the lease of a site next door from the corporation. My application was supported by the executive council. The site was advertised, and out of several applicants I was duly selected. I was hoping to have decent accommodation for my surgery early in 1949. But the executive council stepped in and asked the corporation to postpone negotiations. As a condition of support I was asked to close down my branch surgery. Needing the site desperately (the only vacant site in the neighbourhood) I agreed to that condition and closed the branch surgery. I thought that was the end of my troubles and hoped to have the house ready by the end of 1949. But months passed by and no news from the corporation.

A shock was awaiting me when I went to make inquiries. I was told I could not have the site, as the executive council had asked the corporation to build the house and let it to their nominee. The executive council confirmed it. I kept my side of the agreement by closing down my branch surgery, but the executive council did not even have the courtesy to inform me of the change in their plans. Would they promise the tenancy of the house to me? No. I was free to apply, but they could nominate someone else.

I had to appeal to the Minister against this blatant breach of faith. After several months' correspondence the executive council, owing to pressure from the Minister, agreed to reserve the house for me. I am still carrying on practice in my cramped rooms—under notice to quit—and the house is not even half-furnished.

A few weeks ago I was sent a copy of the proposed agreement for the tenancy. Rent? £6 per week. I would be responsible for rates and repairs. Thus the inclusive rental would be about £10 per week. I thought it was rather excessive. A doctor's house and surgery are an essential service and rent should be economic but reasonable.

The contract was for about £4,200. So the corporation want their capital back in 14 years. If I bought this house I would have to pay £168 as interest as against £300 as rent. How did the corporation arrive at this figure?—(1) Loss of subsidy from the Government, which they had received for ordinary houses. (2) Interest on capital. (3) Compensation for loss of site for ordinary houses. (4) Compensation for amount to be spent for conversion of this house into flats, if I moved to a health centre. Would it make any difference if I guaranteed not to move? No. If I did not move during the 15 years stipulated, would they refund me the compensation? No, it would be retained by the corporation. Clear case of profiteering? I leave it to your readers to judge.

I took up the matter with the executive council and requested them to make sure that the rent suggested was fair. I thought it was their responsibility, as they had forced me into this position. No, they cannot take any action. If I was left alone I would have had my house two years ago at a much smaller cost. I may have to wait for the house for another year and pay excessive rent, thanks to the executive council.

Birmingham is going to build several more of these doctors' houses, and perhaps other local authorities would be doing the same. A doctor selected to occupy such a house, without a list or with a small list, will have to work for a long time just to pay this rent, or let it go to someone else who can afford it. Is it right?—I am, etc.,

D. R. PREM.

Birmingham.

Middle-class Practices

SIR,—I was delighted to get a questionary, presumably a B.M.A. Gallup poll, asking me to put forward ideas for improving the N.H.S. It was pretty plain in 1948 that the Socialists were going to ride roughshod over the middle-class practice. As it later turned out, the "vermin" doctors like myself were going to reorientate themselves and send their late private patients off to hospital out-patients. The middle-class practice that might have been the ideal standard for the scheme was no longer a workable proposition.

The doctor who has had access to diagnostic facilities such as the laboratory, *x* rays, hospital beds, and consultants can no longer find too much time for these things. His surgery is choked with colds, repeat prescriptions, and certificates. And yet the problem of the middle-class patient remains. These people are not always eager to be diagnosed and treated in out-patients. As a result it is fair to say that 2,000 middle-class patients, with their expected standard of attention on the one hand, give the vermin doctor the same amount of work as the industrial-practice doctor with his 4,000 patients and the type of attention that they have always had. No recognition of this state of affairs has ever come out of the B.M.A. or the Ministry, and yet anyone who has worked in both types of practice knows it for a fact. The situation has been ignored by all except the bewildered specialist in private practice, who either goes abroad, joins the F.F.M., and/or voices protest in the agony column at the back of the *Supplement*. And

still nothing emerges except a demand for higher capitation rate, which is not really the solution, though it is necessary.

In my opinion nobody should be paid for any patients over 3,000, and that list ought to be worth quite £3,000 a year. In this way there would be no more unemployment for the young entrants into practice, and patients would get a decent type of attention whoever they might be. Secondly, private practice would be easier if patients could elect to contract out of paying their weekly contributions, although they should still be eligible for free hospital treatment and drugs because of their support for the N.H.S. via indirect taxation. This system would help to make middle-class doctoring a more practicable proposition than it is, because the vermin doctor might be able to subsidize his list with fee-paying patients.

There was once an argument that the lists could not be limited below 4,000 in case it standardized practices enough to be the thin end of the wedge for State medicine. When one considers that some districts have an average of 1,600 patients per doctor, there does not seem so much cause for alarm, though perhaps others average 4,000. Anyway, this letter is a plea for better working conditions and a fair chance for entrants into general practice. It is the latter who will ultimately treat the patients one now has.—I am, etc.,

Hampton Hill, Middx. I. E. D. MCLEAN.

Night Call

SIR,—As there is no redress for the G.P. except in the pleasure of letting off steam to you, I thought it might amuse you to hear the following.

My wife and I were out at a dance last week and our maid was got out of bed by the telephone at 10 p.m. The message she took was as follows, from Mrs. A's daughter at Dover: Could the doctor please call in to see her mother, since she hadn't heard from her for a fortnight?

Knowing that to neglect such a call might land me in front of a tribunal, I duly made the call. Mrs. A had a cold in the head and hadn't bothered to write; there was no need for the doctor to call really, but, since he had, could he do this, that, and the other?

Mrs. A was unable to understand why I was offended at the request of her daughter and did not propose to tell her daughter, who was rather a nervous sort of person. As the call had nothing to do with Mrs. A, I could hardly blame her and rendered what services she required. What can we do about it?—I am, etc.,

Hythe, Kent. D. KENNEDY.

Loss of Personal Touch

SIR,—I feel it time now for the leaders of our profession to precipitate the introduction once again of the G.P.s looking after their own cases which are within their scope. There is a gross redundance of young hospital medical officers who are too filled in their own cerebral centres with the rarities of medicine. The danger of over-specialization is all too imminent. Doctors tend to lose that personal and common-sense touch. It is the patient that matters as much as the disease. The patient requires to be educated not on the lines of intravenous pyelograms and arteriographic investigations but on the principal hygienic and prophylactic methods of keeping oneself fit. Surely bizarre electric-wave therapy and fancy massage as given in a physiotherapy department, good as often it is, could be reduced considerably if the patient was instructed to take a hot-water bottle for his lumbago and retire to bed.

Never before in the history of this country of ours have the patients been so neurotic. *X*-ray investigations are needlessly desired, and the patients very often have their wish fulfilled. The time will come when doctors will be doing platelet counts for the smallest possible haemorrhage. We require the cream of medicine, and that is the good general practitioner, to give more judgment on matters and to receive a greater entry into the care and welfare of the patient.

The public have been educated on the wrong lines to a great degree. Let them think of health rather than of illness, and by so doing we can relieve a great burden from the psychologists, who I think will agree that psychosomatic medicine has taken primary place.—I am, etc.,

Brighton. R. K. STEEN.

Tracing Patients

SIR,—I have read the acrimonious comments from doctors who object to checking their lists. I suggest it would be politic to go with the executive councils in this as far as they want to go, and then take the councils twice as far again. How many doctors realize that they have patients on their lists who can produce medical cards, and whose medical record envelopes are in the proper place, and who may be under treatment now, but are still on the free list?

One partner in this firm recently retired, and a check of his patients alone disclosed between 60 and 70 who appear to be normal patients in every way except for the payment.

The only possible answer seems to be for the council to submit a list of his patients to each doctor once a year or thereabouts.—I am, etc.,

Shipley, Yorks. H. S. RUSSELL.

Trade or Profession?

SIR,—I wish to protest at the way in which references are made on the B.B.C. to trade unions as applying to the medical profession. On two occasions within the last 12 months this subject has been the topic of conversation in the "Any Questions?" programme. The members taking part in that programme are presumably educated, intellectual people, yet they seem to think that, because a doctor must first have his name entered in the *Medical Register* before being allowed to practise, the medical profession is a "closed shop" and a strong trade union. Can they not see that the practice of medicine is a profession and cannot be compared with a trade?

I would be interested to know if other doctors feel irritated by these references which are broadcast to the gullible public.—I am, etc.,

Burbage, Wilts. M. J. L. HASSALL.

Rent at Health Centres

SIR,—I do not know how correct Dr. J. F. Robinson's statement (*Supplement*, January 26, p. 32) is that G.P.s at a health centre will be charged a rental, but this is quite within the realm of probability, as anything can happen to a G.P. Most of us and our representatives have been living in a land of fantasy for many years and more so than ever since July, 1948.

The State abolished private practice and N.H.I., and established a totalitarian health service. It bought our practices (assets) at its price, holding on to the capital and paying us the interest on this which it decided should be paid, giving us no option of investing at 4.5 or 6%. It has used our surgeries and/or houses for carrying out its work without rent or allowances for phones, light, heat, paper. Our wives in, I expect, a very large number of cases have to keep the place clean, answer the phones, and answer the doors. An allowance for this is made in income tax, which means that it costs the State the tax on around £150 for these services. It also pays us a camouflaged salary which was very inadequate in 1947, when I think we went from 9s. to 15s. under N.H.I., without prejudice as to the finance of N.H.S.—all according to Spens.

Now I submit that, if the State succeeded in getting away with all this, I see no reason why it should not get away with making us pay rent for doing its and our work at a health centre and allowing us to put this down as expenses for income-tax purposes. The N.H.S. is fabulously expensive,

and this rent would reduce the cost by about £6,000,000, less our income-tax rebate. There has been a strong suggestion that it is the doctors who must reduce the cost. We are in the hands of our representatives. What do they think ?—I am, etc.,

St. Osyth, Essex. R. E. CLARKE.

Badly Set-out Form

SIR,—I am constantly being put to considerable trouble and annoyance by having Form E.C.1 (Rev.) presented or sent to me incorrectly completed by the patient. In the majority of cases they have omitted the national registration number and date of birth. This results in needless visits or letters, which are either not answered or answered weeks later. The reason for this omission lies in the fact that the form is badly set out and gives the impression that the words, "For Office Use," apply to the whole of the right-hand corner. May we please have this put to rights ? I believe that this is a prevalent occurrence, and one which adds unnecessary burden to our ever-increasing administrative tasks.—I am, etc.,

Scunthorpe, Lincs. R. H. FOXTON.

B.M.A. LIBRARY

The following books have been added to the Library:

Adelaide Hospital Centenary Book. 1951.
Averill, L. A., and Kempf, F. C.: Psychology Applied to Nursing. Fourth edition. 1951.
von Baeyer, W. R.: Die moderne psychiatrische Schockbehandlung. 1951.
Birch's Management and Medical Treatment of Children in Tropical Countries. Ninth edition. 1951.
Brain, W. R.: Mind, Perception, and Science. 1951.
British Medical Journal: Any Questions ? First Series. 1951.
Brown, A. L.: Technical Methods for the Technician. Fourth edition. 1951.
Burgdörfer, F.: Bevölkerungsdynamik und Bevölkerungsbilanz. 1951.
Clark's Applied Pharmacology. Eighth edition revised by Andrew Wilson and H. O. Schild. 1952.
Consolazio, C. F., Johnson, R. E., and Marek, E.: Metabolic Methods. 1951.
Danaraj, T. J.: Eosinophilic Lung. 1951.
DeLee's Obstetrics for Nurses. Fifth edition by M. E. Davis and C. E. Sheckler. 1951.
DeSanctis, A. G., and Varga, C.: Handbook of Pediatric Medical Emergencies. 1951.
Ferguson, T., and Cunnison, J.: The Young Wage-earner: a Study of Glasgow Boys. 1951.
Fervers, C.: Die Narkoanalyse als initiale Methode in der Psychotherapie. 1951.
Groddeck, G.: The Unknown Self. 1951.
Hoff, F.: Klinische Physiologie und Pathologie. 1950.
Johnstone, M. V.: Manual of Lip-reading: Embodying Twenty-six Practical Lessons. 1951.
Key, J. A., and Conwell, H. E.: Management of Fractures, Dislocations and Sprains. Fifth edition. 1951.
Laborderie, J.: Electrothérapie. 1951.
Martin-Doyle, J. L. C.: Synopsis of Ophthalmology. 1951.
Mollison, P. L.: Blood Transfusion in Clinical Medicine. 1951.
Morse, M. E., Frobisher, M., jun., and Sommermeyer, L.: Microbiology for Nurses. Eighth edition. 1951.
Morse. M. E., *et al.*: Microbiology and Pathology for Nurses. Third edition. 1951.
Mulligan, R. M.: Syllabus of Human Neoplasms. 1951.
Nand, D. S.: Preliminary Notes on the Findings of Soul-Analysis (Total Psycho-Analysis). 1951.
Nand, D. S.: Preliminary Report on the Methods of Total Psycho-Analysis (Soul-Analysis). 1951.
Savill, A.: The Hair and Scalp. Fourth edition. 1952.
Schuster, Sir G.: Christianity and Human Relations in Industry. 1951.
Segal, M. S.: Management of the Patient with Severe Bronchial Asthma. 1950.
Sellew, G., and Furfey, P. H.: Sociology and Social Problems in Nursing Service. Third edition. 1951.
Shattuck, G. C.: Diseases of the Tropics. 1951.
Sherwood, N. P.: Immunology. Third edition. 1951.
Shurtleff, F. E.: Children's Radiographic Technic. 1951.
Slavson, S. R.: Analytic Group Psychotherapy with Children, Adolescents, and Adults. 1950.
Smith, K. M.: Recent Advances in the Study of Plant Viruses. Second edition. 1951.
Speer, E.: Die Liebesfähigkeit (Kontaktpsychologie). 1951.
Spence, L.: Second Sight: Its History and Origins. 1951.
Stebbing, L.: Understanding Your Child. 1951.
Templewood (Viscount): The Shadow of the Gallows. 1951.
Terminal Care for Cancer Patients. 1950.
Van Alyea, O. E.: Nasal Sinuses. Second edition. 1951.
Watson-Jones, Sir R.: Fractures and Joint Injuries. Fourth edition. Volume 1. 1952.
Willan, R. J.: Clinical Hat Pegs for Students and Graduates. 1951.
Williams, J. F.: Personal Hygiene Applied. Ninth edition. 1950.
Williams, J. F., and Brownell, C. L.: Administration of Health Education and Physical Education. Fourth edition. 1951.
Yacorzynski, G. K.: Medical Psychology. 1951.

H.M. Forces Appointments

ROYAL NAVY

Surgeon Captain A. W. McRorie, K.H.P., has retired.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Commander S. B. Levy, V.R.D., has retired.

ROYAL CANADIAN NAVY

Surgeon Lieutenant-Commander R. H. Roberts to be Surgeon Commander.

ROYAL CANADIAN NAVY (RESERVE)

Surgeon Lieutenant-Commander J. D. Ross to be Surgeon Commander.

ARMY

Major-General J. M. Macfie, C.B., C.B.E., M.C., K.H.S., late R.A.M.C., has retired on retired pay.

Brigadier (Temporary Major-General) J. C. Collins, C.B.E., late R.A.M.C., to be Major-General.

Brigadier A. G. Harsant, O.B.E., K.H.S., late R.A.M.C., to be Major-General (Supernumerary).

Colonels (Temporary Brigadiers) W. L. Spencer-Cox, O.B.E., M.C., and R. J. Rosie, K.H.P., late R.A.M.C., to be Brigadiers.

Colonel G. W. B. Shaw, late R.A.M.C., having completed four years in the rank, has been retained on the Active List supernumerary to establishment.

Lieutenant-Colonels J. G. Black, E. J. Curran, and A. N. T. Meneces, C.B.E., D.S.O., from R.A.M.C., to be Colonels.

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel J. T. Smyth, having attained the age for retirement, is retained on the Active List supernumerary to establishment.

Majors A. L. Pennefather, J. McGhie, G. F. Valentine, and E. Gareh to be Lieutenant-Colonels.

Captain P. L. G. Cole to be Major.

REGULAR ARMY RESERVE OF OFFICERS

Major-General J. A. Manifold, C.B., D.S.O., late R.A.M.C., having attained the age limit of liability to recall, has ceased to belong to the Reserve of Officers.

ROYAL ARMY MEDICAL CORPS

Major (Honorary Lieutenant-Colonel) R. H. Wheeler has ceased to belong to the Reserve of Officers.

Major (Honorary Lieutenant-Colonel) J. M. McF. Drew, O.B.E., has resigned his commission.

Major R. R. Simpson, J.P., has relinquished his commission, retaining the rank of Major.

SUPPLEMENTARY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS

Majors (acting Colonels) G. S. N. Hughes, D.S.O., W. M. Evans, O.B.E., M.C., T.D., and G. M. Frizelle, T.D., to be Colonels.

TERRITORIAL ARMY

Colonel J. B. S. Guy, C.B.E., T.D., R.A.M.C., has retired, retaining the rank of Colonel.

Colonels H J. D. Smythe, M.C., T.D., and J. E. Rusby, M.C., T.D., R.A.M.C., having exceeded the age limit, have retired, retaining the rank of Colonel.

Lieutenant-Colonel (acting Colonel) W. E. Tucker, M.B.E., R.A.M.C., to be Colonel.

Lieutenant-Colonel W. H. Wolstenholme, O.B.E., T.D., R.A.M.C., to be Colonel.

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel R. Mowbray has been granted the acting rank of Colonel.

Major (acting Colonel) A. G. Flemming, O.B.E., to be Lieutenant-Colonel.

Majors (acting Lieutenant-Colonels) I. C. A. D. P. Graham, T.D., N. Pyecroft, M.C., and T. P. Sewell to be Lieutenant-Colonels.

Captain (acting Lieutenant-Colonel) J. F. K. Grieve to be Lieutenant-Colonel. (Substituted for the notifications in *Supplements* to the *London Gazette* dated October 9 and November 6, 1951.)

Captain (acting Lieutenant-Colonel) F. C. Rodger to be Major.

Major I. C. Campbell has relinquished his commission, retaining the rank of Major.

Captain (acting Major) J. T. Mair has been granted the acting rank of Lieutenant-Colonel.

Captains J. R. S. Innes, L. R. West, W. G. Ferguson, D. K. W. Picken, and J. B. Bennett to be Majors.

Captains J. S. Binning, P. J. Duff, R. T. G. Craig, R. B. Raffle, and R. McL. Archibald to be acting Majors.

COLONIAL MEDICAL SERVICE

The following appointments have been announced: E. A. Beet, M.R.C.S., L.R.C.P., D.T M.&H., Specialist Physician, Nigeria; Miss E. Gemmell, M.B., Ch.B., D.T.M.&H., Lady Medical Officer, Aden; V. W. J. Hetreed, B.M., B.S., C.P.H., Specialist (Tuberculosis), Nigeria; H. M. O. Lester, O.B.E., Ph.D., M.R.C.S., L.R.C.P., Director of Medical Services, Federation of Malaya; J. P. P. Mackey, M.B., Ch.B., D.P.H., Senior Pathologist, Tanganyika; L. M. Ram, M.D., Senior Medical Officer, Social Hygiene, Singapore; G. I. M. Ross, M.B., Ch.B., F.R.C.S., Surgeon Specialist, Federation of Malaya; L. A. P. Slinger, O.B.E., M.B., B.Ch., Director of Medical Services, British Guiana; G. G. Smith, M.R.C.S., L.R.C.P., Director of Medical Services, British Honduras; R. J. Grove-White, M.B., B.Ch., M.R.C.P., D.T.M.&H., Tuberculosis Specialist, Singapore; F. S. Carter, M.B., Ch.B., Special Grade Medical Officer, Kenya; Kong Hoi Kit, M.B., F.R.C.S., Medical Officer, Hong Kong; D. Leslie, M.B., Ch.B., Medical Officer, Federation of Malaya; W. S. Lewis, M.R.C.S., L.R.C.P., Medical Officer, Sarawak; P. S. Wright, M.B., Ch.B., Gynaecological and Obstetrical Specialist, Hong Kong; J. L. R. Barlow, M.B., Medical Officer, Gold Coast; D. P. Daly, M.B., Ch.B., and R. M. Halahan, M.B., Ch.B., Medical Officers, Tanganyika; P. M. Philpott, M.B., B.S., Lady Medical Officer, Sarawak; T. A. O'Donnell, M.B., B.Ch., Medical Officer, Uganda.

Association Notices

SCHOLARSHIPS IN AID OF SCIENTIFIC RESEARCH

The Council of the British Medical Association is prepared to receive applications for research scholarships, as follows:

An Ernest Hart Memorial Scholarship, of the value of £250.
A Walter Dixon Scholarship, of the value of £250.
Four Research Scholarships, each of the value of £200.

These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease.

Each scholarship is tenable for one year, commencing on October 1, 1952. A scholar may be reappointed for not more than two additional terms. A scholar is not necessarily required to devote the whole of his or her time to the work of research, but may be a member of H.M. Forces or may hold a junior appointment at a university, medical school, or hospital, provided the duties of such appointment will not, in the opinion of the Science Committee, interfere with his or her work as a scholar.

Applications for scholarships must be made not later than March 31, 1952, on the prescribed form, a copy of which will be supplied on application to the Secretary, B.M.A. House, Tavistock Square, London, W.C.1. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated.

Diary of Central Meetings

FEBRUARY

12	Tues.	Central Ethical Committee, 2 p.m.
12	Tues.	Subcommittee on Constitution and Procedure of Medical Service Committees, General Medical Services Committee, 2 p.m.
12	Tues.	Office Staff Superannuation Fund Committee, 3.30 p.m.
14	Thurs.	Publishing Subcommittee, 10.30 a.m.
14	Thurs.	Journal Committee, 2 p.m.
15	Fri.	Tuberculosis and Diseases of the Chest Group Committee, 12 noon.
15	Fri.	Ophthalmic Group Committee, 2 p.m.
19	Tues.	B.M.A. and Royal College of Nursing Liaison Committee, 2.30 p.m.
20	Wed.	General Medical Services Committee, special meeting, 11 a.m.
20	Wed.	General Practice Review Committee, 11 a.m.
20	Wed.	Association of General Practitioners with Hospital Work Committee, 2 p.m.
21	Thurs.	Dermatologists Group Committee, 10.30 a.m.
21	Thurs.	General Medical Services Committee, 10.30 a.m.
26	Tues.	Central Ethical Committee, special meeting, 2 p.m.
27	Wed.	Private Practice Committee, 2 p.m.
28	Thurs.	Committee on Control of Medical Manpower in War, 2 p.m.
28	Thurs.	Trainee Assistants Subcommittee, General Medical Services Committee, 2 p.m.
28	Thurs.	Welsh Committee, special meeting (at Raven Hotel, Shrewsbury), 2.15 p.m.
29	Fri.	Library Subcommittee, 12 noon.
29	Fri.	Science Committee, 2 p.m.

MARCH

5	Wed.	General Practice Review Committee, 11 a.m.
10	Mon.	Conference between the B.M.A., Ministry of Health, and associations of local authorities on Dual Appointments (at 1, Richmond Terrace, Whitehall, London, S.W.1), 3.30 p.m.
13	Thurs.	General Practice Review Committee, 11 a.m.
19	Wed.	Joint meeting of B.M.A. and T.U.C. Committees, 11 a.m. (Preliminary meeting of B.M.A. Representatives, 10.15 a.m.)
26	Wed.	**Council**, 10 a.m.
27	Thurs.	**Council.**

APRIL

2	Wed.	General Practice Review Committee, 11 a.m.
16	Wed.	General Practice Review Committee, 11 a.m.

Branch and Division Meetings to be Held

BLACKPOOL AND FYLDE DIVISION.—At Savoy Hotel, Gynn Square, Blackpool, Wednesday, February 13, 7.15 for 7.30 p.m., dinner; 8.30 p.m., lecture by Dr. F. Storey Cliff: "Some Rural Skin Diseases."

BURTON-ON-TRENT DIVISION.—At Stanhope Arms Hotel, Bretby, Wednesday, February 13, 7.45 p.m., dinner, followed by lecture by Brigadier R. A. Broderick: "Ulcers of the Mouth and Allied Conditions."

CITY DIVISION.—At Mildmay Mission Hospital, Austin Street, Bethnal Green, London, E., Tuesday, February 12, 8.30 p.m., clinical meeting.

CROYDON DIVISION.—At Croydon General Hospital, Tuesday, February 12, 8.30 p.m., general meeting. Address by Dr. J. G. Humble: "Recent Advances in the Diagnosis and Treatment of Anaemias."

GUILDFORD DIVISION.—At Royal Surrey County Hospital, Guildford, Thursday, February 14, 8.30 p.m., address by Dr. R. M. Mason: "Cortisone."

HENDON DIVISION.—At Hendon Hall Hotel, London, N.W., Tuesday, February 12, 8.45 p.m., Dr. W. J. O'Donovan: "Drug Rashes."

ISLE OF WIGHT DIVISION.—At St. Mary's Hospital, Newport, Sunday, February 17, 3 p.m., clinical demonstration by Dr. J. C. Harland: "Heart Failure." All Island practitioners are invited.

KINGSTON-ON-THAMES DIVISION.—At Kingston Hospital, Wolverston Avenue, Kingston-on-Thames, Tuesday, February 12, 8 for 8.30 p.m., Mr. R. C. Brock: "Cardiac Surgery." A film and slides will be shown.

LEIGH DIVISION.—At Boar's Head Hotel, Leigh, Tuesday, February 12, 8.30 p.m., address by Mr. J. Kilshaw, A.I.B.P., A.R.P.S.: "Medical Photography in the Teaching Hospital."

ROCHDALE DIVISION.—At Red Lion Hotel, Lord Street, Rochdale, Monday, February 11, 8.30 p.m., meeting to discuss subject of inflation of doctors' lists.

SALISBURY DIVISION.—Tuesday, February 12, 8.15 p.m., B.M.A. Lecture by Dr. K. Shirley Smith: "Surgical Aid in Common Heart Diseases: with Special Reference to Mitral Stenosis, Hypertension, and Angina."

SOUTH ESSEX DIVISION.—At Brentwood Mental Hospital, Sunday, February 17, 10.30 for 10.45 a.m., clinical meeting.

SOUTH SHIELDS DIVISION.—At Ingham Infirmary, South Shields, Friday, February 15, 8.15 p.m., scientific meeting. Mr. A. Smith: "Common Ophthalmic Emergencies."

SOUTH-WEST ESSEX DIVISION.—At Clinic Hall, Thorpe Coombe Maternity Hospital, Walthamstow, E., Wednesday, February 13, 8.30 p.m., lecture by Dr. W. J. O'Donovan: "Modern Practice of Dermatology."

SUNDERLAND DIVISION.—At Royal Infirmary, Sunderland, Friday, February 15, 8 p.m., clinical demonstration by Mr. C. G. Rob, Dr. A. B. White, and Dr. O. Olbrich.

TUNBRIDGE WELLS DIVISION.—At Kent and Sussex Hospital, Tunbridge Wells, Wednesday, February 13, 8.30 p.m., medical films.

WEST SUFFOLK DIVISION.—At Everard's Hotel, Bury St. Edmunds, Tuesday, February 12, 8.30 p.m., annual general meeting. Dr. Walter Hedgcock (Assistant Secretary, B.M.A.) will talk on current affairs.

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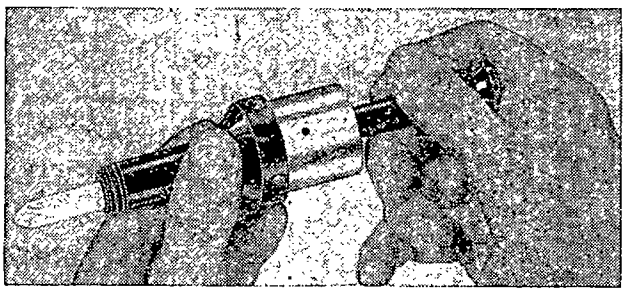

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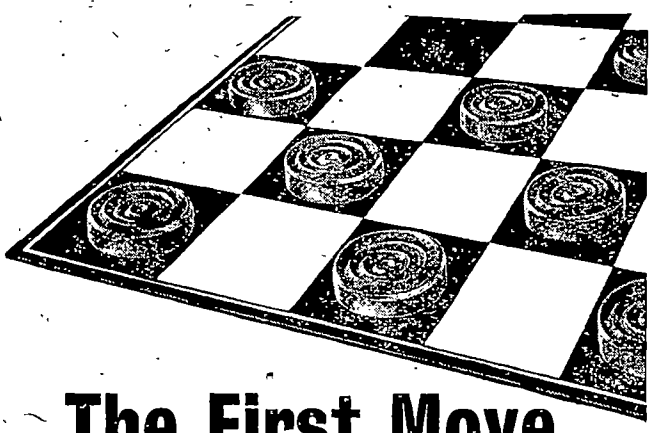

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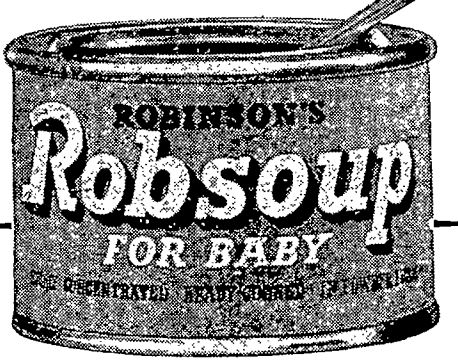

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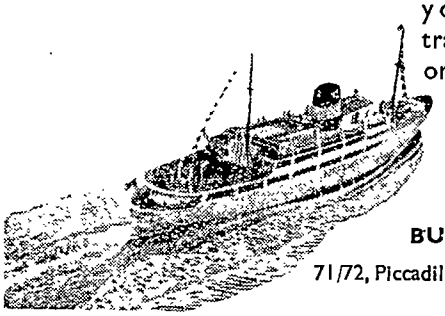

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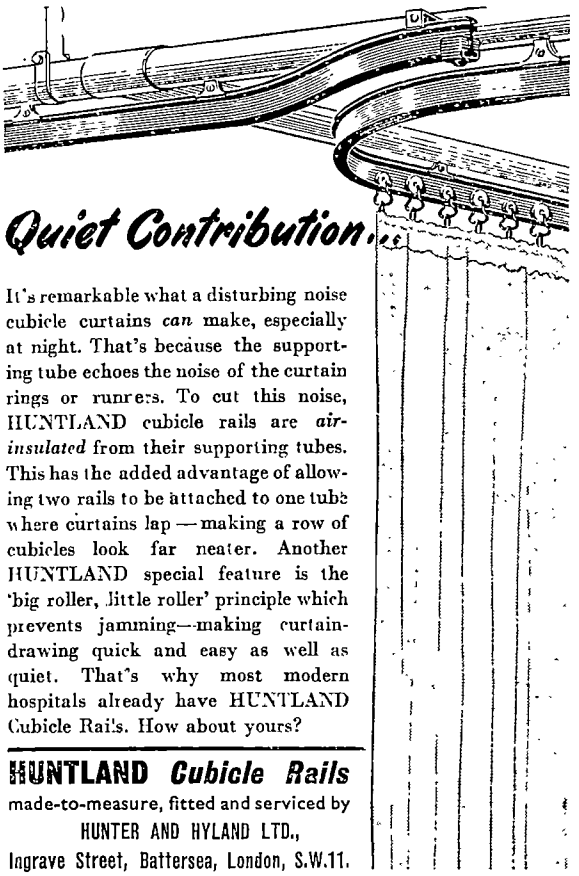

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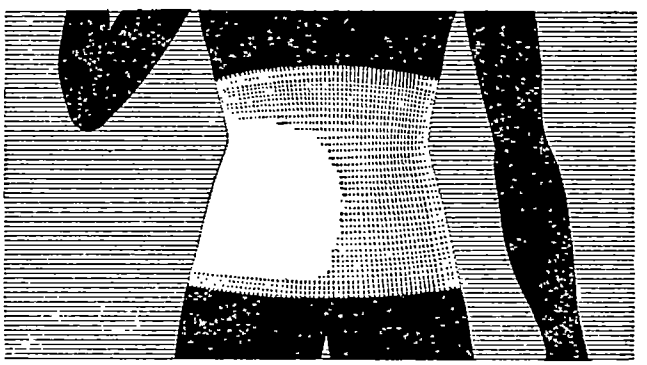

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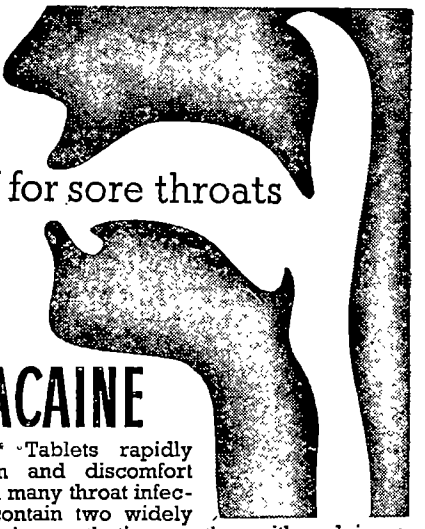

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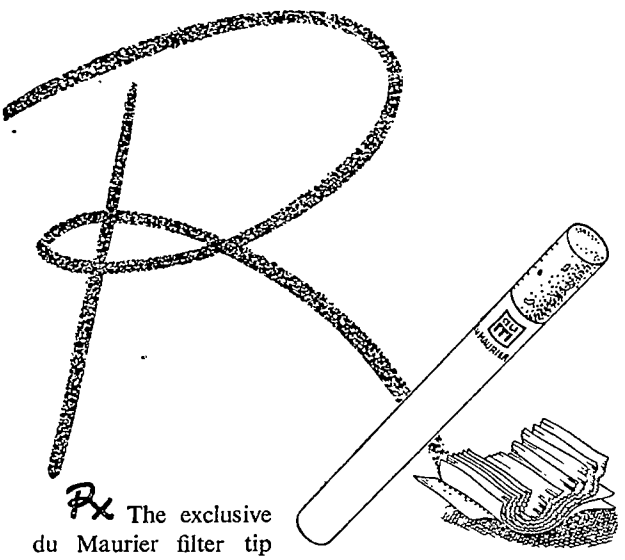

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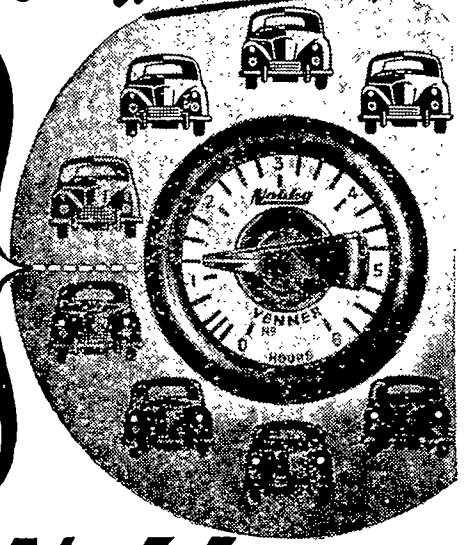

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19/12/51

CLASSIFICATION

and order of appearance

Practices	Assistantships
Partnerships	Locums

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REGISTRARS
J.H.M.O.s
SENIOR HOUSE OFFICERS
HOUSE OFFICERS
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Anaesthetics	Orthopaedics
Bacteriology	Paediatrics
Blood Transfusion	Pathology
Chest and Tb.	Physical Medicine
Dental	Plastic Surgery
Dermatology	Psychiatry
E.N.T.	Radiology
Geriatrics	Radiotherapy
Haematology	Urology
Infectious Diseases	Venereology
Neurosurgery	Medicine
Obstetrics and Gynaecology	Surgery
Ophthalmology	Casualty

PUBLIC HEALTH
in alphabetical order of names of employing authorities

Industrial	Receptionists, etc.
Overseas	Housekeepers
University	Houses
Personal	Consulting Rooms, etc.
Notices	Hotels
Educational	Motor Cars, Hire, etc.
Lectures	Miscellaneous
Situations (Non-med.)	Homes
Pharmacists, etc.	Agents

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

MOSSLEY, near Manchester

Applications invited for vacancy (urban) due to resignation. List at present approximately 1,800. Surgery available on rent. Residence at Ashton-under-Lyne may be available for sale. Apply, on Form E.C.16A, before February 23, 1952, to Jos. A. Speed, Clerk of the Lancashire Executive Council, 42, West Cliff, Preston, Lancs.

SHEFFIELD, Yorkshire

Applications invited for vacancy at April 24, 1952, in the Woodseats and Dore districts of Sheffield. Practice at present conducted as a partnership by man and wife. Joint lists at present 4,500. House and surgery accommodation available for purchase. Applications should be lodged with the undersigned, from whom further particulars of the practice may be obtained, not later than February 23, 1952.—J. H. Cargill, Clerk of the Sheffield Executive Council, 46, Kenwood Road, Sheffield, 7.

STRATTON ST. MARGARET, Nr. Swindon, Wilts - Applications invited for vacancy (urban and rural) due to death. List approximately 2,700. Surgery (excluding residence) available to rent.—Apply on Form E.C.16A before February 23, 1952, to the Clerk, Wiltshire Executive Council, Holloway House, Stallard Street, Trowbridge.

PRACTICES (Wanted)

EXPERIENCED PRACTITIONER REQUIRES Partnership/Succession London/Home Counties. Capital for house and equipment.—Box P516, B.M.J.

IRISH DOCTOR, MALE, R.C., PRINCIPAL own practice England. Maternity experience, desires purchase good class practice Dublin City or suburbs. Partnership considered. Capital available.—Box P406, B.M.J.

MIDDLE-AGED DOCTOR DESIRES CONTACT practitioner considering retirement. View succession. Capital for property.—Box P534, B.M.J.

PARTNERSHIPS (Offered)

Partnership, principal retiring shortly, Midlands city. 970 units. House £2,500. Scope.—Box P517, B.M.J.

Partnership offered after six months' assistantship, commencing one-third share. About £2,000, South Yorks area. Protestant, British.—Box P410, B.M.J.

PARTNERSHIPS (Wanted)

Experienced practitioner, F.R.C.S., desires Partnership or Assistantship with view.—Box P535, B.M.J.

M.B., D.R.C.O.G. seeks Succession, Partnership, Assistantship with view. Capital available house purchase. London or near.—Box P536, B.M.J.

Partnership or Assistantship with view required by experienced G.P. Ample capital for house and equipment.—'Phone: Stamford Hill 4603, or Box P543, B.M.J.

Partnership with early succession, rural or market town in Midlands or South, wanted by Birmingham graduate. Preliminary assistantship if necessary. Capital for house purchase.—Box P515, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, outdoor Assistant, with View, in pleasant S.W. seaside resort. Car essential. Salary by arrangement.—Box 420, B.M.J.

Wanted, Trainee Assistant, March. Male, British. S.W. London. Car. Furnished flat available.—Box 518, B.M.J.

Wanted, Male Assistant with possible view. £1,000 per annum including car allowance.—Drs. Bingham and Piccaver, Limes Avenue, Alfreton, Derbyshire.

Wanted, Part-time Woman Assistant in general practice, Birmingham suburbs.—Box 537, B.M.J.

Wanted, woman Assistant to help senior partner. Preference given to one with experience of midwifery. Salary inclusive £80 per month. Apply with full details.—Box 522, B.M.J.

Wanted, early March, young single male Assistant. West London area. Outdoor. Car essential. Time for study.—Box 520, B.M.J.

Wanted immediately, Trainee Assistant, male. Car essential. Berkshire town. Accommodation available.—Box 512, B.M.J.

Wanted immediately, Assistant, married or single, some experience G.P. and midwifery preferable. South Staffs colliery rural, 20 miles Birmingham. £1,000 per annum all found, plus car expenses or use of car.—Box 501, B.M.J.

Wanted, Male Assistant, married, with early View to Partnership, semi-rural practice in pleasant border country town. Active cottage hospital. Salary by arrangement. Car essential.—Dr. J. O. Walters, Welshpool.

Wanted, Trainee Assistant, country practice, South Midlands. Furnished accommodation. Car owner.—Box 502, B.M.J.

Wanted, Trainee Assistant, male preferred, for partnership, pleasant work, ample time off, live out.—Dr. Livingstone Smith, 42, Queenstown Road, S.W.8. MACaulay 4832.

Wanted, Assistant with possible view, S.E. London. Car essential. Accommodation provided. Salary by arrangement.—Box 503, B.M.J.

Wanted, Trainee Assistant, April 1, male, British. Live out. Car essential. Partnership two. Apply, Drs. Philip and Hall, Maldon, Essex.

Wanted, Trainee Assistant with car, live out, usual salary and allowances. Partnership of two. S. Wilts town.—Box 408, B.M.J.

Guy's man wants married car-owner Trainee, small furnished all-electric flat. Pleasant countryside.—Dr. Howard, Ivybridge, Devon.

Male Trainee Assistant required May 7. Semi-rural Essex. Own car. Furnished accommodation for married man.—Box 421, B.M.J.

Part-time Assistant Wanted, 30 mins. Charing Cross. Accommodation offered. Suit postgraduate or doctor with sessions.—Box 521, B.M.J.

Assistantships Vacant—contd.

Sheffield-Derbyshire border. Trainee Assistant required. Single principal. Light work. One surgery. Secretary. Well equipped. Suit British man or woman. Time for P.G. study. Good class area. Salary by arrangement.—Box 443, B.M.J.

Trainee Assistant, male, single, required for pleasant partnership practice eight miles West End, London-Surrey borders. Small furnished flat with attendance.—Box 505, B.M.J.

Trainee Assistant wanted, Midland city. Modern unfurnished house available. Ample time off.—Box 519, B.M.J.

Trainee Assistant, male. North-east Derbyshire. Outdoor. Car owner preferred. Usual salary.—Box 523, B.M.J.

Trainee Assistant wanted March. Car essential. —Box 504, B.M.J.

ASSISTANTS AVAILABLE

Wanted by Jewish doctor, Assistantship, view preferred. Hospital and G.P. experience, 28, married, car owner. Anywhere. Free immediately.—Box 525, B.M.J.

Assistantship, wife S.R.N., no children, hospital experience, including midwifery, one year trainee. Car owner. Free May, 1952.—Box 538, B.M.J.

Assistantship, early view to partnership or succession wanted by experienced woman doctor.—Box 539, B.M.J.

Assistantship with View or Succession, country or market town practice southern half of England, required by young married doctor. Registrar appointment, obstetrics, two years', assistantship country practice Cotswolds, M.B., D.R.C.O.G.—Box 513, B.M.J.

Assistantship with definite view wanted by young married doctor. Hospital, R.A.M.C., G.P. experience. Interested general practice. Car owner. Capital available for house purchase. Prepared for hard work.—Box 527, B.M.J.

Assistant or Locum. Englishman, single. Extensive G.P. experience. Country preferred. Car required.—Box 526, B.M.J.

Leeds or District, Assistantship with view wanted, M.B., D.R.C.O.G., 27, married, 4 years' experience hospital, G.P. Own car.—Box 506, B.M.J.

St. Thomas's trained, C. of E., 29, single. Comprehensive hospital, Services, G.P., and obstetric experience. Own car, equipment, capital for house purchase. Available for rural or country town practice, with ultimate view.—Box 524, B.M.J.

Scots graduate, aged 26, married, seeks Assistantship, view not necessary. Accommodation required. Hospital, R.A.M.C. and G.P. experience. Car owner. Available mid-April.—Box 404, B.M.J.

LOCUMS (Vacant)

Locum required, aged about 40, single, Jewish, for frequent locums, with view.—Box 508, B.M.J.

Locums wanted, E.R. Yorks. (1) Ten days, June. (2) Three or four weeks from August 9.—Box 540, B.M.J.

Aylesbury, Bucks, Royal Buckinghamshire Hospital.—Locum House Surgeon to the Department of Children's Surgery and Orthopaedic which is centred on this hospital for the area. There are 35 orthopaedic beds and 10 children's beds. First or second post. Vacant now. Please apply, with two testimonials, to the Secretary-Superintendent as soon as possible. (7681)

Birmingham, City of, Public Health Department. —Medical Officers (Holiday Locums). Applications are invited for the temporary appointment of three **whole-time Medical Officers** in the maternity and child welfare department to take holiday duty during the summer months, commencing on April 21, 1952. The appointments are non-resident, and the salary offered is at the rate of £16 10s. per week. The successful applicants will be expected to remain, if required, for a period of six months. Application forms may be obtained from the Medical Officer of Health, Council House, Birmingham, 3, and completed forms should be returned to him, together with copies of three testimonials, not later than February 16, 1952. (7458)

Bridgend General Hospital (364 beds). Mid-Glamorgan Hospital Management Committee.—Vacant immediately, **Locum Registrar (General Surgery)** pending permanent appointment. Salary in accordance with the Registrar Grade as laid down by the terms and conditions of service of hospital medical staff. Applications should be addressed to the Secretary of the Committee, 8, Wind Street, Neath, immediately. (7874)

Chichester Hospital Management Committee, Sussex.—Locum Registrar Anaesthetist (non-resident) required mid-February, for two to three months, pending proper appointment, for which applicants also required. Salary £775 per annum first year, £890 second year, etc. Work chiefly at Royal West Sussex and St. Richard's Hospitals, Chichester. Own car necessary. Apply Group Secretary, Royal West Sussex Hospital, Chichester. (7718)

Guildford, Royal Surrey County Hospital.—Locum Tenens Pathologist required for period of about six weeks. Post is whole-time, non resident and a consultant is preferred, but applications from others specializing in pathology will be considered. Apply to Secretary-Superintendent. (7813)

Croydon Group Hospital Management Committee, General Hospital, Croydon.—Orthopaedic Registrar (whole-time) March 19 to 30 inclusive. Duties involving both orthopaedic and fracture work. Previous orthopaedic experience essential. Possession of higher surgical qualification an advantage. Apply, giving particulars of age, qualifications and experience, to Secretary. (7369)

Farnborough Hospital (800 beds).—Applications are invited for the post of **Locum Tenens Registrar in Anaesthetics,** commencing March 1 until June 30 in the first instance. Salary within the scale set out in terms and conditions of service of hospital medical staff (England and Wales). Applications, stating age, qualifications (with dates) and experience, together with the names and addresses of three referees, should be forwarded to the Administrative Officer, Farnborough Hospital, Farnborough, Kent. (7488)

Grimsby General Hospital (220 beds). Grimsby Hospital Management Committee.—Required for indefinite period, a **Locum Resident Gynaecological House Surgeon.** Apply to Administrative Officer, Grimsby General Hospital. (7007)

Medway and Gravesend Hospital Management Committee.—Locum Assistant Anaesthetist (full-time) required for three months at least pending appointment of specialist. Applicants should be not less than Senior Registrar status. Salary 3½ guineas per session. Applications, with recent testimonials, to the Secretary, St. William's Hospital, Rochester. (7806)

Neath and Port Talbot General Hospitals (497 beds). Mid-Glamorgan Hospital Management Committee. Vacant immediately, **Locum Registrar (General Surgery)** pending permanent appointment. Salary in accordance with the Registrar Grade as laid down by the terms and conditions of service of hospital medical staff. Applications should be addressed to the Secretary of the Committee, 8, Wind Street, Neath, immediately. (7873)

Welsh Regional Hospital Board.—Wanted immediately, a Locum Orthopaedic Surgeon to serve the Mid-Glamorgan Hospital Management Committee for a period of three months. He will be based at Bridgend General Hospital (412 beds). Salary in accordance with the terms and conditions of service. Applications, with names of two referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (7804)

Welsh Regional Hospital Board. — Wanted, Whole-time Locum Pathologist for Wrexham Hospital Management Committee area (based at the Maelor General Hospital, Wrexham, 619 beds) for a minimum period of six months from February 18. Salary in accordance with the terms and conditions of service. Applications, together with the names of two referees, to be sent to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, as soon as possible. (7805)

LOCUMS (Available)

Experienced G.P. available for South Coast summer months, hospitality for wife and child.—Box 529, B.M.J.

M.R.C.P.I. available now until end March, surgeries, week-ends, Part- or Full-time Locums near Stockport. Tel.: Woodley 3073.—Box 528, B.M.J.

REPLIES TO BOX NUMBER ADVERTISEMENTS

The names and addresses of advertisers using box numbers are held by us in strict confidence and cannot be disclosed. Applications should be separately enclosed and clearly addressed:

Box No. .....
British Medical Journal,
B.M.A. House,
Tavistock Square, W.C.1.

All communications are forwarded to advertisers under plain cover.

It is not possible for this office to accept telephone messages for relay to advertisers.

APPOINTMENTS

ANAESTHETICS

MEDWAY AND GRAVESEND GROUP OF HOSPITALS
South-East Metropolitan Regional Hospital Board

Applications are invited to fill a vacancy for a
CONSULTANT ANAESTHETIST

Candidates must have had wide experience in anaesthetics and hold the Diploma in Anaesthetics. Choice of whole-time employment or the maximum number of part-time sessions will be offered. Applicants may visit the hospitals concerned. The last day for acceptance of applications will be February 22, 1952, and selected candidates will be interviewed in London on April 17, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, W.1. (7641)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
St. Albans City Hospital, 425 beds, and West Herts Hospital, Hemel Hempstead, 169 beds
(both General Hospitals with usual special departments)
CONSULTANT ANAESTHETIST

Whole-time or maximum sessions. Duties will include occasional visits to other hospitals in the region. Applications, giving three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by March 8, 1952. Hospitals may be visited by direct appointment. (7494)

OXFORD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the post of
WHOLE-TIME ASSISTANT ANAESTHETIST
(Senior Hospital Medical Officer scale)
to the hospitals of the Aylesbury and District Hospital Management Committee with duties mainly in the Plastic and Jaw Injury Centre at Stoke Mandeville Hospital. Applicants, who should hold the D.A., are invited to visit the hospitals by arrangement. The successful candidate will be a member of the area team and will be required to live locally. Applications (eight copies), stating age, qualifications, experience and the names and addresses of three referees should reach the Secretary of the Board, 43, Banbury Road, Oxford, by February 29. (7321)

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners who are in possession of the D.A. for the whole-time post of
ASSISTANT ANAESTHETIST
to serve the Boston Group of hospitals, based on the Boston General Hospital. The person appointed will be required to reside within ten miles of the above hospital. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 1, 1952. (7322)

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners who are in possession of the D.A., for the whole-time post of
ASSISTANT ANAESTHETIST
for hospitals in the Mansfield area. The hospitals concerned would be Mansfield and District General Hospital; the Victoria Hospital, Mansfield; Kings Mill Hospital, Mansfield; and Harlow Wood Orthopaedic Hospital, near Mansfield. The person appointed will be required to reside within ten miles of Mansfield. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 8, 1952. (7655)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
Temporary SENIOR REGISTRAR (Anaesthetics)

Required now for some time. D.A. essential. General scope of duties arranged by Consultant Anaesthetists. Whole-time, non-resident, but on call for serious emergencies seven nights out of twenty-one. Application, stating age, nationality, qualifications, experience, with copies of recent testimonials or names of two referees, to Secretary of hospital immediately. (7732)

DONCASTER ROYAL INFIRMARY
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the resident whole-time post of
REGISTRAR (Anaesthetics)
to the above hospital, which is recognized for training for the D.A. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates) together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 18, 1952 (7323)

LIVERPOOL MATERNITY HOSPITAL
United Liverpool Hospitals

Applications are invited for an appointment as
RESIDENT ANAESTHETIC REGISTRAR
for the period to September 30, 1952. The post is assessed in the Registrar grade. Applications should be made on forms which may be obtained from the undersigned, to whom they should be returned by February 16, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (7761)

OXFORD REGIONAL HOSPITAL BOARD

Applications are invited for the following posts which will be held for one year and be eligible for extension to the normal tenure.
SENIOR REGISTRAR AND REGISTRAR
in Anaesthetics
to the hospitals of the Aylesbury/High Wycombe area. Applications on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by February 23. (7682)

Anaesthetics—contd.

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the post of

NON-RESIDENT REGISTRAR in Anaesthetics for duties at hospitals in the Hull "A" Hospital Management Committee Group, together with additional duties as may be required at other hospitals in the Hull "B" and East Riding Hospital Management Committee Groups. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than Feb. 16. (7324)

ST. MARY'S HOSPITAL, W.2

Applications are invited from suitably qualified practitioners for the post of

ANAESTHETIST (Senior House Officer Grade)

The appointment is non-resident, but the successful candidate will be expected to reside in the neighbourhood of the hospital. Candidates must have held an appointment as House Officer at this hospital, or at another general hospital approved by the Board of Governors. The appointment is for a first period of twelve months, the successful candidate being eligible for re-election. Salary at the rate of £670 per annum. Applications, stating nationality, date of birth, permanent address, qualifications, with dates and details of previous appointments, together with the names and addresses of three referees, should reach the undersigned by Feb. 16.—Alan Powditch, House Governor. (7765)

WANSTEAD HOSPITAL
Hermon Hill, E.11 (191 beds)

Applications are invited for the post of

RESIDENT ANAESTHETIST
(Graded as Senior House Officer)

Vacant March 1, 1952. Experience in anaesthetics necessary. The hospital is recognized for the D.A. examination. Salary £670 per annum, with a deduction at the rate of £120 per annum for board, lodging, etc. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, H.M.C. Forest Group (No. 11), Langthorne Road, Leytonstone, E.11. (7301)

BARNET GENERAL HOSPITAL, Barnet, Herts
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)

Required for one year from February 25. Post recognized for D.A. examination. Applications, stating age, qualifications, nationality, experience and names of two referees, to be sent to the Medical Director. (7766)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR HOUSE OFFICER (Anaesthetist)

Vacant April 1. Salary £670, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7529)

CHESTER AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

RESIDENT HOUSE OFFICER (Anaesthetist)

The post is recognized for the D.A. The successful applicant will be required to carry out duties in conjunction with the present Resident Anaesthetist at Chester Royal Infirmary and Chester City Hospital and will require to reside at the Chester Royal Infirmary. Salary £670 per annum, less a deduction of £150 per annum in respect of board and lodging, etc. Applications, giving details of age, experience and qualifications, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7496)

DONCASTER ROYAL INFIRMARY
(Recognized under the regulations for the D.A.)
Doncaster Hospital Management Committee

Applications are invited from registered medical practitioners with the necessary experience for the appointment of

RESIDENT ANAESTHETIST
in the grade of Senior House Officer

Salary at the rate of £670 per annum, from which a deduction of £130 per annum will be made for board, residence, etc. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with copies of three testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (7303)

DUMFRIES, ROYAL INFIRMARY
Dumfries and Galloway Hospital Board
SENIOR HOUSE OFFICER (Anaesthetics)

Salary £670, less deduction of £140 for board and lodging. The Royal Infirmary is recognized for training in anaesthetics and is affiliated with the Western Infirmary, Glasgow, for anaesthetic services. Application, with two names for reference, to be sent to Secretary, Royal Infirmary, Dumfries. (7719)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1,

or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

LANCASHIRE COUNTY COUNCIL
(Assistant Divisional Medical Officers)

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE
(Assistant School Medical Officer)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,
A. MACRAE,
February 5, 1952. Secretary.

EDINBURGH, 8, ELSIE INGLIS MATERNITY HOSPITAL (68 beds)

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER (Anaesthetics)
(Resident)

The appointment is for one year from April 1, 1952, salary £670 per annum, less £130 per annum in respect of residential emoluments. In addition to the obstetric work at Elsie Inglis Hospital there are opportunities for experience as a trainee anaesthetist at general surgical and gynaecological operations in other hospitals in the Group. Applications, with copies of testimonials, to the Medical Superintendent, Southern Hospital Group, 21, Hill Street, Edinburgh, 2, not later than February 23, 1952. (7716)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding
(Full Consultant Staffs)

Applications are invited for the appointment of

SENIOR HOUSE OFFICER in Anaesthetics
(Either sex)

for duty at the above hospitals for the acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment. Vacant now. Salary £670 per annum. National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley. (7325)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Luton and Hitchin Group Hospital Management Committee

Applications are invited for the post of

RESIDENT ANAESTHETIST
(Senior House Officer)

The appointment, which is vacant now, offers varied experience, and this post is recognized for the D.A. examination. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (7371)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of

SENIOR HOUSE OFFICER (Anaesthetics)

commencing April 1, 1952. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (7642)

MAIDSTONE—MID-KENT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the appointment of

RESIDENT ANAESTHETIST

for joint duties at the Kent County Ophthalmic and Aural Hospital and the West Kent General Hospital, Maidstone (total beds 248). Post now vacant. The salary will be £670 a year, with a deduction at the rate of £150 for residential emoluments. The post is recognized for the Diploma of Anaesthetics, and there will be excellent experience for this examination with Consultant Anaesthetists. Applications should be forwarded to the Administrative Officer, West Kent General Hospital, Maidstone. (7497)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
SENIOR RESIDENT ANAESTHETIST

Vacant on May 1, 1952. The appointment is for twelve months at a salary of £670 per annum, with a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Applicants should have had experience in the specialty. Applications to be made on forms obtainable from the undersigned and to be returned not later than February 20, 1952. By order.—F. J. Cable, General Supt. (7460)

MEDWAY AND GRAVESEND HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the appointment of

RESIDENT ANAESTHETIST
(Senior House Officer grade)

Salary £670 per annum, in accordance with the national terms and conditions of service. The appointment is for twelve months, and preference will be given to those holding the Diploma in Anaesthetics. Residential accommodation will be available at All Saints' Hospital, Chatham. Applications, giving full particulars of age, nationality, qualifications, and experience, together with copies of recent testimonials, to be sent to the undersigned.—T. Rhodes, Secretary, Medway and Gravesend Hospital Management Committee, St. William's Hospital, Rochester. (7807)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer grade)
(Recognized for D.A.)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7401)

WARRINGTON GENERAL HOSPITAL 372 beds) and WARRINGTON INFIRMARY (172 beds)
Warrington and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
for Anaesthetic work

Required for duties at the above hospitals. The person appointed will be resident at the General Hospital. The commencing salary is £670 per annum, less £130 for full residential emoluments. Applications, stating age, experience and qualifications, should be sent immediately to H. L. Boot, Secretary to the Committee, c/o General Hospital, Warrington, Lancs. (7087)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY (225 beds)
Wigan and Leigh Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (Anaesthetics)

for duties at the above hospital. The post, which is tenable for one year, will be resident, and is recognized for the D.A. examinations. Wide experience in all branches of anaesthesia is available, and there are particular facilities for experience in major thoracic and orthopaedic work. Applications, stating age, experience, and nationality, together with the names of two referees, should be forwarded to the undersigned as soon as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (7548)

BROMSGROVE, WORCS., ALL SAINTS' HOSPITAL (468 beds)
Mid-Worcestershire Hospital Management Committee
HOUSE OFFICER (Anaesthetic duties)

Required at the above recently opened General Hospital. Resident post vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire Hospital Management Committee, Birmingham Road, Bromsgrove. (7664)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Anaesthetics—contd.

CAMBRIDGE, UNITED, HOSPITALS
Applications are invited for the post of
ANAESTHETIC HOUSE OFFICER
(First or subsequent post)
at Addenbrooke's Hospital
vacant on April 5, 1952. Salary, terms and conditions as approved for hospital medical staff. Applications, stating age, qualifications (with dates) and nationality, and accompanied by copies of three recent testimonials, should be sent to the undersigned on or before Saturday, February 23, 1952.—J. A. Beardsall, Secretary. (7656)

GLOUCESTERSHIRE ROYAL HOSPITAL
(2 units—600 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (Anaesthetist)
which falls vacant on March 1, 1952. The post, which will be for one year, is recognized for the purpose of the D.A. examination. Salary £350 to £450 per annum, according to experience, less £100 per annum if resident. Applications, stating age, nationality, qualifications and experience, together with the names of two referees, should be forwarded to the Group Secretary, Gloucestershire Royal Hospital, Southgate Street, Gloucester. (7665)

ISLE OF MAN, NOBLE'S HOSPITAL
Applications are invited for the post of
RESIDENT ANAESTHETIST
in busy hospital with over 150 beds and the usual ancillary departments. Post will provide ample and varied experience in pleasant surroundings. Salary £400 per annum, less £100 per annum for board and lodging. Duties may include acting in the medical wards or casualty. Appointment for six months in first instance. Applications, with copies of two recent testimonials, to the Secretary, Noble's Hospital, Douglas. (7080)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
RESIDENT ANAESTHETIST
(House Officer Grade)
vacant March 17, 1952. Salary and conditions of service in accordance with the National Health Service terms, with residential emoluments. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (7498)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (Junior Anaesthetist)
(Recognized for Diploma in Anaesthetics)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7859)

BACTERIOLOGY

ST. MARY'S HOSPITAL, W.2
Applications are invited for the post of
SENIOR REGISTRAR in Bacteriology
(eight notional half-days). The appointment is for a first period of twelve months, and the holder will be eligible for re-election. The successful candidate will be required to devote the remaining three notional half-days to research work in the Wright Fleming Institute of Microbiology, for which he will receive a salary so that his total remuneration is equal to that of a whole-time Senior Registrar. Applications, stating nationality, date of birth, permanent address, qualifications (with dates) and details of previous and present appointments, together with the names and addresses of three referees, should reach the undersigned by Feb. 16, 1952.—Alan Powditch, House Governor. (7789)

BLOOD TRANSFUSION

BRISTOL, BOARD OF GOVERNORS OF THE UNITED BRISTOL HOSPITALS AND THE SOUTH-WESTERN REGIONAL HOSPITAL BOARD
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
REGISTRAR
to the Regional Blood Transfusion Centre at Bristol
The appointment, which is non-resident, will be held for one year in the first instance, and be renewable for a further year. Duties include serological and haematological work in the laboratories, clinical work at Southmead Hospital, and attendance at blood collecting sessions. Facilities are provided for participation in research. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than February 29, 1952. (7733)

LIVERPOOL REGIONAL HOSPITAL BOARD
Regional Blood Transfusion Service
Applications are invited for the post of
MEDICAL OFFICER
for duties with the Regional Blood Transfusion Service with headquarters in Liverpool. Salary £700 by £50 to £1,000. The post will consist of the whole range of medical duties undertaken by the Blood Transfusion Service, including serological and haematological investigations, undertaking transfusions in hospitals, and the collection of blood from donors. Forms of application obtained from, and to be returned to, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than February 23, 1952.—Vincent Collinge, Secretary to the Board. (7819)

CHEST AND TUBERCULOSIS

BEDFORD CHEST CLINIC
Bedford General Hospital
North Wing, 2, Kimbolton Road, Bedford
North-West Metropolitan Regional Hospital Board
WHOLE-TIME ASSISTANT PHYSICIAN
Duties will include the care of in-patients. Salary £1,300 to £1,750. Applications, giving date of birth and three referees, to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by March 15, 1952. Clinic may be visited by direct appointment. (7767)

BRISTOL CLINICAL AREA
South-Western Regional Hospital Board
Applications are invited jointly by the Regional Hospital Board, and the Local Authorities of Bristol City, Somerset County Council, and Gloucestershire County Council from registered medical practitioners for the appointment of
ASSISTANT CHEST PHYSICIAN
The appointment will be on a whole-time basis on the Senior Hospital Medical Officer scale, subject to possible adjustment for local authority work. Applicants should possess high medical qualifications, and previous experience in diseases of the chest is essential. The successful applicant will have chest clinic duties mainly in that part of Somerset within the clinical area, and will be expected to reside in that district. Arrangements will be made for some in-patient work. The successful applicant will also be required to collaborate with the Medical Officers of Health of the Local Health Authorities concerned in the appointment in connexion with the tuberculosis services. Twenty copies of application, stating date of birth, qualifications and experience, together with twenty copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than March 3. (7734)

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the whole-time post of
ASSISTANT CHEST PHYSICIAN
for the Grimsby area. Duties will include attendance at clinics in Grimsby and Louth and the care of patients in the Springfield Hospital (130 T.B. beds), where thoracic surgery is also undertaken. The successful candidate will work under the direction of the Consultant Chest Physician for the area. Candidates should have good general medical experience and special experience in the treatment of chest diseases and tuberculosis. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 1, 1952. (7327)

STOKE-ON-TRENT GROUP
Birmingham Regional Hospital Board
Applications are invited for the appointment of
Whole-time ASSISTANT CHEST PHYSICIAN
Duties at Newcastle Chest Clinic and other clinics in North Staffordshire. Bed facilities at City General Hospital, Stoke, Newcastle Isolation and Bradwell Isolation Hospitals. Successful candidate will work under direction of Consultant Chest Physician. Experience in specialty essential. Higher medical qualification an advantage. Salary scale £1,300 to £1,750 per annum. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies of applications, stating name, age, nationality, qualification, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 25. Candidates may visit the clinics concerned. (7867)

HAMMERSMITH HOSPITAL AND POST-GRADUATE MEDICAL SCHOOL, London, W.12
WHOLE-TIME REGISTRAR (Non-resident)
Required immediately in Hammersmith Chest Clinic. Previous experience in diseases of the chest essential. Age, qualifications, experience, names of two referees, to Secretary, Board of Governors, by February 18. (7768)

HAREFIELD HOSPITAL
(450 beds for tuberculosis, 100 for non-tuberculous Thoracic Surgery, and 100 for General Medicine and Surgery)
North-West Metropolitan Regional Hospital Board
WHOLE-TIME TUBERCULOSIS REGISTRAR
Required for one year in first instance. Hospital may be visited by direct appointment. Application forms obtainable from, and returnable to, Secretary, Harefield and Northwood Group Hospital Management Committee, Mount Vernon Hospital, Northwood, Middlesex, by Feb. 19. (7875)

LEICESTER, MARKFIELD SANATORIUM AND ISOLATION HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
REGISTRAR (Chest Diseases and I.D.)
to the above hospital, where minor thoracic surgery (T.B.) is undertaken. The duties are mainly in the hospital, but clinic work may be undertaken under the supervision of the Consultant. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than Feb. 18. (7328)

PAPWORTH HOSPITAL, Cambridgeshire
East Anglian Regional Hospital Board
SENIOR REGISTRAR in Thoracic Surgery
Preference will be given to candidates with a higher surgical qualification and experience in thoracic surgery. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than February 18, 1952. A house is available. Candidates are invited to visit the hospital by direct arrangement with the Chief Medical Officer.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (7372)

ABERGELE SANATORIUM, North Wales
(245 beds—57 adult pulmonary, 188 children, pulmonary and non-pulmonary)
Clwyd and Deeside Hospital Management Committee
JUNIOR HOSPITAL MEDICAL OFFICER
(Male or female)
Required at the above Sanatorium. Applications, stating full name, age, nationality, professional qualifications, particulars of present and previous appointments, to be addressed to the undersigned, together with the names and addresses of two referees, to reach him within fourteen days from the date of publication of this advertisement.—William Roberts, Secretary, Rhianfa, Russell Road, Rhyl. (7666)

CHEPSTOW, MON, MEMORIAL WARDS, MINISTRY OF PENSIONS HOSPITAL
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
in Tuberculosis
National salary scales and conditions. The resident medical staff consists of a Senior Hospital Medical Officer and this post, while the Consultant visits regularly. Apply, with the names of three referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (7011)

WARWICK (near), KING EDWARD VII MEMORIAL SANATORIUM, Hertford Hill
South Warwickshire Hospital Group (No. 14)
(239 beds—Tuberculosis)
Applications are invited for the appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
The post may be resident or non-resident. The Sanatorium is a modern one with a total of 239 beds for the treatment of pulmonary tuberculosis, and plans are being made for the opening of a thoracic surgery unit of about 50 beds. Salary and conditions of service in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales), less the appropriate charge if resident. Applications, stating age, qualifications and details of experience, together with the names and addresses of three referees, should be forwarded to the Medical Superintendent as soon as possible. (7657)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest
A vacancy occurs April 1, 1952, for
RESIDENT SURGICAL OFFICER
Appointment for six months, with the prospect of renewal, of which two will be at the Country Branch near Letchworth. Post graded as Senior House Officer or Registrar, according to qualifications and experience. Previous surgical experience necessary. Applications, stating age, qualifications (with dates), and previous appointments held, with copies of three testimonials, should reach the undersigned not later than February 18, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (7499)

Chest and Tuberculosis—contd.

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER (Male)
Required for wards taking cases of pulmonary tuberculosis (56 beds) under supervision of the visiting Consultant Physician. Opportunity to acquire knowledge of the modern treatment of acute tuberculosis. Post vacant. National Health Service salary and conditions of service. Applications, stating age, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by February 16. (7500)

LIPHOOK, KING GEORGE'S SANATORIUM FOR SAILORS
Godalming, Milford, and Liphook Group Hospital Management Committee
Applications are invited for the appointments of
SENIOR HOUSE OFFICER and HOUSE OFFICER (Medical)
The salaries will be in accordance with the national scales, and appropriate deductions will be made in respect of board, lodging, etc. Applications, stating age, qualifications, experience, nationality, and the names of two referees, should be sent as soon as possible to the Physician Superintendent, King George's Sanatorium for Sailors, Bramshott Place, Liphook, Hampshire. (7704)

LOCHMABEN SANATORIUM, DUMFRIES
Dumfries and Galloway Hospital Board
SENIOR HOUSE OFFICER
(Tuberculosis and Diseases of the Chest)
Salary £670, less deduction of £140 for board and lodging. The sanatorium (140 beds) is the tuberculosis centre for Dumfries and Galloway. The appointment offers experience in both clinic and hospital work, and is suitable for candidates studying for a higher degree. Applications, with two names for reference, to Secretary, Royal Infirmary, Dumfries. (7720)

MANSFIELD (near), NOTTS, NEWSTEAD SANATORIUM, Fishpool (236 beds)
Applications are invited for appointment as
RESIDENT SENIOR HOUSE OFFICER (Female)
The successful applicant may be required to undertake some work at neighbouring chest clinics, including B.C.G. vaccination. Apply, giving age, qualifications and two referees, to the Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood Hospital, near Mansfield, Notts. (5843)

NORTHAMPTON (near), CREATON SANATORIUM (150 beds)
Northampton and District Hospital Management Committee
Applications are invited from suitably qualified registered medical practitioners for the post of
NON-RESIDENT SENIOR HOUSE OFFICER
The Sanatorium is for the treatment of both pulmonary and non-pulmonary tuberculosis and has a thoracic surgery unit. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, experience and qualifications, together with the names and addresses of two referees, should be sent to the Secretary, Northampton and District Hospital Management Committee, General Hospital, Northampton, within seven days of the appearance of this advertisement. (7643)

WAKEFIELD, PINDERFIELDS GENERAL HOSPITAL
SENIOR HOUSE OFFICER
(Thoracic Surgical Unit—54 beds)
Applications are invited for the above appointment. Salary £670 per annum, with a deduction of £130 for board and lodging if resident. Address applications, with full particulars of qualifications, etc., and the names and addresses of two persons for reference, to the undersigned.—G. L. Banner, Secretary, Victoria Chambers, Wood Street, Wakefield. (7532)

YORK, FAIRFIELD SANATORIUM
COUNTY HOSPITAL, York
CITY HOSPITAL, York
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
in Chest Diseases and General Medicine
to spend approximately half-time at Fairfield Sanatorium (63 beds), and at the City Hospital, where eight beds are reserved for investigation of chest cases, and where out-patient refill clinics are held, the remainder of time at the County and City General Hospitals (269 and 265 beds respectively), in the department of general medicine. Previous experience in treatment of tuberculosis an advantage. Salary £670, with deduction for residence near Sanatorium. Suitable for married or single medical officer. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (7820)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest
Vacancies occur April 1, 1952, for
RESIDENT HOUSE PHYSICIAN
NON-RESIDENT HOUSE PHYSICIAN
Appointments for six months, four in London, two at the Country Branch (resident) near Letchworth, and posts are graded as House Officer. Duties include work in the out-patient department and refill clinics as well as in wards. Applications, stating age, qualifications (with dates), and previous appointments held, with copies of three testimonials, should reach the undersigned not later than February 18, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (7501)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (Thoracic Unit)
Vacant April 1. Salary £350 to £450, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (7769)

AMENDED ADVERTISEMENT
ORPINGTON HOSPITAL
Orpington and Sevenoaks Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
for duty in T.B. unit (60 beds) and geriatric wards. The post offers excellent opportunity for studying for higher qualifications and affords good clinical experience in diagnosis and treatment of tuberculosis and acute and chronic geriatric cases. Apply immediately, stating age, qualifications and experience, to the Physician Superintendent, Orpington Hospital, Orpington, Kent. (7821)

SHEFFIELD, ROYAL INFIRMARY
United Sheffield Hospitals
Applications are invited from registered medical practitioners, male and female, for the following post, now vacant:
HOUSE SURGEON to the Thoracic Department
The post will be tenable for six months, now vacant. Salary and conditions of service in accordance with the terms published by the Ministry of Health for House Officers. Applications should be sent forthwith to Frank Hart, Superintendent, Royal Infirmary, Sheffield, 6 (7463)

STOURBRIDGE (near), PRESTWOOD SANATORIUM
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE OFFICER
at the above Sanatorium. Post vacant immediately. The Sanatorium consists of 200 beds at Prestwood, 35 beds at Edge View, and 60 beds at The Limes, and is for pulmonary tuberculosis. The salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Preference will be given to candidates with some previous experience in the treatment of pulmonary tuberculosis. The post is for six months in the first instance. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (9028)

DENTAL

EAST RIDING OF YORKSHIRE COUNTY COUNCIL
WHOLE-TIME ASSISTANT DENTAL OFFICERS
Applications are invited from registered dental surgeons for the above appointments. Salary £800 per annum, rising by annual increments of £50 to a maximum of £1,250 per annum. Travelling and subsistence allowances will be paid in accordance with the Council's scale. The duties attached to the post will comprise the dental inspection and treatment of school children and dental work in connexion with other County Health Services under the direction of the County Medical Officer of Health under the supervision of the Senior Dental Officer. The appointment will be subject to the provisions of the National Health Service (Superannuation) Regulations, 1947, and the successful candidates will be required to pass satisfactorily a medical examination. Applications, stating age, qualifications and experience, accompanied by copies of three recent testimonials, should be sent immediately to the County Medical Officer of Health, County Hall, Beverley. Any known relationship to a member or senior officer of the Council must be disclosed and canvassing will be deemed a disqualification.—T. Stephenson, Clerk of the Council, County Hall, Beverley. (7429)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered dental practitioners for the appointment of
DENTAL HOUSE SURGEON
vacant April 27, 1952. This post is recognized by the Royal College of Surgeons as fulfilling the requirements of candidates for the Fellowship of Dental Surgery. Salary and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three recent testimonials, should be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (7402)

ILFORD, KING GEORGE HOSPITAL
Ilford and Barking Group Hospital Management Committee
There is a vacancy for a
DENTAL CLINICAL ASSISTANT
(One session on Tuesday mornings.) Remuneration in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales), i.e., £150 per annum per weekly half-day. Applications, accompanied by testimonials, to be sent to the unde signed within fourteen days of the appearance of this advertisement.—G. Austin Hepworth, Sec., King George Hospital, Ilford. (7705)

DERMATOLOGY

BROMLEY GROUP OF HOSPITALS
South-East Metropolitan Regional Hospital Board
Applications are invited for the appointment of
CONSULTANT DERMATOLOGIST
for three notional half-days a week. Candidates must have had wide experience in dermatology and possession of a higher qualification is desirable. Applicants may visit the hospitals concerned. The last day for acceptance of applications will be February 22, 1952, and selected candidates will be interviewed in London on April 17, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1. (7644)

WAKEFIELD "A" GROUP HOSPITAL MANAGEMENT COMMITTEE NO. 9
Clayton Hospital, Wakefield
Applications are invited for the appointment of
SENIOR HOUSE OFFICER in Dermatology
(Non-resident)
for work in the Wakefield "A," Wakefield "B," Dewsbury and Pontefract Groups. Salary and conditions of service are in accordance with national recommendations, and the post is subject to the National Health Service and Superannuation Acts. Application forms, together with any further information which may be required, may be obtained from the undersigned.—W. Read, Secretary. (7658)

LONDON JEWISH HOSPITAL
Stepney Green, E.1
CLINICAL ASSISTANT
(Out-patients' Skin Department)
For one notional half-day a week. Thursday 9.30 a.m. Salary £175 per annum. Applications, etc., with three recent testimonials, to the Secretary, Stepney Group Hospital Management Committee, Raine Street, London, E.1. (7770)

EAR, NOSE, AND THROAT, etc.

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest
A vacancy occurs April 1, 1952, for
PART-TIME REGISTRAR Registrar Grade)
E.N.T. Department
to attend two half-days a week in London and one attendance fortnightly at Country Branch (near Letchworth). The appointment is for one year with the prospect of renewal. Applications, stating date of birth, qualifications (with dates) and previous appointments held, with copies of three testimonials, should reach the undersigned by February 20, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (7430)

LONDON HOSPITAL, Whitechapel, E.1
Applications are invited for the post of
PART-TIME REGISTRAR
to the Aural Department (four sessions a week). A higher qualification, although desirable, is not essential. Applications (twelve copies), giving names and addresses of three referees, should be addressed to the House Governor to arrive not later than February 29, 1952.—H. Brierley, House Governor. (7822)

BLACKPOOL, VICTORIA HOSPITAL
SENIOR HOUSE OFFICER, E.N.T. Department
Post recognized for D.L.O. and F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (7683)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Ear, Nose, and Throat, etc.—contd.

MANCHESTER THROAT AND CHEST HOSPITAL, Bowdon, Cheshire (53 beds)
North and Mid-Cheshire Hospital Management Committee
SENIOR E.N.T. HOUSE OFFICER
Required to commence on or about February 15, 1952. Twelve months' appointment. This appointment is in a busy hospital staffed by Manchester Consultants and offers excellent opportunities of practical experience to suitably qualified candidates. Salary £670 per annum. Conditions as laid down in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, qualifications, etc., should be forwarded to the Secretary, North and Mid Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire (6985)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT HOUSE SURGEON
(E.N.T. and Eyes)
Six months' appointment. Vacant April 1. Application, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Secretary, by February 23. (7823)

AYLESBURY, BUCKS, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON
for E.N.T. and Ophthalmic Department
Recognized for D.L.O. and D.O. First or second post, which carries additional remuneration at the rate of £50 per annum. Vacant now. Please apply, with two testimonials, to the Secretary-Superintendent as soon as possible. (7684)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL (900 beds—36 E.N.T. beds)
Birmingham (Dudley Road) Group of Hospitals
Applications are invited for the post of
RESIDENT HOUSE SURGEON
(Ear and Throat Department)
This is a six months' appointment, and is recognized for the training for the D.L.O. Applications, stating age, qualifications, nationality, and experience, accompanied by copies of two recent testimonials, should be forwarded to the undersigned.—J. Preston, Secretary to the Hospital Management Committee, Dudley Road Hospital. (7551)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for the post of
E.N.T. AND OPHTHALMIC HOUSE SURGEON
at the above hospital. The appointment will be subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to the number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, as soon as possible.—J. Folkard, Sec. to the Committee. (4740)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
HOUSE SURGEON to the E.N.T. Department
for a period of six months from April 1, 1952. Post is recognized for the D.L.O. and the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (7645)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)
Applications are invited for the post of
HOUSE SURGEON (E.N.T. Department)
Vacant March 1, 1952. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (E.N.T. Department)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7860)

YORK, COUNTY HOSPITAL (General hospital of 269 beds, with full consultant staff)
CITY HOSPITAL, York (Modern general hospital of 265 beds, with full consultant staff)
E.N.T. HOUSE SURGEON
The E.N.T. Department (which is mainly at the County Hospital) has approximately 30 beds, is recognized for the D.L.O. and offers excellent opportunities for learning the specialty. Appointment for six months initially and is vacant immediately. Previous experience preferable but not essential. Residence available at the County Hospital. Salary £400 for second post, £450 for third post, less £100 for residence. Applications, giving age, nationality, experience and qualifications and names of two referees, to be forwarded immediately to undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (7824)

GERIATRICS

HALIFAX, ST. JOHN'S (GERIATRIC) HOSPITAL (Accommodating 400 patients)
Halifax Area Hospitals Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN (Male or female)
This hospital is provided with consultant medical and ancillary services. Applications, stating age, nationality, qualifications, and experience, together with copies of three testimonials, to be forwarded to the Sec., Royal Halifax Infirmary, Halifax. (7228)

HAEMATOLOGY

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
SENIOR HOUSE OFFICER
Department of Haematology
Vacant April 1, 1952. Whole-time, non-resident post. Appointment for six months, renewable for a second and possibly a third six months. Salary £670 per annum. Applications to be made on forms obtainable from the undersigned and to be returned not later than February 27, 1952.—F. J. Cable, General Superintendent. (7772)

INFECTIOUS DISEASES

MIDDLESBROUGH, WEST LANE ISOLATION HOSPITAL (203 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER
which will become vacant March 1, 1952. Salary £670 per annum, conditions of service being in accordance with the Ministry of Health Regulations. Applications, with copies of two recent testimonials, should be forwarded to the Physician Superintendent, West Lane Hospital, Middlesbrough as early as possible. (7735)

BIRMINGHAM, LITTLE BROMWICH INFECTIOUS DISEASES HOSPITAL (750 beds)
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
(Male or female)
Appointment for six months. Applications, stating experience, with two testimonials, to the Physician Superintendent, Little Bromwich Hospital, Birmingham, 9. (7505)

CARDIFF, CITY ISOLATION HOSPITAL (219 beds)
Cardiff Hospital Management Committee
HOUSE OFFICER
Applications, giving full particulars, with copies of two testimonials, before February 16, 1952, to Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (7374)

MOTHERWELL, LANARKSHIRE, STRATHCLYDE HOSPITAL (Infectious Diseases, 362 beds)
Board of Management for Motherwell, Hamilton and District Hospitals
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE OFFICER
at the above hospital, commencing March 1, 1952. The post is a resident one and is superannuable. Salary in accordance with the national scales, less £100 residential emoluments. Preference will be given to applicants with previous experience in medicine and surgery. Applications, with names of two referees, should be sent to the Physician Superintendent, Strathclyde Hospital, Motherwell, Lanarkshire. (7876)

NEUROSURGERY

REGIONAL NEUROSURGICAL CENTRE (50 beds)
Brook General Hospital, Shooters Hill Rd., S.E.18
SENIOR HOUSE OFFICER (Neurosurgery)
The post also provides excellent opportunity for training in neurology. Salary £670 per annum, less £150 per annum for residence. Apply to Sec., Memorial Hospital, Woolwich, S.E.18. (7747)

BIRMINGHAM, UNITED, HOSPITALS
Applications are invited for the post of
HOUSE SURGEON
to the Department of Neurosurgery at the Queen Elizabeth Hospital
The appointment is for the period ending July 31, 1952. Salary will be in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications, experience, nationality and present post, together with copies of three recent testimonials, should be sent to the undersigned at once.—G. A. Phalp, B.Com., Sec., United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (7486)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
HOUSE PHYSICIAN (Neurosurgical Unit)
Applications are invited from registered medical practitioners for the above appointment in the neurosurgical unit. Tenable for six months. This post would be suitable for candidate seeking a higher qualification as it offers excellent experience in neurology. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5634)

OBSTETRICS AND GYNAECOLOGY

BECKENHAM MATERNITY HOSPITAL
Stone Park Avenue, Beckenham, Kent
Applications are invited, preferably from candidates holding their M.R.C.O.G., for the non-resident post of
TEMPORARY SENIOR REGISTRAR
in Obstetrics and Gynaecology
The appointment is tenable until June 30, 1952, in the first instance, at a salary of £1,000 per annum. Applications, stating age, qualifications and experience, together with names and addresses of three referees, should be sent to the Administrative Officer, Beckenham Hospital, Croydon Road, Beckenham, Kent. (7811)

OXFORD REGIONAL HOSPITAL BOARD
Applications are invited for the post of
REGISTRAR in Obstetrics and Gynaecology
to the hospitals of the Aylesbury area. It is hoped that this post may be interchangeable with the departments of obstetrics and gynaecology, United Oxford Hospitals, after the first year. The appointment is for one year and eligible for extension to a second year. Applications on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by February 23. (7685)

HOSPITAL FOR WOMEN, Soho Square, W.1
(Affiliated to the Middlesex Hospital)
Applications are invited for a full-time post of
RESIDENT SENIOR GYNAECOLOGICAL HOUSE OFFICER
vacant on April 1, 1952. Appointment is for six months, but the holder can apply for an extension of six months. Salary in accordance with the terms laid down for medical and dental staff, less a deduction of £100 per annum for residential emoluments. The appointment is recognized for the M.R.C.O.G. examination. Applications, stating age, nationality, qualifications, and experience, supported by the names and addresses of three referees, must reach the undersigned not later than Saturday, February 16.—D. C. Emery, Secretary. (7403)

ST. MARY'S HOSPITAL, W.2
Samaritan Hospital for Women
Applications are invited from registered medical practitioners for the following appointment:
RESIDENT MEDICAL OFFICER
(Senior House Officer)
The appointment is for one year from April 1, 1952. Preference given to qualified medical practitioners intending to specialize in gynaecology and obstetrics. Applications, stating date of birth, qualifications (with dates), details of previous appointments, and accompanied by two testimonials, should be sent not later than February 23, 1952, to Arthur E. Tyler, Secretary, Samaritan Hospital, Marylebone Road, N.W.1. (7790)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
in Obstetrics and Gynaecology (with some General Surgery)
Vacant February 25, 1952, for one year's appointment (renewable). The post is recognized for the D.Obst.R.C.O.G. Apply to the Medical Superintendent. (7686)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for post, vacant now, of
RESIDENT SENIOR GYNAECOLOGICAL HOUSE SURGEON (Male or female)
for duties at the above hospital and Scarthoe Road Infirmary, Grimsby. Apply to Administrative Officer, Grimsby General Hospital. (7020)

MIDDLESBROUGH MATERNITY HOSPITAL (57 beds)
Tees-side Hospital Management Committee
SENIOR RESIDENT MEDICAL OFFICER
(Senior House Officer Grade)
Applications are invited for the above appointment, which will be vacant in the middle of February. Good obstetrical experience is afforded and the appointment is recognized for the M.R.C.O.G. examination. Salary and conditions in accordance with National Health Service scales and terms of appointment. Applications, giving details of qualifications and experience, together with copies of three recent testimonials, should be sent as soon as possible to the Administrative Officer, Middlesbrough Maternity Hospital, Park Road North, Middlesbrough. (7451)

Obstetrics and Gynaecology—contd.

GRIMSBY MATERNITY HOSPITAL (45 beds)
Grimsby Hospitals Management Committee
SENIOR OBSTETRIC HOUSE OFFICER (Resident)
Applications are invited for the above post which will become vacant as and from March 7, 1952. Salary £670 per annum. Applications, with names of three referees, to the Secretary, Grimsby Hospitals Management Committee, 13, Queen's Parade, Grimsby. (7306)

WORCESTER, RONKSWOOD HOSPITAL
Newtown Road (326 beds)
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER (Gynaecology and Genito-Urinary)
for which there are 40 beds allotted. Applications, with copies of testimonials, to Administrator. (7877)

EAST END MATERNITY HOSPITAL
384/398, Commercial Road, London, E.1 (60 beds)
(Post recognized for M.R.C.O.G.)
RESIDENT OBSTETRICAL OFFICER
Required, six months' House Officer III, six months Senior House Officer. National scale salaries, deduction for emoluments £100 and £156 respectively. Application to Secretary, Stepney Group H.M.C., Raine Street, E.1. (7825)

THORPE COOMBE MATERNITY HOSPITAL
Walthamstow, E.17 (54 beds)
Applications are invited from medical women for the post of
HOUSE OFFICER
vacant April 1, 1952. The hospital is recognized by the Royal College of Obstetricians and Gynaecologists. Applications, with full details and copy testimonials, should be sent immediately to the Secretary, H.M.C., Forest Group, Langthorne Road, E.11. (7293)

AMERSHAM GENERAL HOSPITAL, Bucks
High Wycombe and District Hospital Management Committee
Applications are invited for the post of
OBSTETRIC HOUSE SURGEON
in modern maternity department which is a training school for midwives. Post vacant on March 1, 1952, tenable for six months and is recognized for the D.R.C.O.G. Applications to Sec., Management Committee, Amersham General Hospital. (7687)

BISHOP AUCKLAND GENERAL HOSPITAL (350 beds)
South-West Durham Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON (Obstetrics and Gynaecology)
Departmental beddage 66, and staff includes a Senior House Officer. Recognition is being sought for D.Obst.R.C.O.G. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications and experience, to be sent to the Secretary, The General Hospital, Bishop Auckland, Co. Durham, as soon as possible. (7434)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON (Obstetrics)
Vacant April 1. Salary £350 to £450, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7508)

EDINBURGH, 8, ELSIE INGLIS MATERNITY HOSPITAL (68 beds)
Applications are invited from registered women medical practitioners for the post of
OBSTETRIC HOUSE OFFICER
Two vacancies, one on April 1, 1952, one on July 1, 1952. Appointment is for one year in each case—three months paediatrics, three months district work, and six months as house surgeon. Salary £350, £400 or £450 per annum, according to experience, less £100 per annum in respect of residential emoluments. Applications, with copies of testimonials, to the Medical Superintendent, Southern Hospital Group, 21 Hill Street, Edinburgh, 2, not later than February 23, 1952. (7717)

MIDDLESBROUGH MATERNITY HOSPITAL
Tees-side Hospital Management Committee
There will be a vacancy for a
JUNIOR RESIDENT MEDICAL OFFICER (House Officer grade)
immediately. The post affords good obstetrical experience and is recognized for the D.Obst. R.C.O.G. examination. The appointment is for six months in the first place. The person appointed may be given the opportunity of proceeding to the Senior Resident Medical Officer's appointment, which is recognized for the M.R.C.O.G. examination. Applications, together with copies of testimonials, should be sent as soon as possible to the Administrative Officer, Middlesbrough Maternity Hospital, Middlesbrough. (7395)

READING AREA DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
vacant April 1 for period of six months. Salary £400 or £450, less £100 board residence. Apply, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer, Royal Berkshire Hospital, Reading. (7396)

ROMFORD, ESSEX, RUSH GREEN HOSPITAL (247 beds)
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE SURGEON (Woman)
for duties in the Gynaecological Unit comprising 25 gynaecological and 6 maternity beds at the above hospital. Previous experience not necessary. Post tenable for six months. Applications, stating (in order) age, qualifications (with dates), present appointment and details of experience, accompanied by copies of two recent testimonials or names of referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. Applicants may see the hospital by arrangement with the Medical Supt. Telephone: Romford 7711. (5620)

SOLIHULL HOSPITAL
Lodge Lane, Solihull, near Birmingham
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON (Obstetric and Gynaecological)
Recognized for the D.Obst.R.C.O.G. Post vacant mid February. General hospital with five other resident medical staff. Applications immediately, with copies of two recent testimonials, or names of two referees, to the Medical Superintendent. (7435)

STOCKPORT, CHESHIRE, STEPPING HILL HOSPITAL (464 beds)
(Recognized for D.Obst.R.C.O.G.)
Stockport and Buxton Hospital Management Committee
RESIDENT HOUSE OFFICERS (Obstetrics and Gynaecology)
Applications are invited for the above posts (two) at the hospital, which provides 73 beds for Obstetrics and 26 beds for Gynaecology. One post becomes vacant on March 1, 1952, and the other on April 1, 1952. Salary and conditions of service in accordance with Ministry of Health circular. Applications, stating age, qualifications, and experience, together with copies of two testimonials, or the names of two referees, to be addressed to the Medical Superintendent immediately.—H. G. Price, Secretary. (7404)

SUNDERLAND, GENERAL AND MATERNITY HOSPITALS
HOUSE SURGEON (Obstetrics and Gynaecology)
Required for General Hospital, Sunderland (45 gynaecological beds), and Maternity Hospital, Sunderland (75 obstetrical beds). Apply immediately to Secretary, Sunderland Area H.M.C. General Hospital, Sunderland. (7814)

WOLVERHAMPTON, ROYAL HOSPITAL (Women's Hospital)
(Recognized for the examination of M.R.C.O.G.)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (Gynaecological and Obstetric)
Vacant March 23. Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7861)

OPHTHALMOLOGY

ST. MARY'S HOSPITAL, W.2
Applications are invited for the post of
REGISTRAR (Non-resident)
at the Western Ophthalmic Hospital (43 beds). Candidates must be registered medical practitioners, with postgraduate experience, and must hold or be studying for the F.R.C.S. The appointment is for a first period of twelve months, as from April 1, 1952, the holder to be eligible for reappointment for three further periods of twelve months. The grading of this post is Senior Registrar. Applications, stating nationality, date of birth, permanent address, qualifications (with dates), and details of previous and present appointments and experience, together with the names and addresses of three referees, should reach the undersigned by February 27, 1952.—Alan Powditch, Secretary to the Board of Governors. (7721)

LIVERPOOL, ST. PAUL'S EYE HOSPITAL
United Liverpool Hospitals
Applications are invited for an appointment as
OPHTHALMIC REGISTRAR
for the period to September 30, 1952. The post is assessed in the Registrar grade. Applications should be made on forms which may be obtained from the undersigned, to whom they should be returned by February 16, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool 1. (7762)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952. Salary £670 a year, less £150 a year for residential emoluments. Applications should be forwarded as soon as possible to Secretary, Mid-Kent Hospital Management Committee, 103, Tonbridge Road, Maidstone. (5359)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL, Mount Ephraim (350 beds)
Tunbridge Wells Group Hospital Management Committee
Applications are invited from registered medical practitioners for post of
SENIOR HOUSE OFFICER (Ophthalmological)
Applicants must have held appointments and have had experience in the speciality. Possession of a Diploma in Ophthalmology an advantage. Appointment for an initial period of one year, terminable on three months' notice. Applications, stating age, nationality, experience and qualifications, with names of two referees, as soon as possible to the Secretary, Sherwood Park, Pembury Road, Tunbridge Wells. (7135)

BIRMINGHAM, UNITED, HOSPITALS
Applications are invited for the post of
HOUSE SURGEON
to the Ophthalmic Department at the Queen Elizabeth Hospital
The appointment is for the period ending July 31, 1952. Salary will be in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications, experience, nationality and present post, together with copies of three recent testimonials, should be sent to the undersigned at once.—G. A. Phalp, B.Com., Sec., United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (7487)

BRADFORD, ROYAL EYE AND EAR HOSPITAL
HOUSE SURGEON (Ophthalmic)
Vacant April 3. Hospital recognized for F.R.C.S. and D.O.M.S. examination. Salary £350 to £450, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7773)

GLASGOW EYE INFIRMARY
THREE RESIDENT HOUSE SURGEONS
Required immediately. Salary £350 to £450 per annum, less £100 emoluments. Applications to Medical Superintendent, 174, Berkeley Street, Glasgow, C.3. (7878)

HALIFAX, ROYAL INFIRMARY (301 beds)
Applications are invited for the post of
HOUSE SURGEON (Male or female)
to the Ophthalmic and E.N.T. Departments at this busy acute general hospital. The post includes part-time casualty duty, and is recognized for the D.O. Applications, stating age, qualifications, and experience, together with three recent testimonials, to be forwarded to the Secretary. (7230)

NOTTINGHAM AND MIDLAND EYE INFIRMARY
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
Required at the above Infirmary. Salary and conditions of service in accordance with the published conditions of the Ministry of Health. Duties to commence at the beginning of March. This post is recognized for the D.O.M.S. examination. Application, stating age, qualifications and experience, together with copies of testimonials, to be sent as soon as possible to H. M. Stanley, Secretary, General Hospital, Nottingham. (7285)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Ophthalmic)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7405)

YORK, COUNTY HOSPITAL (General hospital of 269 beds, with full consultant staff)
Applications are invited for the post of
EYE HOUSE SURGEON
which is recognized for D.O. and is vacant now. Appointment for six months in the first instance and can be renewed thereafter. Salary £350 for first post, £400 for second post, £450 for third post and subsequent posts, less £100 for residence. Applications, giving age, nationality, experience, qualifications and names of two referees, to be forwarded immediately to undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (7826)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Ophthalmology—contd.

CONNAUGHT HOSPITAL, Walthamstow, E.17
CLINICAL ASSISTANT
(Ophthalmic Department)

For one session per week, Wednesday p.m. Salary in accordance with paragraph 10(b) of Service conditions, i.e., £175 per year for each weekly notional half-day. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, H.M.C. Forest Group (No. 11), Langthorne Road, Leytonstone, E.11. (7706)

ORTHOPAEDICS

ROYAL MASONIC HOSPITAL
Ravenscourt Park, W.6

Applications are invited from Fellows of one of the Royal Colleges of Surgeons for the appointment of

CONSULTANT ORTHOPAEDIC SURGEON

at the above hospital. The successful candidate will be required to undertake some part of the duties of the appointment on or as soon as possible after April 1, 1952, and to undertake full responsibility therefore as from July 1, 1952. Applications, giving detailed information and the names and addresses of three referees, should reach the undersigned (from whom further information may be obtained) on or before February 29, 1952.—R. E. Lawson, Sec. and House Governor. (7398)

BARNSLEY, BECKETT HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the resident whole-time post of

REGISTRAR (Orthopaedics)

to the above hospital. Single accommodation is available. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 25, 1952. (7667)

GRIMSBY GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the resident whole-time post of

REGISTRAR (Orthopaedics)

to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 25, 1952. (7668)

LINCOLN COUNTY HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of

REGISTRAR (Orthopaedics)

to the above hospital, which is recognized for training for the F.R.C.S. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 18, 1952. (7286)

NEWCASTLE-UPON-TYNE, UNITED HOSPITALS
Royal Victoria Infirmary

Applications are invited from registered medical practitioners for the appointment of whole-time

REGISTRAR TO ORTHOPAEDIC DEPARTMENT

The successful candidate will receive clinical experience in in-patient and out-patient work, and will be required to carry out such duties as may be allocated to him by the Head of the Department. This is the teaching hospital of the University of Durham, and the successful candidate will be required to teach in his subject principally at the Royal Victoria Infirmary. The post would offer scope to prepare for higher degrees. Applicants should have held house appointments, and preference will be given to those who have passed the Primary Fellowship examination of the Royal College of Surgeons. The appointment, which is non-resident, will be for one year in the first instance and will be subject to the N.H.S. terms and conditions of service for registrars. The salary is at the rate of £775 or £890 per annum, according to the qualifications and experience of the successful candidate. Applications, giving age, nationality, experience and qualifications, with the names and addresses of three referees, should be sent to the undersigned within two weeks of the date of appearance of this advertisement.—A. W. Sanderson, House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne. (7722)

OSWESTRY, ROBERT JONES AND AGNES HUNT ORTHOPAEDIC HOSPITAL (459 beds)
Birmingham Regional Hospital Board

Applications are invited for

Whole-time SENIOR REGISTRAR in Orthopaedics

Resident appointment. Experience in specialty essential. Candidates should possess a higher qualification. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before February 25. Candidates may visit hospital concerned. (7868)

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the whole-time post of

REGISTRAR (Orthopaedics)

to the above hospital (269 beds). The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 25, 1952. (7669)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the non-resident whole-time post of

REGISTRAR (Orthopaedics)

to the above hospital, which is recognized for training for the F.R.C.S. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 18, 1952. (7335)

SHEFFIELD, UNITED, HOSPITALS
Royal Infirmary Unit

Applications are invited from registered medical practitioners for the non-resident post of

SENIOR ORTHOPAEDIC REGISTRAR

at the above hospital. Applications, stating age, qualifications and experience, together with the names of three referees, should be forwarded immediately to Kenneth Sumner, Chief Administrative Officer, The United Sheffield Hospitals, Central Office, The Royal Hospital, Sheffield, 1. (7736)

WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the appointment of a

REGISTRAR IN ORTHOPAEDIC SURGERY

to serve the Mid-Glamorgan Hospital Management Committee. The successful candidate will be based at Bridgend General Hospital (412 beds). The post will be subject to review at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (7723)

WHISTON COUNTY HOSPITAL
Liverpool Regional Hospital Board

Applications are invited for the post of

WHOLE-TIME ORTHOPAEDIC REGISTRAR

with duties in the above hospital. This is a resident post and accommodation is available for a single person for which a charge of £130 will be made, but consideration will be given to the successful person becoming non-resident if suitable accommodation is found within reasonable distance of the hospital. The post is a temporary one, tenable until September 30, 1952. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than February 23, 1952.—Vincent Collinge, Secretary to the Board. (7791)

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL
ORTHOPAEDIC, TRAUMATIC, AND CASUALTY SENIOR HOUSE OFFICER

Applications are invited for the above resident appointment. Hospital comprises 189 beds with large out-patient departments. Duties comprise service in the orthopaedic, traumatic, and casualty departments, and the post is recognized for F.R.C.S. Salary £670 per annum, less £100 per annum for emoluments. Applications, with two recent copy testimonials, to be forwarded to the Secretary, Barrow and Furness Hospital Management Committee, 52, Paradise Street, Barrow-in-Furness. (7432)

CARDIFF, PRINCE OF WALES ORTHOPAEDIC HOSPITAL
Cardiff Hospital Management Committee
SENIOR HOUSE OFFICER (Sole resident)

Orthopaedic experience essential. Transfer to new premises probable during appointment. Application forms from the Secretary, Cardiff Hospital Management Committee, St. David's Hospital, Cardiff. (7336)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
SENIOR ORTHOPAEDIC HOUSE SURGEON

Applications are invited for the above appointment, which is tenable for one year. Salary £670 per annum and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (5468)

ECCLESHALL (near), STAFFORD, STANDON HALL ORTHOPAEDIC HOSPITAL
Stafford Hospital Management Committee

Applications are invited from suitably qualified medical practitioners, male or female, for the post of

SENIOR HOUSE OFFICER

Salary £670 per annum, less deduction for residential emoluments. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Secretary to the Committee, 13, Foregate Street, Stafford. (6740)

HEXHAM GENERAL HOSPITAL (318 beds)
Northumberland
Hexham and District Hospital Management Committee

A vacancy has occurred for the appointment of a

SENIOR HOUSE OFFICER

to the Orthopaedic Department (140 beds). The appointment is resident. The Department is attended by the Orthopaedic Consultants of the Royal Victoria Infirmary, Newcastle (University of Durham). The post is recognized for the English Fellowship. Salary £670 per annum, less £130 for residential charges. Applications, with the names and addresses of referees, to be received by the undersigned as early as possible.—W. Stokell, Secretary, General Hospital, Hexham, Northumberland. (7749)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds, 5 Residents)

Applications are invited for the vacancy of

RESIDENT SENIOR HOUSE SURGEON
to the Traumatic and Orthopaedic Department

vacant March 1. Duties include charge of casualty department under Consultant staff, care of in-patient beds and supervision of other residents. The hospital is a peripheral centre of the Oxford Regional Orthopaedic Service based on the Wingfield-Morris Orthopaedic Hospital. Salary £670 per annum, with deduction for residence. Post recognized for F.R.C.S. Applications, with references, to the Secretary, St. Mary's Cottage, High Wycombe, Bucks. (7688)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of

SENIOR HOUSE OFFICER (Orthopaedic)

for duties at the Leicester General Hospital and the Leicester Royal Infirmary. Fracture and Orthopaedic service. The successful candidate may be either non-resident or resident at the General Hospital. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (7646)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
TWO SENIOR HOUSE OFFICERS

Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out-patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible. (6671)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)

Applications are invited from registered medical practitioners for the posts of

RESIDENT SENIOR HOUSE SURGEONS

The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

MARGATE, ROYAL SEA BATHING HOSPITAL (200 beds)
SENIOR HOUSE OFFICER

Applications for the above post are invited from registered medical practitioners. The post affords special opportunities for the study of surgical tuberculosis. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, and qualifications, together with copies of three recent testimonials, should be sent as soon as possible to the Medical Superintendent, Royal Sea Bathing Hospital, Margate. (7307)

Orthopaedics—contd.

PLYMOUTH, MOUNT GOLD ORTHOPAEDIC HOSPITAL

Applications are invited for the appointment of

TWO SENIOR HOUSE OFFICERS

at the above hospital (120 beds). The appointments are resident and the salaries and conditions of service are in accordance with the National Health Service terms. Some experience in orthopaedics is desirable. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, should be sent to the Secretary, Plymouth Special H.M.C., 8, Nelson Gardens, Stoke, Plymouth. (7737)

ROCHDALE INFIRMARY
(General—109 beds)
Rochdale and District Hospital Management Committee
SENIOR HOUSE OFFICER (Orthopaedic)

Applications are invited for the above position. The appointment will be for one year. Salary in accordance with the terms of service of medical staff in the National Health Service, i.e., £670 per annum. This appointment is recognized by the Royal College of Surgeons for six of the twelve months' period of surgical training required of candidates for the final fellowship examination. Applications should be forwarded to the undersigned.—S. Hodkinson, Secretary, Central Offices, Birch Hill Hospital, Rochdale, Lancs. (9956)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
TWO SENIOR HOUSE OFFICERS (Orthopaedic)/ CASUALTY OFFICERS

required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7795)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (Orthopaedic)

The post is recognized for the F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7377)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(12 Residents)
Taunton Hospital Management Committee

Applications are invited from registered medical practitioners for the following post:

SENIOR HOUSE OFFICER
(Orthopaedic and Traumatic Surgery)

Salary is in accordance with the National Health Service scale. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (6986)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee

Applications are invited for the post of

RESIDENT SENIOR HOUSE OFFICER
to the Orthopaedic and Traumatic Department

Now vacant. This is a large and busy specialty with two consultants, 64 beds, and deals with the greater part of the casualties in West Cornwall. The post is tenable for one year at a salary of £670, less £100 for emoluments, and subject to the terms and conditions published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of two recent testimonials, should be forwarded to the Administrative Assistant without delay. (4807)

WAKEFIELD, PINDERFIELDS GENERAL HOSPITAL

Applications are invited for appointment as

SENIOR HOUSE OFFICER

in the orthopaedic surgery department at the above hospital. Salary £670 per annum. A charge of £130 per annum will be made for board and lodging if provided. Address applications, with full particulars of qualifications, etc., and the names and addresses of two persons for reference, to the undersigned.—G. L. Banner, Secretary, Victoria Chambers, Wood Street, Wakefield. (7533)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
SENIOR HOUSE OFFICER
(Fracture and Orthopaedic Department)
HOUSE OFFICER
(Fracture and Orthopaedic Department)

Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7862)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY
South-East Northumberland Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of resident

SENIOR ORTHOPAEDIC HOUSE SURGEON AND CASUALTY OFFICER

Salary £670 per annum. Applications, giving full details, and with two testimonials (or the names of two referees), should be sent to the Secretary, South-East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (7802)

ST. ALFEGE'S HOSPITAL
Greenwich, S.E.10 (504 beds)

Applications are invited for the post of

HOUSE SURGEON
to the Orthopaedic and Special Departments

at the above hospital, for a period of six months from an early date. Salary £350 to £450 per annum, according to experience, less £100 per annum for board and lodging. Applications, together with copies of not more than three recent testimonials, should reach Secretary, Greenwich and Deptford Hospital Management Committee, at the above hospital as soon as possible. (7801)

WHIPPS CROSS HOSPITAL
Leytonstone, E.11
Leytonstone Hospital Management Committee

Applications are invited for the post of

ORTHOPAEDIC HOUSE OFFICER

for which there are two vacancies, one immediately and one which falls due on March 31, 1952. First, second or third post in each case. Salary and conditions of service in accordance with those published by the Ministry of Health. Application forms from the Medical Superintendent, Whipps Cross Hospital, Whipps Cross Road, E.11, returnable by February 16, 1952. (7827)

AMERSHAM GENERAL HOSPITAL, Bucks
(124 acute beds)
RESIDENT HOUSE OFFICER
Orthopaedic and Accident Department

Applications are invited. Duties include charge of casualty department under visiting consultant staff and care of in-patient beds. Hospital is a peripheral centre of Oxford Regional Orthopaedic Service based on Wingfield Morris Orthopaedic Hospital. Applications, with copies of three recent testimonials, to Medical Director. (7689)

AYLESBURY, BUCKS, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON

Required to the Department of Children's Surgery and Orthopaedic which is centred on this hospital for the area. There are 35 orthopaedic beds and 10 children's beds. First or second post, which carries additional remuneration at the rate of £50 per annum. Vacant now. Please apply, with two testimonials, to the Secretary-Superintendent as soon as possible. (7690)

BEBINGTON, CHESHIRE, CLATTERBRIDGE HOSPITAL (840 beds)
Central Wirral Group
HOUSE OFFICER (Orthopaedic Surgery)

Salary in accordance with current terms and conditions of service. Six months' appointment, commencing April 1, 1952. Application forms from Group Secretary, to be returned by Feb. 18. (7879)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)

Applications are invited for the post of

ORTHOPAEDIC HOUSE SURGEON

Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (5801)

HEXHAM GENERAL HOSPITAL (318 beds)
Northumberland
Hexham and District Hospital Management Committee

A vacancy has occurred for a

HOUSE SURGEON (Orthopaedics)

at the above hospital, which is recognized by the Royal College of Surgeons. Salary £350, £400 or £450, according to experience, less £100 for residential emoluments. Applications, with names and addresses of referees, to be received by the undersigned as early as possible.—W. Stokell, Secretary, General Hospital, Hexham, Northumberland. (7748)

LEICESTER GENERAL HOSPITAL (445 beds)

Applications are invited for the post of

HOUSE SURGEON (Orthopaedics)

commencing April 1, 1952. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (7647)

NORWICH, NORFOLK AND NORWICH HOSPITAL (440 beds)
HOUSE SURGEON
to the Orthopaedic Department

Post vacant now. Salary £350, £400 or £450 per annum, according to experience, less £100 per annum for residential emoluments. Six months' appointment. Applications, stating age, qualifications, experience, with names of two referees, to Secretary, Group 6 Hospital Management Committee, St. Stephen's Road, Norwich. (5161)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

ORTHOPAEDIC AND FRACTURE HOUSE SURGEON

The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

PEMBURY HOSPITAL
Tunbridge Wells Group Hospital Management Committee

Applications are invited for appointment of

HOUSE SURGEON TO ORTHOPAEDIC UNIT

Vacant April 1, 1952. Post, for six months in first instance, is recognized for F.R.C.S.(Eng.). Previous experience desirable. Work of Unit includes treatment of long- and short-stay cases and traumatic surgery. Applications, stating age, qualifications, experience, with three testimonials, to Surgeon Superintendent. (7258)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7510)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON

Applications are invited from registered medical practitioners for the above post, vacant March 1. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Administrative Officer. (7541)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)

Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6675)

SHEFFIELD, 5, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S., England)

Applications are invited for the resident appointment of

HOUSE SURGEON (Orthopaedics)
(and certain extra duties)

vacant April 1, 1952. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (7292)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(12 Residents)
Taunton Hospital Management Committee

Applications are invited from registered medical practitioners for the following post:

HOUSE SURGEON (Orthopaedic and Casualty)

Salary in accordance with the National Health Service scale. The post is recognized by the Royal College of Surgeons as qualifying appointment for the Final Fellowship examination. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton H.M.C., Musgrove Park Hospital, Taunton, Somerset. (7025)

PAEDIATRICS

CARDIFF, UNITED, HOSPITALS

Applications are invited for the appointment of

REGISTRAR in the Department of Child Health

Salary in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, stating age, nationality, qualifications, experience and present appointment, together with the names of two referees, should be sent to the undersigned immediately.—Arnold Tunstall, Secretary and Principal Administrative Officer, The United Cardiff Hospitals, Cardiff Royal Infirmary, Newport Road, Cardiff. (7792)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Paediatrics—contd.

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
REGISTRAR in Paediatrics
for duties at hospitals in the Bradford "A" and "B," Hospital Management Committee Groups, resident at the Leeds Road Infectious Diseases Hospital. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than February 16, 1952. (7339)

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London, W.C.1
There will be vacancies on April 15, 1952, for the following Senior House Officers.
TWO HOUSE PHYSICIANS
HOUSE SURGEON
Further particulars and form of application, which must be returned not later than March 3, 1952, are obtainable from the undersigned.—H. F. Rutherford, House Governor and Secretary. (7407)

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.2 (St. Mary's Hospital)
Applications are invited for the post of
HOUSE PHYSICIAN (Second or third post)
Post vacant May 1, 1952, and tenable for six months. Applications, stating age, nationality, qualifications (with dates), together with copies of recent testimonials, should reach the undersigned not later than February 23, 1952.—E. W. Stockwell, Secretary Superintendent. (7764)

QUEEN ELIZABETH HOSPITAL FOR CHILDREN MANAGEMENT COMMITTEE
Hackney Road, E.2, Shadwell, E.1, and Banstead Wood, Surrey
HOUSE OFFICER
The appointment will be made for two periods of six months each. First period House Physician, to commence April 1, followed by leave, and second period House Surgeon and Casualty Officer from November 1, 1952. Application forms may be obtained from the Secretary at Hackney Road, and should be returned, with copies of not more than three testimonials, on or before Feb. 23. (7774)

BEBINGTON, CHESHIRE, CLATTERBRIDGE HOSPITAL (840 beds)
Central Wirral Group
HOUSE OFFICER (Paediatrics)
Salary in accordance with current terms and conditions of service. Six months' appointment, commencing April 1, 1952. Application forms from Group Secretary to be returned by Feb. 18. (7880)

BRADFORD CHILDREN'S HOSPITAL (102 beds)
HOUSE OFFICER (Female)
Vacant April 1. Salary £350 to £450, less £100 per annum residential emoluments. Hospital recognized for D.C.H. Applications, stating age, nationality, qualifications and experience, to Secretary, Bradford Royal Infirmary. (7775)

HULL, VICTORIA HOSPITAL FOR SICK CHILDREN, Park Street (143 beds)
Hull (A Group) Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
now vacant. The post is for a term of six months and counts towards qualification D.C.H. Salary in accordance with terms of service issued by the Ministry of Health. Applications, together with testimonials, to be sent to the Administrative Officer at the above address. (7776)

MANCHESTER, 19, DUCHESS OF YORK HOSPITAL FOR BABIES
Manchester Babies' and Children's Hospital Management Committee
HOUSE PHYSICIAN (Male or female)
Required for six months from March 1, 1952. Salary in accordance with National Health Service scales. Applications, with copies of three testimonials, to be sent immediately to the Administrative Officer of the hospital. (7828)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
Applications are invited for the post of
HOUSE SURGEON
with duties in the Paediatric Department. Salary £350 to £450, according to previous posts held, with deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications, and experience, together with names of two referees, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible.—A. Ashworth, Secretary to the Committee. (4813)

MIDDLESBROUGH GENERAL HOSPITAL
Tees-side Hospital Management Committee
PAEDIATRIC HOUSE PHYSICIAN
Applications are invited for the above post, vacant April 1, 1952. This is an active unit of 60 beds and cots for acute cases, with a busy out-patients' department. Applications, stating age, qualifications, and accompanied by copies of three testimonials, to be sent to the Secretary Superintendent, Middlesbrough General Hospital, Ayresome Green Lane, Middlesbrough. (7738)

PEMBURY HOSPITAL
Tunbridge Wells Group Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN in Paediatric Unit
Vacant March 1, 1952. Six months' appointment and recognized for D.C.H. Previous experience as House Physician necessary. Applications, stating age, qualifications and experience, with three recent testimonials, to Surgeon Superintendent by not later than February 14, 1952. (7260)

SHEFFIELD, UNITED, HOSPITALS
Children's Hospital Unit
Applications are invited from registered practitioners for the post of
HOUSE PHYSICIAN
commencing on April 1. Salary in accordance with National Health Service scales. Applications immediately to the Superintendent, The Children's Hospital, Western Bank, Sheffield, 10. (7829)

SHREWSBURY GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners (male or female) for the post of
PAEDIATRIC HOUSE OFFICER
for duties at the Monkmoor Children's Hospital, Shrewsbury (50 beds), an annexe of the Royal Salop Infirmary. Vacant immediately. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7557)

PATHOLOGY

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for two non-resident whole-time posts of
REGISTRAR (Pathology)
to the laboratory, City General Hospital, Sheffield, with duties at other hospitals in the area. The appointments are for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 18, 1952. (7341)

LINCOLN, COUNTY HOSPITAL (200 beds)
Lincoln No. 1 Hospital Management Committee
Applications are invited for the post of
RESIDENT PATHOLOGIST
(Senior House Officer Grade)
in the area laboratory at the above hospital. Salary and conditions of service are in accordance with those laid down for hospital medical and dental staff. Salary being £670 per annum. Applications, stating age, experience and qualifications, together with copies of recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary. (6965)

LIVERPOOL REGIONAL HOSPITAL BOARD
Central Pathological Department
Applications are invited for the non-resident post of
WHOLE-TIME SENIOR HOUSE OFFICER
(Pathology)
with duties in the above department, situated in the University of Liverpool. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than February 23, 1952.—Vincent Collinge, Sec. to the Board. (7793)

MANCHESTER BABIES' AND CHILDREN'S GROUP
FULL-TIME NON-RESIDENT PATHOLOGICAL SENIOR HOUSE OFFICER
Required to assist the Director of Pathology for the Group, which comprises Booth Hall Children's Hospital, Duchess of York Hospital for Babies and Monsall Isolation Hospital. The main laboratory is at Booth Hall Hospital. Salary £670 per annum, and conditions in accordance with those published by the Ministry of Health. Post tenable for one year in the first instance. Applications, on forms to be obtained from the Group Secretary, Booth Hall Hospital, Blackley, Manchester, 9, should be returned as soon as possible. (7739)

SALFORD, HOPE HOSPITAL
Salford Hospital Management Committee
Applications are invited for a
RESIDENT CLINICAL PATHOLOGIST
(Senior House Officer grade)
Salary and conditions in accordance with the National Health Service Act. Applications, stating age, qualifications, and experience, together with the names of two referees, should be addressed to the Superintendent, Hope Hospital, Salford, 6, to arrive not later than seven days after the appearance of this advertisement. (7724)

PHYSICAL MEDICINE

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for the following Consultant positions:
PART-TIME CONSULTANT PHYSICIAN
in Physical Medicine
Bethnal Green Hospital, Cambridge Heath Road, E.2 (two sessions a week); St. Leonard's Hospital, Nuttall Street, N.1 (one session a week); St. Matthew's Hospital, Shepherdess Walk, N.1 (one session a week).
PART-TIME CONSULTANT PHYSICIAN
in Physical Medicine
North Middlesex Hospital and Annexes, Silver Street, N.18 (3½ sessions a week).
PART-TIME CONSULTANT PHYSICIAN
in Physical Medicine
St. Mary's Hospital, Colchester (nine sessions a week—to include duties at other hospitals in the Colchester Group).
Applications (six copies, or nine copies if for more than one post), indicating post concerned and stating private address, date of birth, full details of qualifications and experience, present appointment(s) (including number of sessions), grade and salary, together with names and addresses of three referees, should reach C. E. Nicol, Secretary, 11a, Portland Place, London, W.1, by Saturday, February 23, 1952. (7881)

PLASTIC SURGERY

ST. THOMAS' HOSPITAL, London, S.E.1
SENIOR REGISTRAR (up to six sessions)
Department of Plastic Surgery
For one year in first instance. Applications, including names of three referees, to Clerk of the Governors by February 29, 1952. (7882)

BRISTOL, FRENCHAY HOSPITAL
(448 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Plastic and Jaw Surgery Department
Two referees required. Applications to the Secretary, Frenchay Hospital, quoting "PJ.F." (7175)

PSYCHIATRY

TAVISTOCK CLINIC, 2, Beaumont Street, W.1
North-West Metropolitan Regional Hospital Board
CONSULTANT PSYCHIATRIST
Required for five half-days a week. Applications, giving three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by March 8, 1952. Clinic may be visited by direct appointment. (7512)

INVERNESS, CRAIG DUNAIN HOSPITAL
Northern Regional Hospital Board (Scotland)
Applications are invited for the appointment of an
ASSISTANT PSYCHIATRIST (Whole-time)
at Craig Dunain Hospital, Inverness (930 beds). The salary scale is £1,300 by £50 to £1,750 per annum. Candidates should have considerable experience and hold a specialist qualification in psychiatry. The successful candidate will have duties at Craig Dunain Hospital and at Out-patient Clinics throughout the Region. Schedules of application and further particulars of the appointment may be obtained from the undersigned, with whom applications, including the names of three referees, should be lodged by February 16, 1952.—A. M. Fraser, M.D., Secretary and Administrative Medical Officer, Office of the Northern Regional Hospital Board, Raigmore, Inverness. (7408)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the whole time appointment of
ASSISTANT PSYCHIATRIST (S.H.M.O. scale)
for duties mainly at the Clifton Hospital, York. The person appointed may be required to undertake extramural duties, including attendance at clinics at York, Scarborough and Harrogate. A house on the hospital estate is available, for which the necessary deductions from salary will be made. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Sec., Park Parade, Harrogate, not later than March 1. (7342)

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners, preferably holding a higher qualification in psychiatry, for the whole-time post of
ASSISTANT PSYCHIATRIST
To be attached to the Carlton Hayes Hospital, Narborough, Leicestershire. A house is available on the hospital estate. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 8, 1952. (7707)

Psychiatry—contd.

HELLINGLY HOSPITAL, Hellingly, Sussex
South-East Metropolitan Regional Hospital Board
Applications are invited for an appointment as
Whole-time SENIOR REGISTRAR in Psychiatry
Candidates should possess the D.P.M. and have had wide experience in general medicine. The appointment will be in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales) and will be for one year in the first instance. The post will include opportunities for gaining further experience in a wide range of psychiatry including attendance at adult out-patient clinics. Limited married accommodation immediately available with likely increase later. Applications, giving particulars of age, qualifications and experience, with relevant dates, together with the names and addresses of three referees, should be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1, not later than February 22, 1952. (7670)

ST. ALBANS (near), HERTS, SHENLEY HOSPITAL (2,053 beds)
North-West Metropolitan Regional Hospital Board
WHOLE-TIME PSYCHIATRIC REGISTRAR
Required for one year in the first instance. The hospital may be visited by direct appointment. Application forms obtainable from, and returnable to, the Sec., Shenley Hospital, by Feb. 23. (7468)

YORK, THE RETREAT
(an Independent Registered Hospital for Mental and Nervous Illnesses, managed by a Committee of the Society of Friends (Quakers))
REGISTRAR (Male or female)
Facilities available for training for the D.P.M., and later for a training analysis. Accommodation will be provided, and the salary is according to the N.H.S. scale. Transferable F.S.S.N. Superannuation Scheme in operation. Applications, together with the names of two referees, should be addressed to the Physician Superintendent, The Retreat, York. (7560)

FOUNTAIN GROUP HOSPITAL MANAGEMENT COMMITTEE
JUNIOR HOSPITAL MEDICAL OFFICER
(National Health Service salary scale)
Applications are invited from registered medical practitioners, male or female, resident or non-resident, for the above appointment. The Fountain Group caters for 630 mentally defective children, 80 adult female defectives and 50 blind children and provides wide experience in neurology, paediatrics and child psychology as well as in mental deficiency. There are clinical and neuropathological research units and clinical conferences are held weekly. Numerous lectures and demonstrations are given to students and graduates. Applications, giving full particulars and three referees, to Secretary, Fountain Hospital, Tooting Grove, London, S.W.17. (7883)

BLACKBURN (near), CALDERSTONES HOSPITAL, Whalley
(for Mental Defectives)
Calderstones Hospital Management Committee
Applications are invited for the appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
Salary scale £700 by £50 to £1,000 per annum, and other conditions of service in accordance with the terms and conditions of service for hospital medical and dental staff under the National Health Service. The appointment is subject to the provisions of the National Health Service (Superannuation) Regulations, 1947-9. An unfurnished flat would be available for a married man and residential quarters can be provided for a single man at a fixed charge. Applications, stating age, qualifications, and experience, together with the names of three referees, to be submitted to the Medical Superintendent, Calderstones Hospital, Whalley, near Blackburn, not later than February 18, 1952.—Chas. R. Ikin, Secretary. (7447)

BROXBURN, WEST LOTHIAN, BANGOUR HOSPITAL
Applications are invited for the appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
in the Psychiatric Unit at Bangour Hospital
Salary and conditions of service will be in accordance with the regulations, the commencing point depending on previous experience. Applications, giving age, particulars of previous experience and qualifications, together with the names of three referees, should reach the Medical Superintendent, West Lothian (Bangour) Hospitals Board of Management, Bangour Hospital, Broxburn, West Lothian, within fourteen days. (7884)

CHESTER, COUNTY MENTAL HOSPITAL
Applications are invited for the following vacant post:
PSYCHIATRIC JUNIOR HOSPITAL MEDICAL OFFICER
Salary £700 by £50 to £1,000 per annum. Accommodation available for single man, or a house for a married man, for which a charge will be made. All forms of modern treatment available including insulin unit. There are psychiatric out-patient clinics at three general hospitals, occupational therapy units and voluntary treatment wards. Facilities given to study for higher qualifications. Apply Medical Superintendent. (7777)

CUPAR, FIFE, STRATHEDEN HOSPITAL
Applications are invited for the appointments of
JUNIOR HOSPITAL MEDICAL OFFICER
TWO HOUSE OFFICERS
This mental hospital (1,025 beds) provides experience in all branches of psychiatry. There are adult out-patient and child psychiatric clinics covering the County of Fife. A modern hospital, with operating theatre, provides facilities for the practice of the latest treatment. Salary and conditions of service in accordance with national agreement. Applications, giving personal particulars, qualifications and experience, together with names of three referees, to be submitted to the Medical Superintendent. (7436)

DENBIGH, NORTH WALES HOSPITAL FOR NERVOUS AND MENTAL DISORDERS
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
Salary £700 to £1,000 per annum, less recognized charge for services provided by hospital. Single quarters, or flat available for married man. The hospital has modern treatment facilities and is associated under one Committee with the Child Guidance Service and Mental Deficiency Institutions in North Wales. Applications, with names of two referees, to the Medical Superintendent.—S. L. Frost, Secretary to the Management Committee. (7885)

SHEFFIELD, 6, MIDDLEWOOD HOSPITAL (2,000 beds)
Sheffield No. 2 Hospital Management Committee
JUNIOR HOSPITAL MEDICAL OFFICER and LOCUM TENENS J.H.M.O.
Applications are invited from male or female officers for the above appointments at Middlewood Mental Hospital. Living quarters and residential services are available for single officers and a small furnished flat for a married officer. Remuneration will be in accordance with the terms and conditions of service issued by the Ministry of Health. There are good facilities for postgraduate study for the D.P.M. and there is full collaboration with the general hospital situate in the same grounds. Excellent laboratory and other special departments. Extensive psychiatric out-patient service. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be forwarded immediately to the Medical Superintendent, Middlewood Hospital, Sheffield, 6.—R. Bradley, Secretary. (7886)

BEVERLEY, YORKS, BROADGATE HOSPITAL (600 mental beds)
SENIOR HOUSE PHYSICIAN
Salary £670 per annum.
HOUSE PHYSICIAN
Salary £350 to £450, according to previous posts held.
Applications to Secretary, Westwood Hospital, Beverley, Yorks. (7691)

CAMBRIDGE, FULBOURN HOSPITAL
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
at the above hospital. This hospital (which is linked with the University and its teaching hospital) is progressive, and has a large annual admission rate, mainly of voluntary patients. All forms of modern treatment are given. There are four associated out patient clinics. Facilities exist for D.P.M. Applications, with names of two referees, should be sent to the Medical Superintendent immediately. (7794)

CHESTER, COUNTY MENTAL HOSPITAL
Applications are invited for the following vacant post:
PSYCHIATRIC SENIOR HOUSE OFFICER
Salary £670 per annum. Accommodation available for a single man, or a house for a married man, for which a charge will be made. All forms of modern treatment available including insulin unit. There are psychiatric out-patient clinics at three general hospitals, occupational therapy units and voluntary treatment wards. Facilities given to study for higher qualifications. Apply Medical Superintendent. (7778)

COLCHESTER, SEVERALLS HOSPITAL
Applications are invited for the post of
SENIOR HOUSE OFFICER
at the above mental hospital. Salary £670 per annum, less £120 for residential emoluments. There are excellent opportunities for up-to-date experience and postgraduate work in all branches of psychiatry, including treatment of neurosis. Opportunities will be given at the hospital for clinical instruction for the D.P.M. Applications, with particulars and copies of testimonials or names of referees, to the Medical Superintendent, Severalls Hospital, Colchester, as soon as possible. (7725)

GREENOCK, RAVENSCRAIG (MENTAL AND GENERAL) HOSPITAL
Renfrewshire Mental Hospitals Board
Applications are invited for a whole-time appointment as
SENIOR HOUSE OFFICER
The appointment will be for one year in the first instance and will be subject to the National Health Service (Scotland) (Superannuation) Regulations. The salary is £670 per annum. Applications, stating age, qualifications and present employment, and giving names of three referees, should be submitted in writing at once to the Physician Superintendent of the hospital. (7740)

MORPETH (near), ST. MARY'S HOSPITAL
Stannington, Northumberland
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
at the above mental hospital (776 beds). Salary will be £670 per annum. Furnished flat is available for which a deduction will be made. Appointment is subject to the National Health Service (Superannuation) Regulations and to the conditions and terms of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, and the names of two referees, should be sent to the Medical Superintendent as soon as possible. (7741)

RADIOLOGY

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for the following Consultant position:
PART-TIME CONSULTANT RADIOLOGIST
South-East Essex Group of Hospitals (four sessions a week)
Applications (six copies), stating private address, date of birth, full details of qualifications and experience, present appointment(s) (including number of sessions), grade and salary, together with names and addresses of three referees, should reach C. E. Nicol, Secretary, 11a, Portland Place, London, W.1, by Saturday, February 23, 1952. (7887)

EXETER CLINICAL AREA
Board of Governors of the United Bristol Hospitals and South-Western Regional Hospital Board
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
REGISTRAR in Radiology
Applicants should have had previous experience in radiology. The appointment will be held for one year in the first instance, and be renewable for a further year. The successful candidate will be required to work for the first year at the Royal Devon and Exeter Hospital, Exeter. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than February 29. (7889)

NORTH GLOUCESTERSHIRE CLINICAL AREA
Board of Governors of the United Bristol Hospitals and South-Western Regional Hospital Board
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
SENIOR REGISTRAR in Radiology
Previous experience in radiology is essential. The appointment will be held for one year in the first instance, but may be renewed thereafter on an annual basis. The successful applicant will be required to work mainly at Cheltenham General Hospital, but will be required to visit other hospitals in the clinical area as may be determined by the Regional Board from time to time. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than Feb. 29. (7888)

RADIOTHERAPY

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the post of
Whole-time ASSISTANT RADIOTHERAPIST
to the Radiotherapy Centre at the Derbyshire Royal Infirmary where the successful candidate will work under the direction of the Consultant Radiotherapist-in-charge. Candidates should have a good clinical background and be in possession of the D.M.R.(T.) Salary scale £1,300 by £50 to £1,750. The appointee will be required to reside within ten miles of the Infirmary. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 1, 1952. (7343)

OXFORD, UNITED OXFORD HOSPITALS
Applications are invited for the post of
REGISTRAR in Radiotherapy (Non-resident)
The appointment is for one year and eligible for extension to a second year. Preference will be given to candidates holding the D.M.R. or a higher medical qualification. Applications, on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by February 23. (7692)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Radiotherapy—contd.

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
South-West Metropolitan Regional Hospital Board
Southampton Group Hospital Management Committee

Applications are invited for the post of
WHOLE-TIME REGISTRAR
in the Radiotherapy Department
becoming vacant early March. This department is a fully equipped, self-contained unit, having its own beds, and serving a wide area. Candidates are invited to visit the hospital if they so desire. Forms of application, which should be returned to the undersigned not later than February 23, will be forwarded on receipt of a stamped addressed foolscap envelope.—Frank Jennings, Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7890)

OXFORD, UNITED, HOSPITALS

Applications are invited for the post of
HOUSE SURGEON
to the Department of Radiotherapy at the Churchill Hospital, duties to commence as soon as possible. Applications, stating age, experience and qualifications, together with the names of two referees, should be addressed to the undersigned as soon as possible.—E. J. R. Burrough, Administrator, Radcliffe Infirmary, Oxford. (7779)

UROLOGY

ST. PETER'S HOSPITAL, W.C.2
St. Peter's and St. Paul's Hospitals

A vacancy for a
RESIDENT SENIOR REGISTRAR
will occur on April 1, 1952. Applications invited from male candidates on the British *Register*, with experience in a similar office. Appointment for one year. State age, qualifications and present grading. Applications (twelve copies), with twelve copies of three recent testimonials, should reach the House Governor, St. Peter's Hospital, Henrietta Street, W.C.2, by February 25, 1952. (7584)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Urological)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7410)

VENEREOLOGY

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the whole-time post of
ASSISTANT VENEREOLOGIST
The successful candidate, working under the supervision of the Area Consultant, would attend centres in Doncaster, Rotherham and Sheffield, and will be required to reside within ten miles of the Doncaster centre where approximately half the sessions will be undertaken. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 1, 1952. (7344)

MEDICINE

TILBURY AND RIVERSIDE HOSPITAL
(Tilbury Branch), Tilbury, Essex
North-East Metropolitan Regional Hospital Board

Applications are invited for the following Consultant position:
PART-TIME CONSULTANT PHYSICIAN
(two sessions a week)
Applications (six copies), stating private address, date of birth, full details of qualifications and experience, present appointment(s) (including number of sessions), grade and salary, together with names and addresses of three referees, should reach C. E. Nicol, Secretary, 11a, Portland Place, London, W.1, by Saturday, February 23, 1952. (7891)

HIGHLANDS HOSPITAL
London, N.21 (818 beds)
North-West Metropolitan Regional Hospital Board
WHOLE-TIME MEDICAL REGISTRAR
(General Medical and Post Encephalitis Lethargica)
One year in first instance. Resident when on duty. Hospital may be visited by direct appointment. Application forms obtainable from, and returnable to, Secretary, Northern Group H.M.C., Royal Northern Hospital, London, N.7, by February 18, 1952. (7892)

LONDON HOSPITAL, Whitechapel, E.1

Applications are invited for the post of
SENIOR REGISTRAR in General Medicine
Candidates must be Members of the Royal College of Physicians, London. The appointment will be for one year in the first instance. Applications (twelve copies), giving the names and addresses of three referees, should be addressed to the House Governor (from whom further particulars may be obtained), to arrive not later than Feb. 29. (7438)

KINGSTON-ON-THAMES, KINGSTON HOSPITAL, Wolverton Avenue (500 beds)
South-West Metropolitan Region
Kingston Group Hospital Management Committee

Applications are invited for the position of
WHOLE-TIME SENIOR REGISTRAR
(General Medicine)
The appointment will be subject to the provisions of the National Health Service superannuation regulations. The post will become vacant on April 1, 1952. Forms of application may be obtained from the undersigned (a foolscap stamped addressed envelope to be enclosed), and the completed forms returned to the Group Secretary within fourteen days of the appearance of this advertisement.—Lord Auckland, Group Secretary, 35, Coombe Road, Kingston-on-Thames, Surrey. (7726)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of a
REGISTRAR IN GENERAL MEDICINE
(Non-resident)
For duties at hospitals in the York "A" Group. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars' Committee, Park Parade, Harrogate, not later than February 23, 1952. (7708)

ST. ALBANS CITY HOSPITAL (425 beds)
North-West Metropolitan Regional Hospital Board
WHOLE-TIME MEDICAL REGISTRAR
Required for one year in first instance. Application forms obtainable from, and returnable to, the Secretary, Mid-Herts Group Hospital Management Committee, Osterhills, Normandy Road, St. Albans, by February 18, 1952. Hospital may be visited by direct appointment. (7671)

GRIMSBY, SCARTHO ROAD INFIRMARY
(218 beds)
Grimsby Hospitals Management Committee

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
The officer appointed will have charge of 40 surgical beds, under visiting Consultant's care, attend operating sessions, etc., and share routine ward duties. A furnished flat is available and married candidates may apply. Applications, stating age, nationality, qualifications and experience, with copies of recent testimonials, or names of referees, to Administrative Officer. (7649)

LINCOLN, ST. GEORGE'S HOSPITAL (126 beds)
Lincoln No. 1 Hospital Management Committee

Applications are invited for the post of
RESIDENT MEDICAL OFFICER
within the J.H.M.O. Grade, at the above hospital. Salary and conditions of service in accordance with the terms for hospital medical staff. Salary is at the rate of £700 by £50 to £1,000 per annum. Applications, stating age, qualifications, and experience, together with copies of recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary, County Hospital, Lincoln. (5659)

BOSTON GENERAL HOSPITAL

Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE OFFICER
with duties mainly in the paediatric and E.N.T. departments. Two other resident House Officers. Salary £670 per annum, with deduction for residential emoluments. Applications, stating age, qualifications, posts held and names of two referees, to Administrative Officer, Boston General Hospital, South End, Boston. (7287)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee

Applications are invited for the appointment of
SENIOR HOUSE PHYSICIAN
(Senior House Officer)
required March 15. Salary £670 per annum, less £155 for residential emoluments. Applications, with details of age, qualifications, and experience, together with copies of two recent testimonials, to be submitted to M. H. Boone, Secretary. (7714)

HULL, KINGSTON GENERAL HOSPITAL
(398 beds)
Hull (A) Group Hospital Management Committee

Applications are invited for the post of
SENIOR HOUSE PHYSICIAN
at the above hospital. There are two Junior House Physicians. Resident post. Salary £670 per annum, less £130 for emoluments. Applications, with full particulars, to be forwarded to the Administrative Officer, Kingston General Hospital, Hull. (7693)

LIVERPOOL, 6, NEWSHAM GENERAL HOSPITAL (1,316 beds)

Registered medical practitioner required for duties as
SENIOR HOUSE OFFICER
in acute and chronic medical wards. Salary £670 per annum, less £130 per annum if resident. Apply immediately on forms obtainable from the Secretary to the Committee, Broadgreen Hospital, Liverpool, 14. (7780)

ROCHDALE, BIRCH HILL HOSPITAL
(General, 956 beds)
Rochdale and District Hospital Management Committee

SENIOR HOUSE PHYSICIAN
Applications are invited for the above position. The appointment will be for one year. Salary in accordance with the terms of service of hospital medical staff in the National Health Service, i.e. £670 per annum. Applications should be sent to the undersigned immediately.—S. Hodkinson, Secretary, Central Offices, Birch Hill Hospital, Rochdale. (7470)

SUNDERLAND GENERAL HOSPITAL and RYHOPE GENERAL HOSPITAL, near Sunderland
SENIOR HOUSE PHYSICIAN
Required, resident at Ryhope General Hospital (52 acute medical beds). Junior House Physician also resident. The beds are under supervision of two consultant physicians who visit the hospital regularly. Required to assist at Sunderland outpatient department. Appointment tenable for twelve months. Salary £670 per annum, less £120 emoluments. Apply to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (7815)

TREDEGAR, ST. JAMES HOSPITAL
(38 beds for acute medicine, 75 chronic sick, 46 obstetrical)
RESIDENT SENIOR HOUSE OFFICER
(Male or female)
Required in March. Term of appointment twelve months. Salary £670 per annum, less an agreed deduction for full residential emoluments. Medical establishment comprises Visiting Physician, Geriatrician, and Obstetrician, together with Resident Senior Hospital Medical Officer and Junior House Officer. Apply to the Hospital Management Committee Secretary, District Miners' Hospital, St. Martin's Road, Caerphilly. (7184)

YORK, COUNTY HOSPITAL
(General Hospital of 269 beds)
CITY HOSPITAL, York
(General Hospital of 265 beds)
YEARSLEY BRIDGE HOSPITAL, York
(Infectious Diseases Hospital of 86 beds)

Applications are invited for the post of
SENIOR HOUSE OFFICER
in Paediatrics and Infectious Diseases
to spend approximately half-time in connexion with paediatric duties at the County Hospital (22 paediatric beds), City Hospital (32 paediatric beds) and other hospitals of the Group, and approximately half-time at Yearsley Bridge Hospital. Candidates should have had previous experience of paediatrics and infectious diseases. Preference given to holders of D.C.H. Post vacant from April 1, 1952, for one year in first instance. Salary £670 per annum, less £170 for residence at Yearsley Bridge Hospital. Applications, giving age, nationality, experience, qualifications and names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (7830)

BOW GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE PHYSICIAN
(First, second or third appointment)
Required for general wards, part acute, part chronic. Post is now vacant. Apply, stating age, qualifications and experience, together with the names and addresses of three referees, to the Assistant Secretary, St. Clement's Hospital, 2a, Bow Road, London, E.3. (7742)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1

Applications are invited from registered women medical practitioners for the post of
SECOND HOUSE PHYSICIAN
to become vacant April 1, 1952. Appointment for six months. Salary according to National Health Service scales for House Officers. Applications, with copies of three recent testimonials, should be sent to the Secretary by February 13. (7450)

POPLAR HOSPITAL (120 beds)
East India Dock Road, London, E.14
HOUSE PHYSICIAN
(First, second or third post)
Six months' appointment. Post vacant on March 1, 1952. Applications, stating age, nationality and qualifications, to be submitted to the Assistant Secretary forthwith. (7831)

ROYAL LONDON HOMOEOPATHIC HOSPITAL
Great Ormond Street and Queen Square, W.C.1

Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
vacant March 1, 1952. The appointment will be for a period of six months. Salary on National Health Service scale £350 to £450 per annum, less emoluments. Candidates will be required to attend a meeting of the Medical Committee for interview. Applications, stating age, qualifications and experience, to be addressed to the Secretary. (7893)

Medicine—contd.

WEST LONDON HOSPITAL
Hammersmith Road, W.6
HOUSE OFFICER
(Ophthalmic, Dermatology, Paediatric and E.N.T. Departments)
Required March 1. Applications, stating age, medical school, qualifications, experience, copies of two testimonials, to Secretary by February 16. (7894)

WHIPPS CROSS HOSPITAL
Leytonstone, E.11
Leytonstone Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
for which there are two vacancies, falling due on March 24, 1952. First, second or third post. Salary and conditions of service in accordance with those published by the Ministry of Health. Application forms from the Medical Superintendent, Whipps Cross Hospital, Whipps Cross Road, E.11, returnable by February 16, 1952. (7832)

ACCRINGTON, VICTORIA HOSPITAL
(112 beds)
HOUSE PHYSICIAN
Salary £350 to £450 per annum, less £100 per annum board and lodging. Applications, with copies of two testimonials, to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (7288)

ALTRINCHAM GENERAL HOSPITAL (130 beds)
near Manchester
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Physician and Casualty)
to commence duties February 13, 1952. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to Sec., North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (7348)

BATLEY, GENERAL HOSPITAL, Carlinghowhill
(102 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER
This hospital is a general hospital at present, but will shortly specialize in orthopaedic and general surgery, ophthalmology and oto-rhino-laryngology. Applications, giving full details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Sec., 20, Oxford Rd., Dewsbury. (4420)

BEBINGTON, CHESHIRE, CLATTERBRIDGE HOSPITAL (840 beds)
Central Wirral Group
HOUSE OFFICER (General Medicine) 2 Vacancies
Salary in accordance with current terms and conditions of service. Six months' appointment commencing April 1, 1952. Application forms from Group Sec. to be returned by Feb. 18, 1952 (7895)

BEVERLEY, YORKS, WESTWOOD HOSPITAL
JUNIOR HOUSE PHYSICIAN
(First or second post)
with care of Orthopaedic beds
Required immediately. Salary in accordance with National Health Service scale. Applications to the Secretary. (7696)

BILLERICAY, ST. ANDREW'S HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
at the above hospital. The duties of this post cover a wide range of medical work, i.e., general medical, skins, neurology, infectious diseases. The appointment, which becomes vacant on February 14, 1952, is for six months in the first instance. Resident. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (5639)

BRAINTREE, ESSEX, BLACK NOTLEY HOSPITAL
Applications are invited for the post of
HOUSE PHYSICIAN (First, second or third post)
in the medical and paediatric wards of the above hospital. Tenable for six months. Salary in accordance with terms of service issued by the Ministry of Health, plus £50 per annum. Applications, with copies of three recent testimonials, should be forwarded to the Secretary, Colchester Group Hospital Management Committee, 14, Pope's Lane, Colchester. (7743)

CHANNEL ISLANDS, JERSEY, GENERAL HOSPITAL
Applications are invited for the post of
MEDICAL OFFICER
in the above hospital. The appointment is for six months, but is renewable. Salary from £350 to £550 per annum, according to qualifications and experience, less £100 for residential emoluments. Please apply to the President, Public Health Committee, General Hospital, Jersey. (7413)

BISHOP'S STORTFORD AND DISTRICT HOSPITAL, Rye Street, Bishop's Stortford, Herts
(67 beds—Medical, Surgical and Maternity)
(Midway between London and Cambridge—Main Line Railway from Liverpool Street)
Applications are invited from registered medical practitioners for a
RESIDENT HOUSE OFFICER
(First or second post held)
Salary £350 to £400 per annum, less £100 per annum for residential emoluments. Appointment to commence March 1, 1952. Applications, stating age, nationality, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Administrative Officer, Haymeads Hospital, Bishop's Stortford, Herts. (7513)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
HOUSE PHYSICIAN
to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

CAMBRIDGE, UNITED, HOSPITALS
Applications are invited for the post of
HOUSE OFFICER
to the Departments of Dermatology, Ophthalmology and Paediatrics (First or subsequent post)
at Addenbrooke's Hospital
vacant on April 11, 1952. Salary, terms and conditions as approved for hospital medical staff. Applications, stating age, qualifications (with dates) and nationality, and accompanied by copies of three recent testimonials, should be sent to the undersigned on or before Saturday, February 23, 1952.—J. A. Beardsall, Secretary. (7660)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE PHYSICIANS
Applications are invited from registered medical practitioners for the above posts. Vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (7808)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
The appointment is for a period of six months commencing February 17, 1952. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7109)

CHESTER CITY HOSPITAL
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
Duties attached to this post will include work with the chest unit. The appointment is for a period of six months commencing February 16, 1952. Applications, giving age, experience and qualifications, together with copies of two recent testimonials, should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7110)

CROYDON, MAYDAY HOSPITAL (619 beds)
Croydon Group Hospital Management Committee
Immediate vacancy for post of
HOUSE PHYSICIAN (Either sex)
for a period of six months in the first instance. Forms of application obtainable from George A. Paines, Secretary, Hospital Management Committee, General Hospital, Croydon, to be returned immediately. (7350)

DARLINGTON MEMORIAL HOSPITAL
(210 beds)
Darlington District Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN (J.H.O.—Resident)
Salary in accordance with national scale. Apply, giving age and references, to the undersigned at once.—G. W. Beckwith, Secretary. (7237)

DARTFORD, KENT, SOUTHERN HOSPITAL
HOUSE PHYSICIAN
A six months' appointment to commence March 1, 1952. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications and experience, together with the names of two persons to whom reference may be made, should be sent to the Medical Superintendent, The Southern Hospital, Dartford, Kent. (7697)

DERBYSHIRE ROYAL INFIRMARY, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Applications, stating full details, together with copies of two recent testimonials, should be sent as soon as possible to the Secretary, Derbyshire Royal Infirmary, Derby. (7709)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
Applications are invited from candidates possessing some hospital experience for the position of
RESIDENT HOUSE PHYSICIAN
to the Department of Medicine
vacant early February. The post offers wide experience in general medicine and is an excellent opportunity for candidates studying for M.R.C.P. Applications, stating age, qualifications and previous experience, should be forwarded to the Medical Superintendent. (7698)

DORSET COUNTY HOSPITAL, Dorchester
(109 beds)
HOUSE PHYSICIAN
(Male or Female)
Post now vacant and tenable for six months. Applications, giving details of age, experience, qualifications, and nationality, together with copies of testimonials, to be sent to Secretary, West Dorset Group Hospital Management Committee, Damers Road, Dorchester, Dorset, immediately. (7896)

DRIFFIELD, YORKS, EAST RIDING GENERAL HOSPITAL
HOUSE PHYSICIAN
Post vacant end February. Duties to include medical wards, out-patients and some anaesthetics. Salary £350 to £450 per annum. Applications to Secretary, Westwood Hospital, Beverley. (7699)

DUNFERMLINE, NORTHERN HOSPITAL
West Fife Hospitals Board of Management
HOUSE PHYSICIAN
Required April 1. Salary £350 to £450, less £100 for board, lodging, etc. The Northern Hospital is being developed as a medical unit of approximately 120 beds and will provide ample clinical material and a varied experience. Applications, stating age, nationality, qualifications, and experience, with copies of three testimonials, should be forwarded to the Medical Superintendent, The Northern Hosp., Leys Park Rd., Dunfermline. (7833)

ELLESMERE PORT HOSPITAL (50 beds)
XIII Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN (General)
The appointment is for a period of six months commencing February 24, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (7112)

FALMOUTH, DISTRICT HOSPITAL
West Cornwall Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
vacant February 26, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Falmouth and District Hospital, Falmouth. (5262)

GRIMSBY GENERAL HOSPITAL (200 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
The post will fall vacant in February, and is tenable for six months. Applications, together with the names of two referees, should be sent to the Admin. Officer, Grimsby General Hospital. (6688)

HARROGATE AND DISTRICT GENERAL HOSPITAL (253 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN (Medical and Paediatric)
Immediate vacancy. Salary, according to experience, on the National Health Service scale. Applications as soon as possible to the Assistant Secretary. (4537)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE PHYSICIAN
Required to commence duty on March 4. Salary in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, together with copies of three recent testimonials, should be addressed to the undersigned.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (7471)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Medicine—contd.

HUNTINGDON COUNTY HOSPITAL
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (Medical)
to the above hospital. The selected candidate will be required to look after medical and paediatric cases under the direction of the consultants concerned, and may be required to give emergency anaesthetics. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (7514)

ILFORD, KING GEORGE HOSPITAL
Ilford and Barking Group Hospital Management Committee
There will be a vacancy for a
HOUSE PHYSICIAN
on March 24, 1952. Salary will be £350 per annum minimum, and maximum £450, according to experience and qualifications, less emoluments. The post will be tenable for six months. Applications, giving full particulars and accompanied by testimonials, should be sent to the undersigned within 14 days of the appearance of this advertisement.—G. Austin Hepworth, Sec., King George Hosp., Ilford. (7351)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
Required at the above hospital. Post vacant February 16. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (7672)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL (140 beds)
King's Lynn Area Hospitals Management Committee
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN
at the above hospital. The post becomes vacant on March 3, and the appointment will be for six months in the first instance. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. The appointment offers valuable experience in acute medical and ophthalmic work. Applications to be forwarded as soon as possible to the Secretary, King's Lynn Area H.M.C., St. James's Hospital, King's Lynn. (7352)

MERTHYR AND ABERDARE HOSPITAL MANAGEMENT COMMITTEE
Merthyr General Hospital
HOUSE PHYSICIAN
Aberdare General Hospital
HOUSE OFFICER
Applications are invited for either of the above posts. The appointments, which are resident, are for periods of six months. Salary in accordance with the terms of service issued by the Ministry of Health. The hospitals are acute general hospitals with the usual special departments staffed by whole-time and visiting consultants. Applications, with full particulars, should be sent to the Secretary, Merthyr and Aberdare H.M.C., St. Tydfil's Hospital, Merthyr Tydfil. (7309)

MIDDLESBROUGH, HEMLINGTON HOSPITAL (220 beds)
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
at the above hospital. Salary at the rate of £400 or £500 per annum. Applications, stating age, experience and qualifications, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (7264)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)
For the care of both medical and surgical cases. Appointment for six months. Duties to commence immediately. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NUNEATON, GEORGE ELIOT HOSPITAL (258 beds)
Applications are invited for the post of
HOUSE PHYSICIAN (46 general medical beds)
Vacant mid-March. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (7585)

PENZANCE, WEST CORNWALL GENERAL HOSPITAL (100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN (Male)
which falls vacant on March 6, 1952. Salary at the rate of £350 or £400 per annum, from which a deduction at the rate of £100 per annum will be made for board residence, etc. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6689)

PORTSMOUTH, ST. MARY'S HOSPITAL
Portsmouth Group Hospital Management Committee
HOUSE PHYSICIAN
General hospital, with 74 acute medical beds. Applications, stating age, experience, and qualifications, with names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (7710)

PRESTON ROYAL INFIRMARY
HOUSE PHYSICIAN
(Junior House Officer Grade)
Vacant February. Applications to Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston. (7142)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE PHYSICIAN
Applications are invited from registered medical practitioners for the above post, vacant March 1. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Administrative Officer. (7542)

SHREWSBURY (near), CROSS HOUSES HOSPITAL (183 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT MEDICAL OFFICER
Vacant immediately. Preference will be given to those applicants with previous obstetrical experience. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (6063)

SOUTH SHIELDS, INGHAM INFIRMARY (158 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN (First or second post)
which will become vacant on March 1, 1952. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Sec. (7186)

SOUTHPORT GENERAL INFIRMARY
Southport and District Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
Post vacant mid-February. Applications, with details of age, nationality, qualifications, and enclosing copies of two testimonials, should be forwarded immediately to T. Crook, Secretary, Promenade Hospital, Southport. (7586)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 32 beds)
Staffordshire Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
HOUSE PHYSICIAN
vacant March 1, 1952, first, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Secretary to Committee, 13 Foregate Street, Stafford. (7353)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL (96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Medical)
Post vacant mid-March. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned, at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7379)

STROUD GENERAL HOSPITAL
Gloucester, Stroud and the Forest Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
Salary £350 to £450 per annum, according to experience, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications and experience, with copies of two testimonials, should be sent as soon as possible to the Secretary, Stroud General Hospital, Stroud, Gloucestershire. (7673)

SUNDERLAND (near), RYHOPE GENERAL HOSPITAL (208 beds)
HOUSE PHYSICIAN (Male or female)
Post vacant March 24, 1952. Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (7816)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey (6770)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)
HOUSE OFFICER (Medical) (first or second post)
Post vacant middle March. Salary, terms and conditions as issued by the Ministry of Health. Applications, with at least two testimonials, should be sent to the undersigned immediately.—Cyril Hopkinson, Administrator. (7781)

WATFORD, SHRODELLS HOSPITAL
(General hospital—440 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
(First, second or third post)
Salary on the national scales. Post would suit candidates for the M.R.C.P., as the hospital is within reach of the London teaching classes. Applications, together with not more than three copies of testimonials, should reach the Medical Officer-in-Charge as soon as possible. (7897)

WOKING, VICTORIA HOSPITAL (74 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
Salary and conditions of service as published by Ministry of Health. Apply to Assistant Secretary, Victoria Hospital, Woking, Surrey. (6977)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee Group No. 16, Birmingham Region
HOUSE OFFICER (General Medicine)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7863)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
at the above hospital. The appointment will be for six months and will commence at the beginning of March, 1952. Salary will be at the rate of £350 to £450 per annum, according to experience, less £100 per annum for full residential accommodation. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, to be addressed to the Secretary, Wrexham, Powys and Mawddach H.M.C., Maelor General Hospital, Wrexham. (7674)

ST. ANDREW'S HOSPITAL, Bow, E.3
GENERAL PRACTITIONER
The duties are connected with the less acute medical cases and the casualty department of the hospital. There are two vacancies, each consisting of one weekly session from 2 to 5 p.m. at a remuneration of £175 per annum. Appointment will be for one year in first instance. Applications to Sec., Committee Offices, 2a, Bow Rd., E.3. (7744)

SURGERY

NATIONAL TEMPERANCE HOSPITAL
Hampstead Road, N.W.1 (158 beds)
North-West Metropolitan Regional Hospital Board
CONSULTANT GENERAL SURGEON
Required four half-days a week. Experience in fracture work an advantage. Applications, giving three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by March 8, 1952. Hospital may be visited by direct appointment. (7517)

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, London, E.13
Applications are invited from registered medical practitioners for the appointment of
TEMPORARY RESIDENT SURGICAL OFFICER
(Senior Registrar grade)
at the above hospital for a period of six months, commencing as soon as possible. Preference will be given to candidates holding the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, should be sent to the undersigned by February 16, 1952.—M. J. Huntley, Secretary, West Ham Group Hospital Management Committee, Stratford, London, E.15. (7727)

Surgery—contd.

BARNSLEY, BECKETT HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
SURGICAL REGISTRAR
to the above hospital. Recognized for training for the F.R.C.S. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 25, 1952. (7711)

BIRKENHEAD, GENERAL HOSPITAL
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME SURGICAL REGISTRAR
with duties at the above hospital. Forms of application from, and to be returned to, Senior Administrative Medical Officer, 19, James Street, Liverpool, 2, to be received not later than February 23, 1952. —Vincent Collinge, Secretary to the Board. (7834)

CHORLEY AND DISTRICT HOSPITAL, Lancs
Preston and Chorley Hospital Management Committee
RESIDENT SURGICAL OFFICER
Required February 15, 1952 (Junior Hospital Medical Officer grade). The establishment of this hospital includes two Junior House Officers. The R.S.O. works under the supervision of the visiting consultants from Preston Royal Infirmary. Applications, including names for reference, to be sent to the undersigned at the Royal Infirmary, Preston. —John Gibson, Secretary. (7265)

GALASHIELS, PEEL HOSPITAL
(General Hospital of 220 beds, with full Consultant Staff)
Borders Hospitals Board of Management
Applications are invited from registered medical practitioners for the post of
RESIDENT GENERAL SURGICAL OFFICER
For the purpose of salary and conditions, the post is graded Junior Hospital Medical Officer, i.e., £700 by £50 to £1,000. This is a busy general hospital dealing with a large number of emergency surgical cases from the Scottish Borders. The post is vacant on April 1, 1952. Applications, stating age, qualifications, and experience, to be sent to the Group Medical Superintendent, Peel Hospital, Galashiels. An opportunity will be given to applicants to visit the hospital, if so desired. (7835)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge. Main Line Railway from Liverpool Street)
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER (Surgical)
Salary £670 per annum, less £130 per annum in respect of residential emoluments. The appointment is due to commence as soon as possible, for a period of one year. Applications, stating nationality, age, qualifications, and experience, with copies of recent testimonials, or the names of referees, should be sent to the Secretary, Hertford Group Hospital Management Committee, Hertford County Hospital, Hertford, Herts. (7190)

BLACKPOOL, VICTORIA HOSPITAL
ASSISTANT RESIDENT SURGICAL OFFICER
Required with responsibility for Casualty Department. (Senior House Officer grade.) Post recognized for F.R.C.S. Vacant February, 1952. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (7700)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR HOUSE SURGEON
Vacant April 1. Salary £670, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7521)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER (Surgical)
Vacant end February, 1952. The post affords good experience in general surgery and casualty work. Apply to the Medical Superintendent. (7701)

ISLE OF MAN, NOBLE'S HOSPITAL (160 beds)
Applications invited for the post of
SENIOR HOUSE SURGEON
at above hospital, an acute general hospital with a busy surgical practice and specialist visiting staff. Salary £670 per annum, with a deduction of £100 per annum for board, lodging, etc., if resident. Suitable post for man preparing for a higher surgical qualification. Applicant should previously have held a house-surgeon appointment, preferably at a teaching hospital. Post vacant at the end of March 1952. Applications, giving all relevant particulars, with copies of two recent testimonials, or names and addresses of two referees, should be forwarded to the Secretary, Noble's Isle of Man Hospital, Douglas. (7240)

DUDLEY, GUEST HOSPITAL (154 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER (Surgical)
Post vacant in February. The hospital is recognized for F.R.C.S. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (7191)

HOVE GENERAL HOSPITAL, Sussex
(75 beds, 3 Resident Medical Officers)
Brighton and Lewes Hospital Management Committee
Applications are invited for the following resident posts, vacant mid-March, 1952:
SENIOR HOUSE SURGEON
(preference will be given to candidates with previous experience). Duties chiefly ward and theatre work.
HOUSE SURGEON
for casualty and with charge of surgical beds.
Salaries and conditions of service in accordance with national scale (£350 to £450, less £100 per annum for residential emoluments). Applications, with full details of experience, etc., and enclosing names and addresses of two referees, should be sent to the Administrative Officer at the hospital within ten days of the appearance of this advertisement. (7782)

MANCHESTER, WITHINGTON AND WYTHENSHAWE HOSPITALS
South Manchester Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER (Surgical)
at the above hospitals. The post is resident and duties will comprise three four-monthly tours of duty as follows: General and E.N.T. Surgery, Wythenshawe Hospital; Plastic Surgery and Burns, Wythenshawe Hospital; Acute General Surgery, Withington Hospital. Applications, stating age, nationality, qualifications, present post, experience and names of two referees, to be forwarded to the undersigned within seven days of appearance of this advertisement.—A. H. Keates, Secretary to the Committee, Christie Hospital and Holt Radium Institute, Manchester, 20. (7728)

MEXBOROUGH, MONTAGU HOSPITAL
(123 beds)
SENIOR HOUSE OFFICER (Surgery and Casualty)
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Rd., Rotherham, Yorks, as soon as possible. (7661)

NEWMARKET GENERAL HOSPITAL, Suffolk
(268 beds)
Applications are invited for the resident post of
SENIOR HOUSE OFFICER (Surgical)
Duties to commence immediately, in a busy hospital staffed by consultants. Appointment offers opportunity for experience in obstetrics and gynaecology, in addition to general surgery. Salary £670 per annum. Conditions of service in accordance with Ministry of Health regulations. Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to Physician Superintendent (7898)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence early in March. Salary £670 per annum and conditions of service in accordance with the conditions published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary (6969)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for the appointment of
RESIDENT SURGICAL OFFICER
of Senior House Officer status
post vacant immediately. The appointment will be for a period of twelve months and is renewable. Salary £670 per annum. The hospital is recognized for the Fellowship of the Royal College of Surgeons. Terms and conditions in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (7587)

ROTHERHAM, DONCASTER GATE HOSPITAL
(155 beds)
SENIOR HOUSE OFFICER
(duty in Casualty, E.N.T. and Eye Departments)
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience, and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, "Fern Bank," Doncaster Road, Rotherham. (7296)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
(96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7380)

STOKE-ON-TRENT, LONGTON HOSPITAL
(55 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7381)

STOURBRIDGE, CORBETT HOSPITAL (106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Resident, Surgical)
Post now vacant. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (9745)

STOURBRIDGE (near), WORDSLEY HOSPITAL
(450 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER (Surgical)
Post vacant March 15. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (7192)

WEST HARTLEPOOL, CAMERON HOSPITAL
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
now vacant. To be responsible for surgical and gynaecological beds. Salary and conditions of service in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (5942)

WOKING, VICTORIA HOSPITAL
Woking, Surrey (74 beds)
SENIOR HOUSE OFFICER
(Surgical and Medical duties)
Resident preferred. Non-resident considered. Salary and conditions of service as published by Ministry of Health, viz., £670 per annum, less emoluments. Applications, with testimonials, to Assistant Secretary, Victoria Hospital, Woking, Surrey (7289)

CONNAUGHT HOSPITAL
Walthamstow, E.17 (118 beds)
SURGICAL HOUSE OFFICER
Required for six months (including special departments). Post vacant February 27, 1952. Recognized for F.R.C.S. Applications, with full details and copy testimonials, should be sent immediately to the Secretary, H.M.C. Forest Group, Langthorne Road, E.11. (7675)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Surgery—contd.

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1

Applications are invited from registered women medical practitioners for the post of

HOUSE SURGEON/CASUALTY OFFICER

with charge of general surgical ward. Post recognized for F.R.C.S. examination. Appointment for six months. Salary according to National Health Service scales for House Officers. Duties to commence April 1, 1952. Applications, with copies of three recent testimonials, should be sent to the Secretary by February 13. (7449)

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60, Grove End Road, N.W.8

Applications are invited from registered medical practitioners (male) for the appointment of

HOUSE SURGEON

to become vacant on Monday, March 3, 1952. Appointment will be for a period of six months. Salary is at the rate of £350 per annum. Applications should reach the Secretary on or before Tuesday, February 26, 1952, together with copies of three recent testimonials. (7836)

METROPOLITAN HOSPITAL, Kingsland Road, London, E.8 (General—147 beds)
Central Group Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

HOUSE SURGEON

The appointment is for six months only, and the salary, depending upon the number of previous posts held, £350, £400, or £450 per annum, less residential charges of £100 per annum. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should reach the Assistant Secretary to the hospital by February 23, 1952. (7899)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT HOUSE SURGEON
(General and Thoracic Surgery)

Six months' appointment. Vacant April 1. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Secretary, by February 23. (7837)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT HOUSE SURGEON
(General and Genito-urinary Surgery)

Six months' appointment. Vacant April 1. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Secretary, by February 23. (7838)

POPLAR HOSPITAL (120 beds)
East India Dock Road, London, E.14

HOUSE SURGEON (First, second or third post)

Duties include in-patient, out-patient and casualty work. Post recognized for F.R.C.S. Vacant on March 1, 1952. Applications, stating age, nationality and qualifications, to be submitted to the Assistant Secretary forthwith. (7839)

PUTNEY HOSPITAL, Lower Common, S.W.15
Battersea and Putney Group Hospital Management Committee

Applications are invited for the following post:

RESIDENT HOUSE SURGEON

Appointment commencing early March, 1952. Applications, accompanied by copies of three recent testimonials, should be sent to the Administrative Officer not later than February 29, 1952. (7151)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1

Applications are invited for the post of

HOUSE SURGEON (House Officer, 1, 2 or 3)

Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

WHIPPS CROSS HOSPITAL
Leytonstone, E.11
Leytonstone Hospital Management Committee

Applications are invited for the post of

HOUSE SURGEON

vacancy for which falls due on March 31, 1952. First, second or third post. Salary and conditions of service in accordance with those published by the Ministry of Health. Application forms from the Medical Superintendent, Whipps Cross Hospital, Whipps Cross Road, E.11, returnable by February 16, 1952. (7840)

ALTRINCHAM GENERAL HOSPITAL (130 beds)
near Manchester
North and Mid-Cheshire Hospital Management Committee

HOUSE OFFICER (Surgical)

to commence duties February 15. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to Sec., North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (7357)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee

RESIDENT HOUSE SURGEON (Male)

Required for wards taking general surgical cases. Six months' appointment. Post vacant February 20, 1952. National Health Service salary and terms and conditions of service. Applications, stating age, qualifications and experience, with copies of up to three recent testimonials, to the Medical Director of hospital as soon as possible. (7841)

BEDFORD GENERAL HOSPITAL (South Wing)

HOUSE SURGEONS

These appointments are recognized for F.R.C.S., and offer exceptional opportunities for general experience in a busy acute surgical unit. These posts are now vacant. Applications, stating age, nationality, qualifications, previous appointments, together with copies of two testimonials, should be addressed to the Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton Road, Bedford. (6608)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge. Main line railway from Liverpool Street)

Applications invited from registered medical practitioners for a

RESIDENT HOUSE OFFICER (Surgical)
(First or second post held)

Salary £350 to £400 per annum, less £100 per annum for residential emoluments. Appointment to commence April 1, 1952. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent as soon as possible to the Administrative Officer. (7196)

BLACKBURN, QUEEN'S PARK HOSPITAL
(650 beds)

HOUSE SURGEON

Recognized for F.R.C.S. National Health Service salary and conditions. Applications, with copies of two testimonials, to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (7382)

BRADFORD, ST. LUKE'S HOSPITAL

HOUSE SURGEON

Vacant March 1, 1952. Salary £350 to £450, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7842)

BRIGHTON, NEW SUSSEX HOSPITAL FOR WOMEN, Windlesham Road (72 beds)
Brighton and Lewes Hospital Management Committee

Applications are invited from female registered medical practitioners for the post of

HOUSE SURGEON

Duties to commence on March 1, 1952, for a period of six months. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with copies of recent testimonials, to be submitted to the Administrative Officer on or before February 15, 1952. (7472)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)

Applications are invited for the post of

HOUSE SURGEON

Vacant now. Recognized for the F.R.C.S. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, should be sent to the Administrative Officer of the hospital within seven days of the appearance of this advertisement. (6880)

BROMSGROVE, WORCS, ALL SAINTS' HOSPITAL
Mid-Worcestershire Hospital Management Committee

TWO HOUSE SURGEONS
(for acute Surgical Wards and Casualty Department)

Required at this recently opened General Hospital, which has a bed complement of 468 beds. Posts are resident, and are vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire Hospital Management Committee, Birmingham Road, Bromsgrove, Worcs. (7676)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical, with beds for orthopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee

Applications are invited for the appointment of

HOUSE SURGEON

at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

BURNLEY, GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee

RESIDENT HOUSE OFFICER (Surgical)

The post is vacant now, and is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. The post is recognized for the F.R.C.S. examination. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (9287)

BURTON-ON-TRENT, GENERAL INFIRMARY
(Acute General Hospital, 235 beds)
Burton-on-Trent Hospital Management Committee

Applications are invited for the appointment of

RESIDENT HOUSE SURGEON

now vacant. This appointment is recognized for examination purposes for the Royal College of Surgeons, offering excellent general experience in a busy acute surgical unit. Applications, with all details and copies of recent testimonials, to J. E. Smith, Secretary to the H.M.C. (7194)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee

HOUSE SURGEON

Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (7809)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for

TWO HOUSE SURGEONS

The appointments are for a period of six months. Duties to commence February 20, 1952, and April 4, 1952, respectively. Applications, giving full particulars, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, King Street, Chester. (7120)

CHICHESTER, ROYAL WEST SUSSEX HOSPITAL

RESIDENT HOUSE SURGEON

Required for six months' appointment at this General Acute Hospital of 202 beds. Six residents on staff, including R.S.O. and three House Surgeons. National scale for first, second or third post. Applications, giving details of qualifications, age and experience, should be forwarded to the Senior Administrative Officer. Vacancy occurs middle of February. (7843)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of

HOUSE SURGEON

Salary at the rate of £350, £400 or £450 per annum, according to experience, from which a deduction at the rate of £100 per annum will be made for board, residence, etc. The post will be vacant on February 19, 1952. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (7312)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for the post of

HOUSE SURGEON

at the above hospital. The post is recognized by the Royal College of Surgeons, and will become vacant at the end of March. The salary will be £350, £400, or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash Eton, Radnor Park West, Folkestone. (7869)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for the post of

JUNIOR HOUSE SURGEON

at the above hospital. The post will become vacant at the end of March. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash Eton Radnor Park West, Folkestone. (7870)

Surgery—contd.

DUDLEY, GUEST HOSPITAL (154 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Surgical)
Post now vacant, tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (6561)

DURHAM HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners, male or female, for the resident posts of
HOUSE SURGEON
at the undermentioned hospitals. The posts are tenable for six months: Dryburn Hospital, Durham (355 beds), General Hospital, Chester-le-Street (233 beds), County Hospital, Durham (120 beds). Applications stating age, nationality, qualifications and experience, together with the names and addresses of three referees and/or copies of three recent testimonials, should be sent to the undersigned as early as possible, stating choice of hospitals in order of preference.—A. W. Youngs, Secretary. (7440)

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL (229 beds)
HOUSE SURGEON
Required for general surgery only. The post is recognized for the F.R.C.S. examination and is vacant early in March. Apply, with copies of three testimonials, to Secretary-Supt. (7783)

HALIFAX GENERAL HOSPITAL (425 beds)
Applications are invited for the post of
HOUSE SURGEON (Male or female)
Salary according to experience. Applications, stating age, nationality, qualifications, and experience, with copies of three testimonials, to be addressed to the Secretary at the Royal Halifax Infirmary, Halifax (7244)

HASTINGS GROUP HOSPITAL MANAGEMENT COMMITTEE
HOUSE SURGEONS
Required at
Royal East Sussex Hospital, Hastings (150 beds)
Bexhill Hospital, Bexhill-on-Sea (62 beds)
National scales of salary. Applications to Administrator of the respective hospital (7677)

HEREFORD, COUNTY HOSPITAL (333 beds)
Hereford hire Hospital Management Committee
Applications are invited from registered medical practitioners for appointment of
HOUSE OFFICER (General Surgery)
Vacant as from March 5, 1952. Post recognized for the F.R.C.S. Conditions of service applicable to hospital medical and dental staff (England and Wales). Applications, with copies of two recent testimonials, should be sent to the Medical Superintendent, County Hospital Hereford (7590)

HEREFORD GENERAL HOSPITAL (154 beds)
Herefordshire Hospital Management Committee
Applications are invited from registered medical practitioners for appointment of
HOUSE SURGEON
(Casualty, E.N.T. and Fracture Departments)
Applications, with copies of two recent testimonials should be sent to the Secretary, Hospital Management Committee, County Hospital, Hereford (8341)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
RESIDENT HOUSE SURGEON
Required at the above busy acute general hospital. Four other resident medical staff. Busy casualty and out-patient departments. Applications, stating age, qualifications and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe, Bucks. (7702)

HOUNSLOW HOSPITAL
Staines Road, Hounslow, Middlesex
(General Acute—81 beds)
Staines Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
with duties in the Casualty Department. Post vacant March 25, 1952. Salary £350, £400 or £450 per annum, according to experience, less £100 for residence. Six months' appointment. Applications, stating age, qualifications, nationality, and experience, with up to three recent testimonials, to Assistant Secretary of hospital. (7784)

IPSWICH, BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)
(Post recognized for Examinations of R.C.S.)
TWO HOUSE SURGEONS (General Surgery)
Posts vacant mid-February. House Officer grade appointments normally for six months. Applications to the Administrative Officer. (7197)

HULL, KINGSTON GENERAL HOSPITAL
(398 beds, 5 Residents)
Hull (A) Group Hospital Management Committee
TWO HOUSE SURGEONS
Required immediately at the above hospital. Duties, one mainly gynaecological, one general. Salary £350, £400 or £450 per annum, according to experience. The posts are resident and tenable for six months. Applications with full particulars, to Administrative Officer, Kingston General Hospital, Hull. (7662)

HUNTINGDON COUNTY HOSPITAL
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (General Surgery)
to the above hospital. This is a busy hospital staffed by consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (7524)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
HOUSE SURGEON
to Senior Consultant General Surgeon
(Post recognized for F.R.C.S.)
Apply immediately to the Secretary, Hospital Management Committee (7871)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
HOUSE OFFICER
(Preferably second or third post)
Required for Specials Unit, comprising E.N.T., plastic and ophthalmic departments. Applications, stating age, nationality, qualifications, with dates and details of experience, together with copies of up to three recent testimonials, to Sec., Management Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date February 26, 1952 (7900)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton (64 beds)
(Yorkshire, West Riding—Full Consultant Staffs)
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON (Either sex)
at each of the above hospitals. First, second, or third appointments. Now vacant. Six months' appointments. Salary in accordance with the National Health Service terms and conditions. Applications, stating age, qualifications, experience, and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton, and Settle Hospital Management Committee, St John's Hospital, Keighley. (7362)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee
TWO HOUSE SURGEONS (Resident)
Required at the above hospital. Posts vacant now. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (7678)

KIRKCALDY GENERAL HOSPITAL, Fife
(74 beds)
Applications are invited for the appointment of
TWO RESIDENT HOUSE SURGEONS
at the above hospital for vacancies occurring on April 1, 1952. The appointments will be for the period of six months. One will be allocated to duty in the orthopaedic department. Salary £350 to £450 (by £50) per annum, less £100 cash deduction for residential emoluments. Immediate applications, stating experience and qualifications, along with copies of recent testimonials, should be addressed to the Medical Superintendent, East Fife Hospitals Board of Management, 243a, High Street, Kirkcaldy. (7901)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered practitioners (male and female) for the post of
HOUSE SURGEON (Genito-Urinary Surgery)
The person appointed will attend the Cystoscopic Clinic at the above hospital and the Out-patient Clinic at the teaching hospital. The appointment is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9 as soon as possible.—J. Folkard, Secretary to the Committee (4738)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the posts of
TWO HOUSE SURGEONS
commencing April 1, 1952. Recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (7650)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
HOUSE SURGEON
for a period of six months from April 1, 1952. Post is recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (7651)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham, Manchester, 8 (105 beds)
(Non-sectarian)
Applications are invited for the post of
HOUSE SURGEON
(House Officer grade)
Vacant March 13, 1952. Applications, together with copies of not less than two recent testimonials or names of two referees, to the Hospital Administrator forthwith (7363)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy General Hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (4159)

NEWMARKET GENERAL HOSPITAL, Suffolk
(268 beds)
Applications are invited for the post of
HOUSE SURGEON
Vacant immediately, in a busy general hospital staffed by consultants. Offers excellent opportunity for experience in general, E.N.T., and eye surgery. Salary in accordance with national scale, with usual deduction for board and residence. Full particulars of age, qualifications, and experience, should be forwarded to the Physician Superintendent. (7902)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds—10 Residents)
(Base hospital for the Newport and East Monmouthshire Group)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant March 1. The appointment is recognized for the Fellowship of the Royal College of Surgeons, and covers 33 surgical and 12 gynaecological beds. National salary scales and conditions. Apply, with the names of three referees, to T. A. Jones, Sec., 17 Cardiff Road, Newport, Mon (7364)

NOTTINGHAM CITY HOSPITAL (833 beds)
HOUSE OFFICER (General Surgery)
Post now vacant. Conditions of service in accordance with terms issued by Ministry of Health. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be sent immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (7567)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence immediately. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (Male or female)
Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance (6702)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Freedom Fields
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
vacant April 4, 1952. Recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications, and experience, together with names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (7418)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Surgery—contd.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
vacant immediately, recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications and experience, together with names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (7419)

PRESTON ROYAL INFIRMARY (400 beds)
GENERAL HOUSE SURGEON
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7417)

SCARBOROUGH HOSPITAL, Yorks (163 beds)
Applications are invited from registered medical practitioners, male or female, for two posts of
RESIDENT HOUSE SURGEON (Surgical)
both posts now vacant. The salaries are in accordance with the national scale, and the appointments will be for six months. Applications, stating age and qualifications, together with testimonials, to be sent to the Secretary. (7200)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SOUTH-EAST NORTHUMBERLAND HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners for
HOUSE SURGEON
posts at Tynemouth Victoria Jubilee Infirmary and Preston Hospital. Applications, together with two testimonials, should be sent to the Secretary, South-East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (7803)

SOUTH SHIELDS, GENERAL HOSPITAL (670 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (First or second post)
vacant now. The appointment will be for a period of six months. The post is recognized for the F.R.C.S. (London and Edinburgh). Applications to be addressed to the Medical Supt. (7420)

SOUTH SHIELDS, INGHAM INFIRMARY (158 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (First or second post)
which will become vacant on February 14. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Sec. (7201)

SOUTHAMPTON GENERAL HOSPITAL (453 beds)
HOUSE SURGEON (Resident)
(General Surgical Unit)
Required early March. Post tenable for six months. Applications, with copies of testimonials, to be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7903)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL (96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Surgical)
Post vacant mid-March. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7384)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (General Surgery)
The post is recognized for F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7383)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 32 beds)
Stafford Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
HOUSE SURGEON
vacant March 15, 1952. First, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Sec. to Committee, 13 Foregate Street, Stafford. (7365)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Surgery)
vacant March 1, 1952. Post recognized for F.R.C.S. examination. Applications, with copy testimonials, should be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7385)

SUNDERLAND, GENERAL HOSPITAL (517 beds)
HOUSE SURGEON (Male or female)
Apply immediately to the Secretary, Sunderland Area Hospital Management Committee, General Hospital, Sunderland. (7818)

SUTTON-IN-ASHFIELD, NOTTINGHAMSHIRE KING'S MILL HOSPITAL
Applications are invited for the post of
HOUSE SURGEON
The hospital contains 115 surgical beds and the post offers facilities for practical training in general surgery and E.N.T. surgery. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Salary £350 to £450, according to previous posts held, with a deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary to the Committee. (4818)

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident appointment of
HOUSE SURGEON
Full particulars of age, qualifications and experience, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (7421)

TRURO, ROYAL CORNWALL INFIRMARY (General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for
HOUSE SURGEON (Male or female)
for General Surgery and Gynaecology
Post vacant March 18, 1952. The successful candidate will be responsible jointly with the House Surgeon for the 66 beds allocated to the two specialties. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, qualifications and experience, and copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5268)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointments:
TWO RESIDENT HOUSE SURGEONS
(vacant April 1, 1952)
Post is/are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

WARRINGTON GENERAL HOSPITAL (372 beds)
There are immediate vacancies for
TWO RESIDENT HOUSE SURGEONS
The hospital is modern and offers excellent experience in general surgery. Salary and conditions in accordance with national scales.—H. L. Boot, Secretary Warrington and District H.M.C., c/o General Hospital, Warrington. (4667)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Second or third post)
Vacant end of February. Salary according to National Health Service scale. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent to the undersigned.—Cyril Hopkinson, Administrator. (5862)

WEST BROMWICH AND DISTRICT GENERAL HOSPITAL, Edward Street, West Bromwich
West Bromwich and District Hospitals Management Committee Group No. 18
Applications are invited for the post of
HOUSE SURGEON
Range of salary £350 to £450 per annum according to experience, with deduction of £100 per annum in respect of board and lodgings. The post is tenable for six months. Applications, together with three recent testimonials, should be submitted to John O. Robins, Secretary. (7569)

WESTON-SUPER-MARE GENERAL HOSPITAL (110 beds)
Applications are invited from registered medical practitioners for the resident appointment of
HOUSE OFFICER (House Surgeon)
Duties to commence March 1, 1952. Salary at the rate of £350 to £400 per annum, according to previous posts held, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be addressed to the Secretary, Weston-super-Mare Hospital Management Committee, c/o The General Hospital, Weston-super-Mare. (7270)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY
Wigan and Leigh Hospital Management Committee
HOUSE SURGEON
(Male or Female)
Post, which is house officer grade, and is recognized for F.R.C.S. examinations, falls vacant on March 21, 1952. Applications, stating age, qualifications, etc., together with the names of two referees, should be received by the undersigned as early as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (7904)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL
HOUSE SURGEON in General Surgery
Required immediately. Post recognized for F.R.C.S. Salary on national scale. Applications, stating age, experience, qualifications, with dates, nationality, together with copies of recent testimonials, should be sent to the Administrative Officer. (7712)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL
HOUSE SURGEON in General Surgery
(Male or female)
Required for post vacant March 2, 1952. Post recognized for F.R.C.S. Salary on national scale. Applications, stating age, qualifications, with dates, and nationality, together with copies of recent testimonials, should be sent to the Administrative Officer. (7713)

WOLVERHAMPTON, NEW CROSS HOSPITAL
Wolverhampton Hospital Management Committee Group No. 16, Birmingham Region
HOUSE OFFICER (General Surgery)
Vacant now. Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7866)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee Group No. 16, Birmingham Region
HOUSE OFFICER (General Surgery)
Vacant February 16. Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (7864)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications invited for the following appointments:
HOUSE SURGEON
(General Surgery/Gynaecology)
Vacant February 27, 1952.
HOUSE SURGEON
(General Surgery/Orthopaedics)
Vacant March 24, 1952.
In both appointments the division of duties between specialties is approximately equal; each is tenable for six months and is subject to the terms and conditions of service of hospital medical staff. Applications, with copies of testimonials, should be sent as soon as possible to the Secretary, from whom further particulars can be obtained. (7905)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital, to commence immediately. Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (7679)

Surgery—contd.

YORK, COUNTY HOSPITAL (General hospital of 269 beds, with full consultant staff)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
which is vacant immediately and recognized under F.R.C.S. regulations. Salary £350 for first post, £400 for second post, £450 for third post, less £100 for residence. Applications, giving age, nationality, experience, qualifications and names of two referees, to be forwarded immediately to undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (7844)

CASUALTY

YORK, CITY HOSPITAL (Modern general hospital of 265 beds, with full consultant staff)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC OFFICER
Post graded Junior Hospital Medical Officer. Salary £700 by £50 to £1,000 per annum. Residence is available for which a charge of £153 per annum will be made. Person appointed may be non-resident or partly resident. Post vacant immediately. Applications, giving age, nationality, experience, qualifications and names of two referees, to be forwarded immediately to undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (7845)

BECKENHAM HOSPITAL
Croydon Road, Beckenham, Kent
CASUALTY OFFICER
Required immediately for the Casualty Department of this General Hospital of 100 beds with duties in the Orthopaedic and Fracture Departments. Salary £670 a year, less £150 a year for residential services. The appointment is tenable for one year in the first instance. Applications, stating age, qualifications and experience, together with names and addresses of three referees, should be sent to the Administrative Officer. (7812)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL
Birmingham (Dudley Road) Group of Hospitals
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Casualty Department. This is a six- or twelve-months appointment, and becomes vacant on March 1, 1952. Applications, stating age, qualifications, and experience, accompanied by copies of three recent testimonials, should be forwarded to the Secretary, Hospital Management Committee, Dudley Road Hospital. (7572)

EDGWARE GENERAL HOSPITAL
Edgware, Middlesex
SENIOR SURGICAL CASUALTY HOUSE OFFICER (Resident)
Salary £670 per annum. Deduction of £130 per annum for board, lodging, etc. Vacancy March 1, 1952. Applications, together with the names of two referees, to the Group Secretary, Edgware General Hospital, Edgware, Middlesex, not later than February 16, 1952. (7526)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (7810)

HALIFAX, ROYAL INFIRMARY (301 beds)
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER (Male)
for duty in Casualty and Orthopaedic Departments. Applications, stating age, nationality, and experience, together with copies of three testimonials to be forwarded to the Secretary. (7246)

HUDDERSFIELD ROYAL INFIRMARY, (321 beds)
Huddersfield Hospital Management Committee
RESIDENT CASUALTY OFFICER
Required to commence duties on March 12. Senior House Officer Grade. Salary in accordance with the terms and conditions of service for hospital medical and dental staff, £670 a year, less £130 in respect of residential emoluments. Applications, together with copies of three recent testimonials, to be sent to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, the Royal Infirmary, Huddersfield (7473)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary. (5418)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of either
RECEIVING ROOM OFFICER
Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or
CASUALTY OFFICER
Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant
Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

MIDDLESBROUGH GENERAL HOSPITAL
(350 beds)
Tees-side Hospital Management Committee
SENIOR HOUSE OFFICER (Casualty)
Applications are invited for the above appointment. Salary and conditions in accordance with national scales. Applications, stating age, qualifications and experience, together with names for reference, should be forwarded to the Secretary-Superintendent, Middlesbrough General Hospital, Middlesbrough. (7452)

NOTTINGHAM, GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Casualty)
Duties to commence as soon as possible. Salary £670 per annum, less £150 emoluments. Terms and conditions of service as published by the Ministry. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham (4819)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for the appointment of
SENIOR HOUSE OFFICER
to Casualty and Fracture Department
vacant immediately. Salary at £670 per annum. Terms and conditions in accordance with the National Health Service terms. The appointment will be for a period of twelve months and is renewable. Applications, stating age, nationality, qualifications and experience, together with the names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (7422)

POOLE GENERAL HOSPITAL, Poole, Dorset
Bournemouth and East Dorset Hospital Management Committee
CASUALTY OFFICER (S.H.O. £670)
Required for February 24. Post suitable for person reading for higher diplomas. Applications to the Assistant Secretary of the hospital. (7652)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
CASUALTY OFFICER
Applications are invited from registered medical practitioners for above post, vacant March 1, 1952. Post offers good experience with fractures and emergency surgery, and is tenable for 12 months. Salary £670 per annum. Applications, stating age, nationality, qualifications, and experience, together with recent testimonials, to be addressed to the Administrative Officer (7543)

ROTHERHAM, DONCASTER GATE HOSPITAL
(155 beds)
SENIOR HOUSE OFFICER
(Casualty and Orthopaedic)
Salary £670 per annum, less £140 per annum residential emoluments. Applications, stating age, experience and nationality with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (7663)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
CASUALTY OFFICER
(Resident or non-resident)
(Senior House Officer status)
Duties to be from 9 a.m. to 5 p.m. each day, except Saturday, which should be 9 a.m. to 1 p.m., and the applicant may be required to do one week-end's duty in each month. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7123)

WALSALL GENERAL HOSPITAL (181 beds)
Walsall Hospital Management Committee
CASUALTY OFFICER (S.H.O. grade)
Required immediately. Apply Secretary (7527)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the post of
CASUALTY OFFICER
The post is of Senior House Officer status, becomes vacant on May 23, and is tenable for one year. Conditions are in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of three testimonials, to be sent by February 18 to the Secretary, from whom further particulars can be obtained (7240B)

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.2 (St. Mary's Hospital)
Applications are invited for the post of
CASUALTY OFFICER (Second or third post)
The appointment is non-resident and tenable for six months as from April 1, 1952. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of recent testimonials, should reach the undersigned not later than February 23, 1952.—E. W. Stockwell, Secretary-Superintendent. (7763)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Chairman: James Fenton, CBE, MD.

MEDICAL INSURANCE AGENCY

Hon. Secretary: Henry Robinson, MD, DL, JP

MOTOR INSURANCE

- Rising Maintenance charges make you SCRUTINIZE COSTS
- The "DOCTORS' SPECIAL POLICY" offers the *lowest* premium and the *widest* cover consistent with security and prompt claims settlement.

Let us send you a quotation.

General Manager: A. N. Dixon, ACII

Unbiased advice **Direct saving** **All surplus to Medical Charities**

LEEDS: 20/21 Norwich Union Bldgs., City Sq
MANCHESTER: 33 Cross Street.
BIRMINGHAM: 154 Great Charles Street.

CHIEF OFFICE: B.M.A. House, Tavistock Sq., London, W.C.1.
Telephone: Euston 5261-2-3.
EDINBURGH: 6 Drumsheugh Gardens.
NEWCASTLE-UPON TYNE: 16 Saville Row

GLASGOW: 234 St. Vincent Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.

Casualty—contd.

MEMORIAL HOSPITAL
Shooters Hill, Woolwich, S.E.18
CASUALTY OFFICER
Vacant now. Six months' appointment. Salary £350 to £450 per annum, less £100 per annum for residence. Apply to Secretary. (7448)

PUTNEY HOSPITAL, Lower Common, S.W.15
Battersea and Putney Group Hospital Management Committee
Applications are invited for the following post:
CASUALTY OFFICER AND E.N.T. HOUSE SURGEON (Non-resident)
Appointment commencing early March, 1952. Applications, accompanied by copies of three recent testimonials, should be sent to the Administrative Officer not later than February 29, 1952. (7152)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE SURGEON
Casualty and Orthopaedic Department
Post recognized for F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (7703)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
CASUALTY OFFICER (House Officer)
Required immediately. National salary and conditions. Apply M. H. Boone, Secretary. (7299)

HASTINGS, ROYAL EAST SUSSEX HOSPITAL (150 beds).
Hastings Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Post now vacant. National scales of salary Applications to Administrator at the hospital. (7680)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN (Busy Casualty Department)
Applications immediately to the Secretary, Hospital Management Committee. (7872)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
CASUALTY OFFICER AND HOUSE SURGEON
for a period of nine months from April 1, 1952. The first three months will be served as Casualty Officer and Deputy House Surgeon to future chief. The post of House Surgeon is recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (7653)

NEWPORT, I.W., ST. MARY'S HOSPITAL
Isle of Wight Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Required for new department in recently completed premises, with charge of some beds in special departments. Salary according to previous posts held (£350, £400 or £450), less £100 for board, lodging and services provided. National terms and conditions of service. Applications, stating full details as to age, qualifications, experience and nationality, together with names and addresses of three referees, to be sent to the Chief Administrative Officer, Hospital Management Committee, at above address as soon as possible. (7442)

PENZANCE, WEST CORNWALL HOSPITAL (General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
CASUALTY HOUSE SURGEON
Post now vacant. National salary and conditions of service. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6447)

PRESTON ROYAL INFIRMARY (400 beds)
CASUALTY OFFICER (House Officer Grade)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary (7423)

SHEFFIELD, ROYAL INFIRMARY
United Sheffield Hospitals
Applications are invited from registered medical practitioners, male and female, for the following post, now vacant.
HOUSE SURGEON
to the Accident and Orthopaedic Department
The post will be tenable for six months from January 15, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health for House Officers. Applications should be sent forthwith to Frank Hart, Superintendent, Royal Infirmary, Sheffield, 6. (7475)

SOUTH SHIELDS, INGHAM INFIRMARY (158 beds)
Applications are invited from registered medical practitioners for the post of
CASUALTY OFFICER "SPECIALS" HOUSE SURGEON (First or second post)
which is now vacant. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Secretary (7205)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL, Watford, Herts (189 beds)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
The Traumatic and Orthopaedic Department consists of 24 beds, and is integrated with the Royal National Orthopaedic Hospital. Salary according to N.H.S. scale. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent to undersigned.—Cyril Hopkinson, Administrator. (7573)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY
Wigan and Leigh Hospital Management Committee
CASUALTY OFFICER (Male or Female)
House officer grade post recognized for the F.R.C.S. examinations. Post vacant March 3, 1952. Applications, stating age, qualifications, etc., together with the names of two referees, should be received by the undersigned as early as possible.—T. W. Hurst, Sec., Knowsley House, Wigan. (7906)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (Junior Casualty Officer)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton (7865)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

PUBLIC HEALTH

(See Important Notice page 25)

GLAMORGAN COUNTY COUNCIL
Applications are invited from male registered medical practitioners for an appointment as
ASSISTANT MEDICAL OFFICER
in the West Glamorgan Health Division, at a salary of £850, rising by annual increments of £50 to £1,150 per annum. Preference will be given to candidates holding the D.P.H. or D.C.H., and experience in paediatrics or obstetrics will be an advantage. Application forms together with particulars of conditions of service, can be obtained from the County Medical Officer, County Hall, Cardiff, to whom completed forms must be returned within fourteen days of the publication of this advertisement.—D. J. Parry, Clerk of the County Council, Glamorgan County Hall, Cardiff. (7857)

HERTFORDSHIRE COUNTY COUNCIL
Health Department
ASSISTANT COUNTY MEDICAL OFFICERS
Applications are invited from medical practitioners for the above appointments. Duties will be mainly school medical inspection and maternity and child welfare work. A diploma in public health or child health is desirable, although not essential. The salary will be £850 by £50 to £1,150 per annum, the starting salary depending upon previous experience. A car is essential. Travelling and subsistence allowances for an "outside post" will be paid. Application forms and further particulars can be obtained from the County Medical Officer, County Hall, Hertford, to whom they should be returned within 14 days of the publication of this advert. (7858)

ISLE OF WIGHT COUNTY COUNCIL
Applications are invited from registered medical practitioners, men or women, for appointment as
ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER
Candidates should possess D.P.H. or D.C.H. and experience in the ascertainment of educationally retarded children will be an advantage. Salary will be on the scale £850 rising by annual increments of £50 to a maximum of £1,150 per annum. The person appointed will be entitled to a travelling allowance on the Council's scale for the use of a car. Duties will be mainly in connexion with Maternity and Child Welfare and School Medical Services, together with such other duties as may from time to time be assigned by the County Medical Officer. Forms of application, obtainable from the undersigned, should be returned completed, together with a copy of one recent testimonial, and the names of two persons to whom reference may be made, not later than February 21, 1952.—L. H. Baines, Clerk of the County Council, County Hall, Newport, I.W. (7368)

LINCOLN, COUNTY OF—PARTS OF LINDSEY
ASSISTANT COUNTY MEDICAL OFFICER AND DISTRICT MEDICAL OFFICER OF HEALTH for Horncastle Rural, Horncastle Urban and Woodhall Spa Urban Districts
Applications are invited from any duly qualified medical practitioner registered in the *Medical Register* as the holder of a Diploma in Sanitary Science, Public Health or State Medicine, for the above-mentioned combined appointments providing whole-time employment. The combined salary will commence at £1,000 2s. 1d. per annum and will rise by four annual increments of £52 12s. 1d. and two annual increments of £42 3s. 9d. to a maximum of £1,334 17s. 11d. per annum. Travelling allowances according to the County Council's scale will be paid. The appointment of District Medical Officer of Health will be made by the District Councils in accordance with the Local Government Act, 1933, and the Sanitary Officers' (Outside London) Regulations, 1935, as amended by the Sanitary Officers' (Outside London) Regulations, 1951. The appointment will be superannuable. Applications, on forms obtainable from the Clerk of the County Council, County Offices, Lincoln, must be returned not later than ten days after the appearance of this advertisement.—H. Copland, Clerk of the Lindsey County Council, Lincoln. (7846)

NORTH RIDING OF YORKSHIRE
Applications are invited from suitably qualified medical practitioners for the whole-time mixed appointment of
MEDICAL OFFICER OF HEALTH
to the Borough of Richmond and to the Rural Districts of Croft, Richmond and Startforth,
and ASSISTANT COUNTY MEDICAL OFFICER
The successful applicant may later be required to undertake the duties of Medical Officer of Health for the Reeth Rural District. The salary paid and conditions of service will be in accordance with the recommendations of Medical Council Committee C., and at present is £1,372 10s. 11d., rising by annual increments to £1,699 13s. 10d. A travelling allowance on the County Council's scale will be paid for a car not exceeding 10 h.p. Medical examination necessary as post superannuable. Private practice not permitted. Office accommodation available. The appointment will be determinable by the officer by three months' notice in writing and by the Councils concerned with the consent of the Minister of Health at pleasure. The Health Committee are proposing to erect a house at Richmond for the officer appointed and he will be required to reside therein and to pay an economic rent. Forms of application, etc., may be obtained from the undersigned. Canvassing in any form prohibited. Last day for receipt of applications February 23, 1952.—H. G. Thornley, Clerk of the County Council, County Hall, Northallerton. (7795)

INDUSTRIAL APPOINTMENTS

FACTORY DOCTORS
FACTORIES ACTS, 1937 and 1948
The following appointment as Appointed Factory Doctor under the Factories Acts, 1937 and 1948, is vacant: Gatehouse, in the County of Kirkcudbright. Applications, which should be received not later than February 23, 1952, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

LEVER BROTHERS AND UNILEVER LIMITED.—Applications are invited from registered medical practitioners of either sex for the full-time post of **Assistant Medical Officer** at the head office. The successful candidate will be required to assist the head office staff Medical Officer in the health supervision of a large clerical staff, a considerable proportion of whom are adolescents. The work will also include the medical examination of candidates for home and overseas appointments, the re-examination of employees and their families on home leave from both temperate and tropical climates and the health supervision of certain nearby small industrial units. Candidates should have a good standard of clinical medicine combined with an interest in preventive and industrial medicine. Commencing salary will be in accordance with experience, qualifications and age, and will be not less than £1,100 per annum. Letters of application, which should include the names of three persons to whom reference may be made and full details of the candidate's training and career, should be submitted not later than February 23, 1952, to the Principal Medical Officer, Unilever House, London, E.C.4. (7786)

OVERSEAS

ALBERTA
PHYSICIAN (Preferably M.R.C.P.)
Required for growing practice in Southern Alberta. Facilities available for work in two city hospitals. Applicant must be prepared to do some general practice initially. Interview in London in May. Reply, with photo, by airmail to John Morgan, M.R.C.O.G., Picture Butte, Alberta, Canada.

Overseas—contd.

CAPE TOWN, South Africa

A Medical Practice of long standing in a delightful suburb of Cape Town, South Africa. Afrikaans not necessary. Doctor's home included in the sale. This practice will suit a gentile doctor. For particulars write H. Andrews, P.O. Box 3186, Cape Town, South Africa.

CAPE TOWN

For Sale. Well-established practice in a high class suburb of Cape Town. Doctor's magnificent residence included, in sale. For particulars, write Box P511, B.M.J.

WESTERN AUSTRALIA

For sale, large Suburban Semi-Industrial Three-Man Practice within City of Perth, established 25 years. No surgery and little midwifery done, but enormous scope for both. Average cash takings past three years £9,000, can be increased considerably, providing midwifery and surgery undertaken. Price, goodwill for practice, £7,350 Australian currency. Practice in excellent position, cash takings last half-year 1951 are £6,300, increasing. Property on main road consists of three surgeries, three examination rooms, waiting room, office plus well-constructed eight-room brick house and large garage on half-acre freehold land Price of property £16,000. Alternative or additional brick house of seven rooms adjacent to practice also available.—S. Van Dal & Co., Medical Agents, 18, Howard Street, Perth, Western Australia. Cables: Medicalhouse, Perth.

SOUTH GEORGIA

Wanted immediately, **Doctor for a Whaling Station at South Georgia.** Higher qualifications necessary. Salary £100 per month, board and lodging provided. Applications to Medical Superintendent, Chr. Salvesen and Co., 29, Bernard Street Leith.

WEST AFRICA
LOCUM TENENS

Required early next May for service with long-established mining company operating in Sierra Leone and Gold Coast. Surgical experience desirable. Appointment eight months to a year. Possibility of long-term employment on favourable terms to suitable doctor. Salary and allowances for temporary appointment not less than £150 per month. First-class travelling expenses paid and free furnished bungalow accommodation in permanent self-contained camp. One week's leave on full pay for each month's service abroad. If married, wife could accompany appointee. Doctor would be in sole charge of small well-equipped hospital and of the medical care of the European and African personnel and families for a period of approximately four months in each Colony. Number of Company employees in each case approximately 25 Europeans and 2,000 Africans. Apply, with full details of experience, etc., to Consolidated African Selection Trust Limited, Mason's Avenue, Coleman Street, London, E.C.2 (7785)

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

ALBANY HOSPITAL, Albany, N.Y.

Residency in tuberculosis available at Albany Hospital, Albany, New York, associated with Albany Medical College, beginning July 1, 1952, for a period of twelve months. Salary ranges from $1,800 to $2,400. (9920)

ALBANY HOSPITAL, Albany, N.Y.

Internships and residencies available in Albany Hospital, Albany, New York, 750-bed general hospital, directly associated with Albany Medical College. House officers receive appointments in medical school. Salaries range from a minimum of $300 a year for interns to $1,400 a year for residents. Details on request. (9695)

GOVERNMENT OF INDIA

Required for the Irwin Hospital, New Delhi, under the Colombo Plan for Technical Co-operation in South and South-East Asia, an

ORTHOPAEDIC SURGEON

with postgraduate qualifications and at least ten years' experience in the practice and teaching of orthopaedics, to act as Consultant and to train postgraduate and undergraduate students The Irwin Hospital is a general hospital of 300 beds with a large surgical section where all types of general surgery, including orthopaedics, are done. Candidates should be between 30 and 55 years. Two-year appointment in first instance with first-class return passage. Salary £3,250 (taxable in this country) with substantial allowances (tax free) and free board and lodging. Write, giving age, full particulars of experience and qualifications, to the Secretary (Division 5A), Ministry of Health, Savile Row, London, W.1. (7730)

HERTFORD BRITISH HOSPITAL
48, Rue de Villiers, Levallois-Perret (Seine), France

Applications are invited for post of

RESIDENT MEDICAL OFFICER

tenable for six months. Hospital comprises 37 beds, including five in obstetrical unit. Salary £400 per per annum plus emoluments. Post will shortly be vacant Knowledge of French essential. Applications should be addressed to the Secretary. (7908)

COLONIAL MEDICAL RESEARCH STUDENTSHIPS

The Secretary of State for the Colonies proposes to offer in 1952 a limited number of Postgraduate Studentships tenable at a British University or research institute or organization, either in the United Kingdom or overseas, for periods of up to two years in preparation for research appointments in the Colonial territories in the field of medicine and its cognate sciences It would be a condition of the award that the student undertakes, if so required within the period of six months following the conclusion of the studentship period, to serve in a research appointment in any Colonial territory selected by the Secretary of State for not less than three years. **Qualifications:** Candidates should be under 32 years of age and should hold either (a) a medical qualification registrable in the United Kingdom, or (b) a first or good second-class honours degree. A candidate taking a degree this summer may apply before the result of the degree examination is known. **Allowances:** (a) For students with medical qualifications a maintenance allowance is payable in the scale £565 by £35 to £740 per annum, the starting point being determined by the number of years' experience gained since qualification. The allowance is taxable and marriage and children's allowances are not payable in addition (b) For non medically qualified students a maintenance allowance is payable at the rate of £300 per annum (£360 per annum if training is at Oxford, Cambridge, or London) with the addition for a married student of £110 marriage allowance plus children's allowances. These allowances are tax free. Provision is made separately for payment of fees. Application forms are obtainable from Under Secretary of State, Colonial Office (Research Department), Sanctuary Buildings, Great Smith Street, London, S.W.1. Completed applications should reach the Colonial Office not later than March 31, 1952. (7729)

HIS MAJESTY'S COLONIAL SERVICE, Malaya
PATHOLOGIST
for the Colonial Medical Service in Malaya

Duties include research work and the administration of the laboratory, diagnostic examination of pathological and bacteriological specimens, post-mortem examinations and some medico-legal work. Appointment is available: (a) on probation for permanent establishment; (b) on employment from the National Health Service, and (c) on short-term contract with gratuity: (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum There is also a cost-of-living allowance at varying rates, according to family circumstances, with minimum of £336 per annum for single men, rising to maximum of £707 per annum for married men with children. **Note.** Doctors with more than one year's approved experience after age 25 (including service in His Majesty's Forces) enter the salary scale at points above the minimum according to their experience, and four increments of salary are also given to holders of approved higher qualifications (e.g., F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malaya salary on leaving Malaya at the end of their engagements. Emoluments as under (a) including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service, renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a) including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity granted refer to doctors eligible for "expatriate terms" under Malayan Regulations (e.g. whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of doctors liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible The social and recreational facilities in Malaya are good. Candidates must have medical qualifications registrable in the United Kingdom and should have at least two years' experience of clinical pathology, general bacteriology, and particularly of morbid histology and give evidence of ability to undertake research. Application forms can be obtained from the Director of Recruitment (Colonial Service) Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/318/51). (7847)

HIS MAJESTY'S COLONIAL SERVICE, Malaya
RADIOLOGISTS
for the Colonial Medical Service in Malaya

Duties include those of Medical Officer and hospital radiologist. Candidates must possess medical qualifications registrable in the United Kingdom and should have either a Diploma in Medical Radiology or considerable experience in radiological work. Appointment can be made: (a) on probation for permanent establishment; (b) on employment from the National Health Service; and (c) on short-term contract with gratuity: (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There is also a cost-of-living allowance at varying rates, according to family circumstances, with minimum of £336 per annum for single men, rising to maximum of £707 per annum for married men with children (both rates rather higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in His Majesty's Forces) enter the salary scale at points above the minimum according to their experience, and four increments of salary are also given to holders of approved higher qualifications (e.g. F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malaya salary on leaving Malaya at the end of their engagements Emoluments as under (a) including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service, renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a) including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity granted refer to doctors eligible for expatriate terms under Malayan Regulations (e.g. whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of doctors liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street London, S.W.1 (quoting reference No. 27215/194/51). (7848)

Overseas—contd.

HIS MAJESTY'S COLONIAL SERVICE, Malaya
SENIOR NUTRITION OFFICER

Required in Malaya to take charge of the Division of Nutrition, Institute for Medical Research. The officer selected will be required to organize and lead all nutrition research based on the Institute, but may have to work in laboratory, hospital or anywhere in the field; to give technical advice to the Government and Medical Services; he may, in due course, be required to organize training courses for doctors and others in the principles of nutrition. Biochemistry, bacteriology and pathology divisions are available to assist with investigations requiring laboratory facilities. Appointment, subject to three years' probation, is available on a permanent basis with pension (non-contributory) at the age of 55, or on short-term agreement for three years in the first instance. Doctors in the National Health Service may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malayan salary on leaving Malaya, at the end of their engagement. Doctors so appointed may be considered for permanent terms at any time during their employment. Basic salary is $1,050 per mensem (£1,470 per annum). In addition, pensionable expatriation pay is payable at $200 per mensem (£280 per annum). There is also a cost-of-living allowance at $240 per mensem (£336 per annum) for single officers, $430 per mensem (£602 per annum) for married officers without dependent children, and $505 per mensem (£707 per annum) for married officers with one or more dependent children. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. Candidates must possess medical qualifications registrable in the United Kingdom and should have a higher medical qualification, with at least ten years' postgraduate experience, and an expert knowledge of, and research experience in, the science and practice of nutrition. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/344/51). (7745)

HIS MAJESTY'S COLONIAL SERVICE, Malaya
Blood Transfusion Service
MEDICAL OFFICER

Required for service in Malaya, to organize and supervise a hospital blood transfusion service for approximately a 1,000-bedded hospital. Appointment is available: (a) on probation for permanent establishment; (b) on employment from the National Health Service; and (c) on short-term contract with gratuity: (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There is also a cost-of living allowance at varying rates, according to family circumstances, with minimum of £336 per annum for single men, rising to maximum of £707 per annum for married men with children (both rates rather higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in His Majesty's Forces) enter the salary scale at points above the minimum, according to their experience, and four increments of salary are also given to holders of approved higher qualifications (e.g., F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malaya salary on leaving Malaya at the end of their engagements. Emoluments as under (a) including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service, renewable for a further tour of three years by mutual agreement. Salary and cost-of living allowance as under (a) including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity granted refer to doctors eligible for expatriate terms under Malayan Regulations (e.g., whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of doctors liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Candidates must possess medical qualifications registrable in the United Kingdom, and have had at least two years' postgraduate experience in the latest technique of blood transfusion work. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/162/51). (7849)

HIS MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom with one or more years' experience after qualification are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH
for General Medical and Health duties

Appointment is available (a) on probation for permanent establishment; (b) on employment from the National Health Service; and (c) on short-term contract with gratuity. (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in His Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g., F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malaya salary on leaving Malaya at the end of their engagements. Emoluments as under (a), including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a), including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e., those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/242/51). (5187)

HIS MAJESTY'S COLONIAL SERVICE, Trinidad

The Medical Department in Trinidad require a

SUPERVISOR OF LABORATORIES, and a PATHOLOGIST

Duties of the posts are as follows: (a) **Supervisor of Laboratories.** To administer the central medical laboratory; to supervise and be responsible for the administration and technical direction of other branch laboratories; to carry out the work of a pathologist and bacteriologist and perform such other general duties as may be required. (b) **Pathologist.** To carry out, under the direction of the Supervisor of Laboratories, the supervisory and routine duties in clinical pathology, biochemistry, bacteriology and serology, haematology, morbid anatomy, histology and post-mortem work. Appointments can be made on a permanent basis with pension (non-contributory) at age of 55, or on short term contract with gratuity on completion of satisfactory service. Candidates in the National Health Service may resign from the National Health Service but retain their superannuation rights during their time in Trinidad (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Trinidad salary on leaving Trinidad at the end of their engagement. Salary for Supervisor of Laboratories is $6,480 (£1,350) per annum. Salary scale for Pathologist ranges from $5,280 to $5,760 (£1,000 to £1,200) per annum—one dollar equals 4s. 2d. Starting point in the scale is determined according to the candidate's qualifications and experience. Quarters are not provided, but an allowance is payable towards the rental of a private house. Free passages provided for officer, wife and children, not exceeding five persons in all on first appointment, and up to three adult fares on leave. Income tax at local rates. Tour of service is three years. Generous home leave. **Qualifications:** Candidates for appointment as Supervisor of Laboratories must have had postgraduate experience in all branches of clinical pathology. Those who have specialized in pathological histology are preferred. Experience in the tropics or the possession of the Diploma in Tropical Medicine is essential. A higher degree in medicine is desirable. Candidates for appointment as Pathologist should have a good knowledge and practical experience of modern clinical and general pathology, medical biochemistry as applied to clinical pathology and routine laboratory bacteriological work. The possession of the Diploma of Clinical Pathology or Diploma in Public Health, though not essential, would be regarded as an additional qualification. All candidates must possess medical qualifications registrable in the United Kingdom. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1, (quoting reference No. 27215/329/51). (7850)

UNIVERSITY APPOINTMENTS

NUFFIELD FOUNDATION
MEDICAL FELLOWSHIPS

As part of its programme for the advancement of health the Nuffield Foundation is prepared to award a number of Fellowships to highly qualified medical men and women of the United Kingdom, usually between the ages of 25 and 35, who wish to train further for teaching and research appointments in any branch of medicine. Between equally qualified applicants preference will be given to those who wish to pursue an academic career in child health, social medicine, industrial health, psychiatry, and chronic rheumatism. Applications for awards in 1952 must be received not later than May 1, 1952. The value of the awards will be variable but will not be less than £900 per annum plus travelling expenses. The conditions of these fellowships and the application forms are obtainable from the Secretary, The Nuffield Foundation, 12 and 13, Mecklenburgh Square, London, W.C.1.—L. Farrer-Brown, Secretary of the Nuffield Foundation. (7796)

UNIVERSITY OF EDINBURGH
Department of Physiology

Applications are invited for the appointment of

LECTURER (Higher salary scale) and of a LECTURER (Lower salary scale)
in the Department of Physiology

The duties will include lecturing and demonstrating to medical and to science students. A medical qualification is not essential, but candidates should possess a good Honours Degree in Physiology. Salary scales £850 to £1,250 per annum, and £600 to £800 per annum respectively, with placement according to age and experience, and with superannuation benefit and family allowance where applicable. The successful candidates will be expected to take up duty on October 1, 1952. Further particulars may be obtained from the undersigned, with whom applications, giving the names of three referees, should be lodged not later than March 31, 1952.—Charles H. Stewart, Secretary to the University. (7746)

University Appointments—contd.

GONVILLE AND CAIUS COLLEGE, Cambridge
BERKELEY BYE-FELLOWSHIP
(Founded in memory of Sir G. H. A. Comyns Berkeley and of his wife, Ethel Rose Berkeley)

The Council of Gonville and Caius College invite applications for a Berkeley Bye-Fellowship for research in either of the following fields (1) Medicine. (2) Any branch of Natural Science, excluding Medicine. Candidates should be men of not less than twenty-six years of age. The tenure of the Bye-Fellowship is from one to three years and the emolument from £500 to £1,000, according to standing. Full particulars may be obtained from the Registrary, Gonville and Caius College, Cambridge Applications must be received not later than April 1, 1952. (7851)

INSTITUTE OF UROLOGY
in Association with St. Peter's and St. Paul's Hospitals
PART-TIME BIOCHEMIST
(Medical qualification not essential)

Required to undertake research and laboratory investigation in connexion with urological disease Graduates of at least two years' standing may apply. Appointment (approximately half-time) might suit applicant engaged in preparing thesis for higher degree. Salary commencing at £450 per annum Apply, Secretary, St. Paul's Hospital, Institute of Urology, Endell Street, W.C.2, stating age, qualifications and experience, and enclosing copies of two recent testimonials. Closing date February 25, 1952. (7787)

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

PERSONAL

AIR AMBULANCE TRANSPORT, MORTON Air Services, Ltd., Croydon Airport and Bristol Airport.—Croydon 7171-3. Bristol 26751. Night, Wallington 7832.

SURGICAL STOCKINGS, COMPRI-VENA (1937) LTD. Where leg support is prescribed in the treatment and after-care of varicose veins Compri-Vena give meticulous attention to instructions. Full particulars on request.—3, Ladbrook Road, Notting Hill Gate, W.11. BAYswater 8088.

NOTICES

APPLICANTS ARE ADVISED NOT TO SEND original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

PREGNANCY DIAGNOSIS

PREGNANCY DIAGNOSIS (HOGBEN TEST). Family Planning Association Laboratories, 64 Sloane Street, London, S.W. (Sloane 0451), Specimens of urine accepted from doctors and hospitals anywhere. Result available within 24 hours of receipt of specimen. Cost 25s. (hospitals and clinics at special rates). Telephone or write for details.

EDUCATIONAL

F.R.C.S. POSTAL COURSES FOR PRIMARY AND FINAL EDIN. and ENG. RECIPROCAL EXAMS. Full details also of Private Tuition.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

F.R.C.S. PRIMARY TUITION IN ANATOMY at London Teaching Hospital Anatomy Department.—Box 436, B M.J

FACULTY OF HOMOEOPATHY
Introductory Course in Homoeotherapeutics
March, April, May, 1952

A three months' introductory course of lectures and clinical teaching in homoeotherapeutics for registered medical practitioners will be held weekly commencing Wednesday, March 5, 1952, at 7 p.m., in the Glasgow Homoeopathic Hospital Dispensary, 5, Lynedoch Crescent, Glasgow, C.3. Further instruction for those intending to sit the examination for the Diploma of Membership of the Faculty of Homoeopathy (M.F.Hom.) will also be available. Particulars may be obtained from the Superintendent, Glasgow Homoeopathic Hospital, 1,000, Great Western Road, Glasgow, W.2. (7797)

ORATORY SCHOOL SCHOLARSHIPS

Three open scholarships of £60 per annum offered for September, 1952, for proficiency in classics, history or mathematics examination in June. For details apply to the Headmaster, The Oratory School, Woodcote, near Reading, Berks. (7799)

EDUCATIONAL

UNIVERSITY OF LONDON
BRITISH POSTGRADUATE MEDICAL FEDERATION
COURSES FOR GENERAL PRACTITIONERS, 1952

Applications for places on the following Intensive Courses should be made to the Secretary, British Postgraduate Medical Federation, 2, Gordon Square, London, W.C.1. They should state if the application is or is not made under the Scheme for N.H.S. Practitioners.

INTENSIVE COURSES

Date	*No. of weeks*	*Subject*	*Hospital*
Feb. 25–Mar. 1 ..	1	Obstetrics and Gynaecology	Institute of Obstetrics and Gynaecology
March 3–7 ..	1	Rehabilitation in General Practice	Roffey Park Institute, Horsham (Residential)
,, 17–22 ..	1	General	Brighton Group
April 21–26 ..	1	General	Woolwich Group
May 5–17 ..	2	General, Obstetrics and Fevers	Fulham and Kensington Group
,, 12–16 ..	1	Rehabilitation in General Practice	Roffey Park Institute, Horsham (Residential)
June 9–14 ..	1	Cardiology	Institute of Cardiology
,, 16–28 ..	2	General	Royal Free Hospital
,, 23–28 ..	1	Obstetrics and Gynaecology	Institute of Obstetrics and Gynaecology
July 7–12 ..	1	General	Brighton Group
Sept. 8–20 ..	2	General and Rheumatism ..	St. Stephen's Hospital, S.W.10
,, 15–19 ..	1	Rehabilitation in General Practice	Roffey Park Institute, Horsham (Residential)
,, 29–Oct. 4	1	Obstetrics and Gynaecology	Lewisham Hospital
Oct. 6–18 ..	2	General and Paediatrics ..	Whittington Hospital, N.19
,, 13–18 ..	1	General	Brighton Group
Nov. 3–8 ..	1	Obstetrics and Gynaecology	Brighton Group
,, 17–22 ..	1	General	National Temperance Hospital, N.W.1
,, 24–28 ..	1	Rehabilitation in General Practice	Roffey Park Institute, Horsham (Residential)
,, 24–Dec. 6 ..	2	General	Central Middlesex Hospital, N.W.10

Applications for places on the following extended and weekend courses should be made *to the Hospital*.

EXTENDED AND WEEKEND COURSES

Date	*Subject*	*Hospital*
Jan. 25–April 4 .. .. (11 Friday afternoons)	General	St. Helier Hospital, Carshalton
Feb 14–April 24 .. (11 Thursday afternoons)	Obstetrics and Gynaecology	Bromley Hospital, Bromley
March 2–May 18 .. (11 Sunday mornings)	General	Salisbury General Hospital
March 13–May 22 .. (11 Thursday afternoons)	General	St. Olave's Hospital, Rotherhithe
March 15–16 (Weekend)	Paediatrics	University College Hospital
May 17–18 (Weekend)	Rheumatism	Arthur Stanley Institute for Rheumatic Diseases, Peto Place, W.1
April 5–6 (Weekend) ..	General	Elizabeth Garrett Anderson Hospital, N.W.1
April 17–June 26 .. (11 Thursday afternoons)	General	Hackney Hospital, E.9
April 19–May 24 . (6 Saturday afternoons)	General	Luton and Dunstable Hospital, Luton
April 25–27 (Weekend)	Paediatrics	Children's Hospital, Sydenham
June 14–15 (Weekend)	Paediatrics	University College Hospital
Oct. 18–19 (Weekend) ..	Paediatrics	University College Hospital

All the courses are available to N.H.S. Practitioners for whom fees and allowances (travelling expenses, locum fees, etc.) are provided for courses equivalent to 22 half-day sessions in an academic year, subject to certain conditions Other practitioners may attend on payment of a fee of 10 guineas for two weeks 5 guineas for one week or extended course of 11 sessions, 1½ guineas for a weekend course. (7798)

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1. provides COACHING for all Medical Examinations, D.A., D.P.M., D.O.M.S., D.L.O., D.C.H., D.M.R.D. and D.M.R.T., M.R.C.P., F.R.C.S., M.D. thesis, and all qualifying exams by a staff of highly qualified Tutors, Honoursmen and Gold Medallists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

PINSENT-DARWIN STUDENTSHIP

An election to the Pinsent-Darwin Studentship in mental pathology will be made at Cambridge in March. It is of the annual value of about £250 and is tenable for three years. The student must engage in original research into any problem having a bearing on mental defects, but may carry on educational or other work concurrently. Applications should be sent before March 3 to the Secretary, Pinsent-Darwin Studentship, Psychological Laboratory, Cambridge. Applicants should state their age and qualifications, and the general nature of the research that they wish to undertake. No testimonials are required, but applicants should give the names of not more than three referees. (7907)

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes. 1937-1950; M.D.Lond., 62; M.B., B.S.Lond., Final, 133; F.R.C.S.Eng., Primary, 212; F.R.C.S.Eng., Final, 173; M.R.C.P.Lond., 209; M.R.C.S., L.R.C.P., Final, 303; D.A., 177; D.C.H., 135; M and D.Obst.R.C.O.G., 232; D.O., C.P.H., D.P.H., D.L.O., D.P.M., F.R.C.S.Edin., many successes. Assistance with M.D. Thesis. Prospectus, list of tutors, etc., on application to Dr. G. E. Oates, University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

TUNSTALL HALL COLLEGE, MARKET DRAYTON, SHROPSHIRE. Girls' Country Boarding School, beautifully situated in lovely parks and woodlands. Within easy access to railway station. Full curriculum for certificate of education. All extras. Own riding school, fourteen horses. Fees 48 gns. a term. For illustrated prospectus apply Principal.

TANCRED'S STUDENTSHIPS
Divinity, Medicine, Law
£100 per annum each. For men only

About Whitsuntide next the Governors propose to elect one Student in Physic at Gonville and Caius College, Cambridge, and one Student in Law at Lincoln's Inn. Candidates must have been born in England, Scotland or Wales and be members of the Church of England and unmarried. An examination will be held at Caius College on Wednesday, April 16, 1952, for Physic candidates who must be within the ages of 17 and 22 years. The Law candidates, who must be within the ages of 20 and 23 years, must have passed an approved examination of school certificate standard. The last day for sending in petitions for the Physic and Law Studentships is March 11, 1952.

A Divinity Studentship will be awarded later in the year, on the result of the scholarship examinations conducted in December by the Queen's, Christ's, St. John's, Emmanuel and Sidney Sussex Group of Colleges, in the University of Cambridge. A further announcement relating to the Divinity Studentship will appear in this *Journal* in September.

Apply for further particulars and form of petition, stating kind of Studentship and mentioning this *Journal*, to the Clerk, R. M. C. Howard, Esq., D.S.O., 28, Lincoln's Inn Fields, London, W.C.2. (7788)

Educational—contd.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

The next **Examination for the Membership** will commence on Monday, March 24, 1952. Prospective candidates are asked to note that entries accompanied by the certificates and testimonials required by the bye-laws must reach the College not later than first post on Monday, February 25, 1952. Candidates must have been qualified for eighteen months. Candidates who propose to submit published work under the regulations are required to give twenty-eight days' notice, and should apply, in writing, to the Registrar, without delay, for detailed instructions as to the procedure they should follow. Completed entries for published work must also reach the College not later than first post on Monday, February 25.—Harold Boldero, D.M., Registrar, Pall Mall East, London, S.W.1. (7731)

LECTURES

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—Victor Henry Springett, Esq., M.D., will deliver the Milroy Lectures on Tuesday, February 12, and Thursday, February 14, 1952, at 5 p.m. at the College, Pall Mall East, S.W.1. **Subject: "An Interpretation of Statistical Trends in Tuberculosis."** Any member of the medical profession admitted on presentation of card. By order of the President.—Harold Boldero, Registrar. (7800)

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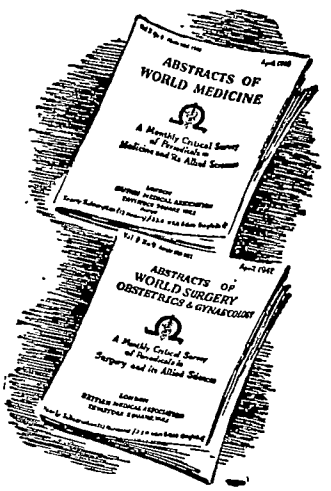

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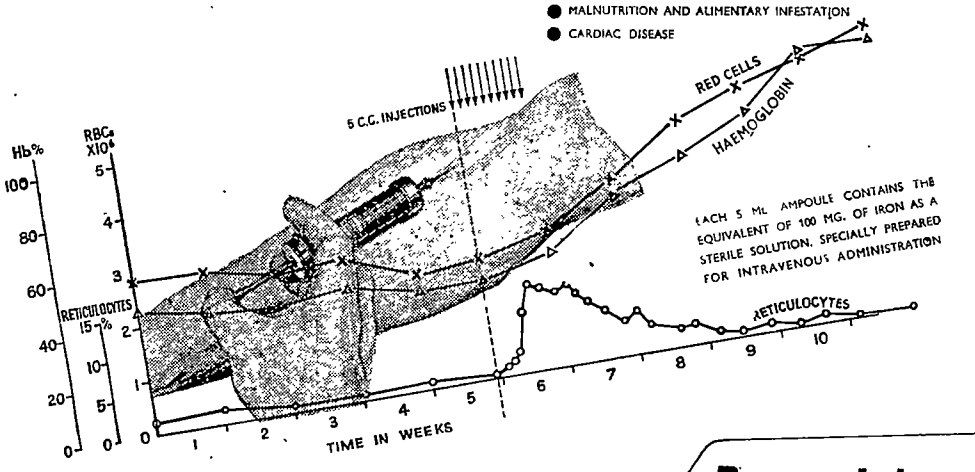

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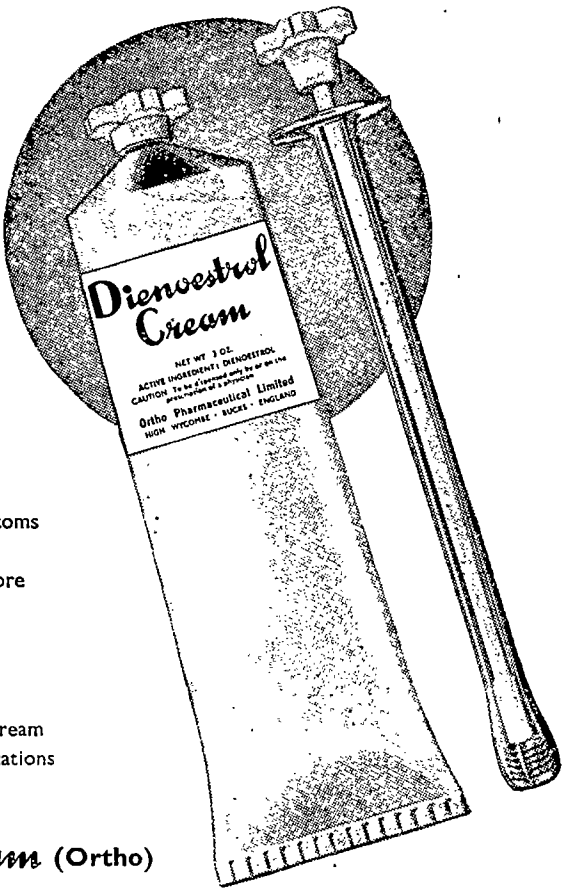

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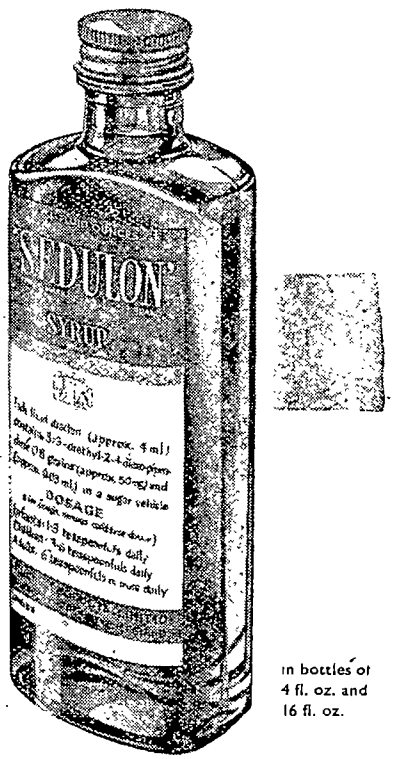

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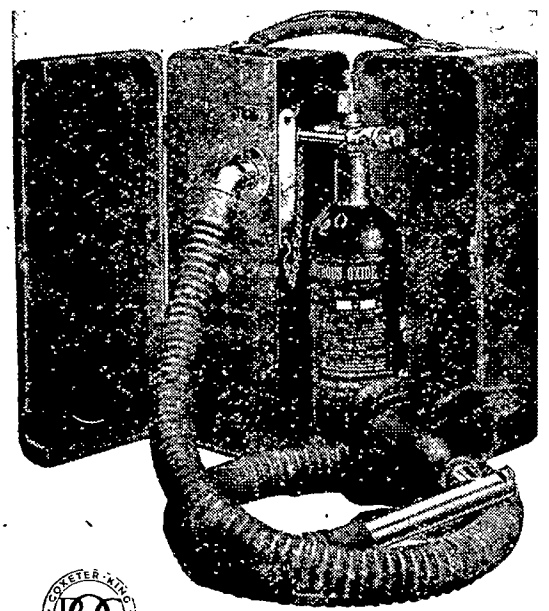

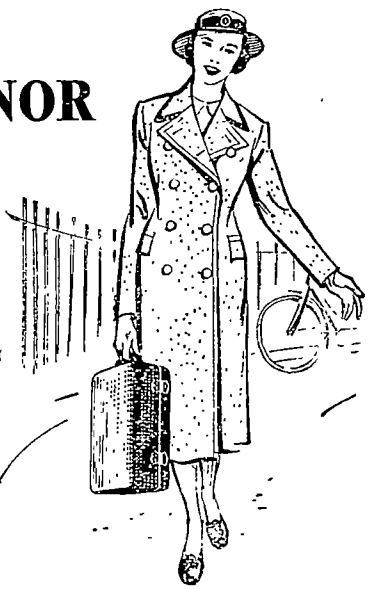

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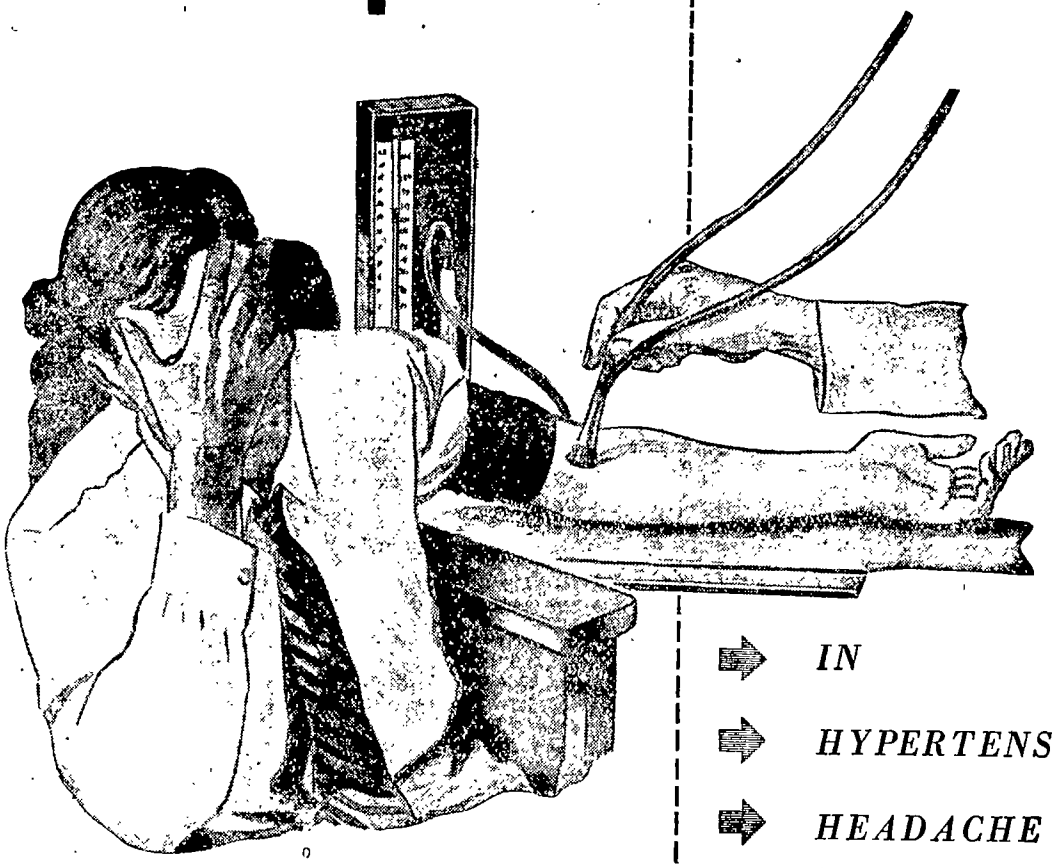

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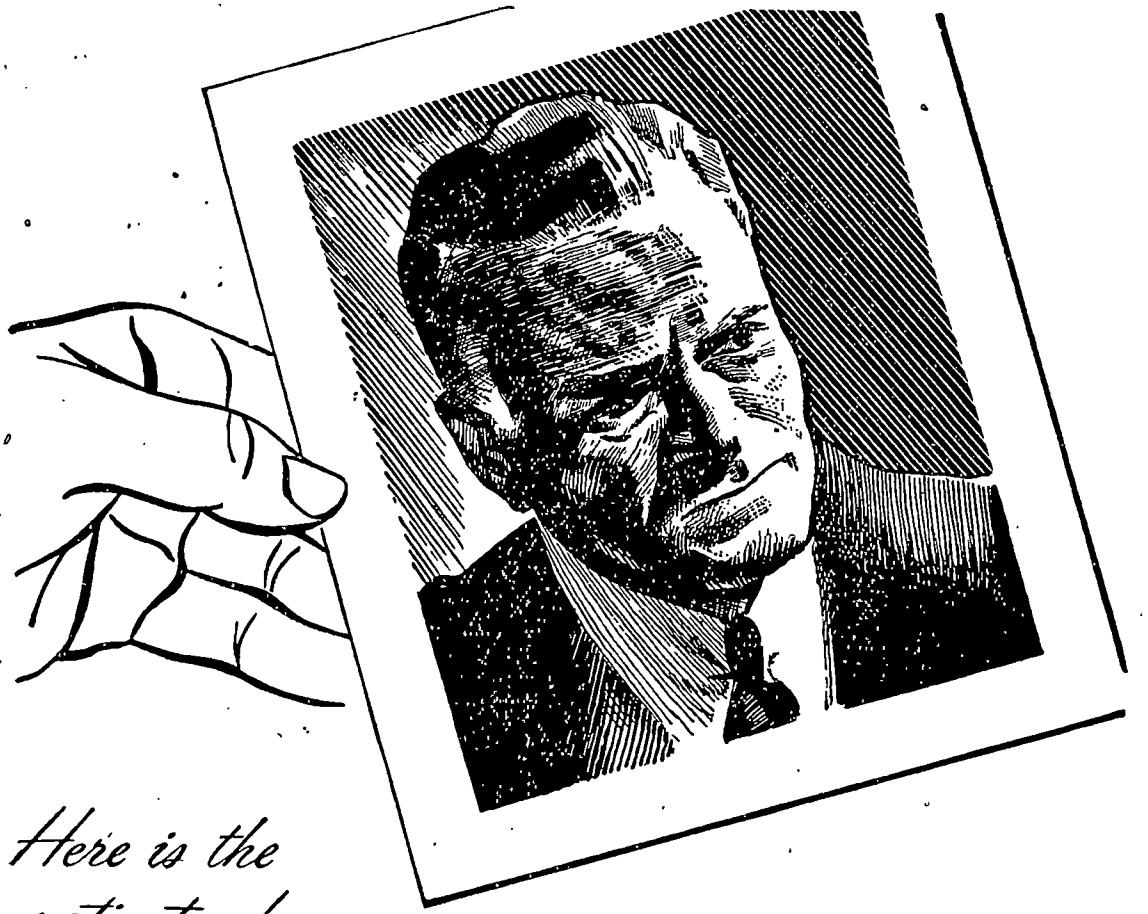

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY FEBRUARY 16 1952

RHEUMATIC DISEASES IN THE U.S.A.*

BY

J. J. R. DUTHIE, M.B., F.R.C.P.Ed.

Senior Lecturer in Rheumatic Diseases, Department of Medicine, University of Edinburgh

Clinics and Hospital Facilities for Rheumatic Diseases

The publication in 1949 of a survey of research on rheumatic diseases in the United States by a committee of the National Research Council provided ample evidence that the rheumatic diseases constituted a major social and economic problem. In its final report the committee says that the most common cause of chronic illness in the United States is the group of rheumatic diseases. They estimated that some 7,500,000 Americans suffer from arthritis or some other form of rheumatism, and that 30,000,000 people, counting the families of arthritics, are concerned with the medical, social, and economic aspects of this problem. In 1939, 97,200,000 days of work were lost as a result of rheumatism, amounting to a financial loss of $500,000,000 a year. The estimated yearly cost of medical care was $100,000,000.

In 1949 there were only 65 specially endowed beds for arthritic patients in the United States as opposed to 100,000 free beds for patients suffering from tuberculosis. There would appear to have been little change in the position since the time of the committee's report. It was found that in the majority of hospitals visited clinics have been established, staffed by physicians with a special interest in rheumatic diseases, but few beds are available for patients in need of hospital care. As a rule patients are referred to these clinics from the medical out-patient department or from the medical and surgical services of the hospital for consultation. A proportion remain under the care of the clinic for treatment, the remainder being returned to the referring service. In the case of patients requiring in-patient care, admission to beds in the general medical wards is arranged, and treatment is carried out along the lines indicated by the physician in charge of the rheumatic clinic. Responsibility for these cases, however, is borne by the visiting physician to whose ward they have been admitted.

Few of the physicians who have made a special study of rheumatic diseases have direct charge of beds. This arrangement arises from the belief held by most physicians in America that the chronic rheumatic diseases form an integral part of the field of general medicine, and that their segregation in special wards or units would be a retrograde step, leading to undue specialization on the part of doctors in charge of such units, to their detriment as general physicians. Experience in Britain would suggest that from the point of view of the arthritic patient there is a real need for a limited number of such special units, where the problems of treatment can be studied and research carried on under unified control. It must be borne in mind, however, that the development of such units in America presents a much more difficult problem on account of the high cost of hospital care and the limited number of free beds. In a number of the teaching hospitals State grants are available which enable selected patients to be admitted for long-term study and treatment. Twenty such State beds are available in the Massachusetts General Hospital, Boston, in the arthritis service directed by Dr. Walter Bauer.

An exception to the general rule is the Robert Breck Brigham Hospital, Boston, where some 30 beds are available in the public wards for rheumatic patients. Even in this specially endowed hospital, rising costs have led to a reduction in the number of beds, and there are few non-paying patients even in the public wards. Application for admission to this hospital is made by the patient's own doctor, who gives details of the clinical and financial status of the patient. Patients are followed up after discharge in home service clinics run by the eight physicians on the visiting staff. This hospital provides a very complete service for rheumatic patients, including orthopaedic and surgical care, and it appears to be the only institution of its kind in America.

Arthritis and Rheumatism Foundation

Mention must be made at this point of the Arthritis and Rheumatism Foundation, which was incorporated in 1948 with the following purposes: "To formulate and carry out a national program of research and education in the rheumatic diseases in order to discover the causes and to develop methods of prevention. To promote on the local level more effective methods of diagnosis for sufferers, more facilities for treatment and for training physicians in rheumatic diseases. To provide systematic re-training and rehabilitation for those disabled by rheumatic diseases."

By 1950 eighteen Chapters of the Foundation had been organized throughout the nation and appeals for funds successfully launched. In New England considerable progress has been made by the Chapter in organizing

*Report on tour of rheumatic centres in the U.S.A. from May 30 to June 28, 1951. The tour was made possible by a World Health Organization Fellowship.

a programme of information for physicians, in the form of lectures and clinical demonstrations and the distribution of scientific literature; in the award of clinical fellowships to doctors practising in more remote districts to enable them to pursue special studies at a teaching centre for three months to a year; in providing financial support and professional service to arthritis clinics in country districts; and in aiding patients to obtain admission to hospital. The activities of the New England Chapter are guided by a whole-time medical director, who is advised by a medical and scientific committee. If Chapters in other States are meeting with a similar degree of success, the activities of the Arthritis and Rheumatism Foundation will do much to better the lot of sufferers from rheumatism in the States, who might otherwise experience considerable difficulty in obtaining early and adequate treatment.

Interest in Chronic Rheumatism

The advent of cortisone and A.C.T.H. has done much to arouse interest, both lay and medical, in chronic rheumatism in the United States, and considerable sums of money are now available for research. It is felt, however, that, owing to the structure of hospital organization and the rising cost of in-patient treatment in the States, there are too few beds available for severely affected patients requiring more detailed study and prolonged treatment. The administration of cortisone by mouth has proved very effective in the suppression of symptoms even in severely incapacitated patients. Oral cortisone is now available on prescription throughout the country, and it is felt that its indiscriminate use on an out-patient basis may temporarily obscure the need for more adequate provision of hospital accommodation for the rheumatic diseases. The limitations and risks of long-term cortisone therapy will be discussed later, but it may be said at this point that the hopes aroused by the first reports of its use in rheumatoid arthritis, that an effective means of controlling the disease had become available, have not been confirmed by experience gained during the past two years.

In comparing the state of affairs in Britain with that in the United States, it is felt that the development of a limited number of special units in connexion with teaching hospitals and universities under the control of full-time physicians, which is taking place at present in Britain, is on the right lines. In the States there is as yet no evidence that such a policy is likely to be developed, for the reasons given above, although the activities of the Arthritis and Rheumatism Foundation will undoubtedly improve the facilities for the diagnosis and treatment of the rheumatic diseases.

A.C.T.H. and Cortisone in the Rheumatic Diseases

Since the report by Hench and his colleagues in the Mayo Clinic of the dramatic suppression of symptoms following the administration of compound E (cortisone) or adrenocorticotrophic hormone (A.C.T.H.) to patients suffering from rheumatoid arthritis a vast literature on the subject has accumulated. No attempt will be made to review the innumerable papers that have appeared in medical journals since 1949. It will suffice to state that the original claims have been fully substantiated by many workers all over the world. That overdosage effects of greater or lesser significance appear sooner or later in about 50% of cases was made clear by Hench in his original and subsequent papers.

The object of the present inquiry was to ascertain the opinions of experienced physicians who had been using the hormones for the past two years on their ultimate place in the treatment of the rheumatic diseases. This question was discussed in detail with many workers, and, although considerable divergence of opinion exists both on the therapeutic value of A.C.T.H. and cortisone and on the mode of action of the adrenal steroids, an attempt will be made to review the position as fairly as possible.

First, it is universally agreed that neither A.C.T.H. nor cortisone has any curative action in disease, although in certain self-limiting conditions symptoms may apparently be completely suppressed until the disease has run its natural course—for example, in acute rheumatic fever. It is also agreed that, if high doses of either hormone are required for any length of time, overdosage effects will eventually appear. Withdrawal of either hormone is followed in most cases by a return of symptoms. In a smaller proportion of cases cessation of the administration of cortisone is followed by the severe and prolonged "post-cortisone withdrawal syndrome," which will be discussed later. With these general considerations in mind, experience of the use of the hormones in rheumatoid arthritis will be considered in more detail, as a large number of cases have now been studied in those centres where long-term trials have been run. The majority of patients have received cortisone by parenteral injection, or, more recently, by mouth, as the injection of A.C.T.H. four times daily renders its use a much less practical procedure outside hospital.

Long-term Use of Cortisone in Rheumatoid Arthritis

Rheumatoid arthritis varies in its clinical course. In the earlier stages of the disease spontaneous remissions are not uncommon, but most cases relapse and run a subacute or chronic course over many years. The rapid suppression of pain and restoration of mobility and function which followed the administration of cortisone demonstrated for the first time that symptoms could be effectively controlled even in the active stages of the disease. It was natural to think that a really effective method of treatment had become available in a disease which had previously proved singularly resistant to all forms of therapy. Experience has shown, however, that various overdosage effects may complicate the picture during prolonged administration of cortisone. Their incidence is high when the daily dose is 100 mg. or more. Under 50 mg. a day these effects become much less common. Unfortunately, only a small proportion of patients derive significant benefit in the lower dose range (25–50 mg. daily).

In most of the American series of cases some 50% have shown side-effects of one kind or another. The significance of these effects varies. Some are of little importance and are readily accepted by patients for a time without complaint—for example, mild oedema due to salt retention, rounding of the face, increased hair growth, striae, acne, disturbance of menstruation, nervousness, mild depression, headaches, dizziness, blurring of vision, tachycardia, exhaustion, insomnia, obesity due to increased appetite. In long-term administration, however, the persistence of one or more of these minor effects may so disturb the patient as to necessitate withdrawal of the hormone. Other effects are more serious. Signs of intercurrent infection may be masked. Although there is no clear evidence that cortisone inhibits the production of antibodies, it may lower the resistance of the tissues to invasion by pathogenic organisms and their toxins. This may be directly related to its ability to inhibit or suppress inflammatory reactions which are likely to form an important part of the body's defence mechanism. Cases have been reported in which such inhibition of the symptoms of infection have had serious consequences, and this constitutes one of the real hazards of cortisone therapy.

Activation of quiescent tuberculous lesions has occurred. Massive haemorrhage from the gastro-intestinal tract and perforation of peptic ulcers have been reported from several centres. In older patients fractures of the long bones and collapse of vertebral bodies constitute a real risk. Thrombo-

phlebitis, pulmonary infarction, coronary thrombosis, and major psychotic episodes are among the other less frequent but more serious complications which may occur. In the individual case which has previously been adequately controlled the underlying disease process may become more acute, and symptoms may reappear which necessitate an increase in dose from a safe to a more dangerous level. Warning of such an event may be given by an increase in sedimentation rate or a rise in circulating eosinophils, although this occurs in a fairly high proportion of long-term cases without recurrence of symptoms. In other cases a progression of the damage in the joints has been demonstrated radiologically when symptoms have remained under adequate control. It would appear, therefore, that, although pain and stiffness may be abolished with a corresponding increase in functional activity, the disease process may not be completely arrested. Under these circumstances increased function, unrestrained by pain, may cause further articular damage, the effects of which may be appreciated only at a later date.

Complications of Cortisone Withdrawal

If the administration of cortisone has to be stopped for any of the reasons given, or because of financial considerations, a significant proportion of cases suffer from what has come to be described as the "cortisone withdrawal syndrome." Symptoms may appear within a few days of withdrawal or be delayed for a week or two. These patients complain of profound weakness and exhaustion, generalized aching pain and stiffness in joints and muscles—no longer relieved by the usual doses of analgesics, made worse by activity and relieved by sleep—anorexia, mental depression, and weight loss. Similar symptoms occur after partial adrenalectomy in Cushing's disease, but do not appear to be directly related to suppression of the adrenal cortex. The electrolyte pattern may be normal and the response to A.C.T.H. adequate long before symptoms disappear, which may be a matter of weeks or even months. Excretion of 11-oxysteroids may be within the normal range. A possible explanation may be that the tissues become conditioned to a high level of circulating steroids, and symptoms arise as a result of a relative deficiency. This view is confirmed to some extent by the fact that withdrawal symptoms rarely appear unless cortisone has been given for several months. When this syndrome is accompanied by an acute exacerbation of the rheumatoid process the adverse effect on the patient's physical and mental condition may be very severe.

A much rarer complication of cortisone withdrawal has been the appearance, in several cases of rheumatoid arthritis, of the signs and symptoms of disseminated lupus erythematosus or periarteritis nodosa. None of these cases have as yet been reported in the literature, but several have been examined personally, and the case records of others have been studied. This may be further evidence in support of the possibility that in certain instances cortisone may render the tissues more vulnerable to some unknown tissue-damaging agent which may be present in the collagen group of diseases. Too much significance should not be attached to these clinical observations at this stage, but certain experimental evidence would seem to point in the same direction.

A Conservative Attitude

The accumulated experience of the use of cortisone in rheumatoid arthritis during the past two years in America has led physicians to adopt a much more conservative attitude towards its routine employment. It is no longer regarded as a substitute for other forms of treatment. It has been found that only in about one-third of the patients started on treatment can a useful suppressive effect be maintained at a dose level which causes no undue disturbance. Complete suppression of symptoms is no longer aimed at. The dose is adjusted to control pain and stiffness to an extent which will enable a reasonable functional level to be maintained. The hormone is used as an adjunct to other forms of treatment which by themselves have failed to restore a useful degree of function. The basic regime of general supportive measures, physiotherapy, gold, and rest splints is tried for several months before cortisone is prescribed, and is continued along with cortisone. The presence of significant articular damage will limit the value of the hormone, and preference is shown for early cases in which the pathology is still potentially reversible and in which a smaller dose will suffice.

The high initial suppressive doses (200–300 mg. daily) are no longer used in many centres, including the Mayo Clinic, because it has been found that patients who have experienced complete relief in the early stages of treatment find it difficult to accept even a partial return of symptoms when the dose is lowered to a safe maintenance level. This has led to difficulty in controlling the dose level in out-patients, who may occasionally obtain additional supplies at high cost from black-market sources. The disappearance of the initial euphoria may also cause psychological disturbance both in the patient and in his relatives. The more general practice is to start with between 50 and 75 mg. daily and adjust the dose up or down during the first weeks of treatment. In those patients in whom the useful dose is unduly high, treatment can be stopped before troublesome side-effects appear. Many methods of administration have been tried—intermittent and continuous courses of cortisone alone, cortisone combined in various ways with A.C.T.H., both continuous and intermittent, reduction of the frequency of administration to once, twice, or thrice weekly, low continuous maintenance dose with occasional booster doses, and so on, but no technique has been evolved to date by which satisfactory control can be maintained in all cases without side-effects. Individuals vary widely in their requirements, and alterations in dose may often be necessary in the same patient.

Precautions in Use

Oral cortisone is now the most commonly used form. Rapid absorption from the alimentary tract takes place, and tablets (25 mg.) are given three or four times a day, preferably after meals ; otherwise the rapidity of absorption may cause nervousness and inability to concentrate. The dose by mouth is generally the same as that given by intramuscular injection, although in a few patients more is required to produce the same effect by the oral route as was previously obtained by injection. Cortisone is now available in a form which can be given by intravenous injection, and trials of this preparation are under way at the present time. It was hoped that, given by this route, the effect might be more prolonged. These hopes have not been fulfilled. The therapeutic effect is good, but is not sustained.

Cortisone has been given in combination with various other substances, such as gold, para-aminobenzoic acid, ascorbic acid, insulin, oestrogens, and testosterone. No definite conclusion can be reached at the present time, but on the whole such combinations have been disappointing. Claims have been made on behalf of insulin and para-aminobenzoic acid, but these require confirmation. The administration of oestrogens may minimize side-effects, especially in post-menopausal women. Negative nitrogen balance can be corrected by testosterone, but this is seldom necessary in patients who are not on a restricted diet. Restriction of salt and the administration of potassium chloride may correct disturbances of the electrolytic balance. Antibiotics should be used in adequate doses when infection is suspected in a patient receiving cortisone. These various precautions, combined with close clinical supervision, render the use of cortisone less hazardous, but it has become clear that the use of the hormone in the long-term control of the symptoms of rheumatoid arthritis is not as yet a practical procedure. The approach must still be experimental, as has been repeatedly emphasized by Dr. Philip Hench.

If further evidence be produced to show that its effect is only to suppress symptoms, leaving the underlying disease process unchecked, then the attitude of the medical profes-

sion towards its use in inflammatory diseases of unknown aetiology may have to be revised. In rheumatoid arthritis in particular, in which marked increase in the functional use of the affected joints follows the administration of cortisone, the possibility that articular damage may be increased rather than reduced must receive careful consideration. The answer to this question can come only from detailed follow-up studies of patients given cortisone over long periods.

Some observers had noted the fact that prolonged remission tended to occur most often in those patients who had received high doses. On this basis the effect of 500 mg. of cortisone daily has been tried on a number of cases for periods of 14–30 days. The results in terms of duration of remission following treatment have been encouraging, but all patients have eventually relapsed, and it is very doubtful if such high doses are justifiable unless clear evidence is obtained that there has been induced a fundamental alteration in the course of the disease.

The answers to many of the problems discussed will come from the continuation of the carefully controlled studies which have been going on in America during the past two years, and for a shorter period and on a smaller scale in Britain.

Short-term Use of Cortisone

Cortisone can be given in effective doses over short periods without undue risk, and in certain circumstances such a use of the hormone may serve a valuable purpose in rheumatoid arthritis. In severely ill bedridden patients running a progressively downhill course, and where the disease cannot be controlled by other means, cortisone may be used to reduce pain and spasm sufficiently to allow other forms of treatment to be applied more effectively. Deformities due to muscle spasm may be corrected and the position maintained by splints after cortisone is stopped.

Where deformities have developed owing to soft-tissue contractures, cortisone may render their correction by manipulation easier and damp down the flare which sometimes follows this procedure. Cortisone may be similarly useful when orthopaedic surgery is indicated in more advanced cases. Synovial inflammation and congestion can be lessened. Post-operative complications are reduced by the fact that physical methods of treatment can be applied early. Wound-healing is not significantly delayed by the doses required to secure these effects. Antibiotics are used routinely in these cases, and wounds are carefully watched for signs of infection.

Short courses of cortisone may thus prove a useful aid in the rehabilitation of crippled patients.

Intra-articular Injection.—That cortisone can act when applied locally has been clearly demonstrated in inflammatory conditions of the eye. Suppression of pain and swelling has followed its injection into the affected joints in rheumatoid arthritis: 25–50 mg. of cortisone acetate suspension has been used. The beneficial effect lasts four to five days on an average, but may be maintained in isolated cases for two to three weeks. Unfortunately, repeated injections appear to cause irritation and the joint tends to deteriorate. Compound F has proved much more satisfactory for this purpose. Mention will be made of this later.

Compound F.—In recent months increasing amounts of compound F have become available in the States for clinical trial. Up to date, it appears that there is no fundamental difference in the clinical effects of E and F. Occasionally it has been found that more F is required than E to produce the same effect, but this is by no means always the case. Side-effects are the same. Enough experience has not yet been gained to reach more than tentative conclusions regarding the value of compound F as compared with E when given by injection or by mouth, but for local injection into joints compound F seems much more satisfactory. Repeated injections can apparently be given without ill effect, with satisfactory suppression of local symptoms, and with no effects due to absorption from the joint. This method of treatment may prove of real value, especially in cases crippled by pain and swelling in the weight-bearing joints. A weekly injection of 25–50 mg. is adequate in most cases. Much more experience is required before the real value of this mode of treatment can be assessed, but the preliminary results are encouraging.

A.C.T.H in Rheumatoid Arthritis

From the therapeutic point of view, the action of A.C.T.H. in rheumatoid arthritis is similar to that of cortisone. The cortex of the adrenal gland is stimulated to produce large amounts of steroid hormone, probably compound F. A.C.T.H. is quickly destroyed, and to maintain its effect injections, subcutaneous or intramuscular, must be given every four to six hours. Attempts to produce the hormone in a vehicle which would prolong the time of absorption have not yet been completely successful. In several American clinics patients or their relatives are taught to give the injections at home, but abscesses often develop, and may remain unsuspected because of inhibition of the normal inflammatory reaction. These abscesses may be very slow to heal. More recently A.C.T.H. has been given by slow intravenous drip over a period of 8–12 hours (20–50 mg. in a pint (570 ml.) of saline). This method of administration, possible only in hospital, is more economical of material and is said to produce maximal adrenal stimulation. It was hoped that more prolonged remission of symptoms might follow, but experience to date has not been very promising in arthritis. Patients have relapsed within a few days of the cessation of daily intravenous A.C.T.H. given for two to three weeks.

Side-effects are similar to those which occur during the administration of cortisone, but there is a greater tendency for salt retention and potassium loss to occur. Clinicians have noted considerable differences in potency between batches, although there has been little variation in the results of the ascorbic-acid-depletion test of Sayers and Sayers. It may be that this test is not a reliable guide to the effectiveness of A.C.T.H. in the clinical field. These variations and the necessity for several injections daily have limited the use of A.C.T.H. in long-term treatment of rheumatoid arthritis. Suppression of symptoms is attained more quickly by A.C.T.H., and where the rapid effect is required A.C.T.H. may be preferred to cortisone. These circumstances will rarely arise in rheumatoid arthritis, but may be important in more acute diseases such as rheumatic fever. Astwood, in Boston, has evolved methods for obtaining a much purer form of A.C.T.H., and he states that some patients can be maintained in remission by a total daily amount of about 1 mg. given in three doses. Possible future developments in the use of A.C.T.H. may depend upon the availability of purer forms, prepared as long-acting substances which will reduce the number of injections required. In general the factors limiting the long-continued use of cortisone are also applicable to A.C.T.H. For short-term administration, where a rapid suppression of symptoms is the main object, A.C.T.H. is the more suitable of the two.

Research

To a person from Britain visiting centres of research in the United States the first impression is one of awe at the scale on which modern techniques are being applied to the study of basic problems in health and disease. In many university centres large laboratory buildings have been built since the war, or are in process of erection. All the basic sciences are represented in these research institutes. Equipment is on the most lavish scale, and personnel are of the highest calibre. The policy in regard to clinical research varies. In some centres the laboratories are primarily devoted to research on clinical material. In others fundamental research is given the first priority. In the latter it is felt that if the individual worker is left entirely free to pursue his basic studies there is a sufficiently strong possibility that discoveries will be made which will illuminate problems in the clinical field.

The direction of research may be in the hands of the pure scientist with an interest in medical problems, or in those of a doctor with additional scientific training. This dual approach will be fruitful in bridging the gap so commonly present between clinical and basic research. On the other hand, modern scientific techniques have become so exacting, and equipment so costly, that there is a real danger of the young scientist, whether he be a doctor of medicine or not, becoming tied to a narrow and possibly unproductive line of investigation which leaves him little time or opportunity for original thought. As someone has said, learning the technique of electron microscopy is like catching a bull by the tail. The danger that the necessity for acquiring difficult techniques may exact too great a toll on young research workers is more real in America than in Britain, where finance places distinct limits on the amount of apparatus available.

This problem has been met to a certain extent in the States by training technicians to a high degree of competence and paying salaries of an order appropriate to their skill; but this solution is only a partial one, and tends to produce an undue reliance on laboratory results reported by technicians who have no knowledge of their significance and who are not always fully aware of the limitations of the methods they have been trained to use. This point is well illustrated in connexion with the published results of work on urinary steroid excretion. The methods used in different laboratories differ fundamentally, and in actual fact no reliable techniques have as yet become available in this field, although a perusal of literature gives rise to the impression that estimations of 11-oxysteroids, 17-ketosteroids, etc., are now a matter of routine in many centres. These criticisms are of a very general nature and are not intended to detract in any way from the value of the vast amount of useful work going on in American laboratories and research institutes.

It is not intended to review in detail the work of individual groups, but merely to survey the general trend of research in the field of the rheumatic and allied diseases in America, within the limits of what can be learnt from a short visit.

Mode of Action of the Adrenal Steroids in Rheumatic Diseases

It is an undoubted fact that experience in the use of A.C.T.H. and cortisone in the clinical field has far outrun the advance in knowledge of their mode of action in the rheumatic diseases. It is a reflection of the difficulty of the problem that two years' intensive research in many centres all over the world has shed very little light on the fundamental mechanism whereby adequate amounts of the steroid hormones, whether exogenous in the form of compounds E and F, or endogenously produced by stimulation of the adrenal cortex, can largely suppress the manifestations of the disease process. The hope that a study of the action of these hormones would lead to an unravelling of the aetiological problems of the rheumatic diseases has not as yet been fulfilled. It has become clear that their action in rheumatic diseases is in no way specific. It seems to depend upon a suppression of the inflammatory process, and it has been shown that inflammation arising from many diverse agents can be similarly reduced. In other words, the action of the adrenal steroids in this respect seems to depend on a reduction of tissue reaction to injury, and bears no apparent relationship to the nature or origin of the agent responsible.

This anti-inflammatory effect can apparently be dissociated from most of the other known effects on the physiological processes of the body. It does not depend on the changes induced in electrolyte pattern, carbohydrate, protein, or fat metabolism. There is no evidence that the rheumatic diseases are associated with any deficiency in adrenal hormones. In fact, evidence of hormonal excess usually becomes evident before symptoms are adequately controlled. The action of the cortical hormones that appear to be important in relation to their therapeutic effect is their apparent ability to inhibit or damp down the reactivity of mesenchymal tissue, which is the site of the primary injury in the rheumatic group of diseases. The fact that they are also effective in allergic or hyperimmune states suggests that one possible mode of action may be through their effect on antibody–antigen reactions. No clear evidence that such reactions are involved in the pathogenesis of rheumatic disease has yet become available.

In summing up, it can be said that, although a vast amount of knowledge of the action of the adrenal steroids on the physiology of the body has been gained since A.C.T.H. and cortisone became available, we are as yet completely ignorant of how they act in disease. Certain lines of investigation may prove productive, and some of these are discussed below in a little more detail.

Action on Immune Response

A good deal of the evidence regarding the action of the adrenal steroids on immune response is conflicting. Early work suggested that circulating antibody was increased by cortisone, by release from lymphoid tissue undergoing involution. More recent work has failed to confirm these earlier results. It seems that antibody production may be diminished under certain circumstances, but the union of antibody and antigen is not prevented. A further possibility is that the action of some product of the union of antigen and antibody is inhibited. A possibility that is in the minds of some workers is that proteolytic enzyme systems may be activated by antibody–antigen union, and that the action of the steroid hormones is to inhibit this activation. The whole subject is under intensive study in a number of laboratories and, although some interesting results have been the subject of preliminary reports, no definite proof of any of the theories outlined has as yet been obtained.

Action on Mesenchymal Tissue

It is well known that in pathological states of hyperadrenalism striae appear and wound-healing is delayed. As some degree of hyperadrenalism appears to be necessary to induce remission in the collagen group of diseases, investigation of the effect of A.C.T.H. and cortisone on connective tissue has been undertaken by a number of workers. Satisfactory evidence that fibroblastic activity is markedly depressed has been obtained in experimental animals. This so-called depression of reactivity to injury might be related to the suppression of symptoms of inflammation. On the other hand, wounds have healed satisfactorily in patients receiving doses of cortisone adequate to maintain them in good clinical remission. Cortisone has been used to facilitate orthopaedic surgery in rheumatoid arthritis without causing undue delay in wound-healing.

Little change in the histology of nodules excised before and during cortisone administration has been noted beyond a reduction in cellular infiltration. It is not yet clear, therefore, whether the action of steroids in depressing the reactivity of connective tissue to injury is in fact the explanation of their action in diseases of the collagen group.

Research into the structure of collagen, ground substance, and basement membranes by electron microscopy and microchemical methods is now beginning to provide information about the function and relationship of these components of mesenchyme. Increased knowledge of their chemical structure and physical properties, together with detailed studies of the changes induced by the steroid hormones, may well provide information of fundamental importance to the elucidation of the mode of action of cortisone in the collagen diseases. Due credit must be given to the scientists who are at present pursuing this laborious, exacting, and relatively undramatic type of research in many centres in America.

Adrenal Function in Rheumatoid Arthritis

It has already been stated that no unequivocal evidence of adrenal insufficiency has been obtained in patients suffering from rheumatoid arthritis. On the other hand, some

evidence of abnormal adrenal function has been advanced by Dobriner and his colleagues in the Sloan-Kettering Institute, New York. In comparing the steroid-excretion pattern of normals with patients suffering from rheumatoid arthritis, a striking qualitative difference has been demonstrated. Two compounds—17-hydroxy-pregnanolone and 11-hydroxy-etiocholanolone—were present in the urine of the arthritic subjects. The former abnormal metabolite has been demonstrated in cases of adrenal tumours and adrenal virilism. The latter has been found in the urine of patients with neoplastic disease. On this evidence it is tentatively concluded that abnormal function of the adrenal cortex may play a part in the pathogenesis of rheumatoid arthritis. The administration of both A.C.T.H. and cortisone causes these abnormal metabolites to disappear. This suggests the possibility that they may arise, not from an abnormal function of the adrenal cortex, but from an altered metabolism of adrenal steroids in the peripheral tissues. Much more work is necessary before a final conclusion is reached, but the results of further investigations by Dr. Dobriner and his staff will be awaited with the greatest interest.

Selye has advanced the hypothesis that an excessive output of mineralo-corticoids by the adrenal cortex may be of importance in the causation of diseases of the collagen group. He bases his theory on the demonstration in rats sensitized by the removal of one kidney, high salt intake, and D.C.A. of lesions resembling those of nephrosclerosis, periarteritis nodosa, rheumatic fever, and rheumatoid arthritis. In more recent reports he claims to have demonstrated that this suggested adrenal imbalance may be caused by an overproduction of somatotrophin or growth hormone.

No direct evidence of the existence of such a hormonal imbalance has been demonstrated in human patients. If this were correct, the administration of desoxycortone acetate (D.C.A.) to patients suffering from rheumatoid arthritis should make the disease worse. This is not the case. There is no evidence of major alteration in the electrolyte pattern in these patients, and corticosteroid levels in the urine tend to be lower than normal. D.C.A. does not oppose the anti-inflammatory action of cortisone, and stimulation of the adrenal cortex, which might be expected to cause an exacerbation of symptoms, abolishes them as effectively as cortisone. Selye suggests that A.C.T.H. may stimulate the secretion of glucocorticoids while somatotrophin may stimulate the gland to produce mineralo-corticoids, thus explaining the apparent paradox. No satisfactory evidence in support of his contention is as yet available in human subjects.

Further studies of the production and metabolism of the adrenal steroid hormones in health and disease are obviously of the greatest importance for a more complete understanding both of fundamental physiological processes and of their possible role in disease states.

Role of the Spleen

Ungar, working in the rheumatic fever research unit in Chicago, suggests that the spleen may be important as an endocrine organ. He claims that two substances, splenin A and splenin B, are produced by the spleen in certain circumstances. A small amount of splenin A is normally present in the blood, but no splenin B. He believes that splenin A is produced by the action of the adrenal hormones on the spleen and that it is important in the defence mechanism of the body. It probably acts by acceleration of the neutralization of proteolytic enzymes. He states that some of the effects of cortisone are abolished by splenectomy. Splenin B appears in the blood only in disease states, including rheumatic fever and rheumatoid arthritis. Splenin A can be synthesized by the incubation of ascorbic acid and a suspension of spleen tissue, and isolated in a crystalline form.

Ungar postulates that splenin A may be of therapeutic value in rheumatic fever, and clinical trials are being made at the present time. Preliminary results, he states, have been encouraging, and trials on a larger scale await the preparation of a more adequate supply of splenin A, which is now being made commercially. If the anti-inflammatory effect of cortisone depends upon its action in stimulating the production of splenin A, then the undoubted fact that cortisone is effective when applied locally is difficult to explain. It is also true that A.C.T.H. and cortisone produce their effects in patients in whom the spleen has been removed, but a possible explanation might be the development of accessory spleens. Whatever the truth, the results of more extensive clinical trials of splenin A will be of great interest.

Pleuropneumonia-like Organisms in the Collagen Diseases

At the Atlantic City Conference of the American Rheumatism Association a paper was read by Wickelhausen suggesting that organisms of the pleuropneumonia group might play a part, as living antigens, in the aetiology of certain of the collagen diseases. It was claimed that these organisms could be demonstrated in the genito-urinary tract in a high percentage of cases, although they could rarely be recovered from the joints in cases of rheumatoid arthritis. On this basis, clinical trials of the newer antibiotics have been run. "Terramycin" is said to have proved the most effective. The clinical response may be of three types: (1) gradual improvement; (2) reactivation of symptoms after withdrawal of the drug; and (3) severe exacerbation after a single dose —thought to be due to destruction of the organisms, with release of antigenic material. The method of treatment adopted has been to give the antibiotic every three days and to control exacerbations in the intervals with cortisone or albumin, which reduces hypersensitivity. Careful adjustment of the dose of antibiotic is required if the best results are to be obtained.

It was felt at the conference that this report was of considerable interest, but that much further work was required before accepting the idea that the pleuropneumonia-like organisms were in fact the living antigen in collagen diseases. Newer cultural methods have shown these organisms to be present in a high proportion of healthy people, although this does not rule out the possibility that in certain circumstances they may assume a pathogenic role.

Blood Flow in Joints

Hollander and his colleagues in Philadelphia have been investigating the effect of intra-articular injections of compounds E and F on joint temperature, using copper-constantan thermocouples mounted in a needle. Compound F has been found more effective than compound E in causing a fall in temperature, which becomes evident within 24 hours and corresponds in general to a suppression of symptoms in the joint. That this effect is a local one is evidenced by the observation that the temperature in the other knee, used as a control, was unaffected. Such observations on the local changes induced by the adrenal steroids are of undoubted value in reaching an understanding of their mode of action.

Pathogenesis of Gout

Wolfson and his colleagues in Ann Arbor claim to have demonstrated an abnormally low output of 17-ketosteroids in patients suffering from gout, although this disease is most common in males in the absence of any other signs of hypogonadism. They postulate that androgenic function in these patients is maintained by an abnormal male sex hormone, originating from the adrenal cortex. The role of this hormone in the pathogenesis of gout may depend upon its ability to evoke hyperuricaemia. That the action of the hormone is opposed by the glucocorticoid hormones is suggested by the suppression of symptoms by the administration of A.C.T.H., and the precipitation of an acute attack on withdrawal, when the level of glucocorticoids temporarily falls below normal. Attacks of gout not uncommonly follow stress, and Wolfson postulates that the gouty patient

responds inadequately to these situations in terms of 11-oxysteroid output, and a relative deficiency of these hormones follows, preparing the way for the acute attack.

There are a good many theoretical objections to this theory, but such studies of the hormonal pattern in gout may well lead to a better understanding of this disease and provide important information regarding the function of the adrenal steroids.

Chemical Structure of Fibrinoid

Fibrinoid change in connective tissue has been regarded as the characteristic lesion in diseases of the collagen group, thus implying that fibrinoid was in some way derived from collagen or its precursors. Kantor and his associates in New York University have now been able to show by chemical and histological methods that this substance is in fact non-collagenous in origin. This observation may be of considerable importance, as it throws doubt upon the view that changes in the structure of collagen form the basis of the pathological lesions in this group of diseases. This is a good example of how the use of combined chemical and histological techniques may provide more accurate information than more conventional methods. This more dynamic approach to the elucidation of the nature of pathological change is likely to have an increasing application, as histochemical techniques are combined with electron microscopy.

Conclusion

These brief notes on research in the field of rheumatism are far from complete, but may serve to illustrate the diversity of approach and the increasing application of the disciplines of the basic sciences to the solution of problems in the field of medicine. It becomes increasingly obvious that, with advancing knowledge, opportunities for individual research are becoming more limited. The team of scientists, representing many fields of knowledge, has largely replaced the lone worker in the small laboratory. Opportunities for the brilliant individualist still exist, but the co-ordinated activities of a group with the command of many techniques seem likely to contribute more to the store of knowledge in the long run. The place of the clinician in such a team must be clearly defined. There is a tendency at the moment to relegate him to the background along with the patient from whom material for study is obtained. Unless he has additional training in some scientific field, he finds it difficult to get on terms with his laboratory colleagues. It would be unfortunate if this trend were to develop further, as the clinician must ultimately relate new knowledge to the practical problem of applying it to the treatment of disease in the human patient. The clinician must exert himself to grasp at least the principles of scientific methods used in research, and the scientist must unbend enough to make his results and their implications comprehensible to his clinical colleague. Both must consider the best interests of the sick patient when research has produced some new approach to the treatment of his disease.

The Ministry of Health has asked the Liverpool Blood Transfusion Service, together with the Manchester and Cardiff Services, to collaborate with the Medical Research Council in a survey of patients who have received transfusions of irradiated plasma or small-pool plasma, in order to compare the incidence of homologous serum jaundice in the two groups. At present irradiation with ultra-violet light is the most promising method of sterilizing plasma. A control series of cases receiving only blood will also have to be surveyed. It is proposed to provide each hospital in the region with either irradiated or small-pool plasma, but not with both, and to follow up patients who have received either after a period of five months. The survey will last three years.

THE INVOLUTION OF THE CERVIX*

BY

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Are post-partum erosions normal in the involuting cervix and do they persist if untreated? The question is important, since the common treatment of erosions after delivery rests on the assumption that they are pathological and give rise to symptoms such as leucorrhoea and backache (Browne, 1946).

Clinically, the cervix often appears to have reached its nulliparous state six weeks after delivery, but a biopsy will show that the changes of pregnancy are still obvious—for example, the stroma is cellular, vascular, and oedematous, while the glands are so numerous as to appear as a honeycomb (Stieve, 1927; Fluhmann, 1948; Murphy and Herbut, 1950). In other words, from a histological point of view the cervix, six weeks after delivery, is still in a pregnant state, although involution is proceeding.

In this clinical and histological study, observations on the post-partum cervix were followed by observations on post-natal erosions which were allowed to heal without treatment. The object was to ascertain if the process of involution in cases with erosion differed materially from the normal post-partum case.

Methods of Investigation

A total of 262 patients were investigated: 121 with post-partum erosions and 141 without post-partum erosions (controls).

The following investigations were carried out approximately six weeks after delivery. First, in every case I completed a standard case-sheet with a detailed description of symptoms such as leucorrhoea and backache. Vaginal smears were then taken and a "Cusco" speculum was passed. A diagram was made outlining the portio and giving details of the amount and type of cervical mucus. The mucous plug was then removed and an endocervical specimen of mucus was taken by an ordinary throat swab for microscopy. The physical properties of the cervical mucus were observed by attempting to draw the specimen out into threads (*Spinnbarrkeit*). A laryngeal punch was then used to obtain squamo-columnar biopsies, and finally the bleeding area was treated with a nasal-wire cautery.

An attempt was made to correlate *simple* erosions with symptoms such as backache and leucorrhoea, and therefore complications such as parametritis and fixed retroversion of the uterus were excluded by bimanual examination.

Clinical Results

1. Backache Six Weeks After Delivery

	Erosions	Controls
Total number of patients	121	141
Backache present	43 (35%)	26 (18%)
Inadequate information	14	38

Backache was present in 35% of patients with erosions and in 18% of those without erosions. It became obvious after taking a careful history from the patient and examining her back, testing its mobility, and so on, that the cervix could

*Preliminary report, read before the Birmingham and Midland Obstetrical and Gynaecological Society, Nottingham, October 13, 1950.

not possibly be the source of the pain. If the patient, for instance, located the pain as being between her shoulder-blades, if rest relieved her pain, or if her backache amounted to stiffness prior to exercise, she was excluded. Correction by this method left 18% of patients with backaches which could possibly be related to an erosion and 2% of controls. In the erosion group nine cases were included in which data concerning localization, the effect of movement, etc., were not available, so that 18% is almost certainly too high. Moreover, by following the progress of patients with backache it became more and more obvious that cervical erosions and backache could not be correlated. First of all, backache becomes uncommon after four to five months, and, secondly, its persistence does not depend on the persistence of a post-natal erosion. For example, of nine patients with persistent backache, six had healed and three had unhealed cervical erosions five months after delivery. Vice versa, persistent erosions five months after delivery were not accompanied by a high incidence of backache.

Although it is admitted that a widely split cervix with an obstetric laceration running up the lateral fornix to an indurated and tender parametrium can cause low backache (Young, 1938; Barns, 1948), it seems clear from our observations that cervical erosions, *per se*, do not give rise to backache. It follows that routine cauterization of cervical erosions for the cure of backache is unwarranted.

2. Post-natal Leucorrhoea

Considering the enormous changes in the genital tract during childbirth, it is not surprising that some women should have a vaginal discharge six weeks after delivery. It is a mistake, however, to observe mucus at the lower cervix and to assume without further study that you have discovered the source of discharge. Moreover, if removal of the mucus or mucopus at the portio uncovers an erosion it may be wrong to assume that this is a diseased cervix producing abnormal quantities of mucus or mucopus. In fact, before diagnosing leucorrhoea of cervical origin it is essential to *prove* that the cervix is the source of discharge.

Incidence of Vaginal Discharge.—Six weeks after delivery 34 (28%) patients with erosions complained of vaginal discharge; 21 (17%) had only traces. However, 25 (18%) post-partum controls also had vaginal discharge and 20 (14%) had traces. By elimination of traces of discharge, lochia, trichomonas vaginitis, and so on, the incidence of leucorrhoea is corrected to 17% for erosions and 9% for controls. Six weeks after delivery, therefore, 17% of patients with erosions complained of discharge, but this is not remarkable when the normal incidence is 9%. Moreover, by studying the clinical findings at the cervix and comparing them with the patient's symptoms of discharge, we shall endeavour to show that the cervix is seldom the source of discharge.

The Post-natal Mucous Plug

The physical properties and the cell content of the plug of mucus at the post-natal cervix vary greatly from case to case. There is, however, no typical mucous plug commonly seen in erosions which is not equally common in post-natal controls, so that marked erosions may secrete traces of clear mucus and, vice versa, a normal cervix may secrete abundant mucopus.

Six-weeks Cusco Examination

Cervical Mucus	Erosions	Controls
Opaque plug	44	59
Trace	15	3
Translucent	30	29
Absent	17	37
Inadequate record	15	13
	121	141

Six weeks after delivery, therefore, the cervical mucous plug is usually bulky but tenacious, while an endocervical specimen practically never resembles "mid-cycle" mucus—that is, it seldom pours out as a crystal-clear liquid and it cannot be pulled into threads. Perhaps as a result of its tenacious quality, a stream of mucus is rarely seen extending to the vulva, which might be the case if the mucus were of a "runny" character. Whether or not this explanation is valid, there is a surprising lack of correlation between the patient's symptoms of discharge and the volume of mucus at the cervix. For example:

	Leucorrhoea	No Leucorrhoea
Opaque mucous plug at portio (42 cases)	31 (74%)	11 (26%)
Clear mucus, traces, or none (61 cases)	48 (79%)	13 (21%)

It is clear, therefore, that a large mucous plug may exist *without* discharge at the vulva; on the other hand, a trace of clear mucus at the portio is commonly seen in patients complaining of vaginal discharge.

Microscopical specimens were taken from 100 post-natal erosions and 100 (six-weeks) controls. The important finding was that mucus which appeared clinically to be opaque or even mucopurulent often had but a few polymorphs, the smear consisting of clouds of epithelial cells of many shapes and sizes. Indeed, one-third of all the smears had no pus cells (polymorphs).

Cell-smears from erosions and controls varied from case to case, but there was no preponderance of inflammatory cells in the erosion-smears. With Papanicolaou's staining (Papanicolaou and Traut, 1943), cervical mucus was almost without exception web-like or crenated, although a few specimens were obtained which resembled typical mid-cycle mucus—that is, they had translucent and acellular mucus which presented a pattern of parallel threads.

To summarize: (1) Considering that only six weeks had elapsed since parturition it is not surprising that discharge affected normal patients and those with erosions. (2) Study of the cervical mucous plug suggests that the cervix is seldom the source of vaginal discharge.

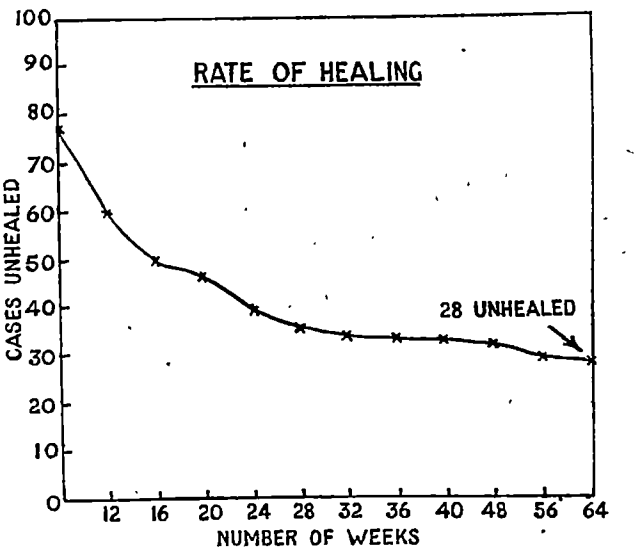

FIG. 1.—Disappearance of cervical erosions without treatment was recorded in 30 out of 77 patients (39%) by 20 weeks and in 42 (55%) by 28 weeks. The 28 unhealed erosions have not been observed for 64 weeks, but are at present under observation. (See text.*)

Number of cases observed with no treatment	77
Spontaneous healing	49 (64%)
Persistence over 20 weeks	28 (36%)

*The 28 unhealed erosions are at present under observation and tend to heal. The periods of observation are as follows: 20 weeks, 5 erosions; 24, 2; 28, 2; 32, 1; 36, 2; 40, 5; 48, 2; 52, 3; 56, 2; 64, 4.

Follow-up Study

At intervals of six to eight weeks 77 patients were re-examined (Fig. 1). They were discharged as "healed" if a small Cusco speculum showed no evidence of an erosion.

If the erosion persisted over five months it was labelled "unhealed." Vaginal smears and, usually, biopsies were taken at each visit. It was noted that even six to seven months after delivery the vaginal vault could be distended and the cervix opened to give the appearance of an erosion; in fact, 20% of our healed patients might have been called cases of persistent erosion if care had not been taken to use a small Cusco speculum, which was allowed to collapse as far as possible.

The result of the non-treatment of 77 erosions, therefore, was spontaneous healing after a variable number of months in 49 cases (64%) and persistence in 28 (36%).

The effect of this spontaneous process of healing on leucorrhoea was carefully noted, for it was assumed that the price of non-treatment would be (*a*) that during the months of observation the patient would suffer from cervical discharge at the vulva, and (*b*) that finally the unhealed cases would require cautery. In fact, however, not many of our patients under observation were troubled with discharge, and only a few eventually required cauterization.

Cervical Healing and Leucorrhea

(*a*) Leucorrhoea in 49 healed erosions:	
No discharge 6 weeks post partum	28 cases
Discharge " " " "	21 "
Cure of discharge with healing of erosion ..	13 "
Persistent discharge with healing of erosion ..	8 "
(*b*) Leucorrhoea in 28 unhealed erosions:	
No discharge at 6 weeks	13 "
Discharge " "	15 "
Cure of discharge without healing	8 "
Persistent discharge without healing	7 "

The final number of patients with discharge was eight with healed erosions where the cervix was probably not the source of discharge and seven where discharge and persistent erosion coexisted. Details of these seven cases are of interest as they represent the patients whose symptoms finally required treatment:

No.	Erosion	Discharge	Treatment
981	Raw fleshy	Yellow	Patient not available
909	Large raw	Mucus trace	Cautery out-patient
968	Small	Clear mucus	" "
1031	Raw flat	Trace clear mucus	" "
909	" "	Yellow mucus	Cautery in-patient (relapsed twice)
973	Raw moderate	Moderate mucus	Cautery out-patient
936	Raw flat	Mucus yellow ++	Cauterized 3 times

The final result of non-treatment of 77 cases was that 28 had persistent erosions, which were associated with vaginal discharge in seven; in four out of these seven cases repeated examination made it obvious that the discharge was of cervical origin and could be cured by cautery. In other words, of the whole series of 77 cases only four cases of persistent erosion gave rise to symptoms demanding cauterization.

One case (No. 936) was of especial interest since the patient relapsed twice after cautery and produced copious amounts of clear acellular mucus of "runny" character ("mucorrhoea"). Her final cervical biopsy (from the edge of the erosion) showed a normal involuting cervix.

The following conclusions therefore seem to be permissible: (1) Post-natal erosions tend to heal and should not be treated as a routine measure six weeks after delivery. Review of the patients after 20 or 30 weeks may show an asymptomatic erosion or complete healing. (2) Cervical erosions *proved* to be a source of vaginal discharge should be singled out for cautery about 20 weeks after delivery. (3) Simple observation of post-natal erosions will leave perhaps 5–10% of cases with symptoms which demand treatment by cautery.

The Endocrine Background to Erosions

At the outset of this study we had accepted the common belief that post-natal erosions are not physiological but pathological, and that they could give rise to symptoms akin to those arising from the common erosion of gynaecological practice (Arthure, 1938; Ross, 1950). A search was therefore made for some clue to the causation—for example, to ascertain if senile or poorly developed vaginal smears were commonly present with erosion in contrast to the normal. Note was also made of the time of cessation of lactation and duration of amenorrhoea, as well as the appearance and physical properties of cervical mucus, but there was apparently no correlation between these observations and the onset or persistence of erosion. For example, erosions persist or disappear irrespective of whether or not the patient has begun to menstruate or has ceased to lactate, and, as we have stated above, the physical and cytological properties of cervical secretions do not depend on the presence of an erosion.

Vaginal Smears

The common vaginal smear of pregnancy is peculiar in that clumping is common with surface cells, which are small (15–20 μ diameter). In the depth of the clump of cells there can be seen larger cells, somewhat flattened and 40–50 μ in diameter, with well-defined nuclei. These "pregnancy" or "luteal" smears have a variable number of polymorphs, while their persistence is remarkable even six months after parturition. A less common smear represents different layers of the mucosa, and these have been labelled "mixed," grade II, and grade I (stratum germinativum cells) according to their lack of maturity. The smear containing large flat squamae (as in an oestrogenic or mid-cycle smear) is rare. In the series of cases under review vaginal smears were taken six weeks after confinement, and the results of examination were as follows:

	Erosion	Control
Luteal or "pregnancy" smear polymorphs +	26	17
" " " " +++	13	11
Luteal or pregnancy smear, polymorphs absent	39	64
Mixed smear, polymorphs absent	2	13
" " polymorphs + ...	8	3
Grade II or grade I (deeper layers)	2	3
Grade III ("oestrogenic")	3	2
	93	113

Although admittedly vaginal cytology is a very rough gauge of ovarian function, the following conclusions are made: (1) post-partum senile smears are rare—that is, the vaginal mucosa is seldom atrophic; (2) the common smear is of intermediate type, obviously from mature vaginal mucosa (82%); (3) the maturity of cell-smears bears no relationship to the presence of erosions. It must be stated, however, that no attempt was made to take the specimens at the estimated mid-cycle. Finally, no correlation is possible between the maturity of vaginal smears and the persistence or healing of erosions.

That our search for the aetiology of post-natal erosion failed is not surprising if the thesis which we shall try to establish is accepted—namely, that post-natal erosions are physiological.

Cervical Histology

A different biopsy site was chosen at subsequent examinations, but both in normal cervices and in clinical erosions the squamo-columnar edge was the target. A laryngeal punch obtained small specimens measuring about 5 by 2 by 2 or 3 mm. deep. No vulsellum or local analgesic was used, although a nasal-wire cautery was necessary to stop the bleeding.

The outstanding observation was that the effects of pregnancy persist for months after delivery, although the cervix may clinically appear normal. Secondly, biopsies from erosions often resemble normal (involuting) tissue. To demonstrate this, the changes of pregnancy are tabulated—for example, if the glands are still "pregnant" they are numerous to the extent of resembling a cross-section of a honeycomb, or if the stroma is still pregnant it is cellular or lacks intercellular substance.

Definitions

1. *(a) Glands +++:* Numerous glands up to a "honeycomb" effect. Columnar epithelium usually tall, actively secreting mucus (Fig. 2, B). *(b) Glands absent:* Either the glands were not reached or in the squamo-columnar area no glands were present at the limits of the punch. (Biopsy about 3 mm. deep.)

2. *(a) Stroma cellular:* Connective-tissue cells packed together or separated by oedema; scanty intercellular fibrils (Fig. 2, B). *(b) Hyaline:* Relatively acellular connective tissue; up to a year or more after delivery delicate intercellular fibrils predominate. (As involution proceeds this tissue spreads towards the glands from below the squamous epithelium.)

3. *Inflammation:* Inflammatory processes were seldom more than mild, and amounted to no more than stromal infiltration by round cells. Desquamation was rarely seen. *(a) No inflammation:* Subepithelial infiltration by lymphocytes confined to a small clump around the squamo-columnar junction (Fig. 3). *(b) Mild round-cell inflammation:* Lymphocytes and sometimes plasma cells infiltrating the subsquamous and periglandular stroma (Fig. 4). *(c) Subacute inflammation:* Dilated capillaries with polymorphs, lymphocytes, and plasma cells in the stroma deep to the mucous and squamous epithelium (Fig. 5).

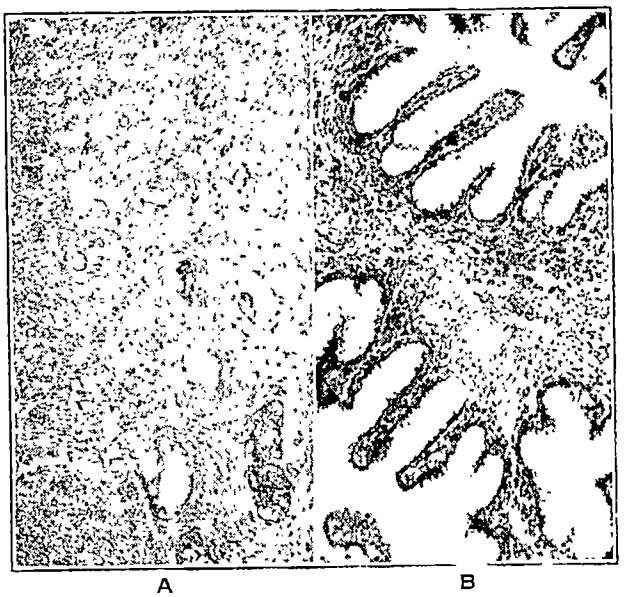

FIG. 2.—(A) Normal stroma. (B) Residual pregnancy-effects six weeks after delivery. Pregnancy causes the mucous glands to proliferate, while the stroma is converted to a cellular structure. Lymphocytes and plasma cells are common in the stroma of pregnancy.

FIG. 4.—Squamo-columnar biopsy of normal cervix six weeks *post partum*. Marked round-cell infiltration of stroma, especially near mucous glands; classified in the text as "mild round-cell infiltration."

FIG. 3.—Erosion six weeks after delivery—classified histologically as non-inflammatory—that is, the erosion amounted to an area of columnar epithelium on the portio. Round-cell infiltration of the stroma at the squamo-columnar junction is so common a finding that it can be taken as normal. The rest of the section was practically free from round cells.

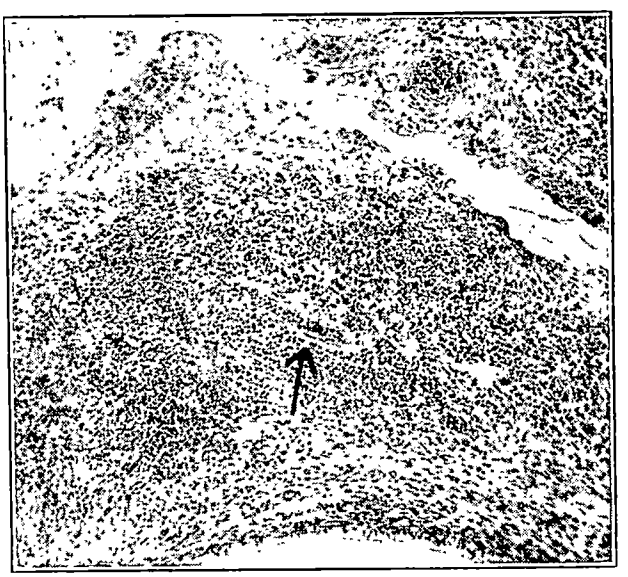

FIG. 5.—Squamo-columnar junction of an erosion six weeks after delivery. Subacute inflammation with capillaries (arrow) packed with polymorphs and lymphocytes. Subacute inflammation is rare in erosions and controls.

Histology Six Weeks After Delivery (Fig. 6)

	Erosion	Control
1. Mucous glands:		
Numerous secreting	66 (89%)	37 (58%)
Inactive or few	1 (1·5%)	9 (14%)
No glands	7 (9·5%)	18 (28%)
2. Stroma:		
Cellular (still "pregnant")	61 (82%)	32 (53%)
Hyaline (delicate fibrils)	11 (15%)	18 (30%)
Adult or whorled	2 (3%)	10 (17%)
3. Inflammation		
None	26 (35%)	38 (65%)
Mild round-cell infiltration (only at the surface in tips of folds of columnar epithelium; 9)	35 (47%)	16 (26%)
Subacute (only at the surface in tips of folds of columnar epithelium; 3)	13 (18%)	5 (9%)

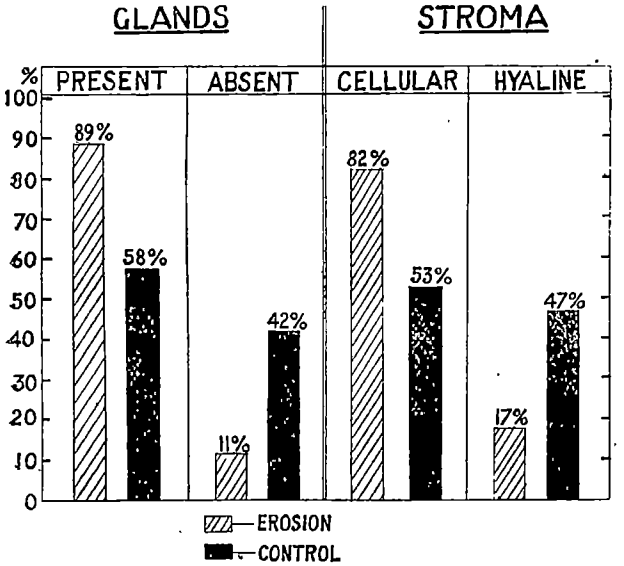

FIG. 6.—Gland activity of pregnant type was common to erosions and controls, but in the controls the biopsy failed to reach the glands in 18 cases and showed a few in 9 (total 42%). In erosions the stroma tends to be more cellular than in controls.

Six weeks after delivery, therefore, squamo-columnar biopsies from normal cervices resemble those from the edge of post-natal erosions. Both show persistent pregnancy effects such as a massive gland pattern with apparently active secretion; in both, the stroma is cellular, while inflammatory reactions such as infiltration of round cells and dilated capillaries are common. It is important to note that inflammation is confined to the surface of the cervix and is generally of mild type without desquamation (Figs. 3 and 4).*

Miscellaneous Findings.—Less common pregnancy effects were also observed, such as metaplasia, phagocytosis of hyaline tissue by fibroblasts, "Hofbauer" cysts, and so on (Hofbauer, 1933). Stromal oedema, sometimes with effusion of red cells, was common in six-weeks specimens, but decidual cells as described by Sheets (1948) and McIlrath and Hellestrand (1947) were not observed. Hyperplastic cells in the deeper layers of the squamous epithelium were also occasionally seen, but there was nothing resembling intra-epithelial cancer (Danforth, 1950).

Advancing Involution

Seventy-seven squamo-columnar biopsies from both healed and persistent erosions were taken at intervals up to a year after delivery. By contrasting them with 142 specimens obtained six weeks after delivery it was possible to observe the slow process of involution as it affects mucous glands, stroma, resolution of inflammatory reaction, and so on. Secondly, biopsies from the squamo-columnar edge of persistent erosions were compared with biopsies from healed cervices.

The outstanding change in the cervix with the passage of five to six months is in the stroma, which gradually changes from its "pregnant" or cellular state to a more fibrous or acellular structure (Fig. 7). The cellular stroma first disappears in the lower cervix beneath the squamous epithelium of the portio, but tends to persist around mucous glands or near small foci of inflammation. Soon after delivery the pregnant close-packed cellular stroma is replaced by young fibrous tissue with delicate fibrils of intercellular substance. This new fibrous tissue gives way to connective tissue possessing coarser intercellular substance. But in our sections, taken up to 12 months after delivery, the non-pregnant acellular stroma was seldom completely reproduced (compare Figs. 2A and 7).

FIG. 7.—Persistent erosion 12 months *post partum*. Replacement of cellular stroma (C) by more acellular tissue (S) is not yet complete. Note the cystic appearance of the squamous epithelium.

Three to four months after delivery oedema of the stroma disappears, while the widely dilated and numerous capillaries in the stroma also disappear.

Inflammatory cells tend to become less prominent, but even months after delivery scattered foci or diffuse areas of round cells are still common (Fig. 8). By six or seven months the mucous glands become less numerous, and our biopsies often failed to reach gland tissue—that is, the mucous glands not only diminish in number but appear to retract from the lower cervix.

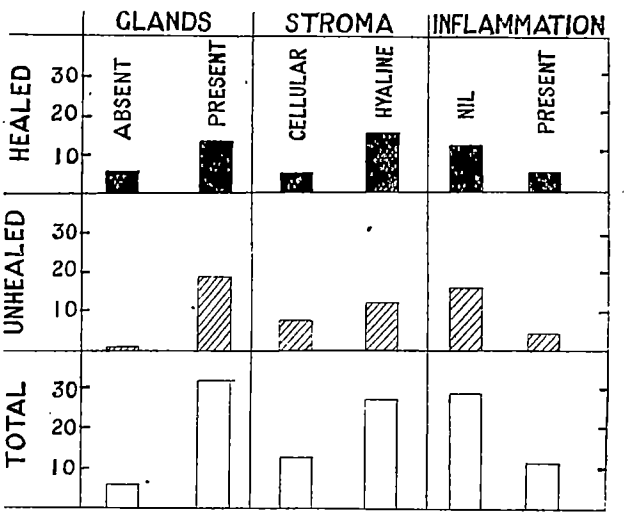

FIG. 8.—The effects of involution of cervical erosion (40 cases) at 20 weeks are present in the cervix with or without an erosion—namely, the glands become less prominent, the stroma loses its cellularity, while inflammation diminishes.

*Robert Meyer's (1910) dictum, "Ohne Entzundung keine Erosion," might place most of this group among the congenital non-inflammatory types of erosion.

By taking a sample of 20 specimens from persistent erosions and 20 erosions which had healed spontaneously, it is easy to show that the changes of involution affect not only erosions which persist but also those which show clinical healing (Fig. 8). Thus if a pathologist could be persuaded to give his opinion on one of our small biopsies he would have great difficulty in deciding if the specimen came from the squamo-columnar edge of a *normal cervix* or from an unhealed erosion. In both there would be evidence of advancing involution affecting glands, stroma, and inflammatory cells.

Non-treatment of Post-partum Erosions

Bourne and Bo..d (1939–40) found it difficult to correlate cervices amputated for (clinical) chronic cervicitis with the histology, which often appeared to show no more than mild surface inflammation. Fluhmann (1948), on the other hand, in an important study of the histology of the erosions of pregnancy refers to the clinical condition as the "so-called erosion" of pregnancy. Nevertheless, in many clinics post-natal erosions are diagnosed as pathological six weeks after delivery, and routine cauterization is carried out. Two obvious criticisms of non-treatment of erosions might be made—namely, that post-natal erosions might be a source of discharge, and, secondly, they might lead to future sterility.

It has already been mentioned that few of our untreated cases of erosion were subject to mucous discharge of cervical origin; in fact, of the total of 77 cases only 4 (5%) finally had true "mucorrhoea" from erosions of the cervix. It is not suggested, however, that in non-pregnant women erosions never cause leucorrhoea; for, either by repeated Cusco examination in out-patients or by a tampon test, it is occasionally possible to prove that a patient's discharge arises in the cervix. It seems clear to us from this clinical study, however, that the cervical mucus of the post-partum cervical erosion seldom reaches the vulva in amounts to cause leucorrhoea.

Secondly, our observations on the 28 cases of persistent erosion do not suggest that sterility from impenetrable cervical mucus results from non-treatment. In fact, clear or acellular mucus is commonly secreted from large post-natal erosions, persisting for months after delivery, as in the following case:

A married woman aged 22. On three occasions endocervical spermatozoa were obtained in smears of translucent endocervical mucus. The patient had not been instructed to have coitus before presenting herself for examination. Eight months after delivery she was pregnant, still with a large erosion.

Four other women with persistent erosions became pregnant and continued to have erosions in early pregnancy, so that it appears unlikely that the untreated and persistent erosions provide a barrier to further conception.

Although it is known that pregnancy predisposes to cervical cancer (Ministry of Health Reports, 1927), the relation of post-natal erosions to the future development of cancer is unknown, and there is no evidence to show that cautery of the cervix as practised in the out-patient department with a "nasal-wire" cautery (as opposed to *thermal destruction* of the lower cervix) (Cashman, 1941, 1945) can prevent cancer. In fact, only a few millimetres of mucous epithelium are burned by the cautery in out-patients and are replaced by squamous epithelium. The majority of our young patients, however, will be pregnant several times in the ensuing years, and on each occasion, so to speak, they will grow a new cervix with or without an erosion—that is, in the antenatal and post-natal period the cervix will undergo a complete metamorphosis. In the light of these changes in the physiology of the cervix it is difficult to regard surface cautery of the post-natal cervix as being able to influence the future behaviour of the epithelial tissue of the cervix.

Conclusions and Summary

It seems clear to us from this clinical study that post-partum cervical mucus, possibly owing to its tenacious quality, seldom reaches the vulva in amounts to cause leucorrhoea. Post-natal erosions are, in fact, innocuous, and, although it is possible in a few cases to prove that vaginal discharge arises from them, in most cases the cervix is not the source. Treatment should therefore be reserved for persistent erosions proved to be the cause of "mucorrhoea."

Post-natal erosions usually resolve without treatment.

Post-natal erosions as well as normal post-natal cervices can occasionally be shown to cause "mucorrhoea" six weeks after delivery.

Persistent erosions are usually innocuous, but excessive mucous discharge may demand treatment by cautery (5%).

Post-natal erosions do not cause backache.

Squamo-columnar biopsies from normal cervices and from erosions show post-partum involution; biopsies from the edge of healed or persistent erosions are similar; both depict advancing involution.

Post-natal erosions are physiological, and cauterization is seldom indicated.

I wish to acknowledge gratefully the help I have received from my colleagues on the staff of the Birmingham Maternity Hospital, and especially Dame Hilda Lloyd, Mr. Charles D. Read, and Professor S. Zuckerman for their criticism and advice. I also wish to thank our unit sister, Miss M. Scott-Will, and senior technician, Miss M. E. Attwood, for their enthusiasm and help in conducting this investigation.

REFERENCES

Arthure, H. (1938). *J. Obstet. Gynaec. Brit. Emp.*, 45, 985.
Barns, H. H. F. (1948). *Practitioner*, 160, 68.
Bourne, Alec, and Bond, L. T. (1939-40). *Proc. roy. Soc. Med.*, 33, 787.
Browne, F. J. (1946). *Antenatal and Postnatal Care*. Churchill, London.
Cashman, B. Z. (1941). *Amer. J. Obstet. Gynec.*, 41, 216.
—— (1945). Ibid., 49, 190.
Danforth, D. N. (1950). Ibid., 60, 985.
Fluhmann, C. F. (1948). Ibid., 55, 133.
Hofbauer, J. (1933). Ibid., 25, 779.
McIlrath, M. B., and Hellestrand, A. L. (1947). *J. Obstet. Gynaec. Brit. Emp.*, 54, 746.
Meyer, R. (1910). *Arch. Gynäk.*, 61, 579.
Ministry of Health Reports on Public Health and Medical Subjects (1927). No. 47. H.M.S.O., London.
Murphy, E. J., and Herbut, P. A. (1950). *Amer. J. Obstet. Gynec.*, 59, 384.
Papanicolaou, G. N., and Traut, H. F. (1943). *Diagnosis of Uterine Cancer*. The Commonwealth Fund, New York.
Ross, Jean, R. W. (1950). *British Medical Journal*, 2, 647.
Sheets, M. V. (1948). *West J. Surg. Obstet. Gynec.*, 56, 317.
Stieve, H. (1927). *Der Halsteil der menschlichen Gebärmutter*. Akad. Verlags, Leipzig.
Young, J. (1938). *British Medical Journal*, 1, 105.

In Korea, the Assistant Director of Medical Services of the Commonwealth Division, Colonel G. Anderton, told a *Daily Telegraph* Special Correspondent (January 29), the health of the troops could not be better. Sickness rates in the summer were well below what was expected, and now the incidence of sickness and cold injuries was lower than in any other campaign. Manchurian fever, however, was still causing anxiety. Since July there have been 70 cases in the division; 16 were reported last month, but the incidence was decreasing with the colder weather. The death rate was between 7% and 10%. Work was being carried out on the disease, but so far the organism had not been isolated. All cases in the division are referred to the American hospital at Seoul, where the experiments are being done, and tons of poison have recently been distributed in a drive against rats and mice, which are suspected of carrying the infection.

CORRECTION OF E.S.R. IN ANAEMIA

EXPERIMENTAL STUDY BASED ON INTERCHANGE OF CELLS AND PLASMA BETWEEN NORMAL AND ANAEMIC SUBJECTS

BY

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AND

G. A. C. SUMMERS, M.B., B.Sc.

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When red cells are mixed with their own plasma in varying proportions the sedimentation rate of the more dilute suspensions is greater than that of the more concentrated ones. This observation was first made by Fåhraeus (1921), and has often been repeated. On the basis of such observations, attempts have been made to allow for the effects of anaemia on the erythrocyte sedimentation rate (E.S.R.) by various correction charts and factors. Among these may be mentioned the correction charts of Gram (1928, 1929) and of Rourke and Ernstene (1930), which were based on experimental dilution of the blood of anaemic patients. The correction chart of Wintrobe and Landsberg (1935) has gained considerable popularity; a slide-rule method for correction based on this chart has even been devised (Best, 1950). The Wintrobe and Landsberg chart is based on dilution experiments with normal blood.

Any such correction chart is valid only if we assume that the E.S.R. is determined by certain properties of the plasma and by the concentration of red cells suspended in it, but not by the shape, size, specific gravity, or any other property of the cells: in other words, it is assumed that any sample of red cells suspended in a given plasma at a given concentration would show the same sedimentation rate. This assumption does not appear justified, and Hynes and Whitby (1938) have shown how Wintrobe's correction chart must be modified to fit in with observed facts. For example, in many cases of anaemia a much slower rate is found than would be expected when normal blood is diluted to a level equivalent to that of the anaemic haematocrit reading. Bönniger and Hermann (1923) noted this effect in chlorosis, and it seems to be particularly marked in sickle-cell anaemia (Bunting, 1939, and other workers). Westergren (1924) states that he has often found the E.S.R. lower than he would have expected from the reduced haemoglobin level. On the other hand, Newham and Martin (1928) maintained that the size and specific gravity of the cells do not affect the E.S.R., and this has been accepted by Wintrobe and Landsberg (1935) and restated by Cutler, Park, and Herr (1938).

Some authors have even gone so far as to deny that the number of red cells present influences the sedimentation rate: Fåhraeus (1929), observing this slowing effect, believed that some compensatory mechanism was at work in anaemia. Bouton (1938), on finding that the red-cell count and the E.S.R. can fluctuate independently in the course of a disease, dismissed the idea that the red cells could have any important effect on the E.S.R. Cutler, Park, and Herr (1938) made a careful study of the formation of red-cell aggregrates, interchanging cells and plasma between normal and anaemic subjects, and concluded that it was only the plasma which influenced the rate: however, they did not use cell–plasma mixtures of equal haematocrit level, and therefore the value of their experimental results is reduced.

Terry (1950) found no significant difference between the sedimentation rates of a group of normal subjects and a group of patients suffering from anaemia "of a benign origin." He does not explain clearly how anaemia of a benign origin is differentiated from other types of anaemia, nor what precautions were taken to avoid bias against including in his benign category any patient with a markedly raised E.S.R. But whatever criteria were used, this is not an unselected series, and a statistical analysis does not improve its significance. It is one thing to say that in many cases of anaemia some compensating factor is at work which masks the potential accelerating effect of dilution—this is undoubtedly true; it is quite another matter to postulate that this compensating factor quantitatively neutralizes the effect of dilution and that therefore a raised E.S.R. has the same significance in an anaemic as in a non-anaemic patient.

In this investigation we have attempted to throw further light on the problem by studying the separate effects on sedimentation of the cell and plasma components of normal and anaemic blood.

Method

Thirty experiments have been performed with the blood of patients suffering from different types of anaemia classified under the four headings of: symptomatic (that is complicating some other disease), post-haemorrhagic, iron-deficiency, and macrocytic anaemias. Blood films were examined with special reference to red-cell size and shape. In each case information was obtained about any abnormality which might influence the E.S.R. The Westergren technique was used in every experiment. Blood was diluted with 3.8% sodium citrate in the proportion of four parts of blood to one part of sodium citrate solution. A column of citrated blood 200 mm. high was set up in a Westergren tube and the E.S.R. read at the end of one hour.

Dilutions were made according to a standardized procedure to cover a haematocrit range of from approximately 40 down to below 10. Haematocrits were always checked in Wintrobe tubes on the blood run out of the E.S.R. tube after reading. When mixtures were made, the cells, after centrifuging and removal of plasma, were washed three times by centrifuging after shaking up thoroughly with normal saline. Five to seven different dilutions were prepared with (1) normal cells in normal plasma; (2) anaemic cells in anaemic plasma; (3) normal cells in anaemic plasma; and (4) anaemic cells in normal plasma. When cells and plasma are interchanged in this way between two samples of normal blood no significant alteration in sedimentation rate is found. This observation rules out a number of possible experimental artifacts: in particular, it is evident that centrifuging and washing cells as we have done does not alter their sedimenting properties. The blood of the normal subject in each case belonged, of course, to the same ABO blood group as the patient.

Recording of Results

Graphs were drawn of E.S.R. against haematocrit for each experiment, and typical examples of the results obtained in the four principal categories of anaemia are given in Figs. 1, 2, 3, and 4. In all the graphs reproduced the haematocrit figure is the figure given by the diluted blood. The results do not seem to vary very widely from a similar dilution series made with dry oxalate anticoagulant (Hambleton and Christianson, 1939), and closely comparable series of figures

can be obtained with dry sodium citrate and with 3.8% sodium citrate solution, the sedimentation rates always being slower with the citrate solution to about the same extent at each haematocrit level (Westergren, 1924). Nevertheless, these results should be applied only to E.S.R.s determined by the Westergren method.

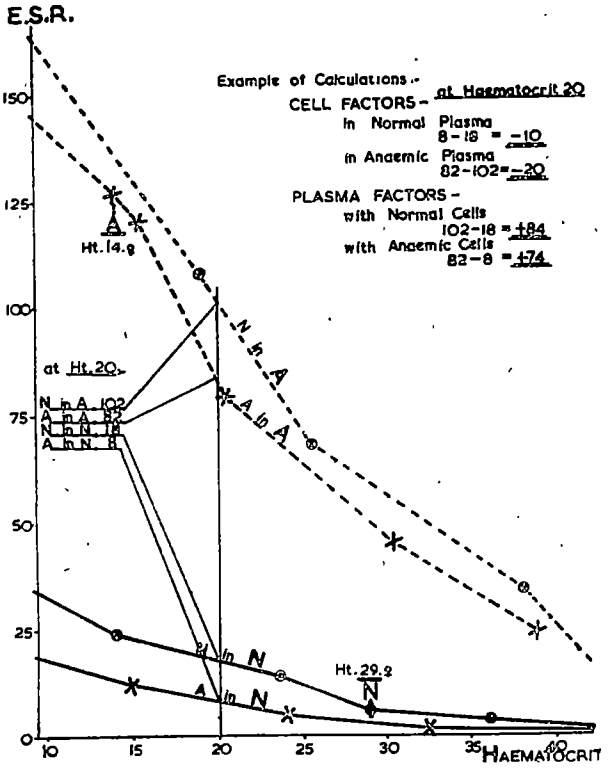

FIG. 1.—Symptomatic anaemia (carcinoma). E.S.R. plotted against haematocrit for: normal cells in normal plasma (N in N); anaemic cells in anaemic plasma (A in A); normal cells in anaemic plasma (N in A); anaemic cells in normal plasma (A in N).

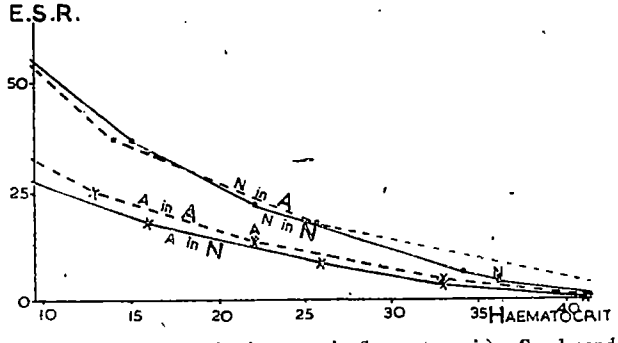

FIG. 2.—Post-haemorrhagic anaemia (haematemesis). See legend to Fig. 1.

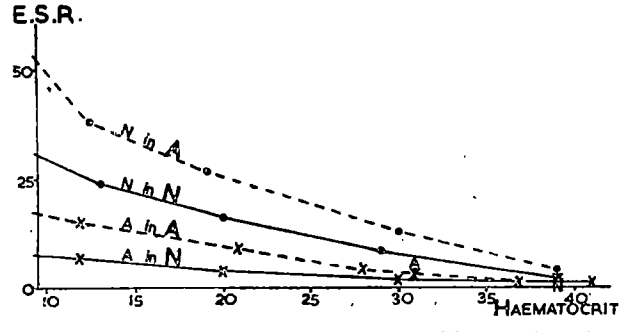

FIG. 3.—Iron-deficiency anaemia (menorrhagia). See legend to Fig. 1.

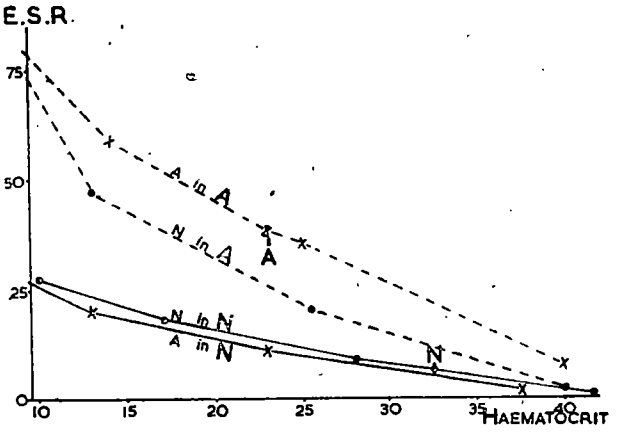

FIG. 4.—Macrocytic anaemia (pernicious anaemia). See legend to Fig. 1.

Fig. 5 is a composite graph showing the E.S.R. at different haematocrit levels for 34 normal blood samples. This graph therefore shows the approximate range to be expected of normal cells in normal plasma at the haematocrits given by the different dilutions, and it can be used for rough computation of the expected degree to which the E.S.R. should be

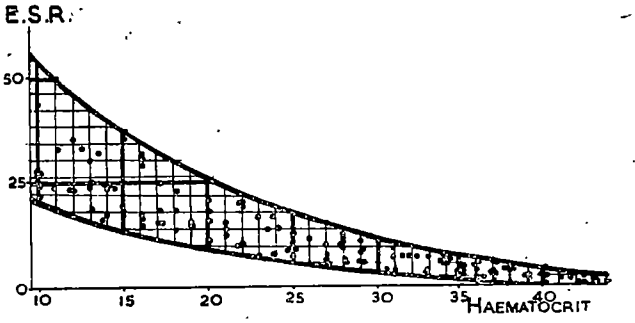

FIG. 5.—Composite graph showing E.S.R. at different haematocrit levels for 34 normal blood samples.

raised by anaemia. In order to show the approximate degree to which the different factors in the cells and plasma affect one another in the interchanges used in the experiments, the E.S.R.s were read off the graphs at the arbitrary haematocrit level of 20. The figures so obtained from the four haematocrit/E.S.R. curves drawn in each experiment indicate the effect of the plasma and of the cells upon the sedimentation rate.

Results

In describing the results of these experiments it is convenient to speak of the cells of a particular patient as having a "cell retarding factor" if they sediment more slowly in a given plasma than do normal cells, or a "cell accelerating factor" if they sediment more rapidly. Similarly, plasma may be said to have a "plasma retarding factor" if cells suspended in it sediment more slowly than they do in normal plasma, or a "plasma accelerating factor" if they sediment more rapidly. It is emphasized that these factors are postulated for convenience only and that no attempt was made to demonstrate their physical basis: indeed, this conception of accelerating or retarding factors breaks down when we consider the behaviour of blood in the macrocytic anaemias.

The accompanying Table shows cell and plasma accelerating and retarding factors for 30 cases of anaemia classified into the four groups shown. The mean values for these factors are given for each group, and, in parentheses, the lowest and highest figures obtained in each group. Accelerating factors are indicated by a plus sign, and retarding factors by a minus sign. The figures are obtained from

	Symptomatic Anaemias (14 Cases)	Post-haemorrhagic Anaemias (5 Cases)	Iron-deficiency Anaemias (6 Cases)	Macrocytic Anaemias (5 Cases)
Cell accelerating or retarding factors:				
In anaemic plasma	−17 (−86 to +5)	−6 (−14 to +3)	−11 (−31 to +2)	+27 (0 to +95)
In normal plasma	−7 (−15 to +5)	−8 (−14 to +8)	−7 (−12 to −3)	+7 (−2 to +24)
Plasma accelerating or retarding factors:				
With anaemic cells	+57 (+17 to +138)	−1 (−13 to +7)	+8 (+4 to +13)	+20 (−8 to +69)
With normal cells	+67 (+25 to +134)	−2 (−8 to +10)	+12 (+4 to +24)	0 (−13 to +17)

the graphs at the arbitrary haematocrit level of 20. For example, the cell accelerating or cell retarding factor in anaemic plasma is found by subtracting the figure for the sedimentation rate of normal cells in anaemic plasma from that for anaemic cells in anaemic plasma at the 20% haematocrit level (see Fig. 1).

From the table it will be seen that in the symptomatic anaemias a marked plasma accelerating factor and a much smaller, inconstant, cell retarding factor are found. In the post-haemorrhagic anaemias the differences are less than in the other groups, although a cell retarding factor is usually found: in fact, the blood of a patient with a post-haemorrhagic anaemia behaves much more like a dilution of normal cells in normal plasma than does any other type of anaemic blood. The iron-deficiency anaemias are characterized by a cell retarding factor and a plasma accelerating factor of approximately equal degree. In some cases the cell retarding factor predominated, giving an E.S.R. lower than would be expected from a dilution of normal cells in normal plasma to an equivalent haematocrit level.

In pernicious anaemia the position is more complicated. In all other types of anaemia it seems that if, for example, cells possess a cell retarding factor they will exhibit this property both in the normal and in the anaemic plasma; equally, if plasma is found to possess a plasma accelerating factor it will usually exert this effect both on normal and on anaemic cells. Such uniformity is not found in pernicious anaemia. Generally speaking, the cells seem to possess an accelerating factor, but this property is always more marked in the anaemic plasma than in normal plasma, and in some cases the effect is reversed—that is to say, the anaemic cells sediment more rapidly than normal cells in anaemic plasma, but more slowly in normal plasma.

Discussion

Attempts to correct the E.S.R. for the effects of anaemia are designed to assist in solving a common practical problem: an anaemic patient is found to have a raised E.S.R.—is this due solely to the anaemia, or does it suggest underlying organic disease? The authors of correction charts believe that they can answer this question, at least in the majority of cases. All correction charts are based on the assumption that abnormalities of the cells exert at most a negligible influence on the sedimentation rate. Previous workers have cast doubts on the validity of this assumption, and we believe that our experiments show conclusively that it cannot be maintained. In fact, cell factors operate in most cases of anaemia, and are often of the same order of magnitude as the plasma factors. This being so, the "corrected" E.S.R. may often be misleading to the clinician.

The nature of the cell retarding factor found in most cases of anaemia is not clearly brought out by our experimental results. It is easy to imagine that anisocytosis might interfere with rouleau formation. In all cases, apart from the macrocytic anaemias, the extent of anisocytosis as judged from the appearance of the film did seem to bear at any rate a rough relation to the magnitude of the cell retarding factor. However, this is by no means true of the macrocytic anaemias, in which marked anisocytosis may be accompanied by a cell accelerating factor. It may be that some complicating factor masks the potential effect of anisocytosis in these cases. The alternative suggestion that the relative specific gravity of the cells is the important factor cannot be ruled out: this possibility was raised by Bendien, Neuberg, and Snapper (1932) and by Ham and Curtis (1938) on the basis of a few experiments. From our comparatively small number of observations it would be unwise to infer that any one property of the erythrocytes is responsible for the accelerating or retarding factors we describe.

A limited amount of information may be obtained from consideration of the E.S.R. and the haematocrit in conjunction with a chart like that given by Hynes and Whitby (1938) showing the sedimentation rates obtained at varying dilutions of normal cells in their own plasma, with curves lying above these limits representing degrees of elevation of the E.S.R. The basis of such a chart is given in Fig. 5. If the value found in a particular case lies well above the normal range the patient probably has some organic disease apart from his anaemia. If the reading is within the normal range or below it no definite conclusions can be drawn. While useful information could no doubt often be obtained by carrying out exchange experiments of the type we describe, the method seems altogether too time-consuming in relation to the value of the results.

Summary

The problem of the erythrocyte sedimentation rate in anaemia has been studied experimentally by interchanging erythrocytes and plasma of normal and anaemic subjects: the E.S.R. was determined at varying haematocrit levels for both types of blood, each type of erythrocyte being suspended in both types of plasma. The results of each experiment were recorded graphically.

In the symptomatic anaemias the anaemic cells sedimented rather more slowly than did normal cells both in normal and in anaemic plasma. Both types of cells sedimented much more rapidly in the anaemic plasma than in the normal plasma. Thus the anaemic cells have a slight retarding influence on sedimentation and the anaemic plasma a marked accelerating influence.

Post-haemorrhagic anaemias behaved more like dilutions of normal cells in normal plasma than did other types of anaemia, but some retarding effect of the cells was usually present.

Iron-deficiency anaemias showed a retarding influence due to the cells and an accelerating effect of the plasma of approximately the same magnitude; in some cases the retarding effect of the cells predominated, giving an E.S.R. lower than would be expected for a dilution of normal cells in normal plasma to the same haematocrit level.

In macrocytic anaemias the sedimenting properties of the cells showed marked differences according to the type of plasma. If uncomplicated, such anaemias did not usually give an E.S.R. greatly above that expected for an equivalent dilution of normal cells in normal plasma.

It may be tentatively inferred that the cell retarding effect is associated with anisocytosis.

The usefulness of methods of "correcting" the E.S.R. for the effects of anaemia is criticized in the light of

these experimental results. Some information can be gained by using a chart of the Hynes–Whitby type.

Our thanks are due to Dr. A. H. T. Robb-Smith, Director of Pathology, Radcliffe Infirmary, Oxford; to Dr. R. G. Macfarlane, in whose department this investigation was carried out, for suggesting the problem; to Dr. Macfarlane and Dr. Rosemary Biggs for constant advice and encouragement during the experiments; to Dr. O. G. Dodge for help in some of the experimental work; and to the donors of our normal blood specimens.

REFERENCES

Bendien, W. M., Neuberg, J., and Snapper, I. (1932). *Biochem. Z.*, 247, 306.
Best, W. R. (1950). *Amer. J. Clin. Path.*, 20, 87.
Bönniger, M., and Hermann, W. (1923). *Klin. Wschr.*, 2, 744.
Bouton, S. M., jun. (1938). *J. Lab. clin. Med.*, 23, 519.
Bunting, H. (1939). *Amer. J. med. Sci.*, 198, 191.
Cutler, J. W., Park, F. R., and Herr, B. S. (1938). *Amer. J. med. Sci.*, 195, 734.
Fahraeus, R. (1921). *Acta med. scand.*, 55, 1.
—— (1929). *Physiol. Rev.*, 9, 241.
Gram, H. C. (1928). *Acta med. scand.*, 68, 108.
—— (1929). Ibid., 70, 242.
Ham, T. H., and Curtis, F. C. (1938). *Medicine*, 17, 447.
Hambleton, A., and Christianson, R. A. (1939). *Amer. J. med. Sci.*, 198, 177.
Hynes, M., and Whitby, L. E. H. (1938). *Lancet*, 2, 249.
Newham, H. B., and Martin, P. H. (1928). *Quart. J. Med.*, 22, 145.
Rourke, M. D., and Ernstene, A. C. (1930). *J. clin. Invest.*, 8, 545.
Terry, R. (1950). *British Medical Journal*, 2, 1296.
Westergren, A. (1924). *Ergebn. inn. Med. Kinderheilk.*, 26, 577.
Wintrobe, M. M., and Landsberg, J. W. (1935). *Amer. J. med. Sci.*, 189, 102.

CORTISONE IN IDIOPATHIC STEATORRHOEA

BY

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Taylor, Comfort, Wollaeger, and Power (1951) have reported favourable results in the treatment of idiopathic steatorrhoea with cortisone in doses of 25–100 mg. daily. Following the administration of the drug, there was subjective improvement, with increased appetite, a rise in the level of plasma proteins and prothrombin, and a significant decrease in the amount of fat and nitrogen excreted in the faeces. There is little evidence of impaired adrenal function in the sprue syndrome, but it is well known that cortisone in this dosage may not be acting as adrenal replacement therapy, and that improvement may occur in a number of conditions in the absence of adrenal insufficiency. We therefore decided to attempt to confirm the results of the Mayo Clinic group.

Remissions are common in idiopathic steatorrhoea, and only patients in whom the clinical condition appeared stable were chosen for trial with cortisone. We selected two untreated patients who had been under observation in hospital, and two others in whom considerable improvement had already occurred after a prolonged period of treatment with diet and vitamins, including folic acid. We felt that if the cortisone had any specific effect on the metabolic defect in steatorrhoea it should produce further improvement in the treated cases and perhaps abolish the steatorrhoea. With established methods of treatment the absorption of fat remains impaired in the great majority of patients.

Method

Each patient was given a diet containing 70 g. of protein and 70 g. of fat daily. The total amount of fat excreted in the stools during three consecutive periods of four days, separated by carmine markers, was estimated by the method of van de Kamer, ten Bokkel Huinink, and Weyers (1949). One patient who had also been the subject of a calcium balance had a control period of 36 days. At the end of the control period each patient was given 100 mg. of cortisone daily by intramuscular injection for 24 to 28 days, followed by a smaller dose for two to three days before the drug was discontinued.

During the last two weeks of treatment with cortisone a second fat balance was carried out, and the results were compared with those obtained during the control period. In each case the excretion of nitrogen in the faeces was estimated during the period of control, and again during the second fat balance while the patient was receiving cortisone. A radiograph of the chest was taken before treatment was started, and changes in weight, blood pressure, and serum electrolytes were recorded during the trial. Three of the patients, Nos. 1, 2, and 3, were allowed to go home between the two balances, but all were admitted to hospital during the periods of collection of faeces.

Results

Both the patients who had had previous treatment felt better, and in one the bowels were opened less frequently and the stools became more formed. In one of the untreated cases (No. 4) there was a great improvement in appetite and morale, although little change occurred in the action of the bowels. In the other (No. 3) there was no subjective improvement, but the diarrhoea decreased. One patient (No. 2) gained 2.4 kg. in weight during the period of treatment, owing to the retention of fluid.

Excretion of Fat and Nitrogen.—The Chart shows the percentage of dietary fat excreted in the faeces and the amount of faecal nitrogen in each period of four days, before and during treatment with cortisone. The great variation in the results of consecutive estimations in Case 4 was due to irregular bowel action, which made separation of the periods difficult. The Table gives the difference between

Excretion of Fat and Nitrogen in the Faeces Before and During Treatment with Cortisone

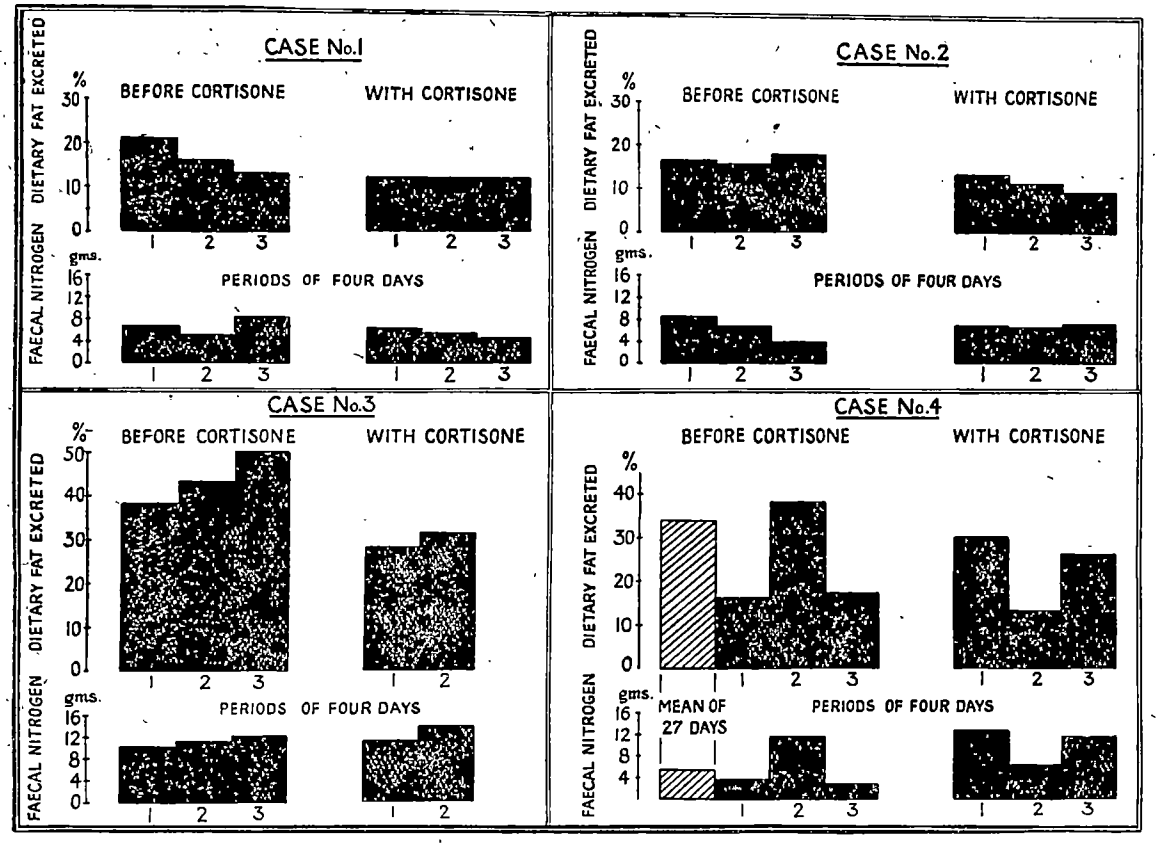
	Case No.	Mean % Dietary Fat Excreted During Consecutive Periods of 4 Days. (Number of Periods in Parentheses)		Mean 4-day Excretion of Nitrogen in Faeces (g.)		Length of Treatment (Days)	Total Dosage of Cortisone (g.)
		Before Treatment With Cortisone	During Treatment With Cortisone	Before Treatment With Cortisone	During Treatment With Cortisone		
Previously Treated	1	16·7 (3)	12·0 (3)	7·4	5·2	28	2·80
	2	16·5 (3)	11·1 (3)	6·9	6·9	33	2·88
Previously Untreated	3	43·6 (3)	29·5 (2)	11·1	11·9	31	2·89
	4	25·0 (9)	23·0 (3)	5·6	9·9	28	2·55

For fat excretion: $t = 2{\cdot}49$; $p > 0{\cdot}05$.

the mean four-day excretion of dietary fat before and during treatment with cortisone. The difference between the amounts of fat excreted is not significant. The effect on the excretion of nitrogen was variable.

Discussion

Hypotension, pigmentation of the skin, and asthenia are common in patients suffering from steatorrhoea, and several observers, noting the close resemblance to Addison's disease, have suggested that adrenal insufficiency may play some part in the pathogenesis of the sprue syndrome (Gloor, 1930; Thaysen, 1932). However, in spite of the fact that the hormones of the adrenal cortex exert an influence on the



normal process of fat absorption (Bavetta, Hallman, Deuel, and Greeley, 1941; Frazer, 1946), and that an excessive quantity of fat is present in the faeces of some patients with Addison's disease (Bergner, Lewis, Stout, Thorn, and Emerson, 1948), the evidence of adrenal insufficiency in sprue or idiopathic steatorrhoea is slight. Black (1946) showed that the hypotension and asthenia in sprue was not accompanied by an increase in serum potassium or a failure of the kidney to conserve sodium, as might be expected in adrenal failure, and cases of steatorrhoea have been treated with deoxycortone (Leishman, 1945) and corticotrophin (Frazer, 1949) without improvement.

The response to cortisone was not striking, which is in keeping with the belief that adrenal cortical function is normal in cases of steatorrhoea. Each patient improved, but results based on the mean four-day excretion of fat can be quite variable and must be interpreted with caution (Fourman, Higgins, Quelch, O'Brien, and Witts, 1948). Taylor, Comfort, Wollaeger, and Power (1951) found more improvement, but the difference may depend on the selection of patients. In patients suffering from intractable diarrhoea cortisone might prove of greater benefit, for Almy (1951) has reported a severe case in which the diarrhoea and hypoproteinaemia responded to treatment with adrenocorticotrophic hormone when other forms of treatment had failed.

Summary

Four patients with idiopathic steatorrhoea, two of them previously untreated, were given 100 mg. of cortisone daily by intramuscular injection for four weeks.

Although the excretion of fat decreased in all, the difference was not statistically significant, and in none was the steatorrhoea abolished.

I wish to thank Miss Moira Aitken and Miss Beryl Brinkhurst for their assistance in the biochemical investigation, Dr. A. M. Cooke for permission to include one patient who was admitted under his care, and Professor L. J. Witts for his advice and criticism at all times. I am grateful for the kindness of Dr. Wollaeger and his colleagues, who made their results known to us prior to publication.

REFERENCES

Almy, T. P. (1951). *Ann. intern. Med.*, 34, 1041.
Bavetta, L., Hallman, L., Deuel, H. J., and Greeley, P. O. (1941). *Amer. J. Physiol.*, 134, 619.
Bergner, G. E., Lewis, R. A., Stout, F. W., Thorn, G. W., and Emerson, K. (1948). *J. clin. Endocrinol.*, 8, 606.
Black, D. A. K. (1946). *Lancet*, 2, 671.
Fourman, L. P. R., Higgins, G., Quelch, P., O'Brien, J. R. P., and Witts, L. J. (1948). *Clin. Sci.*, 7, 121.
Frazer, A. C. (1946). *Physiol. Rev.*, 26, 103.
—— (1949). *British Medical Journal*, 2, 769.
Gloor, H. U. (1930). *Folia Haemat., Lpz.*, 39, 373.
Kamer, J. H. van de, ten Bokkel Huinink, H., and Weyers, H. A. (1949). *J. biol. Chem.*, 177, 347.
Leishman, A. W. D. (1945). *Lancet*, 2, 813.
Taylor, A. B., Comfort, M. W., Wollaeger, E. E., and Power, M. H. (1951). *J. clin. Invest.*, 30, 678.
Thaysen, Th. E. H. (1932). *Non-tropical Sprue*, p. 64, Oxford Univ. Press, London.

A recent letter in *Country Life* has the title "Causes of Death in 1711," and gives an account of how a list of old christenings and burials, with causes of death, was found pasted inside the door of a William and Mary marquetry long-case clock. The list refers to London only, and is taken from the reports of the various parish clerks. It covers the year December 12, 1710, to December 11, 1711, during which it records 14,706 christenings and 18,874 burials. Some of the diagnoses of deaths are probably fairly reliable—for example, smallpox 915, death in childbed 195, and perhaps "stoppage in the stomach 255," rickets 196, and "jandies" (jaundice) 51. But "cancer" is given as only 75, and presumably means externally visible tumours, whether malignant or not, while "rheumatism" numbers 9 and scurvy 2, and the label in these cases is obscure and probably misleading. Some of the causes of death sound very odd to the modern ear. Such are Grief (9), Griping in the Guts (614), Lethargy (7), Melancholy (1), Surfeit (61), and Teeth (1,013).

MERCURY NEPHROSIS IN YOUNG CHILDREN

WITH SPECIAL REFERENCE TO TEETHING POWDERS CONTAINING MERCURY

BY

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Mercury poisoning occurs in acute and chronic forms. In acute mercury poisoning there is severe injury to the kidney. Although oedema is usually prevented by the violent diarrhoea which is present, the urine has a high content of albumin and shows a picture similar to that found in nephrosis. Histologically there is necrosis of the epithelial cells of the tubules, and toxic changes occur in the glomeruli. In chronic mercury poisoning the symptoms vary according to whether the mercury is in the form of inorganic or organic compounds or whether mercury vapours are produced (Leschke, 1934). Inhalation of organic compounds or metallic mercury vapours causes, above all, nervous symptoms, whereas the ingestion of mercury salts causes intestinal and renal disorders.

Individual sensitivity to mercury varies widely. The nephrotic syndrome in children is mentioned by Fanconi *et al.* (1947) as an occasional late manifestation of mercury poisoning resulting from worm powders containing calomel. The possibility of mercury nephrosis resulting from prolonged administration of mercury-containing compounds, such as most varieties of teething powders, has not, however, been recognized. These teething powders each weigh approximately 2 to 2.8 gr. (130–180 mg.), the weight varying with the brand, and contain 27% to 33% of calomel, the content of metallic mercury being 0.59 to 0.64 gr. (38–42 mg.). Over long periods, therefore, the amount of mercury administered is considerable, and, since the patients are usually infants or toddlers, it is not surprising that chronic mercury poisoning may result even in children who are not unduly sensitive to mercury.

During investigation of cases of pink disease, one patient with nephrosis was found by one of us (V.K.W.) to be excreting large amounts of mercury in the urine. On this evidence we decided to examine the urine for mercury in further cases of nephrosis. Five cases with an excess of mercury in the urine have been found during recent months.

Case 1

A boy aged 21 months was admitted to hospital on November 20, 1950, with a history suggestive of pink disease of five weeks' duration. He had been given teething powders each containing approximately 0.64 gr. (42 mg.) Hg in the form of calomel over a period of 18 months. At first three to four powders a week were given, but more recently one to two powders a month.

On examination both legs were swollen and puffy from the knee downwards, the oedema increasing over the dorsum of the feet. The urine was loaded with albumin. No casts were found. There was 1 red cell per high-power field. The urine contained 102 γ Hg per 100 ml., and the serum cholesterol was 585 mg. per 100 ml. The diagnosis of nephrosis possibly due to chronic mercury poisoning was made. On December 3 treatment with dimercaprol (B.A.L.) was started, being completed on December 11. On the sixth day of treatment the urine contained 82 γ Hg per 100 ml. Ten days later the urine contained 98 γ Hg per 100 ml. During treatment the albuminuria decreased gradually, and after its completion was hardly detectable. The Esbach readings fell from 1.5 g. per litre to 0.02 g. per litre.

There was a dramatic improvement in his general condition, and he was discharged well on January 3, 1951. When seen in the out-patient department on March 5 the urine contained no mercury. He was seen at monthly intervals for a period of eight months, when, apart from a persistent sinus infection, he appeared well. There was no recurrence of the oedema and no albuminuria. Biochemical details are given in Table I.

TABLE I.—*Case 1*

Date	Blood Urea mg./100 ml.	Blood Cholesterol mg./100 ml.	Serum Proteins			Plasma Chlorides mg./100 ml.
			Total g. %	Alb. g. %	Glob. g. %	
21/11/50 ..	25					
28/11/50 ..	—	585	6·64	2·60	4·04	658
1/3/51 ..		204	8·25	5·75	2·50	

Case 2

A girl aged 3½ years was admitted to hospital on January 15, 1951, with a history of swelling of the limbs and face for three days. The child had been off colour for six months with anorexia and loss of weight. During this time there had been attacks of diarrhoea, with the passage of four to five watery offensive stools daily and occasional abdominal pain. One week before admission the condition deteriorated and the child became oedematous.

On examination there was generalized oedema; the systolic blood pressure was 105 mm. Hg by palpation. The urine contained albumin (+ + +) but no blood; otherwise the examination was negative. When mercury was found in the urine the parents were interviewed again to discover its source. No teething powders containing mercury had been given, but the child had received three grey tablets daily for the past five months for "liver trouble." These tablets each contained ½ gr. (32 mg.) Hg—i.e., approximately 15 g. Hg had been taken in five months.

Treatment with dimercaprol was started on January 25, 36 mg. being given intramuscularly four-hourly for 48 hours and 36 mg. daily for 10 days. The child became extremely ill and dehydrated as a result of vomiting and diarrhoea, and required energetic treatment with intravenous plasma and saline during the next few days. The oedema rapidly subsided, and 11 days after dimercaprol was started the albumin had completely disappeared from the urine. The diarrhoea gradually subsided and the stools became formed on March 5. Before treatment the urine contained 200 γ Hg per 100 ml. The albumin precipitate was separated and mercury estimations were done on the precipitate and the filtrate. Nearly all the mercury (175 γ) was found in the precipitate—only 25 γ in the filtrate. After four days' treatment with dimercaprol the urine contained 150 γ per 100 ml.

TABLE II.—*Case 2*

Date	Blood Urea mg./100 ml.	Serum Cholesterol mg./100 ml.	Serum Proteins			Plasma Chlorides. mg. NaCl per 100 ml.	Plasma CO_2 Vols. %	Urea Clearance. % Average Normal Function
			Total g. %	Alb. g. %	Glob. g. %			
20/1/51 ..	25	640						
27/1/51 ..	24		4·09	1·03	3·06			
31/1/51 ..						459	38	
7/2/51 ..		260				503	57	63
8/3/51 ..		210						

(130 γ in precipitate; 20 γ in filtrate). After 12 days' treatment the urine contained 28 γ per 100 ml. Eleven days later the mercury in the urine was 20 γ per 100 ml., and a fortnight later it was 8 γ. The child made an uninterrupted recovery. Other biochemical investigations are shown in Table II.

Case 3

Ten days before the admission to hospital of a boy aged 11 months the mother noticed that his eyelids were swollen in the morning. Four days later the feet and ankles began to swell, and in a few days the abdomen became swollen. The child was admitted to hospital on July 20, 1951. There had been no diarrhoea or vomiting. On examination there was generalized oedema, and the urine contained albumin (+ + +) (Esbach, 14 g./litre). Hyaline and granular casts were present and there were more than 50 red cells in the centrifuged deposit. On admission no inquiry had been made about mercury. On recalling the parents it was found that the child had been given one teething powder on alternate days for the past five months. These powders each contained approximately 0.64 gr. (42 mg.) Hg in the form of calomel, so that about 3.1 g. Hg had been given in that period. Treatment with dimercaprol was started on July 28, 20 mg. being given intramuscularly four times daily for two days, 20 mg. twice daily for one day, and 20 mg. daily for 10 days. There was marked diuresis, and the loss of weight which occurred is shown on the Chart.

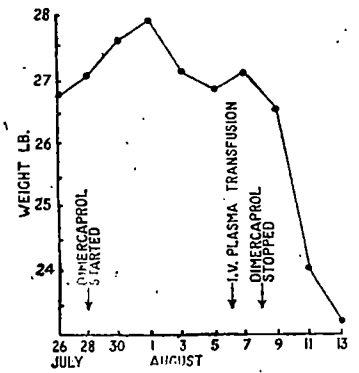

Chart showing the marked loss of weight which followed treatment of Case 3 with dimercaprol.

Before treatment the urine contained 75 γ Hg per 100 ml. A few days after dimercaprol was started the mercury content rose to 120 γ per 100 ml. Seven days later the urine contained 28 γ Hg. Three weeks later it contained 9 γ Hg. The child was given two intravenous plasma transfusions, one during the course of treatment with dimercaprol and the second a week later. During the five days after dimercaprol was stopped the child lost about 3½ lb. (1.59 kg.) in weight and the oedema was much diminished. A few days later the oedema recurred to some extent, but a fortnight afterwards no oedema could be detected though the urine still contained some albumin (Esbach, 1 g./litre). In view of the persistent slight albuminuria and the fact that the mercury content of the urine had risen to 24 γ per 100 ml. a further course of dimercaprol was started on September 24. Two days after this course was begun the urine contained 260 γ Hg per 100 ml., and six days later 58 γ Hg. As the child had had a patch test (in which a small amount of ointment containing 13% calomel was applied to the skin for 48 hours) we felt it necessary to find out if this test had affected the amount of mercury excreted. A similar patch test (mercury content approximately 5,000 γ) was applied to a normal baby of the same age for 48 hours. This baby's urine contained no mercury before the patch test, but 24 hours after its application the urine contained 6 γ per 100 ml. Twenty-four hours later the urine contained 2 γ. Four days later no mercury was detected, but two days later the urine contained 4 γ Hg. These tests are not strictly comparable, since the normal baby was not receiving dimercaprol. In neither case was the skin test positive. About 21 days after the second course of dimercaprol the urine became free of albumin and the child was discharged well.

TABLE III.—*Case 3*

Date	Blood Urea mg./100 ml.	Serum Cholesterol mg./100 ml.	Serum Proteins		
			Total g. %	Alb. g. %	Glob. g. %
20/7/51	26	520	4·40	1·58	2·82
22/7/51					
10/8/51	33				
27/8/51	42				
3/9/51	28				
24/9/51	24				

Case 4

Two weeks before his admission to hospital the mother of a boy aged 12 months noticed that his eyelids were swollen. Two days before admission the abdomen, penis, and legs became swollen. For a week little urine had been passed and there was marked thirst. There had been no diarrhoea. The child was admitted on September 14, 1951. On examination there was generalized oedema and the urine contained albumin (+ +). Scanty hyaline casts were present and a few red cells. This child had been given one teething powder on alternate days for the past six months. These powders each contained approximately 0.64 gr. (42 mg.) Hg in the form of calomel—i.e., approximately 3.8 g. Hg had been taken in six months. On September 20 the urine contained 52 γ Hg per 100 ml. No dimercaprol was given in this case. On admission the child's weight was 26 lb. 14 oz. (12.2 kg.). The oedema decreased rapidly, and in the course of 10 days cleared completely. On October 4 his weight was 20 lb. 12 oz. (9.4 kg.). A week later the weight was 19 lb. 12 oz. (9 kg.), and the general condition was greatly improved. Nine days later vomiting and diarrhoea occurred for a few days. On October 24 the urine contained 44 γ Hg per 100 ml. Microscopy of urine was negative and no albumin was present. The infant was discharged well on October 25 and without any renal abnormality. He has since remained well. Other biochemical investigations are shown in Table IV.

TABLE IV.—*Case 4*

Date	Blood Urea mg./100 ml.	Serum Proteins		
		Total g. %	Alb. g. %	Glob. g. %
17/9/51	30			
19/9/51		6·48	3·06	3·42
15/10/51 ..		6·74	4·20	2·54

Case 5

We are indebted to a colleague for the following case history.

A child aged 19 months was admitted to hospital with generalized oedema which had been present for three days and with marked albuminuria. Despite routine treatment for a month the oedema and albuminuria persisted unabated. At this point the possibility of a mercury nephrosis was raised, and an interview with the parents uncovered the fact that one teething powder had been given daily for three to four months' before admission. Each powder contained approximately 0.56 gr. (36 mg.) Hg. Urine for mercury estimation, obtained with difficulty, was found to contain 22 γ Hg per 100 ml. Unfortunately the child deteriorated rapidly and died before treatment with dimercaprol could be started. Permission for necropsy was refused. We believe that this was a case of mercury nephrosis.

The method used for the mercury estimations was essentially that of Milton and Hoskins (1947). The mercury content of the urines of 12 normal children was estimated by the same method for use as controls. In nine of these no mercury was found in the urine. One had 1 γ Hg per 100 ml. of urine and the other two had 3 γ Hg.

Discussion

The mercurial compounds given to these children are in common use, but the danger of causing nephrosis by their prolonged ingestion is not recognized. In three of the cases

no inquiry had been made about the administration of mercury compounds at the first interview with the parents, so that the possibility that mercury was the cause of the nephrosis would not have come to light had our suspicions not been previously aroused. Our experience with Case 3 shows that a considerable amount of mercury may remain in the body for long periods and that more than one course of dimercaprol may be necessary to eliminate it adequately. If the treatment with dimercaprol is instituted promptly complete recovery of renal function is possible. Case 4 shows that in some cases spontaneous recovery may occur when the intake of mercury is stopped, though its excretion may continue for relatively long periods. On the other hand, Case 5, in which no dimercaprol was given, proved fatal.

In view of these findings we urge that mercury compounds should be eliminated from all teething powders and that other mercury compounds, such as grey pills, be used with care, and prolonged administration be avoided in young children. Teething powders not containing mercury are free of the risks we have described.

Summary

Five cases of mercury nephrosis are described. Complete recovery in a short period in three cases treated with dimercaprol is reported. Of two cases not treated with dimercaprol one patient recovered and one died.

We are indebted to the resident medical and nursing staffs who have cared for these children while in hospital, to Miss J. Summerscales for assistance with the mercury estimations, and to Miss P. M. Gorse for routine biochemistry in some of the cases.

REFERENCES

Fanconi, G., Botsztejn, A., and Schenker, P. (1947). *Helv. Paediat. Acta*, Suppl. 4, 2, 3.
Leschke, E. (1934). *Clinical Toxicology*, pp. 32-57. Churchill, London.
Milton, R. F., and Hoskins, J. L. (1947). *Analyst*, 72, 6.

FATAL HYPOKALAEMIC ALKALOSIS WITH TETANY DURING LIQUORICE AND P.A.S. THERAPY

BY

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This is a report on a patient who, while receiving treatment for tuberculous meningitis, developed unexplained electrolyte abnormalities, from which she died. Papers published subsequently have thrown light on the mechanism of her death.

Case Report

A girl aged 15 received a full course of streptomycin for miliary tuberculosis with tuberculous meningitis, and was discharged from hospital on February 24, 1950, having made a satisfactory recovery. She was seen at intervals as an outpatient, and gained weight and strength. On May 27 she was readmitted with a recurrence of the meningitis, and was treated with intramuscular and intrathecal streptomycin and sodium *para*-aminosalicylate (P.A.S.). The P.A.S. was given in a mixture containing 2 g. of sodium *para*-aminosalicylate and 12 min. (0.72 ml.) of ext. glycyrrh. liq. *B.P.*, and the dose was increased gradually to 20 g. daily. About 595 ml. of ext. glycyrrh. liq. was taken over the whole period. The meningitic symptoms showed signs of improvement, but on August 3 she complained of stiffness of her arms and legs, and there was twitching of the face. Later in the day she was reported to have had two epileptic attacks.

There were no further attacks during the next two weeks, during which phenobarbitone was prescribed, but stiffness was still a complaint. About August 24 muscular cramps occurred, and it was plain that she was having severe tetany, with carpopedal and facial spasm, and slight respiratory difficulty. There was no evident hyperpnoea. The serum calcium was found to be low (7.5 mg. per 100 ml.), and plasma alkali reserve 82 vols. CO_2 per 100 ml. The urinary calcium was normal as judged by Sulkowitch's reagent. Repeated administration of calcium gluconate intravenously had only a transient effect on the attacks of tetany, which increased in duration, and Trousseau's sign was constantly positive. On August 27 the electrocardiogram showed ST depression as occurs in hypokalaemia. On three occasions generalized convulsions with opisthotonos occurred during severe attacks of tetany. She gradually became weaker, with rapid shallow respirations, and died on September 2. The biochemical findings on the last two days of life were those of a hypochloraemic hypokalaemic alkalosis, and are shown in the Table.

Date	Plasma CO_2 Vols./100 ml.	Serum K mg./100 ml.	Plasma Cl mg./100 ml.	Serum Ca mg./100 ml.	Serum Na mg./100 ml.	Serum Inorganic Phosphorus mg./100 ml.
Aug. 25	82		374	7·5		
,, 26	82		410			
,, 28	82	13	386	8·5	345	3·7
,, 30			386	8·5		
,, 31	92	13	421		345	

On August 28 the serum alkaline phosphatase was 5 K.-A. units. On August 31 the serum albumin was 2·1 g.% and globulin 3 g.%.

At the post-mortem examination there was evidence of active tuberculous meningitis.

Discussion

One month after this patient had died, Borst *et al.* (1950) showed that liquorice had a deoxycortone-like action, and Strong (1951) has reported that two patients with tuberculosis who received P.A.S. flavoured with liquorice developed tetany with similar electrolyte findings to those of my patient. Also, Strong was informed by Cayley, who had recorded the development of hypokalaemia in three patients having P.A.S. (Cayley, 1950), that liquorice had also been given in his cases.

There seems to be good circumstantial evidence that liquorice was responsible for the electrolyte changes shown by these patients and the fatal case here recorded. The tetany seems to have been less severe in the cases reported by Strong than in the present case. His patients, although having cramps and positive Trousseau's sign, had a negative Chvostek's sign, but my patient had facial, carpopedal, and laryngeal spasm, with convulsions. The low serum calcium was due to the hypoalbuminaemia (2.1 g. of albumin per 100 ml.). The presence of a normal urinary calcium, as estimated by Sulkowitch's reagent, suggests that the diffusible calcium was normal in amount in the serum. Thus the tetany was unrelated to the low serum calcium.

Hypochloraemic hypokalaemic alkalosis is found in Cushing's syndrome and can be produced in man by cortisone, but the only evidence I can find of its production by D.C.A. is recent work by Seldin *et al.* (1951). These workers suggest, as a result of experiments, that D.C.A. has no direct effect on the renal excretion of potassium, but that a potassium diuresis may follow D.C.A. administration as a passive consequence of sodium retention. They were able to produce a hypochloraemic hypokalaemic alkalosis by D.C.A. if sodium was given freely, and in fact my patient was receiving the sodium salt of P.A.S., and was later given intravenous sodium chloride because of the hypochloraemia. Tetany is not mentioned by these workers, nor in reports of cortisone toxicity, and in fact the low serum potassium would make the occurrence of tetany unlikely. Tetany in

other forms of metabolic alkalosis is, of course, well recognized. The P.A.S. could hardly have produced the observed electrolyte changes, because salicylate causes a respiratory alkalosis, with low alkali reserve, but the addition of a mild respiratory alkalosis to the metabolic alkalosis caused by the liquorice would favour the occurrence of tetany.

It is understood that difficulty has been found in producing electrolyte abnormalities experimentally with some preparations of liquorice, and it is possible that there may be a variation in the D.C.A.-like activity of different batches of liquorice extract.

It is interesting that the urinary chloride concentration, estimated by the Fantus test, remained very high (4–8 g. per litre) throughout the last week, contrary to what one might expect from the combined effects of hypochloraemia, alkalosis, and D.C.A.-like liquorice. In fact, this is often found in hypokalaemia, as Fourman (1951) points out.

Summary

A patient receiving sodium *para*-aminosalicylate for tuberculous meningitis developed a metabolic alkalosis, from which she died.

Liquorice, used as a flavouring agent with the P.A.S., appears to have been responsible.

I am grateful to Dr. N. Kletts for permission to record this case. My thanks are also due to Mr. Varley for the biochemical determinations, and Dr. D. A. K. Black for helpful advice.

REFERENCES

Borst, J. G. G., Gerbrandy, J., Jong, J. C. de, Lenstra, J. B., Molhuysen, J. A., Turner, K. P., and Vries, L. A. de (1950). *Lancet*, 2, 381.
Cayley, F. E. de W. (1950). Ibid., 1, 447.
Fourman, P. (1951). *British Medical Journal*, 2, 1284.
Seldin, D. W., Welt, L. G., and Cort, J. (1951). Paper read to American Society for Clinical Investigation. Abstracted in *J. clin. Invest.*, 1951, 30, 673.
Strong, J. A. (1951). *British Medical Journal*, 2, 998.

CASE ILLUSTRATING HAZARDS OF MANIPULATIVE TREATMENT IN LUMBO-SACRAL DISK PROTRUSIONS

BY

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A recent experience having a bearing on the practice of manipulation of the spine for lumbo-sacral disk lesions seems worth recording.

Case Report

A man aged 36 who was engaged in heavy work had a sudden onset of low-back pain spreading down the back of his right leg to the foot. There was a past history of two previous similar attacks. A radiograph of the lumbo-sacral spine showed the L.5/S.1 joint space to be diminished posteriorly; otherwise there was no abnormality.

The patient was suffering from a protrusion of an intervertebral disk of the lumbo-sacral spine. The physical signs did not alter during five weeks' rest in bed, although the symptoms were definitely diminished. He was encouraged to move his back under intravenous procaine analgesia (5 ml. of a 1% solution of procaine). Although only 30 degrees of flexion was allowed he suddenly experienced very severe pain down the back of his right leg, which caused him to cry out. Morphine was necessary. Flexion of the spine and raising of the straight leg were not possible. The pain continued for 48 hours, until laminectomy was performed.

At operation the cauda equina was displaced backwards by a large disk protrusion, over which the first sacral root was tightly stretched. Furthermore, deep to this, in the intervertebral space, was a considerable quantity of "sequestrated" nuclear material, lying free and comprising the remainder of the nucleus pulposus. This could have been forced into the spinal canal by pressure resulting from increased movement of the spine. The operative findings are illustrated in Fig. 1; the disk material after removal is shown in Fig. 2.

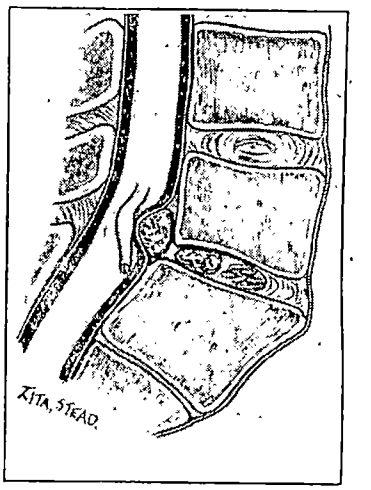
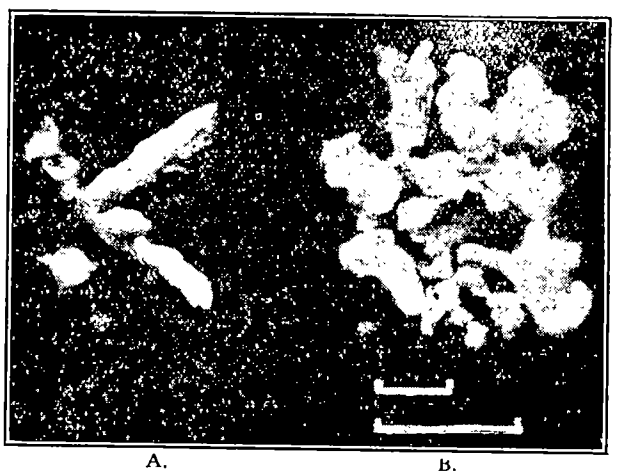


FIG. 1.—Diagrammatic representation of the operative findings.

Follow-up Report.—On the day after operation, February 12, 1951, the patient was free from pain but had some numbness of the right foot. He remained free from symptoms and was allowed up 17 days after operation. He was discharged to his own home on March 5, and returned on April 2 to the same heavy work that he had been doing pre-operatively. He has since been at this work, and when last seen (September 16) he was symptom-free.



A. B.

FIG. 2.—(A) The disk material lying free in the spinal canal, and (B) the disk material in the intervertebral space. Marked distances equal 1 cm. and 2 cm.

Commentary

The increased flexion of the spine forced more disk material into the spinal canal, exaggerating the symptoms and signs of lumbo-sacral root pressure. The operative findings of more "free" nuclear material lying ready to enter the spinal canal demonstrates that had more flexion been obtained, as in a forceful manipulation for instance, the size of the "tumour" in the spinal canal might well have produced a cauda-equina lesion.

Although it is not our practice to use manipulation in the treatment of lumbo-sacral disk lesions, we considered the possibility that we were dealing with an uncommon type in which the extruded disk material was nipped by the posterior margin of adjacent vertebral bodies and so prevented from returning. We wondered if the muscular relaxation and increased movement of the spine, made possible by analgesia, would result in sufficient widening of the intervertebral space to allow the prolapse to reduce spontaneously.

It is interesting to recall Goldthwait's (1911) report of a case made worse by manipulation. The following is a brief extract.

A man aged 39 developed a severe attack of "lumbago" after a fairly long car journey and carrying a heavy suitcase for over half a mile. A previous similar attack seven years before had been treated with a surgical corset and had resulted in complete recovery. After a restless night the patient got up and took a tub bath. "On trying to get out of the tub, in bending forward and straining to get up, something slipped in his back, entirely different from anything he had before experienced. The body was drawn forward and to the left; there was intense pain, so that it was with great difficulty that he was able to get back to his room, and the suffering continued until he was seen by the doctor four hours later. At that time the body was held bent forward and to the left. There was extreme tenderness in the sacral region, with pain extending into the legs, the right being worse than the left." The condition was regarded as a sacro-iliac displacement and two manipulations were given, the first under general anaesthesia and the second without an anaesthetic. A cauda-equina lesion was produced, the patient having urinary and faecal incontinence and a flaccid paraplegia.

The case stimulated Goldthwait to much thought and research, from which he concluded that intervertebral disk prolapse played a large part in the production of "lumbago," "sciatica," and cauda-equina lesions.

I wish to thank Mr. B. H. Burns and Mr. R. H. Young for their permission to publish this case, treated under their care at St. Peter's Hospital, Chertsey.

REFERENCE

Goldthwait, Joel E. (1911). *Boston med. Surg. J.*, 164, 365.

Medical Memoranda

Prostatic Obstruction and Inguinal Hernia: A New Approach

Straining at micturition and the weakening of the tissues which accompany advancing age are well-recognized factors in the aetiology of inguinal herniae. It is not surprising, therefore, that cases of prostatic obstruction are often complicated by herniae. McDonald and Huggins (1949) found the incidence to be 15%. These herniae are liable to the serious complication of strangulation, itself a more lethal malady than prostatic obstruction. It thus behoves the surgeon to cure both conditions.

Now that asepsis, stressed by me (Moore, 1939) and by Wilson Hey (1945), has been more generally observed in urology, prostatectomy has become a safe operation. Wilson Hey has already stated that it can be safely combined with other procedures, including herniorrhaphy. It has become my routine to deal with the inguinal hernia at the same time as the prostate. For this reason, when the patient has a hernia I recommend open operation, even in those types of prostatic obstruction in which I would normally carry out a transurethral procedure. For the past 12 years I have used almost entirely only the transverse suprapubic incision for operations on the prostate and bladder. Through this incision I also carry out inguinal herniorrhaphy—often on both sides.

Although many patients who present with prostatic obstruction are found on examination to be suffering from inguinal hernia, one also encounters cases of inguinal hernia in old men who make no complaint of urinary symptoms. On direct inquiry and investigation many are found to be suffering from prostatic obstruction. If the prostate is not treated they often develop post-operative retention of urine which fails to respond to conservative measures. Eventually they have to be submitted to prostatectomy, in either one or two stages, with all the dangers of the sepsis which has developed during the interval. There is no question that the period in hospital after a one-stage operation dealing with both conditions is far shorter than that following prostatectomy performed some time after herniorrhaphy. In fact, the period in hospital after a combined prostatectomy and herniorrhaphy is no longer than that after a prostatectomy alone.

TECHNIQUE

In old bad-risk cases I always employ low spinal anaesthesia and a local block of the abdominal wall. A transverse incision 4–6 in. (10–15 cm.) long is made a finger-breadth above the pubis. If only a one-sided hernia is to be done more of the incision is placed on that side of the midline. The skin, superficial and deep fascia, and the anterior rectus sheaths are opened in the line of the incision, which extends a little lateral to the rectus into the aponeuroses of the external and internal oblique muscles on the side of the hernia. In the midline the rectus sheath is separated from the linea alba down to the pubis and up towards the umbilicus for 2–3 in. (5–7.5 cm.). The rectus muscles are then separated in the midline and the type of prostatectomy preferred is carried out. In my practice this is almost always a Millin prostatectomy.

When this procedure has been completed the retractors are removed and the muscles allowed to fall together. The inguinal canal is then approached lateral to the rectus muscle between the internal and external obliques, where they are fusing to form the rectus sheath. When these are gently separated the arching fibres of the internal oblique forming the cremasteric muscle are soon visible. These are divided in the length of the canal and the cord and its contents exposed. The sac, whether direct or indirect, is dissected free and dealt with in the ordinary way. If the canal is weak and requires strengthening, any of the usual methods can be used. When the Bassini procedure or one of its modifications is adopted it is evident that the conjoined tendon can be brought down to the inguinal ligament with much less tension than in the more direct approach, because the internal oblique has already been incised at the level of the suprapubic wound. It is important in closing the transverse incision that the upper leaves of the external and internal obliques should be sutured to the lower one of the external oblique only, otherwise the relaxation of the internal oblique already obtained is lost. During the operation I often divide the vas as near the external ring as possible, preferably on the external side. Before the wound is finally closed the cave of Retzius is usually, but not always, drained.

Post-operative Course.—Sulphadimidine, 1 g. six-hourly, and penicillin, 200,000 units intramuscularly eight-hourly, are given two days before the operation, and are continued for five days after it. In cases with urinary infection due to organisms insensitive to these agents streptomycin is sometimes used, 0.5 g. being given by intramuscular injection 12-hourly for four to five days. Normally, patients are allowed up on the second day after operation. The cave of Retzius drain is also removed on that day. The catheter is removed on the fifth day. When a hernia has been done at the same time as the prostatectomy the patient is usually kept in bed for seven days. Patients are discharged from hospital 10 to 12 days after the operation.

COMMENT

I have carried out this operation many times and have had no cause to regret it. Many of the patients have been of the poor, old, municipal-hospital type. The results of the cures of the herniae have been as good as those obtained by any method of treatment in people of this age. The patients are delighted to get rid of their ruptures at the same time as their urinary trouble; surgically they are very much safer. It may be objected that leakage of urine may lead to infection

of the inguinal canal. In modern prostatectomy, however, practically speaking, no leakage occurs. Whatever theoretical objections may be raised against the method, in practice it works.

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REFERENCES

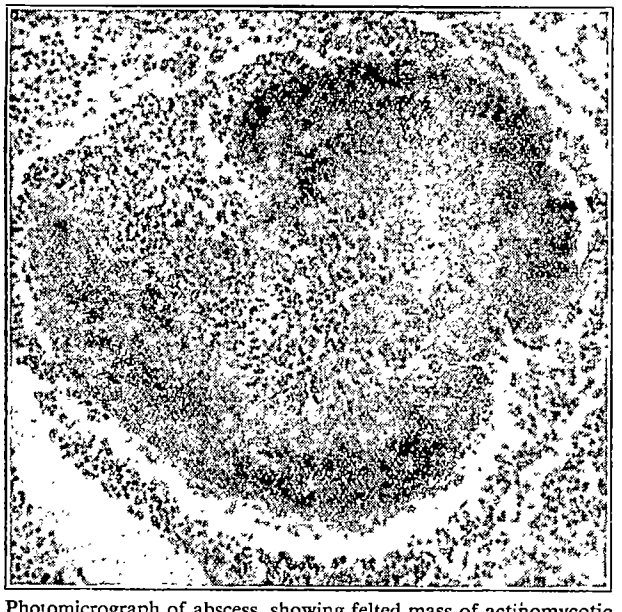
Hey, Wilson H. (1945). *Brit. J. Surg.*, 33, 41.
McDonald, D. F., and Huggins, C. (1949). *Surg. Gynec. Obstet.*, 89, 621.
Moore, Thomas (1939). *Brit. J. Urol.*, 11, 233.

Paralaryngeal Actinomycosis in a Child

Actinomycotic infection in childhood is a rarity. The following case is of interest in view of the mode of presentation, the early stage at which actinomycotic infection was discovered, its occurrence in a rarely encountered site of the cervico-facial region, and the peculiar eosinophilic inflammatory reaction.

CASE REPORT

The patient, a girl aged 8, attended as an out-patient under Mr. W. R. S. Hutchinson on March 4, 1950. She had had a small painless left-sided cervical swelling for the past four months, clinically diagnosed as tuberculous adenitis. There



Photomicrograph of abscess, showing felted mass of actinomycotic hyphae lying within.

was no history of any serious illness or contact with tuberculosis, and she was otherwise quite healthy. *X*-ray films of the chest revealed nothing abnormal, the mouth and upper respiratory passages were free from disease, and there were no carious teeth.

On April 4 she was admitted for removal of the supposed lymph nodes. At operation, performed by Mr. B. Courtice, a mass, approximately 1 by ¾ in. (2.5 by 1.9 cm.), was found in the lower half of the anterior triangle of the neck lateral to the trachea and the infrahyoid muscles deep to skin, which was not involved, and deep to the cervical fascia. It was not encapsulated. A fibrous band was found passing from the mass upwards in the neck towards the angle of the jaw.

Histological examination revealed that the mass was not of lymph nodes, but consisted of fibro-muscular tissue surrounding a small central abscess. Lying within the abscess was a discrete felted mass of actinomycotic hyphae (see illustration). The surrounding cellular reaction infiltrating the muscle around showed polymorphs, lymphocytes, and plasma cells, with a strikingly large number of eosinophils. Numerous further sections of the tissue submitted failed to reveal any other actinomycotic masses.

Investigations into the staining reactions of the organism were limited by the minute amount of available material. It was found to be Gram-positive, non-acid-fast. An unsuccessful attempt was made to culture the organism from a slight discharge from the wound following its discovery in the abscess. The child was treated with penicillin, 500,000 units daily for three weeks. The wound healed rapidly, and so far there has been no recurrence.

COMMENT

It is suggested that the case was one of the primary paralaryngeal or parapharyngeal group of cervical actinomycosis first described by Hoffmann (1906). The situation in the neck, the absence of any external wound or history of trauma in this region, and the lack of any evidence of actinomycosis in the mouth or elsewhere in the neck all fall in with this view.

Hoffmann's first case presented sinus formation and swelling of the arytenoid cartilages; in 1909 he described a further nine cases of paralaryngeal actinomycosis and stated that laryngeal involvement was not constant. Beysiegle (1933) found in the literature 19 cases of laryngeal actinomycosis and considered that there were very few cases of actinomycosis of the neck related to the larynx without evidence of perichondritis. Vogel (1935), in a review of 14 cases, describes one case without involvement of the skin or of the larynx. Peter Childs (1948) describes a case of paralaryngeal actinomycosis without involvement of skin or larynx which he considers to be only the second to be recorded. Both Hoffmann and Vogel found paralaryngeal cases commoner on the left side, adding that lymph-node involvement was not a feature, and that there was no relation to carious teeth. Lamb, Lain, and Jones (1947) review cervico-facial actinomycosis. They mention the rarity of primary cervical cases, restricting this group to cases in which infection does not obviously spread from neighbouring mucous membrane or from systemic infection. They describe one primary case only, and in this the patient had infiltration at the base of the left lung, which may have been actinomycotic.

There are three views on the mode of entry of the fungus in the paralaryngeal group: (1) Entry through the lateral pharyngeal wall via the inferior constrictor muscle is suggested by Hoffmann; he constantly found an indurated band from the angle of the jaw to the upper end of the swelling in the neck. This band was found in my case. (2) Entry via the tonsils is suggested by Vogel. (3) Schütz (1938) concludes that infection travels directly through the mucous membrane of the pharynx or hypopharynx. The point of entry of the organism in my case is unknown.

As to why a parasitic organism becomes pathogenic, Mathieson *et al.* (1935) suggest that it results from repeated absorption of toxins, ultimately causing allergic sensitization. The very marked eosinophilic cellular reaction which was so striking a histological feature in my case may be relevant to this view.

I am grateful to Dr. S. C. Dyke and Dr. J. T. Duncan for advice. Acknowledgment is also made to Mr. W. R. S. Hutchinson for permission to publish the case.

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REFERENCES

Beysiegle, K. (1933). *Int. Zbl. Ohrenheilk.*, 36, 157.
Childs, P. (1948). *Brit. J. Surg.*, 35, 429.
Hoffmann, R. (1906). *Münch. med. Wschr.*, 53, 449.
—— (1909). *Z. Ohrenheilk.*, 58, 156.
Lamb, J. H., Lain, E. S., and Jones, P. E. (1947). *J. Amer. med. Ass.*, 134, 351.
Mathieson, D. R., Harrison, R., Hammond, C., and Henricl, A. T. (1935). *Amer. J. Hyg.*, 21, 405.
Schütz, W. (1938). *Z. Hals- Nasen- u. Ohrenheilk.*, 43, 296.
Vogel, K. (1935). *Z. Laryng. Rhinol. Otol.*, 26, 263.

Reviews

THE OLD AND INFIRM

Adding Life to Years. By Lord Amulree, M.D., F.R.C.P. Preface by Alderman Fred Messer. (Pp. 101; illustrated. 8s. 6d.) London: National Council of Social Service. 1951.

Administrative changes are usually advocated because it is hoped they will solve old problems; they are resisted because it is feared they may create new ones. As a rule both hopes and fears prove to be well grounded, and whether on balance changes are worth while depends, not upon their complete success, but upon whether the new problems prove to be less intractable than the old ones.

In so far as they relate to the welfare of old people, recent changes in medical and social administration run true to type, although at first sight it may appear easier to identify the problems created than the problems solved. The new problems have resulted from the division between two bodies—regional hospital boards and local authorities—of responsibility for services formerly vested in a single authority. To the patient seeking admission to a hospital for the chronic sick the loss of "admission as of right" must seem to be a serious fault for which there have as yet been no apparent compensations. But compensations there are, and Lord Amulree's brief but adequate account of the history and present status of services for the aged and chronic sick will help to put them into perspective.

Lord Amulree reminds us that the most serious deficiencies in these services are of long standing; they are rooted in the history of the Poor Law, and were discussed clearly and critically in the Minority Report of the Poor Law Commission of 1905. The remedy then suggested was a breakdown of the old unscientific category of the aged and infirm, with classification of patients and adaptation of services to their medical and social needs. This is still the remedy, and more progress has been made towards applying it in the past five years than in the previous forty. In no small part this progress has been due to the same Acts of Parliament which have created new problems by dividing responsibility between two authorities. The division of responsibility has contributed in two ways: it has given hospital boards a strong motive for classifying patients according to their needs, and it has brought into contact with hospitals for the chronic sick physicians who examine the services there provided in the light of the best standards of the voluntary hospitals. Lord Amulree is one of these, and, although his book is written against the background of a long-standing interest in the welfare of old people, it has profited from his recent experience in starting the first geriatric unit in a teaching hospital at St. Pancras.

THOMAS MCKEOWN.

TEXTBOOK OF PHYSIOLOGY

A Textbook of General Physiology. By Hugh Davson, D.Sc. (Pp. 659; 288 illustrations. £2 5s.) London: J. and A. Churchill. 1951.

Sooner or later the physiologist, pathologist, or clinician goes to the basic sciences to explain his observations and experimental results. He will analyse his work on the intact organism in terms of chemistry or physics.

Dr. Davson has addressed his book to the degree student in physiology and related subjects, to the medical student interested in physiology, and to the mammalian (including human) physiologist wanting to know the underlying fundamentals. Starting with the structural basis of living matter, he discusses the transformations of living systems. Accounts follow of the transport of water and solutes and of the characteristics of excitable tissue and the mechanism of muscle contraction. The whole ends with a section on the effect of light on, and its emission by, the organism.

The book is lucidly written and well illustrated. Those who practise the art of medicine will be pleased that their worries will be solved without undue strain on their mathematical ability. It will be essential to experimental research workers. Unfortunately, the author has not been able to find space for chapters on aqueous humour, synovial fluid, and phototropic phenomena. Two grave omissions are a full discussion of the electronic theory of valency, with its application to physiology and medicine, and discussion of the work of Lohmann and the role of high-energy bonds and the principles of measuring bond energy. Would it be too much to ask that a second edition include these subjects? Perhaps, too, that it should follow a useful American practice and include an index of names?

The book's title invites comparison with Bayliss's *Principles of General Physiology*. This is not fair; though this is a textbook by one of our younger and more brilliant physiologists, "Bayliss" was the matured vintage philosophy of a scholar and pioneer.

A. ST. G. HUGGETT.

ELATION

The Psychoanalysis of Elation. By B. D. Lewin, M.D. (Pp. 200. 15s.) London: The Hogarth Press. 1951.

Psycho-analytic contributions to the study of the psychoses have ranged from some original papers of fundamental importance to a few more ambitious treatises which, however suggestive in outline, are not yet sufficiently precise and detailed to meet the needs of the general psychiatrist. So far very few specialized studies of the great psychotic subgroups have been attempted. Dr. Lewin has broken new ground in this direction. Taking as his subject the comparatively neglected problems of elation, hypomania, and mania, he has reviewed psycho-analytic work in this field, adding a detailed account of his own views and observations on the general function of elation.

His review of the literature is in its way masterly, and both psycho-analysts and general psychiatrists should be grateful for it. The presentation of his own views unfortunately does not come up to the same high standard. It is somewhat confused, a little too dogmatic in its theoretical outline, and shows some of the faults consequent on generalizing from particulars. It also suffers from following too closely the present psycho-analytical fashion of regarding practically all mental manifestations as "defences," to the neglect of their more positive functions both individual and phylogenetic. There is certainly a good deal of "denial" in mania; there is equally certainly a marked oral element in it, just as there is in depression. But two swallows do not make a summer. Elation is in many respects a compound affect of composite origin; and it is not altogether a service to hedge-in its functions in terms of existing and somewhat sketchy hypothetical reconstructions of the reputed minds of sucklings. In particular, Dr. Lewin's correlations between hypomania and sleep are unduly restricted and hampering. Despite these criticisms his book is a valuable one, containing more stimulating ideas to the page than many a more ponderous psychiatric tome. Psycho-analysts will find the second half difficult going and psychiatrists will *a fortiori* find it hard to read. But they should try.

EDWARD GLOVER.

TEXTBOOK OF MEDICINE

Principles of Internal Medicine. Editors, T. R. Harrison, Paul B. Beeson, William H. Resnik, George W. Thorn, and M. M. Wintrobe. (Pp. 1,590; 245 illustrations. £4 10s.) London: H. K. Lewis. 1950.

This massive work is a textbook on a new model and the editors are to be congratulated on the care and thought so evidently devoted to its design and execution. The book begins with a brief but excellent chapter on the approach to the patient. A section follows in which the cardinal manifestations of disease are discussed, and then one on such

physiological topics as fluid and electrolyte balance, intermediary metabolism, and electrophysiology. These sections represent an attempt, which is wholly praiseworthy and largely successful, to integrate the "pertinent content of the preclinical sciences with clinical medicine." The authors' names are sufficient guarantee of the excellence of individual articles: Harrison on "Circulatory Failure," Wintrobe on "Anaemia," and Pickering, this country's sole representative, on "Headache" need only be cited to show the standard which has been set.

Part III is on reactions of the body to stress and antigenic substances. There are general reviews of the reactions to injury, of the psychological reactions to stress, and of the principles of immunity. These are succeeded by more conventional accounts of the clinical pictures which result from these reactions. The rest of the book conforms to the traditional pattern of the textbook of medicine, the diseases of known causation being classified aetiologically and the remainder anatomically. This part of the work maintains the high standard of the earlier section; the descriptions of disease are concise and illuminating; the principles of treatment are set out with precision and economy of detail; and each article concludes with a short bibliography, all of which show careful selection and a commendable lack of national prejudice.

The viewpoint of these writers is entirely to-day's. Probably the book's arrangement would have appeared fantastic to a teacher of medicine in 1900; for the same reason, it is not unlikely that the view of medicine instinct in its design will be outmoded in 1975. Nevertheless it is highly to be commended; there is no book on the market which represents more faithfully the outlook of the physician with a training in experimental physiology, and it is this outlook which dominates academic medicine in the English-speaking world to-day. In spite of its formidable bulk it can be recommended to the student who is in transition from his preclinical to his clinical studies; it will provide a sorely needed bridge between the two.

R. BODLEY SCOTT.

THE GORILLA

The Anatomy of the Gorilla. The Studies of Henry Cushier Raven and Contributions by W. B. Atkinson, H. Elftman, J. E. Hill, A. H. Schultz, W. L. Straus, Jun., and S. L. Washburn. Arranged and Edited by William King Gregory. A collaborative work of the American Museum of Natural History and Columbia University. The Henry Cushier Raven Memorial Volume. (Pp. 260; 116 plates. $15, or £4 17s. 6d.) New York: Columbia University Press. London: Geoffrey Cumberlege. 1950.

The sumptuous manner in which this volume is published must surely be the envy of all those workers in the field of mammalian anatomy who chance to live in lands where lavish grants for the publication of scientific monographs are not available. The volume is published as a memorial to Henry Cushier Raven, a man remarkable for his attainments as a collector and preserver of museum specimens and for the possession of a very charming and modest personality. Unfortunately he did not live to complete his projected monograph on the anatomy of the gorilla, and the preparation of the work for publication was undertaken by the late Dr. John Eric Hill. It is doubtless owing to the untimely death of both the original author and the reviser that the final publication is so regrettably uneven in its contents.

This unevenness is made evident by the fact that there are no figures or description of the central nervous system, nor, save in Schultz's account of the growth of the head, is there even any mention of the brain. The bones, though figured so far as the muscular attachments are concerned, are not described, and the loss of this is felt all the more since in some cases an explanation is surely needed—as, for example, in the figure of the clavicle (Plate 38), where an area for a "costo-clavicular articulation" is marked towards the lateral third of the bone. In this particular instance the absence of any explanatory text is all the more to be regretted, since the very unsatisfying figures of the mounted skeleton throw no light on the matter, and nowhere in the volume is there any reference whatever to articulations. A work that totally neglects descriptive accounts of the osteology, syndesmology, and the whole central nervous system hardly deserves the title under which this volume is published. The illustrations are reproduced in a style that can only be described as magnificent; but again there is the same unevenness of quality. Although many of the drawings of muscles leave little to be desired, some, especially certain of those depicting the viscera (such as Plate 88B), are hardly worthy of reproduction in any manner.

The volume is a triumph of modern book-making; but, if we are honest, we must confess that on closing it there comes a realization that a monograph on the anatomy of the gorilla remains to be written.

F. WOOD JONES.

A DOCTOR'S STORIES

Just a Medley of Amusing Tales and Interesting Medical and Legal Experiences, recorded by An Old Retired Scotch Doctor. (Pp. 80. 5s.) Reigate: George J. Hieatt and Son.

I have read this book with much pleasure. The author tells of his student life in Aberdeen and Vienna, with many interesting stories of his experiences. Later in his 25 years of general practice he held the post of divisional surgeon to one of the divisions of the Metropolitan Police, and there encountered a host of interesting personalities of all sorts.

Many of his stories cover the war period and travel cruises. They are related in a pleasant and readable form and should prove a useful storehouse for storytellers in all walks of life. A fund of humour is especially valuable to medical practitioners in difficult times like the present, and a perusal of this booklet will prove both interesting and instructive.

G. MACFEAT.

VENEREAL DISEASES

Venereal Diseases described for Nurses. By R. C. L. Batchelor, M.A., M.B., Ch.B., D.P.H., F.R.C.S.Ed., M.R.C.P.Ed., and Marjorie Murrell, M.B., B.S., D.P.H., F.R.C.S.Ed., M.R.C.S. (Pp. 218; 43 figures. 12s. 6d.) Edinburgh: E. and S. Livingstone. 1951.

This little book, written for both male and female nurses, contains in some 200 pages all that, or even more than, they need know about venereal diseases and patients suffering from them. It contains an adequate description of most of the venereal and allied diseases which bring patients to V.D. clinics, together with their symptomatology and treatment. The descriptions are clear and most of the illustrations first-class, though the figures on pp. 12 and 152 contain no references to the numbers given in the captions. There is an excellent section on ethical and sociological considerations.

A few criticisms both constructive and destructive may be allowed. The language is perhaps rather too technical and more suitable for a medical student than a nurse, who might be hard put to it to explain the meaning of ophthalmoplegia, for example. The impression is given that chancres are almost always "hard," that "salvarsan" commonly causes death, that a provocative injection of neoarsphenamine is of considerable value, and that a Herxheimer reaction in syphilis may be avoided by starting treatment with small doses of penicillin. A description of the procedure for lumbar puncture would be useful. Complementary for complimentary (p. 55), and specula for speculae (p. 164), will presumably be included in the next edition, which will soon be needed, for this excellent book should have a wide circulation.

T. E. OSMOND.

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KING GEORGE VI

The country and the Commonwealth mourn the passing of a beloved and kindly King who by his steadfast bearing, devotion to duty, and manly example made all his peoples truly members one of another, bound with hoops of steel in the adversity of war and knit together in a firm resolve to build a new world in the peace that yet hovers on the horizon. He gave us the strength that comes from the unity of a Monarch with his people. When Britain stood alone the King and his family stood there in the centre of our life, enduring in full measure the ordeal of the battle that raged over the cities and ports of a besieged country. If the constitutional sovereign of a free people has become in much of his significance a symbol, King George VI was a symbol not of the pomp and circumstance of palaces but of a devoted father of a family who in his unaffected simplicity came close to the heart of the common man, and in this became so much the more a King.

The British Medical Association mourns the passing of its beloved patron, and the thoughts of its members move in deep sympathy with the widowed Queen and with Queen Mary. The ties between the medical profession and the throne are in some ways closer than those of other sections of the community. Doctors assist at the birth of the Prince or Princess destined to take up the heavy burden of sovereignty. They give their counsel in health and their skill and care in sickness. Chosen because of their character, knowledge, and wisdom, they assume an overwhelming responsibility when called to the sick-bed of a King or a Queen. King George VI was sorely tried by illness in his too brief life. The courage and persistence with which he triumphed over a distressing disability of communication he displayed in the grave illnesses of his last years. As a naval cadet at Osborne he had a severe attack of pneumonia. In the early weeks of the 1914–18 war he was operated on for appendicitis; but he saw active service in the Battle of Jutland. Then a period of serious ill-health ended in an operation for duodenal ulcer at the end of 1917. It was in November, 1948, that his medical advisers issued a bulletin stating that "the King is suffering from an obstruction to the circulation through the arteries of the leg, which has only recently become acute; the defective blood supply to the right foot causes anxiety." In commenting on this the *British Medical Journal* said: "The medical profession will join with the rest of the community in heartfelt sympathy with the King in his present disablement—a sympathy heightened by their knowledge of the pathology of arterial disease." It was indeed highly probable that the local condition of the leg was symptomatic of a more widespread involvement of the arterial system, and his medical advisers must have been gravely concerned about the condition of the cerebral and coronary arteries, a concern which they naturally had to keep within their own counsel. Further bulletins were issued, and in March, 1949, the country learnt that lumbar sympathectomy had been performed with a view to improving the supply of blood to the right foot.

In a review at the time of the value of sympathectomy in the treatment of organic arterial disease it was stated in these columns: "The majority of arteriosclerotic subjects are old, their expectation of life is limited, and the risks of operation are greater. Even so, lumbar ganglionectomy may be of distinct value in some of these cases. The operation is best reserved for patients under 60. . . ." The King's recovery from the operation was uneventful, and happily he gained relief from his distress and the circulation in the right foot improved. But the state of the King's cardiovascular system must have continued to be a source of grave anxiety to his medical attendants. His sudden but peaceful death from coronary thrombosis ten days ago, on February 6, was the sad and now all-too-familiar outcome of the condition diagnosed in 1948 and bearing no relation—it seems unnecessary to add in a medical journal—to the disease of the lung for which resection was carried out in September of last year. About three months after signs of inflammation in the lung structural changes appeared of such a nature as to compel the King's doctors to advise resection, a serious operation from which the King made a magnificent recovery. The nature of the lesion in the lung has not been officially declared, but the following statement in the *Manchester Guardian* of February 7 reflects informed opinion on it: "Although a name was never officially given to the illness which necessitated the King's sudden operation on September 23, most doctors thought that the 'structural changes' first announced on September 18 were those of cancer of the lung."

His late Majesty, as an account on page 386 shows, followed his father's example in the interest he took

in the world of medicine. He was closely identified with the British Empire Cancer Campaign, and it was only a fortnight before his accession that he had presided in the House of Lords over the annual meeting of that body. In 1933 he opened the International Paediatrics Congress, saying, "Take care of the young, and the country will take care of itself." It was indeed with the young that he seemed to be at his happiest, and it was in 1921 that he arranged for the first of his boys' camps, made up of 200 public school boys and 200 boys from working-class homes. Two years before this he had become President of the Boys' Welfare Association, under whose aegis the camps were run. Here was a direct contribution to social welfare and to what was known later as "positive health." As Duke of York he lived in the camp, took part in the sports and the games, and joined with zest in the camp-fire singsongs. His interest in the health and welfare of the young was further shown by his presidency of the Barnardo's Homes, the Boys' Welfare Association, the National Playing Fields' Association, and the National Safety First Campaign. After the death of his father he was made chairman of the Advisory Council set up to help in administration of King George's Jubilee Trust, which by endowments and grants aided young people in their games and sports. Another sign of his attunement to the age in which he was living was his concern with industrial welfare, manifested when he accepted the presidency of the Industrial Welfare Society. It was sad that one who played such an active part in promoting health and welfare should have suffered so much from illness, and it was with personal knowledge of what he owed to medical research that at the opening in 1950 of the National Institute for Medical Research at Mill Hill he said:

> "The work of the Institute exemplifies that spirit which inspires the State and science to work together for the health and happiness of mankind. . . . Many families here at home and, indeed, throughout the world have reason to be grateful for the benefits which have been brought about by medical research."

Medical men and women, knowing the nature of the King's recent illnesses and operations, must often have feared that his life might end after protracted suffering and anguish of mind and body. The great shock and grief at his sudden death must in the nature of things be tempered with the knowledge of what he may have been spared. During his life King George VI witnessed the flowering of a new epoch in medicine, with its especial triumphs over so many dire infections. His daughter, Queen Elizabeth the Second, will, we may hope and pray and expect, witness the conquest of the diseases that afflicted her father in the last years of his reign.

QUEEN ELIZABETH II

In the name of the British Medical Association and of the medical profession of this country we join with all loyal subjects in offering homage to the new sovereign. Like her late father, Queen Elizabeth II is the centre of a happy family life, and with her husband has earned the deep affection of the peoples over whom she reigns. She has already graced many a medical occasion, and is an Honorary Fellow of the Royal College of Obstetricians and Gynaecologists and of the Royal College of Surgeons of England. When, as Princess Elizabeth, she was admitted Honorary F.R.C.S. on December 5 last year she referred with feeling to the astonishing development of surgery since the College had received its first Royal Charter. As contrasted with the destructive uses man had made of scientific knowledge, "surgery at least," Her Royal Highness observed,[1] "was one field in which man's wisdom and energies had been devoted consistently to human good."

Like her great namesake, Queen Elizabeth comes to the throne at the young age of 25. Upon her youthful shoulders there now falls the heavy burden of public duties and State occasions and all the detailed work that is undertaken by a constitutional sovereign. Yet the Queen has, perhaps, a higher duty, and that is to her children, to her family. The young Queen is also the young mother, and it is devoutly to be hoped that those who give her "good advice and counsel"—to use the words of the other Queen Elizabeth on her accession in 1558—will see that the stresses and strains of Queenship are not borne at the expense of the fulfilment of motherhood.

THE PLACE FOR VOLUNTARY WORK

King Edward's Hospital Fund for London is an independent charity which has contributed many valuable ideas to the National Health Service. Perhaps the Emergency Bed Service is the best known of its creations, but it has been extremely active in setting up schools to train hospital administrators and caterers, in conducting research into many aspects of hospital organization and life, in investigating hospital costing on behalf of the Ministry of Health; in fact, in acting as the higher cerebral centres of the hospital service. Through its intelligence, independence, and great wealth it has been able to soften the

[1] *British Medical Journal*, 1951, 2, 1517.

rigidity of State bureacracy and to guide the managers of the Health Service into useful creative action.

The Civil Service was originally a purely managerial body controlling enterprises already in being, and recent legislation has given it work it was never intended to be able to do. The 1946 Act made it responsible for creating a new national medical service, and the knowledge and wisdom of King Edward's Fund and the Nuffield Provincial Hospitals Trust was brought in to give practical help in its planning. Civil Servants were aided to make these plans realities by the many public-spirited people who gave their time to the new boards and management committees as they had formerly to the voluntary hospitals. It is often forgotten that the Health Service has grown from, and is still shaped by, voluntary work and the efforts of charity.

To many social reformers charity has a suspicious and unpleasant sound. The Welfare State, it was hoped, would replace the inadequate, haphazard, and what was sometimes looked on as the patronage of the poor by the rich by granting the right to all citizens equally to obtain aid from an impersonal State. And it would do away with sweated labour and working without pay and ensure full employment at a reasonable wage. This has been the belief of many ordinary people in the past four years. They have paid high weekly insurance contributions and high taxes and imagined they were paying for a full health service in complete running order. Charity was outmoded, volunteers no longer needed.

And now King Edward's Hospital Fund for London, jointly with the National Council of Social Service, has put us once again in its debt[1] by analysing the position of the unpaid worker in the hospital service. It is the first survey of its kind, and only an introduction to its subject. Many criticisms can be brought against it: that it contains too many personal opinions and not enough hard fact, that it wanders into irrelevant discussion of the administration of the Health Service, that it is not cogently written and will not make the public impression that the subject deserves. But it does bring forward two matters of the first importance. One is that since 1947 the need for voluntary service has increased, not vanished, and the supply of volunteers and money does not yet meet this need. And the other is an elucidation of the significance of voluntary work.

Man is a social animal. He has the instinct to live a communal life, which means not merely to exist in an aggregation of individuals but something more—to work with and aid his fellows. This fact tends to drop out of sight in the gulf between discussions of individual rights and national demands. Men are more than units of personnel or production; they are not naturally occurring electronic brains in suitable mobile housing. They are born with the need to react emotionally on one another, and the giving of service is one outlet for this need. It is an outlet which may be channelled and directed but must not be stopped up, because to do so is to cut men off from one another and begin the disintegration of the community. This is a truism of mental health, and it is ironical that the daily life of peace should fail to offer the outlet of war. Where now is the spirit of Dunkirk? None of the problems such as housing and tuberculosis have been attacked with the vigour which went into military victory, and this is partly because people have not understood their own local responsibility in the peace effort and the opportunities for service.

Voluntary Service and the State indicates many useful parts the volunteer can play, both in and out of hospital. Ward orderlies, visitors, and interpreters, the trolley-shop which sells things to patients, the library service (how many patients realize that the books are mainly gifts and the librarians volunteers?), out-patient receptionists, canteen workers, clerical assistants to the blood transfusion services . . . the list of ordinary hospital jobs is enormous, and the work, particularly in chronic sick and mental hospitals, of great importance. But the opportunities outside also are great. In some areas district nurses, health visitors, the hospital car service, aftercare, and home helps are organized by voluntary societies. Sitters-up who will stay with a patient all night, home physiotherapists, aid to patients on discharge from hospital, provision of special food and appliances—the services vary from area to area according to local needs and initiative, and they want both trained and untrained people to give a few hours a week of their time.

But the first need is publicity. It would be good for patients to be told how much is being done for them by voluntary effort. They will not then take it for granted, and some of them will later wish to offer their services by way of thanks. There ought to be more articles in local newspapers on the kind of work being done and the need for more volunteers. Hospital committees can explore the possibilities of direct contact with local groups such as the employees of large firms to see whether friendly relations and help can be stimulated. The hospital could be a centre of local community life and not just a unit of the national medical service, and voluntary work at all levels has an important part to play.

[1] *Voluntary Service and the State*: A study of the needs of the Hospital Service. London. 1952. Price 2s. 6d.

E.S.R. IN ANAEMIA

When blood is diluted with its own plasma, the erythrocyte sedimentation rate (E.S.R.) is increased, a fact first demonstrated by Fåhraeus[1] and repeatedly confirmed. This accelerating effect of dilution, and the frequent association of anaemia and an increased E.S.R., led laboratory workers to conclude that anaemia *per se* increased the E.S.R., quite apart from other pathological conditions, and they then sought means of correcting for the anaemia. Of the numerous methods of correction evolved, those of Wintrobe and Landsberg[2] and of Hynes and Whitby,[3] both only applicable to the Wintrobe E.S.R., became generally accepted.

These corrections have not been popular with clinicians, who tend to prefer the Westergren E.S.R., with its normal range smaller and its abnormal range much greater than the Wintrobe values. Furthermore, the Westergren E.S.R. appears to correlate better with the clinical assessment of patients (Sinton,[4] Gilmour and Sykes,[5] Shackle[6]). However, the correction theory has limited the value of the Westergren E.S.R. in anaemic patients, since there is no accepted method of correcting it for anaemia, and it has thus become customary with anaemic patients either not to estimate the E.S.R. on the grounds that it will necessarily be raised, or to disregard an abnormal result.

Doubts about the validity of the various methods of correction have been repeatedly expressed. Recently Terry[7] gave reasons for regarding them not only as fallacious but also as unnecessary. He considered that it was irrational to apply the same method to the many different varieties of anaemia, and that, since the correction charts were based on dilutions of normal blood, their significance for specimens of anaemic blood was obscure. He argued that there was no proof that anaemia increased the E.S.R. and submitted clinical and experimental evidence showing that simple hypochromic anaemia is frequently associated with a normal E.S.R. He concluded that anaemia *per se* does not increase the E.S.R., and suggested that the small abnormal cells of hypochromic anaemia resist rouleaux formation or that its plasma is deficient in rouleaux-stimulating properties.

Drs. J. C. F. Poole and G. A. C. Summers in a series of convincing experiments reported elsewhere in this issue have now demonstrated that in iron-deficiency anaemia this increased stability of red cells in suspension is a property not of the plasma but of the cells, possibly the result of anisocytosis. They also found that in symptomatic anaemia the plasma exerted a strong accelerating influence, that in post-haemorrhagic anaemia both cells and plasma behave more like normal blood, and that in macrocytic anaemia the cells behave less predictably.

It seems clear from these findings that an abnormal E.S.R. in the presence of iron-deficiency anaemia is significant, and indicates either that the anaemia is not due to uncomplicated blood loss (of which menstruation, childbirth, and haemorrhoids are the commonest causes) or that some complicating illness such as phthisis is present; in either case further investigation of the patient is necessary. In symptomatic anaemia the problem seems academic, since the condition of which the anaemia is symptomatic is also likely to be the cause of the abnormal E.S.R. Thus the lengthy and little-disputed reign of the correctionists is now being challenged, and clinical interpretation is at last replacing laboratory deduction.

1 *Acta med. scand.*, 1921, **55**, 1.
2 *Amer. J. med. Sci.*, 1935, **189**, 102.
3 *Lancet*, 1938, **2**, 249.
4 *British Medical Journal*, 1948, **1**, 391.
5 Ibid., 1951, **2**, 1496.
6 Ibid., 1952, **1**, 277.
7 Ibid., 1950, **2**, 1296.

THE HAIR

True hair is peculiar to mammals, and its primary purpose seems to be the prevention of heat-loss in warm-blooded animals. In man hair is almost vestigial, but it remains of some importance and much interest. The form, abundance, colour, and length of hair are used as anthropological criteria. In social affairs much time and labour and money are expended upon its adornment, and the chemistry and physics of hair-dyeing, setting, and waving alone have added important chapters to scientific progress and to biomolecular studies. The effects of radiation on hair started the development of modern radiation therapy and are used experimentally in assessing the surface changes caused by radiation from new sources. Similar effects constitute an important indication of the degree of injury sustained in atomic warfare.

Hair has played an important part in the elucidation of the problem of pigment formation. Tyrosinase, which is essential in the process of pigmentation, contains copper. Rabbits fed on a diet from which copper was excluded showed a greying of the previously black hairs, together with a general loss of hair.[1] Genetic, endocrine, and ageing factors are responsible for baldness and are interdependent. It is said that baldness is less common and is seen later in the Chinese than in the Caucasian.

Much of the more recent knowledge on this subject was brought together in a symposium on the growth, replacement, and structure of hair organized by the Section of Biology of the New York Academy of Sciences.[2] Study of the hair coats of animals, especially sheep, has given a better understanding of observations upon the growth of hair in man and of related genetic problems. Histological studies emphasize the outward motion of cells in the epidermis and appendages from the innermost cells of the Malpighian layer. The tonofibrils within the epidermal cells, regarded as the precursors of keratin, lie perpendicular to the skin surface in the epidermis, but they are parallel to the long axis of the hair. A soft keratinization is characteristic of the epidermis and is indicated by a granular and a glassy layer. Chemically such keratin has a low sulphur content and is unstable, as evidenced by continuous desquamation. Hard keratin found in the appendages has a

1 Burn, J. H., *Brit. J. Derm. Syph.*, 1951, **63**, 431.
2 *Ann. N. Y. Acad. Sci.*, 1951, **53**, 461–752.

high sulphur content, has strength, and is chemically inert, a fact explained by the oxidation of cysteine to cystine, providing cross linkages between the polypeptide chains making up the tonofibrils and welding them into a closely knit mass.

Proliferative activity in the hair follicles in animals occurs periodically, passes in a wave from the ventral to the dorsal surface of the body, and is followed by a period of rest. It is interesting that in some animals the period of lactation, when the cutaneous circulation has to supply extensive mammary tissues, is associated with a cessation of hair growth.

The physician has always made use of the reflections in the skin of the health and tone of his patient and of the presence or absence of general disease. These features are often amplified in the appendages and particularly in the hair. Here may be seen indications of the race and sex and age of a subject and perhaps something of his strength and temperament. Major disturbances, as of nutrition or endocrine function, of emotional stress or infective disease, are readily detected. Increasing knowledge of the nature of hair growth and structure is likely further to help the general physician in his assessment of a patient and the dermatologist in his understanding of skin diseases.

MERCURY FOR CHILDREN?

Are mercurial preparations destined to drop out of the pharmacopoeia in the near future? There is evidence in the paediatric literature of most continents that mercury is no longer being prescribed with the old-time characteristic assurance. The need for taking stock became apparent when Warkany and Hubbard[1 2] published their finding of appreciable amounts of mercury in the urine of 30 out of a total of 41 children with pink disease. In 1947 Fanconi and his co-workers[3] recorded observations on 56 hypersensitive children who showed untoward reactions to mercury. Of the 56 cases 39 were regarded as examples of "calomel disease." In this week's issue of the *British Medical Journal* Dr. M. L. Thomson and two other members of his team have collected the clinico-pathological facts relating to five children who were all between the ages of 11 months and 3½ years when they were in hospital, each of whom was known to be taking mercury by mouth at regular intervals for periods extending over months, and all of whom presented a clinical picture of nephrosis.

It may be that we are on the fringe of a better understanding of the implications of mercury treatment. We know that inhaled mercury fumes, ingested mercury pills, and napkins soaked in biniodide solution may all give rise quite easily to symptoms of poisoning. Exceptionally, toxic side-effects can be traced over a period to the time when an amalgam dental fitting was first inserted. A further complicating feature is that an individual who shows signs of sensitivity to one mercurial compound cannot be relied upon to react to all such compounds. It is important that we should not be driven from our pharmacopoeia through fear. The immediate need is not to jettison useful drugs but rather periodically to review therapy in use and be sure that the value justifies the risk. Teething-powders, worm powders, and grey powders have become too convenient a medicament. The object should be to do away with as many powders as possible and at all costs to discourage any tendency on the part of the parents or the family to regard daily medication as essential to health in childhood. The greatest risk to which a child may be exposed is subjugation to a routine of this kind, with no pauses to review the situation.

1 *Lancet*, 1948, 1, 829.
2 *Amer. J. Dis. Child.*, 1951, 81, 335.
3 *Helvet. paediat. Acta*, 1948, 3, 264.

FUNNEL CHEST

Although the deformity of funnel chest, or pectus recurvatum, was described in the sixteenth century, it is only in the last few years that treatment has been undertaken, or indeed been considered possible. The lesion consists of a funnel-shaped depression of the lower sternum, at the apex of which is the xiphoid process. It is usually symmetrical, but not always so. The costal cartilages are drawn backwards with the sternum, and there is sometimes also a transverse groove across the lower chest wall. Although this groove resembles Harrison's sulcus of rickets, funnel chest has nothing to do with this disease, nor is it the result of respiratory obstruction. The deformity is due to a congenital abnormality of the diaphragm: this was first shown by Brown[1] and has recently been elaborated by Brodkin.[2] If the anterior portion of the diaphragm, developed from the septum transversum, is deficient, the central tendon is short and pulls on the xiphisternum. If the lateral portions are also short the costal arch will be grooved.

A mild degree of funnel chest is common and symptomless, but more severe degrees lead to secondary effects. The patient is round-shouldered, with sloping ribs, and underweight. The lungs are compressed, and breathing is inefficient. Respiratory infections are common—perhaps because coughing is ineffectual. The most important symptom is dyspnoea on exertion; this is probably cardiac rather than pulmonary in origin and due to rotation and compression of the heart. A systolic murmur is sometimes heard. The pulse rate and blood pressure are unstable, and an electrocardiogram may show minor abnormalities such as axis deviation or inverted T waves. The visible deformity may result in emotional disturbance, and asymmetrical breast development at puberty increases the disfigurement in girls. Although a neurosis may be engendered, cardiac symptoms usually have an organic basis.

Methods of operative treatment, based on the aetiology described above, have been developed in America. In infants it is sufficient to detach the xiphoid from the sternum and free it from its diaphragmatic attachments. A more elaborate procedure is necessary in older children, when the sternum and costal cartilages

1 *J. thorac. Surg.*, 1939, 9, 164.
2 *Dis. Chest*, 1951, 19, 288.
3 *J. thorac. Surg.*, 1950, 19, 507.

have become fixed. Lester[3] prefers to operate before the age of 5, but good results are obtained in older patients, even adults, in whom symptoms are relieved, though the deformity cannot be entirely corrected. The sternal costal cartilages below the second are resected subperichondrally; the xiphoid is detached and the diaphragmatic attachments released. A transverse osteotomy of the sternum is done by a wedge resection of the outer table about the third segment. The sternum can then be elevated, obliterating the depression. It must be held in the new position either by wires attached to an external ladder splint, which maintains a stable chest wall until union has taken place, or else by inserting under it a free graft of cartilage or rib.[2] Several series of cases have been reported, with no deaths and very few complications. The majority of patients with this deformity have it in a mild degree and do not require treatment. Very few operations have been done in this country, but in the presence of a large depression surgery for the relief of physical or sometimes even mental symptoms should be considered.

GREAT ORMOND STREET

On February 14, 1852, St. Valentine's Day, the children's hospital which is now known all over the world as "Great Ormond Street" first opened its doors, and three days later the first patient was admitted. The foundation of "The London Hospital for Sick Children" and its later development are described in an article on another page. Readers of this will see that Dr. Charles West, the moving spirit behind the birth of the hospital, was determined from the start that it should be an educational centre not only for doctors and nurses but for the enlightenment of mothers. Within a few years of the hospital's opening a "model infant nursery" was set up, and this was an appropriate beginning to the work of prevention which has always been well in the foreground at Great Ormond Street, and which the Institute of Child Health continues to foster.

During the hundred years of its existence the hospital has had on its staff many of the giants of nineteenth- and twentieth-century medicine—among them Gee, Cheadle, Barlow, Still, Garrod, and Hutchison. The last-named, whose 80th birthday was celebrated four months ago, has written a little nostalgically of "the 'beautiful' examples of rickets and infantile scurvy, or the cases of acute rheumatism with enormous nodules,"[1] which are now no longer seen at Great Ormond Street, but it has been owing to the work of men of his stamp that, as he himself says, "disease has become less 'picturesque' with each generation"—a change for which to-day's patients can be devoutly thankful.

One other side of the work at Great Ormond Street has been of outstanding importance. Before Florence Nightingale set on foot the reform of the Army nursing service during the Crimean War, which began in 1853, the status of nurses was remarkably low, with the result that few, if any, women of education and feeling took up nursing as a career. Miss Nightingale's work eventually brought about a revolution in public opinion, with consequent great changes in the method of recruitment of nurses. But it was a gradual revolution with many setbacks. While the struggle to improve nursing in the large general hospitals was going on there was being established at Great Ormond Street a tradition of children's nursing which has not only been of inestimable benefit to sick children everywhere but which was of the greatest help to Miss Nightingale's main cause—the importance and dignity of nursing. The hospital to-day carries on that tradition. Only a few weeks ago we published a paper from Professor A. Moncrieff and Sister A. H. Walton[2] describing an innovation in the nursing of sick children at Great Ormond Street which might well be adopted in children's wards throughout the country.

[1] *Fifty Years of Medicine*, 1951, London. Published by the British Medical Association. Price 15s.
[2] *British Medical Journal*, 1952, 1, 43.

SCIENTIFIC EXHIBITION AT THE ANNUAL MEETING

A welcome innovation at the Joint Annual Meeting this year in Dublin will be a scientific exhibition staged by members of the British and Irish Medical Associations. Demonstration booths of the familiar exhibition pattern are to be set up in a large hall, and they will contain displays which, in the words of the relevant resolution of Council, "should consist of refresher demonstrations on particular subjects of current medical interest, presented at specified times . . . and illustrated by pathological specimens and other appropriate exhibits." The exhibitors will be expected to be on hand at certain times of day to talk about their demonstrations to their colleagues and to answer questions. The exhibition will be open only to members of the profession.

This excellent idea owes much to Mr. Lawrence Abel, who recently brought back from the U.S.A. particulars of the similar exhibition held at the annual meetings of the American Medical Association. Mr. Abel has also visited Dublin to arrange practical details with officers of the Irish Medical Association. The success of the exhibition now rests with the members of the two Associations, who are asked to come forward with exhibits. It is greatly to be hoped that there will be a good response to this invitation. A show of this sort, providing opportunities for informal discussion with workers in different fields of medicine, should certainly be a most attractive addition to the programme of the Annual Meeting. Time is short and floor space limited. Prospective exhibitors are therefore urged to apply for space for their exhibits without delay. Full details are given at page 379.

The half-yearly indexes to Volume II of the *Journal* and the *Supplement* for 1951 are now being sent to members who receive them regularly and to subscribers. Members who have not previously asked for the indexes to be sent regularly to them can obtain copies, post free, on application to the Publishing Manager, B.M.A. House, Tavistock Square, London, W.C.1; those wishing to receive the indexes regularly as published should mention this.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

FREQUENCY OF MICTURITION

BY

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BLADDER-NECK IRRITATION WITH LITTLE OR NO OBSTRUCTION

The commonest type is the patient who has chronic frequency of micturition but in whom repeated examinations of the urine have failed to show any abnormality. This clinical entity is found at all ages and in both sexes. The frequency is usually more marked when the patient moves about than when sitting or lying; it is aggravated in bouts for no apparent cause; and it is associated with urgency. In children especially, the urgency sometimes results in diurnal incontinence and it may also be associated with enuresis; this last manifestation is sometimes carried on into adult life. Cerebral impulses, such as those due to the sound of running water or emotional disturbances, are more potent in initiating micturition in these patients than in normal individuals, and in some patients with enuresis profound sleep probably acts by lessening cortical control. There is as a rule no residual urine. In adults the bladder capacity rarely reaches above 4 to 6 oz. (114 to 170 ml.). The patients tend towards occasional attacks of cystitis.

In long-standing cases there are sexual disorders of various kinds, the commonest of which is impotence. Lumbar fibrositis (lumbago), sacro-iliac disease, sciatica, neuritis, and arthritic changes, especially in the digits and lumbar spine, may also occur; headaches and nausea, bouts of *Bact. coli* urinary infection, and some residual urine in the bladder are common. Because of the development of fibrosis at the bladder neck there are generally obstructive changes here.

In the early stages the frequency is commonly regarded as a form of nervous-system disorder, because the urine is sterile; later, when coliform bacilli begin to appear, the case is diagnosed as one of *Bact. coli* urinary infection; if one of the rheumatic manifestations dominates the clinical picture, the diagnosis is according to this.

Obviously the initial reason why this group of cases is not understood is that the examination of the urine throws no light on the case. It is only as a result of routine cystoscopy and more particularly of urethroscopy that it becomes clear that chronic inflammatory processes can exist in the posterior urethra without either evidence of their presence in the urine or a urethral discharge.

Pathology

The routine endoscopy of all cases of disturbances of micturition allows one to visualize the pathogenesis of these chronic cases, and since 1936 it has been my practice to carry out urethroscopy and cystoscopy in all children sent to me for investigation.

Boys.—Small granulomata or occasionally actual polypi are found in the prostatic sinuses or on the verumontanum; a smooth rounded projection (hillock) on the margin of the internal urinary meatus or on a lateral lobe of the prostate is also not uncommon. The granulomata and polypi apparently arise at the orifices of normal or adventitious openings in the posterior urethra. Some hillocks are possibly associated with the lymphoid follicles found in the posterior urethra of children. In certain cases the verumontanum appears to be atrophied. The ceiling of the membranous urethra is at times conspicuously the seat of chronic inflammation, the gland orifices being dilated and the surrounding mucosa shaggy or covered with thickened epithelium. Congenital urethral stricture occurs most commonly in the mid-penile urethra. The narrowing is identified by noting the "gripping" in passing sounds; there is no localized area of scar tissue such as one sees in acquired strictures in adults, but a funnel-shaped narrowing. Sometimes there is a persistent small amount of residual urine in the bladder. The importance of chronic meatitis, seen from time to time in circumcised children, should not be overlooked. Sometimes there is an ulcer which may be very chronic and result in contraction of the meatus, inflammation of the urethra, and attacks of cystitis. After infancy a prepuce which is adherent to the glans invariably covers smegma; untreated, the condition persists indefinitely, and ultimately causes urethritis and cystitis.

Girls.—Urethral granulomata are not seen so often in girls as in boys, but they are quite common in women who have suffered from frequency of micturition or enuresis since childhood. In girls hillocks, generalized urethral narrowing, and residual urine in the bladder are seen from time to time. Some consider that it is not abnormal for children to be unable to empty the bladder completely, but the fact remains that such children are usually subject to disturbances of micturition. A simple chronic inflammation of the vulva is sometimes seen, which is generally associated with urethritis but not with vaginitis. Exceptionally, vaginoscopy will show a granuloma of the cervix. Many cases of enuresis fit into one or other of the above categories.

Women.—Disturbances of micturition are so usual and so chronic in women that they have been regarded as an almost inevitable part of adult life. In addition, the female urethra has commonly been considered a small and inoffensive part of the urinary tract. For more than 20 years it has been my practice to make a urethroscopic examination in all my women patients with disturbances of micturition, and this routine has made it obvious that the cause of the symptoms often lies in the urethra. In some there is a continuation of the pathological changes which are seen in childhood; in others the lesions have been acquired later. Before the urethroscope is introduced a size 24 Charrière metal sound is gently passed, when it can be noted whether there is any gripping, tenderness, or bleeding. On urethroscopy the commonest pathological finding is an inflammatory process involving the posterior urethra and the front of the trigone (urethro-trigonitis). In the more chronic cases inflammatory polypi are seen projecting around the internal urinary meatus; these are sometimes found only in a rudimentary form (hillocks), or there may be a rigidity of the internal urinary meatus (fibrosis).

Men.—When disturbance of micturition has been present since childhood, granulomata and polypi are generally conspicuous, patches of leucoplakia may be found anywhere in the posterior urethra, and hillocks are to be noted projecting from the lateral lobes of the prostate or at the

internal meatus. The meatus itself is often raised well above the floor of the prostatic urethra. Sometimes a generalized urethral narrowing is obvious on attempting to pass instruments. In old-standing cases rectal examination may show thickening in the regions of the prostate and seminal vesicles, but in early cases very often no change can be felt.

Bacteriology and Effect on Upper Urinary Tract

So far no specific organism has been identified to explain any of the inflammatory processes mentioned. These infections in most cases seem to establish themselves insidiously. This is in contrast to the cases in which frequency develops acutely with a urethral discharge and perhaps with terminal haematuria when a venereal origin is highly probable, although a scanty and intermittent gleet is common enough in adults in whom there is no such association.

Intravenous urograms often disclose persistent areas of poor renal function, indicating localized sclerosis; and moderate degrees of pelvic or calycine dilatation are common enough. These pathological changes manifest themselves clinically in attacks of pain or pyelitis.

Treatment in Children

In dealing with patients, whether children or adults, who show only the pathological changes described above, it will be found that, although antibiotics will sometimes cause the symptoms to lessen or to disappear for a short period, their recurrence is the rule.

Meatitis.—This requires a simple meatotomy. The cut should be made parallel with and just to one side of the fraenum, reaching almost to the coronal sulcus. No sutures are required, but the raw surfaces must be separated each day for five days by inserting the tip of a sound between them.

Granulomata or Polypi in the Posterior Urethra.—Dilatation of the whole urethra with metal sounds, on one or two occasions at intervals of not less than two months, is the best treatment. Very exceptionally fulguration of the polypi is required.

Small Amounts of Residual Urine.—When there is 2 oz. (57 ml.) or less, urethral dilatation as above should be carried out, except that this treatment may have to be continued longer.

Localized and Generalized Urethral Contraction.—The assessment of these cases will depend upon knowing what the urethral calibre, according to age, should be. In a child of 8 a size 16 Charrière sound should lie comfortably in the urethra without gripping. Ages and sizes then are as follows: add one size for each extra year; take away one size for each year less than 8. This gives the whole scale for children. Treatment should be by dilatation.

Adherent Prepuce.—The prepuce must be freed by gauze dissection, and the parts subsequently kept separate by the daily application of a liquid paraffin dressing and retraction of the foreskin over a period of at least five days.

Simple Vulvitis.—The daily application of penicillin or a sulphonamide ointment should be carried out for two weeks, and repeated after a week's rest if necessary.

Acute Cystitis.—Copious fluids, alkalis, and antibiotics are used during the acute stages. Later any local cause must be sought.

Treatment in Women

It is a very interesting fact that small hillocks and flimsy polypi will disappear from a woman's urethra as a result of a single instrumentation. This change is accompanied by an improvement in symptoms. Bulky hillocks and fleshy polypi, however, must be treated by coagulation through an operating urethroscope in the in-patient department.

Out-patient treatment is adequate in many of the cases. This consists of the original cystoscopy and urethroscopy, and then urethral dilatation with straight metal sounds at steadily increasing intervals between the treatments. The intervals are conveniently arranged as follows in weeks: 3, 4, 6, 8, 13, 26, 39, 52. Wyndham Powell urethral dilators should be used. Three phases follow a urethral dilatation: reaction, improvement, and relapse. Any one of these phases may be short or prolonged. Unfavourable symptoms will be encouraged by unskilful treatment, due commonly to too frequent or excessive dilatation. It often takes the urethra two weeks to settle down after a properly conducted instrumentation, and that is why three weeks are allowed to elapse in the first instance.

Treatment in Men

The same method of treatment should be carried out with men, except that curved metal sounds are used. In treating men, however, it is a matter of experience that if all are investigated as out-patients a certain proportion will suffer complications of the instrumentation. This is because damage is sometimes done to an already diseased prostate. My rule therefore is to admit to hospital all men over 50 who require instrumental investigation. Post-prostatectomy and bladder-growth cases accustomed to regular inspection are exceptions to this rule. All the other investigations, however, are carried out in the out-patient department. Even with in-patients the same danger threatens, but this may largely be avoided by carrying out any necessary endoscopic examinations immediately before operation. For instance, when prostatectomy is indicated the gland is enucleated within 20 minutes or so of the cystoscopy. Those cases of bladder-neck irritation which are found not to require operation—that is, when the residual urine is not more than 4 oz. (114 ml.) and the gland is not adenomatous—are referred back to the out-patient department. They can usually be successfully treated by intermittent urethral dilatation.

BLADDER-NECK IRRITATION WITH OBSTRUCTION

Children

The finding of large amounts of residual urine in very young children is not uncommon in children's hospitals. In deciding treatment the first need is to determine whether or not the dilatation is due to a mechanical obstruction. This question should be approached by studying the bladder neck in cystograms. As the opaque medium in the bladder will take longer than usual to throw a shadow because the bladder is dilated by the residual urine, the exposures should not as a rule be started until an hour has passed; they can then be repeated at about hourly intervals until suitable pictures are obtained. It can then be seen whether the posterior urethra as well as the bladder is dilated; should this be the case, it may be assumed that posterior urethral valves are present. These are usually impossible to see through a urethroscope.

The absence of posterior urethral dilatation leaves the choice between neuromuscular derangement of the bladder wall and stenosis of the internal urinary meatus—and it is often difficult to decide which is responsible. Opening the bladder and excising the internal meatus usually results in a reduction in the amount of residual urine, but if a large quantity was originally present it can be expected that a considerable amount will still remain after operation. Transplantation of the ureters into the bowel, sometimes after a preliminary period of bladder drainage, may be the best course to follow.

Women

In women mechanical obstruction of the bladder neck definitely occurs occasionally, generally because of fibrosis; sometimes there are quite large amounts of residual urine, even to the extent of causing visible bulging of the lower abdomen. No treatment less than a bladder-neck resection

will suffice for these cases. I prefer to do a suprapubic extirpation with the diathermy needle, keeping a finger in the vagina while the removal is being accomplished. This is a safeguard against perforating the anterior vaginal wall. Small amounts of residual urine—under 4 oz. (114 ml.)—will in due course be cured by intermittent urethral dilatation.

Men

There are several main types of prostatic change: adenomatous, fibrous, fibro-adenomatous, and malignant. Any of these may be associated with prostatic calculi or vesical diverticulum, which are found most commonly with the fibrous prostate and least commonly with a malignant prostate.

Adenomatous prostates are characterized by a frequency of micturition which is nocturnal rather than diurnal and, on rectal examination, by the "elastic" enlargement of the gland. Unlike these cases, the fibrous prostate declares itself well before the age of 50. The frequency of micturition is equally marked by day and night; on rectal palpation the prostate is small and firm or cannot be detected at all; and cystoscopy does not reveal the typical projecting mass of adenomatous tissue. The two types of tissue in a fibro-adenomatous prostate can be recognized either on rectal or on cystoscopic examination. Hardness, irregularity, and fixity are the characters of well-developed malignant disease of the prostate, but quite a proportion of these cases are discovered only on microscopy of enucleated or resected tissue. Irregular projecting masses on the front of the trigone, seen at cystoscopy, may give rise to the first suspicion. Prostatic calculi are usually discovered only on *x*-ray examination.

Treatment of Prostatic Obstruction

It is always best to enucleate an adenomatous gland. Whichever route is employed the following principles should be observed: on the basis of blood, urine, clinical and *x*-ray tests decide whether a one- or two-stage operation is to be done; avoid pre-operative urethral instrumentation, except as an immediate preliminary to operation; after the gland is out, excise a wedge of tissue from the posterior margin of the prostatic cavity, keeping a finger in the rectum while this is done; stop all bleeding and remove tags under direct vision. With this routine thrombotic complications are rare, and most cases are properly done in one stage. If attention has been paid to all these points a very narrow suprapubic drainage tube can be used and thus convalescence hastened. If, however, the bladder is subsequently drained entirely by urethral catheter then a well-trained team who thoroughly understand catheter management is essential for the convalescence. The ease with which clot due to secondary haemorrhage can be removed and the adequate control of a renal infection stress the advantage of suprapubic over urethral drainage. When all goes well, urethral catheter drainage undoubtedly shortens convalescence, but there are many cases in which the course is not straightforward and the convalescence is therefore prolonged. Sometimes this means that the urethral catheter has to be left in unduly, and this adds to the danger of subsequent urethral stricture. In all cases it is necessary to know what instrumental precautions to take as an extra safeguard against post-prostatectomy obstruction.

Transurethral resection operations for adenomatous prostates set special problems to the surgeon, particularly in the control of primary haemorrhage. Many surgeons, therefore, wisely reserve this form of treatment for fibrous prostates in cases in which residual urine is not excessive—personally, not above 8 oz. (227 ml.). When there are larger amounts there is a good deal of uncertainty about how often resection will have to be done. With the latter type of case I prefer to do a wide suprapubic resection of the fibrosed tissue with a diathermy needle.

A malignant prostate does very well without any operation at all, if the patient can empty the bladder. Many of these cases keep wonderfully well for years, simply on stilboestrol. If there is residual urine a transurethral resection may be necessary. Bad cases—that is, those with much residual urine—may require a suprapubic resection.

OTHER CAUSES OF FREQUENCY OF MICTURITION

Certain other important though less common causes of increased frequency of micturition require mention. All are easily identifiable.

Primary Upper Urinary Tract Disease.—As a cause of frequency upper urinary tract disease will be detected by evidence of it in the urine or on *x*-ray examination. It must not be forgotten, however, that renal changes are often secondary to lower urinary tract disorders.

Genito-urinary Tuberculosis.—Frequency with this condition will be accompanied either by characteristic bladder lesions visible on cystoscopy or by palpable changes in the genitals which are equally characteristic. Discovery of the tubercle bacillus in the urine is the final proof.

Diabetes.—Thirst, frequency, and polyuria in a child, and the discovery of sugar in the urine, are the essential features. In adults thirst may not be remarked upon.

Vesical Calculus.—In this part of the world to-day vesical calculus is nearly always secondary to a bladder-neck obstruction which dominates the clinical picture. In the stone areas of the Orient, however, where vesical calculus occurs commonly in young children as a deficiency disease, as it did in the last century in this country, there is in addition to the increased frequency the characteristically persistent terminal haematuria.

Foreign Body.—This is generally seen in a young patient, from whom the history of the insertion of an object is not always forthcoming. Radiography and cystoscopy may be necessary.

Urethral Stricture.—In addition to the frequency, difficulty in micturition and perhaps an intermittent urethral discharge are likely features. Obstruction in the anterior urethra to instrumentation is diagnostic.

New Growth of the Bladder.—When frequency is associated with a new growth haematuria is an outstanding feature; in such a case the growth is usually malignant. Cystoscopy at once directs the further procedures along the right lines.

Retention of Urine with Overflow.—This is mentioned mainly to stress the importance of placing the hand on the lower abdomen in the course of a urinary investigation.

Pelvic Tumours.—Pressure of tumours from outside the bladder tends to cause symptoms which are more marked in the erect posture. Bimanual pelvic examination generally makes the diagnosis clear.

Vesico-vaginal Displacement.—The downward drag of the bladder in the erect posture causes an aggravation of the symptoms which may be associated with some degree of incontinence of urine. Restoration of urethral support should accompany the colporrhaphy.

Cystalgia.—An irritable bladder without a local cause is something which is seen less and less as the surgeon's skill in searching improves; but a solitary vesical inflammatory lesion (Hunner's ulcer) is exceptionally present.

Conclusion

By far the commonest causes of frequency of micturition are bladder-neck changes and a localized irritation in the posterior urethra. The latter is commonly a mild simple chronic inflammatory state, but later may be followed by other changes.

Children as well as adults are affected.

Urethroscopy is essential in many cases.

The great majority of patients respond to local treatment.

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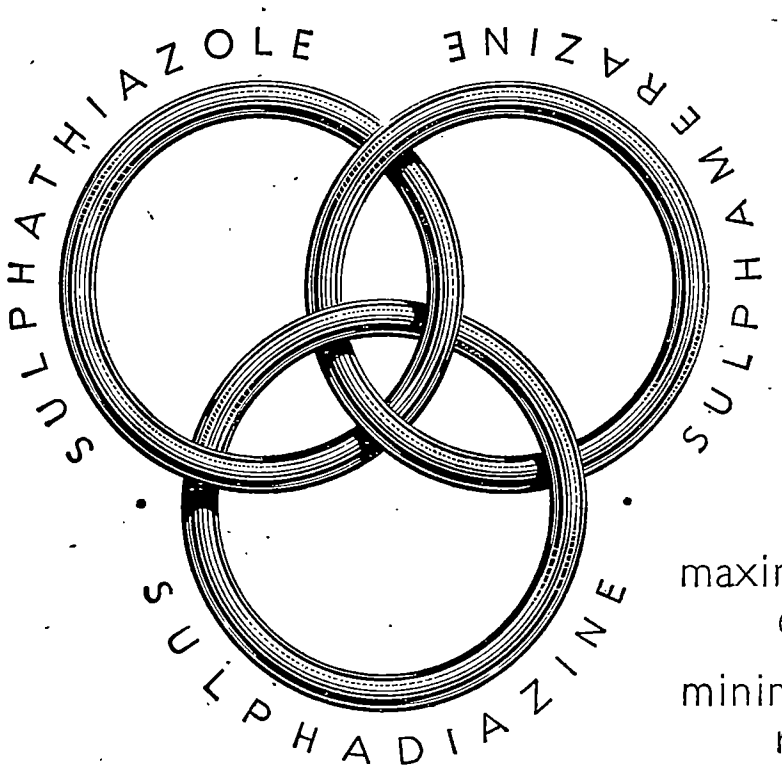

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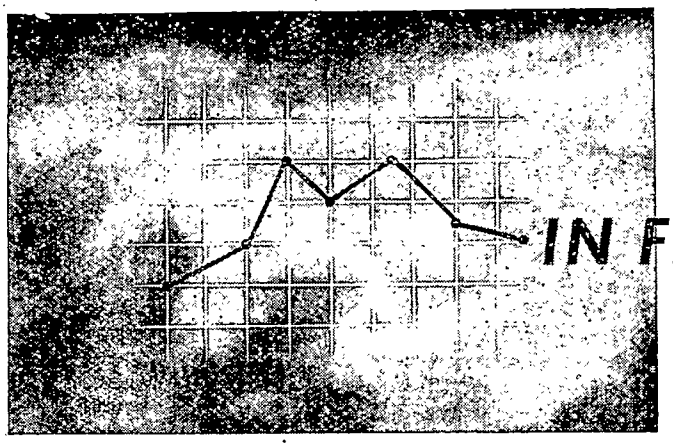

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MEP/R/2

THE INTERNATIONAL ASSOCIATION OF GERONTOLOGY AND RAPID PROGRESS OF GERONTOLOGY*

BY

V. KORENCHEVSKY, M.D.

(From the Oxford Gerontological Research Unit, Oxford)

Although this paper considers rapid progress of gerontology and the International Gerontological Association, the scheme presented can be applied to any international biological or medical association and congress.

Basis of the Report

The final solution of all basic gerontological problems depends entirely on biological and medical research in this field; and this applies to other aspects of gerontology, such as the socio-economic, and their practical applications in life. In this paper, however, only methods for the rapid progress of gerontological medical and biological research work are considered. This by no means ignores the great importance of the socio-economic aspects of gerontology. It is simply that the medical and biological research must receive a certain amount of unavoidable priority; otherwise gerontology, and in particular geriatrics, will preserve artificially the sickly and miserable plants of senility in their artificial greenhouses. If gerontological research should lag behind the socio-economic welfare measures, the proportion of useless old people among the nations will steadily increase, and at a tremendous cost useless years will be added to their lives and not useful life to their years.

Scientific and medical research workers must leave the care of old people and all other aspects of socio-economic problems to the governments, municipalities, and welfare societies. Science and medicine must concentrate all their efforts towards a rapid advance in gerontological experimental and clinical research. Of course, research workers will gladly give advice and assistance, if asked for it, to the agencies that are engaged in socio-economic gerontology.

Organization of the Man-power for Gerontological Research

As in every venture, man-power is as important as the venture itself. This problem, in its main aspects, was solved at the First International Gerontological Congress in Liége when we established the International Association of Gerontology.

In this Association are united all the gerontological and geriatric societies already established in most civilized countries. In those countries in which such societies do not exist, we are sure they will be formed in the near future and will join the Association. Even at present a powerful and well-organized scientific army is available for attacking the basic research problems of gerontology.

This was the aim of the First International Congress, and for its successful achievement we must be grateful to Professor L. Brull, who was the President of the First Congress and the first President of the Association.

Aims of the Next International Gerontological Congresses

It is logical to consider that there are two urgent aims of the future congresses—to equip the already formed scientific army for a battle with the research problems of ageing and to move this army into action. Without proper equipment an army cannot fight. It is obvious that only the ways and means of achieving these aims could be discussed and approved at the Congress. The actual realization of these aims and the leadership in this great scientific battle have to be entrusted to the charge of the International Association of Gerontology.

It is most desirable that the Association, although responsible to gerontological societies, should not only organize the International Congresses but also report its own activities for their consideration and criticism. The more brains engaged in an active work the better for the venture. For this reason the Association will draw new inspirations and ideas from the congresses, and find not only encouragement but, let us hope, the necessary active support. Moreover, there is a danger that the Association, and especially its governing body, may become senile; but at the congresses they may find new and vigorous blood, absorb it, and thus become rejuvenated.

Organization of the International Gerontological Congresses

At present the international biological and medical congresses take the form either of large symposia organized on a world-wide scale, or, more rarely, of so-called institutes. Both consist of numerous reports, which later are published and can be read. Moreover, for critical consideration of their value it is much more convenient to read them than to listen to them; especially is this so since many reports are made in a language foreign to the speakers. Also, while many of those attending the congresses can easily read foreign languages, they experience great difficulty in understanding them when spoken.

In spite of all this, the usual congresses do some definite and important work: they spread a special knowledge among practitioners not engaged in research work and the public at large; and they provide an opportunity of establishing personal contact both between research workers and practitioners, and between research workers themselves.

Such congresses, however, contribute comparatively little to the rapid progress of research work, and therefore do not fully justify the heavy expenses entailed, the extensive organizing work done, and other considerable difficulties involved—for example, travelling by the delegates.

It is desirable, therefore, to adjust the congresses to the needs of the research worker, at the same time retaining their other useful points. To this end no revolutionary methods are advocated, but only a desirable adjustment and improvement in organization.

Research Sessions of the Congress

It is desirable, and probably necessary, to adapt the sessions of international congresses for the service of two main types of members. The usual "symposia sessions" should be preserved as being of most use to and interest for the practitioners in the fields of medicine and biology. Special "research sessions," however, should be introduced for research workers, to run simultaneously with the former. These research sessions are actually "brains trusts." They will consist chiefly of free round-table discussions by the specialists, for each specialty separately and also for the joint meetings of various specialties.

The aims of these sessions will be the organization and promotion of gerontological research work—in particular, those problems of gerontology which were investigated insufficiently or not at all; consideration will also be given to schemes and methods which might be used for investigation of these problems. In this way the most promising research schemes will be evaluated and recommended. In the following years the progress achieved in research will be discussed and the necessary adjustments and alterations made. The efficient work of these "brains trust" sessions is due not only to the collection of the individual opinions of

*The paper was read at the Opening Session of the Second International Gerontological Congress, held on September 9, 1951, in St. Louis.

the specialists; much more is it due to the specialists' combined efforts to obtain the best possible solution of the problems.

In fact, the "research sessions" have to be similar in organization to those international war committees which so successfully achieved the splitting of the atom. In a more general way this was suggested in my previous papers (Korenchevsky, 1946, 1947, 1948, 1950a, 1950b); and for the same idea of co-operation the whole organization of gerontological societies was devised and started in 1939 as an *International* Club for Research on Ageing. In 1950, for several good reasons, the club was superseded by the International Gerontological Association.

We are most grateful to Professor E. V. Cowdry, who, first in the history of international scientific congresses, had vision of the future and the necessary authority to introduce these sessions, so far in an abbreviated form, into the Second International Gerontological Congress.

Desirability of Permanency in the Work of "Research Session Committee"

There is little if any hope of completing the difficult task of the session in a few hours at the congress. Therefore it is desirable that the session should not only work through the whole duration of the congress but also become a permanent organization and continue its work in the intervals between the congresses. It can be given any name which the congress or the Association finds suitable. To avoid confusion it will perhaps be appropriate to call it simply "research session or committee of the International Association of Gerontology," and to use this name even during the congresses. It is desirable that in the intervals between the congresses, if the finances allow, the meetings of the session should be held once a year, preferably in those cities in which the large research centres interested in gerontology are situated. An executive committee of the session should meet more often.

Other Ways and Means for Rapid Progress of Gerontological Research

These have already been discussed in previous papers (Korenchevsky, 1946, 1947, 1948, 1950a, 1950b). They have been approved by the British Society for Research on Ageing. The proposed measures are similar to, or identical with, those discussed in the *Journal of Gerontology* (1948). The necessary measures may be summarized as follows:

1. Large funds must be available for financing gerontological research in all its manifold aspects.

2. In each civilized country permanent experimental and clinical laboratories or institutes for research on ageing have to be established, if they do not already exist, and be provided with adequate resources.

3. The formation of a sufficient number of groups of research workers, who would specialize in gerontological or geriatrical research, is necessary. Obviously points 1 and 2 are essential for this purpose.

4. It is essential that the existing biological and medical laboratories and research hospitals should co-operate in gerontological research. Long-term grants must be provided for them.

Referring to my previous papers for the details concerning these measures, I should like to add a few words about the urgency of collecting the funds for gerontological research. Sooner or later the various governments must contribute to this research if they intend to prevent the prolongation of a useless life span and the premature ageing of their peoples.

Since it is difficult to arrange otherwise, voluntary contributions have to be collected by specially established foundations, national and international. One strong point in favour of an immediate start in establishing such foundations is that for every man there is a chance, sometimes a good one, of escaping cancer, arteriosclerosis, poliomyelitis, or some other dread disease; but at present nobody can avoid *premature and abnormal* old age and *premature* death. Therefore our appeal is likely to be understood and supported especially by elderly persons who know what present-day old age means.

Executive Function of the International Association of Gerontology

It is obvious that the Association, strong in its organized unity and co-operative brain-power, representing in its special capacity many countries and nations and therefore possessing the greatest possible authority, is the only agency which can achieve the tasks outlined above. Since the governing body is an actual executor of the Association, especial care has to be taken in making this body truly representative of the respective gerontological societies. The closest co-operation between the governing body and research sessions is also desirable.

It must be recognized that the tasks both of the governing body and of the research sessions will be very difficult; indeed, this activity of the research sessions is the first attempt of its kind in the history of international co-operation in biology and medicine. The reasons why such a very difficult scheme is suggested are: (1) on the basis of experiments performed by other investigators and myself it is now possible to state that there are definite and practicable possibilities of research into the prevention of premature and abnormal old age and premature death; and (2) I personally have little doubt that, unless "research sessions" are introduced, the International Gerontological Congresses are bound to fail in their attempts to organize a rapid advance in research into old age.

Summary

A scheme to promote the rapid progress of gerontological research is suggested; the main items of this are:

1. The establishment of a permanent research session or committee which would work during and between the International Gerontological Congresses. The organization of this session or committee should be somewhat similar to that of the international committee for splitting the atom.

2. Provision of large funds both for gerontological research and for organizing work, in particular by means of the establishment of special foundations, national and international.

3. Formation of a sufficient number of groups of research workers in gerontology.

4. Co-operation of different existing biological and medical laboratories and research hospitals in gerontological research.

5. The International Association of Gerontology, in particular its governing body, is suggested as the executive agency of the scheme.

REFERENCES

Editorial. *J. Gerontol.*, 1948, 3, 141.
Korenchevsky, V. (1946). *British Medical Journal*, 2, 468.
—— (1947). *J. Gerontol.*, 2, 54.
—— (1948). *British Medical Journal*, 1, 728.
—— (1950a). *Transactions of the Conference on Problems of Ageing*, p. 174, edited by N. W. Shock. Josiah Macy, jun., Foundation, New York.
—— (1950b). In *Social and Biological Challenge of Our Ageing Population* p. 7. Columbia Univ. Press, New York.

It has been known for some time that, although eserine and prostigmin both inhibit cholinesterase, only eserine applied to a nerve axon stops its activity. Likewise, stilbamidine, which has a curare-like action, also produces block, whereas D-tubocurarine does not. It has now been shown (*Nature*, February 2, p. 190) that this is a permeability effect. If the substances in very low concentration are injected into the insides of nerve axons they all cause block. The previous inactivity of some substances is the result of their inability to penetrate unaided into the axon and reach its impulse-producing machinery.

CENTENARY OF "GREAT ORMOND STREET"

BY

T. TWISTINGTON HIGGINS, O.B.E., M.B., F.R.C.S.
Senior Surgeon, Hospital for Sick Children, Great Ormond Street

In the England of a hundred years ago most children received but scanty consideration. Many of them died in infancy and so escaped much suffering. All too often those who survived were caught up in the industrial revolution. They toiled for long hours in coal-mine or factory, and lived in a deplorable environment of overcrowding and dirt. They were inadequately or wrongly fed. Even among the well-to-do there was little understanding of infant and child nurture, either physical or psychological. The death rate among children was appalling, and no wonder. Of London's 50,000 annual deaths, 21,000 were those of children under the age of 10. Rickets became known as "the English disease."

The grievously stunted, deformed, and battered bodies of many fellow citizens are still to some of us a vivid but grim memory of our youth, and our pathological museums display evidence of diseases of a type and degree now happily mainly a matter of historical interest.

Awakening of the Social Conscience

Yet, despite the general preoccupation of the public with industrial expansion and its indifference to the sufferings of children, the fire of reform was well alight among some social workers, ministers of religion, doctors, writers, and politicians, of whom Lord Ashley (later Lord Shaftesbury) especially championed the children's cause. In such a company, Dr. Charles West must always stand pre-eminent for his service to children. After two years as a medical student at St. Bartholomew's, West completed his course at Bonn, Paris, and Berlin, becoming M.D.Berlin in 1837. Then, after studying midwifery in Dublin, he practised as a physician and accoucheur, lecturing on midwifery at the Middlesex Hospital. But soon his main interest became focused on the diseases of infancy and childhood, a subject upon which he delivered a course of lectures. These were published in 1848 in a book which passed through many editions and was translated into several foreign languages. The material in it was based on West's experience as physician to the Royal Universal Dispensary for Children from 1839.

Institutional provision for sick children was at that time virtually confined to such out-patient dispensaries. The earliest in London was founded in 1796 in Red Lion Square by Dr. George Armstrong, and dealt with 1,200 patients annually. The Royal Universal Dispensary dated from 1816 in St. Andrew's Hill, Doctors' Commons. In 1822 it removed to the Waterloo Road to a special building designed to accommodate 50 to 100 beds. Owing to the death of the chief founder, however, the beds never materialized.

Few children were admitted to adult hospitals in those days. In 1843, of 2,363 patients in all the London hospitals only 26 were children under 10. Guy's had 15 "cribs" in a wooden building "over stables," which were demolished in 1850 and not replaced. Admission of young children to adult hospitals was generally prohibited, except for those requiring "amputation" or "cutting for the stone."

Dr. West Founds a Children's Hospital

West, moved by the urgent need of in-patient facilities for sick children, determined to found a special hospital for them. He had to contend with much opposition. The difficulties of nursing and the risks of infection were cogent arguments against such a project. The early experience of the Foundling Hospital was relevant; of the first 15,000 children admitted only 4,400 lived to grow up.

Yet in Europe there were already 17 children's hospitals, and West knew well of their growing success and value. He was undeterred by opposition and found strong support among senior colleagues, notably Bence-Jones, of Guy's, who gave much help in soliciting influential interest. West visited children's hospitals abroad and elaborated the practical details of his scheme, which was eventually launched at a public meeting on March 18, 1851. Soon it received powerful support. Queen Victoria subscribed £100 and became the first Patron. Lord Shaftesbury became president. Charles Dickens wrote a moving magazine article, and funds began to accrue. With a sum of £2,483 6s. 3d.

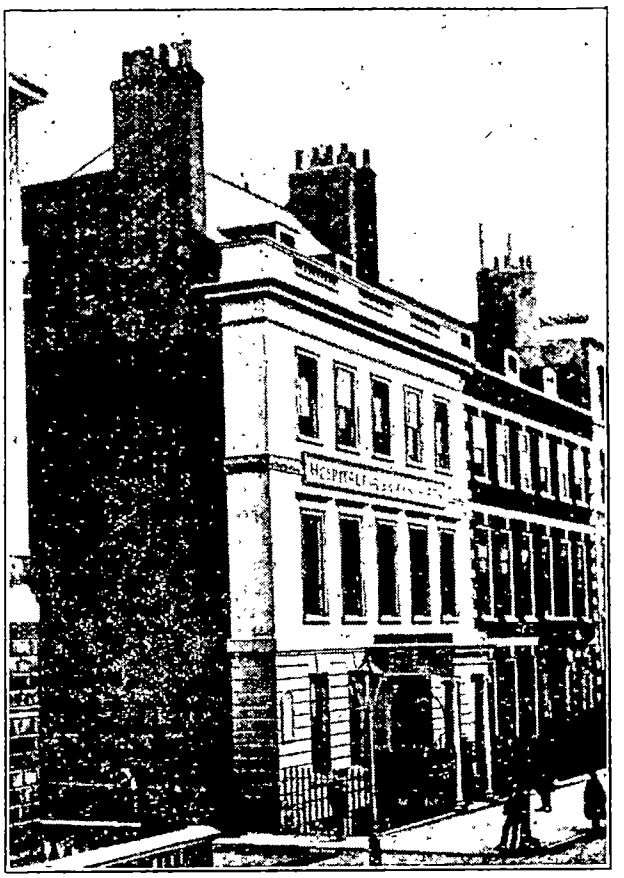

FIG. 1.—Dr. Mead's house at 49, Great Ormond Street after being taken over as the "Hospital for Sick Children."

in hand, the provisional committee was emboldened to seek a convenient house in which to make a start; and West happened upon 49, Great Ormond Street, a spacious late seventeenth-century house which had once been the residence of Dr. Mead, physician to Queen Anne, whose professional and social attainments had been matched by his lavish hospitality. The house (Fig. 1) had a large garden and afforded additional accommodation in Dr. Mead's former library and museum.

A lease was arranged and the necessary alterations were made to adapt the reception-rooms as wards and the library as an out-patient department. The institution was first called "The London Hospital for Sick Children," but subsequently the word London was omitted.

In December, 1851, the first matron, Mrs. Willey, was chosen from many applicants, and on January 2, 1852, Dr. Charles West and Dr. William Jenner were appointed physicians, and Mr. G. D. Pollock surgeon, the last-named being succeeded in March, 1852, by Mr. Athol Johnson. On St. Valentine's Day, 1852, the hospital was opened, and three days later the first patient was admitted. Eliza Armstrong, aged 3½ years, suffering from "consumption."

The Founder's Intentions

The accepted aims of the new hospital were:

1. To provide for the reception, maintenance, and medical treatment of the children of the poor during sickness and to furnish advice to the mothers of those who were not admitted.

2. To promote the advancement of medical science with reference to the diseases of childhood and to provide efficient instruction of students in the same.

3. To disseminate among all classes, but chiefly among the poor, a better acquaintance with the management of infants and children during illness by employing the hospital as a school for the education and training of women in children's nursing.

Administrative planning was thorough in detail. Only children from 2 to 12 years of age suffering from diseases peculiar to, or modified in some important respect by, their "early age" were to be admitted, and those "suffering from accidents or external injuries" were excluded. Infants under 2 were considered inadmissible, though exceptions soon came to be made with increasing frequency. Directions for washing, clothing, and diet, particularly the milk supply, were laid down, and facilities for education of the children in the wards and physiotherapy in the garden were arranged from the outset. A special fever ward was provided and close attention given to the control of infection.

The highest available standard of nursing was ensured by careful selection and strict discipline. Striking a patient, accepting a gratuity, or failing to "make children happy" meant instant dismissal. It is remarkable that in those "Sairey Gamp" days the frequent changes of staff recorded were due to incompetence rather than serious misdemeanours. Close attention was devoted to the recording of cases, the giving of formal lectures, and the instruction of students. The practice of the hospital was to be "open to all medical men on presenting themselves." To Dr. Jenner was allotted the formation of a museum and library. No one can doubt that the foundations of "Great Ormond Street" were well and truly laid. Proof was soon manifest in the rapid growth of the popularity of the young hospital. By October, 1853, the out-patient sessions, beginning at 8.30 a.m., were making the visiting doctors late for lunch, and more and more beds were needed. The original 10 became 20, and ultimately 30. Dr. Mead's old house was stretched to its utmost capacity. In 1858, after a successful appeal for funds at a festival dinner at which Charles Dickens presided, the adjacent house, No. 48, was acquired, providing much-needed relief. On the ground floor a "model infant nursery" was inaugurated which proved "an unqualified success."

Years of Expansion

From 1858 to 1872 the work of the hospital expanded steadily. Dr. Jenner retired in 1866, and his place was taken by Dr. Thomas Hillier. Four assistant physicians were added—Drs. George Buchanan, W. H. Dickinson, Sydney Ringer, and Samuel Gee. Mr. Timothy Holmes became surgeon and Mr. Thomas Smith assistant surgeon. The reforms and teaching of Florence Nightingale had already made possible the appointment of a trained lady superintendent and the birth of the hospital's modern nursing tradition.

In the late 'sixties plans were begun for building the special hospital which had always been West's aim. The old houses were becoming increasingly inadequate and troublesome. The foundation-stone of the new building designed by Mr. E. M. Barry, fronting Powis Place, was laid by the Princess of Wales on July 10, 1872, and the structure was completed in 1877 with accommodation for 120 beds, including the North Block for fever cases, the gift of the Misses Cohen, and the chapel, built and very generously endowed anonymously.

Meanwhile, in order to provide for convalescent children and to relieve in some measure the parent institution, the lease of historic Cromwell House, Highgate, was taken in 1869. This was replaced in 1927 by the present country hospital at Tadworth Court, Surrey. Dr. West finally retired in 1875, having seen his children's hospital well established. To no one man does "Great Ormond Street" owe so much.

In 1880 the original houses, having become insanitary, were demolished. The need for further building became more pressing year by year, and in 1887, to commemorate Queen Victoria's jubilee, the children of the Empire subscribed a large sum and the South Wing, fronting Great Ormond Street, was completed. It was opened on June 4, 1893, the bed complement then being 240. The hospital now had a worthy building (Fig. 2) to which the only significant later addition was the Out-patient Department, the munificent gift of Mr. William Waldorf Astor, opened on August 4, 1908.

The old structure, so well known to many, endured until the birth of the modern hospital in 1937, but so rapid was the progress in paediatrics, in which Great Ormond Street's own pioneer influence never declined, that long before this date the building of 1893 had become outmoded. Happily the significance of a hospital is not to be measured in bricks and mortar.

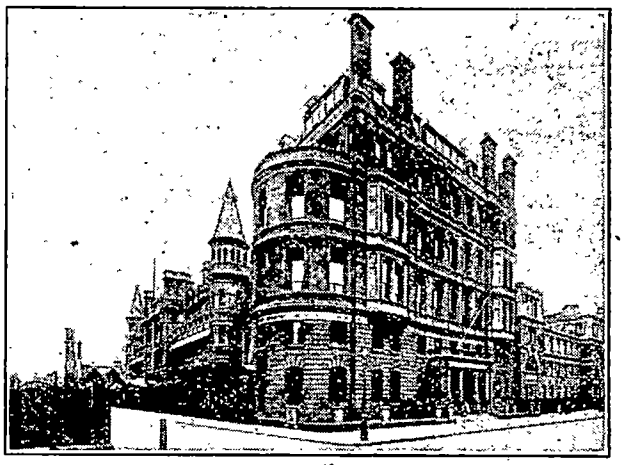

FIG. 2.—The second building, which was started in 1872 and added to in 1887 and 1908.

Research and Teaching

The reputation of the Bloomsbury hospital, based on the splendid work of the early staff in research and teaching and by that of their successors, notably Cheadle, Barlow, Lees, Owen, Morgan, and Pitts, was now firmly established and widespread. It was yet to increase and attain international stature. To the hospital's service were attracted men and women of the highest skill and vision as physicians, surgeons, nurses, and administrators.

Intensive study, unceasing investigation and research inspired the daily routine, promoting a steady advance in the knowledge and understanding of the ailments of childhood. The hospital's growing fame drew patients, often with rare diseases, from far and wide, so providing the unique opportunities which still prevail. Doctors from all over the world, and notably from the Empire, came in ever-increasing numbers, so that postgraduate teaching came to be a major activity.

New departments soon sprang up, notably those of bacteriology and radiology, with which the names of Nabarro and Ironside Bruce must always be honourably associated. The names of Garrod, Voelcker, Still, Batten, Colman, Poynton, Thursfield, Robert Hutchison, Langmead as physicians, and those of Arbuthnot Lane, Kellock, Corner, Waugh, Addison, Fairbank, and Tyrrell Gray as surgeons proclaim the quality of those vintage years which preceded 1914.

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J. Amer. Pharm. Ass. 1946,35,225
J. Pharmacol. 1947,89,205
Schweiz. med. Wschr. 1950,80,62
J. Pharmacol. 1951,101,275
J. Pharmacol. 1951,101,119
Lancet. 1951,II,629
Dtsch. med. Wschr. 1951,76,1312

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Dietotherapy The physiological basis of " the longings of pregnancy " is, of course, plain hunger induced by the additional demands of foetal growth and the extra requirements for maintenance of maternal well-being.

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In the Service of Obstetrics For satisfying the keen-edged appetite of pregnancy, the prescription is—a quickly prepared, tasty meal consisting of " proximate principles " and vitamins—as comprised in ' Ovaltine '. This delicious food supplement provides malt, milk, cocoa, soya, eggs and additional vitamins; it is readily available and is easily made up; meticulous laboratory control during different stages of manufacture ensures its entire purity and highest possible standard of quality.

For pre-natal alimentation both for maternal strength and foetal development, ' Ovaltine ' is the preferred food beverage.

Vitamin Standardization per oz.—Vitamin B_1, 0.3 mg.; Vitamin D, 350 i.u.; Niacin, 2 mg.

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M356

The end of the first world war presented a new challenge, for it was clear that the old hospital buildings had outlived their day. In wards of 30 beds with inadequate sanitary arrangements, respiratory and gastro-intestinal infections could not be adequately controlled, particularly in infants. More rigid isolation was essential. Moreover, the comfort and health of the nursing staff, the growing demands of modern specialized treatment, research, and teaching could no longer be worthily met. Complete rebuilding became essential. A plan to rebuild the main hospital in the country, retaining only an out-patient department and a small emergency unit in Great Ormond Street, was abandoned, but as a compromise Tadworth Court was acquired with a view to its development as a country branch for suitable subacute and long-term cases. Pavilions were ultimately built in the park, and this branch has proved a valuable asset and offers great potentialities.

The Modern Hospital

Meanwhile, the planning of the new parent hospital was entrusted to Mr. Stanley Hall, and much thought was given to the details by the medical staff. To rebuild completely on the existing site without seriously disrupting the hospital's work presented no small problem. A golden opportunity seemed to offer itself when the adjacent Foundling Hospital site became vacant, but efforts in this direction failed, and it was decided to proceed in stages to minimize dislocation. In 1937 a start was made on the Nurses' House, facing Guilford Street, the foundation-stone being laid by the Princess Royal, the hospital's president. This building, when completed, gained for Mr. Stanley Hall the medal of the R.I.B.A.

The main hospital block was opened in October, 1938, by King George VI and his consort. It has since been dedicated as the Southwood Building in memory of Lord Southwood's outstanding chairmanship. The ward units each accommodate 10 children, four being in separate cubicles permitting complete segregation, and all giving on to open-air balconies. Each unit is equipped with bathroom, lavatories, sluice-room, kitchen, day-room, and parents' waiting-room. Experience has amply confirmed the value of these arrangements. Modern operating suites, routine pathological and research laboratory accommodation, museum, clinical lecture theatre, kitchens, milk-room, and so on are all on the most modern and generous lines. Beds are provided for nursing mothers.

The building of the next block, the new out-patient department, was interrupted by the outbreak of war in 1939. During the intervening years the out-patient work and that of other departments—radiology, records, and physiotherapy—have had to be carried on in buildings which were intended only for temporary use. This has been a grave misfortune, particularly when the demands of postgraduate teaching, expanding special departments, as well as the out-patient work itself have been surpassingly urgent. At long last it is hoped that the rebuilding programme may shortly be resumed. During the war children were evacuated to units in the country staffed by the hospital, leaving only a few beds for children in London, where air-raid casualties were catered for. On September 9, 1940, the hospital building was seriously damaged by bombing. Fortunately no one was injured.

Institute of Child Health

Towards the end of the war a gradual resumption of normal work became possible, and increasing attention was given to plans for the future. Additional special departments, the intensification of research, and the inauguration of the Institute of Child Health were proceeded with. In collaboration with the University of London, the trustees of the Nuffield Foundation, and the local authorities, the Chair of Child Health was founded, and in 1945 Dr. Alan Moncrieff, physician to the hospital, became its first occupant. Under the National Health Service the hospital was designated a "teaching hospital."

Such is the outline of a century of progress from the courageous venture of Charles West and his colleagues in Dr. Mead's old house to the far-famed hospital of to-day. If in this brief history the doctors' part may seem to take precedence, they all would acclaim the essential contribution made by others: by their nursing colleagues, justly appreciated the world over for their skill, loyalty, and gentle devotion; by the splendid comradeship, wise counsel, and unstinted labour which has always come from the great-hearted lay folk who have served as members of the board of management or as professional administrators and faithful servants; by the general public, who have never failed in abundant generosity.

The fullest realization of the ideal of "Great Ormond Street" would see such a triumph of prevention as would soon empty the hard-pressed beds. That consummation is not yet, and the second hundred years open with no diminution of opportunity or weakening of purpose.

The two illustrations, kindly supplied by Odhams Press, Ltd., are taken from the book by Mr. T. Twistington Higgins entitled *Great Ormond Street* shortly to be published.

SCIENTIFIC EXHIBITION AT JOINT ANNUAL MEETING

The Council of the British Medical Association, in agreement with the Irish Medical Association, has decided to hold a scientific exhibition at the Joint Annual Meeting in Dublin this year (July 3–11). This is the first time that such an exhibition has been held. The exhibition will be in addition to the usual trade exhibition, and will be located in a large hall adjoining the latter. The object is to display new ideas in all branches of medicine to those attending the Annual Meeting.

On this first occasion the exhibition will necessarily be on a small scale. The pattern followed will be the exhibition held at annual meetings of the American Medical Association. Originality in the design of exhibits will be welcomed. Charts, drawings and transparencies, specimens, and other material can be enhanced by a judicious use of light and colour. The expenditure of much money is quite unnecessary. Many teaching hospitals and medical schools, for instance, already have exhibits of their work, and these could be taken to the Annual Meeting as personal luggage. No difficulty with the Customs is anticipated in this connexion.

Details for Exhibitors

A series of booths will be provided for exhibitors. Each booth has three walls, 8 ft. in height. The back wall is 10 ft. wide and the two side walls 6 ft. No part of any exhibit may extend above the top of the booth. A shelf, 2½ ft. from the floor and about 1 ft. wide, will be fixed all round the booth. Chairs will be provided. Fluorescent lamps will be fitted to the top of the walls, but lamps can be omitted on the request of the exhibitor if he wishes to show transparencies or cases with indirect lighting. Electric points (A.C. 200/240 volts) will also be fitted.

The exhibitor will be expected to pay the cost of the preparation, transportation, and installation of his exhibit, but no other expense will fall on him unless he requires alterations to the booth or special construction. Although it is hoped that the latter may not be required, any special demands will be dealt with sympathetically so far as possible. The cost of such alterations will be borne by the exhibitor.

No motion pictures will be shown in the booths, but separate arrangements will be made for these elsewhere. Exhibitors are expected to provide their own transparency cases for slides or *x*-ray films. There is ample free storage space for packing-cases.

Exhibits should be shown in the name of an individual person (or persons), who must be a member attending the Annual Meeting. The name of the hospital or institution at which he works may appear as part of the address.

The booths will be ready for the installation of exhibits by Sunday, July 6. Installation should be completed by 6 p.m. on Monday, July 7.

Reservation of Space

All applications for space at the exhibition should be received by March 31.

Those from the Irish Republic: To the Committee of Scientific Exhibits, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

Those from the United Kingdom: To the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1.

Intending exhibitors are urged to apply for space as early as possible. Applications must be accompanied by brief details of the proposed exhibit.

Demonstration of Exhibits

Admission to the scientific exhibition will be limited to members of the medical profession. The general public will not be admitted.

The exhibition will be open all day, but specified times will be allotted in the Meeting programme for viewing the scientific exhibits, when one or more competent demonstrators should be present in each booth to answer questions. Personal demonstration is of the greatest value to both visitor and demonstrator alike, and is without doubt the most important single item in ensuring the success of an exhibit.

Nova et Vetera

A SEVENTEENTH-CENTURY SCOTTISH CHEMIST

William Davidson of Aberdeen. The first British Professor of Chemistry. Tercentenary Memorial Lecture given in Aberdeen, November 26, 1948. Aberdeen University Studies No. 129. By John Read, Ph.D.(Zurich), M.A., Sc.D. (Cantab.), F.R.S. (Pp. 32. No price.) Aberdeen: The University Press 1951.

Despite several illustrious names, Boyle and Hooke among them, chemists did not flourish on British soil in the seventeenth century. "The first British Professor of Chemistry" is the title that Professor Read gives to William Davidson (1593–1669 ?), of Aberdeen. Taking example, and perhaps advice, from his eminent fellow-townsman, Duncan Liddel (1561–1613), Davidson decided that it was more desirable for him, "a third son, to . . . live industriously and honestly among foreigners than in poverty and degradation among [his] own countrymen." After graduating, therefore, he left for Paris, where he spent most of his active life teaching "chemistry" and practising medicine.

In 1644 a decree came into operation preventing foreign physicians not belonging to the Paris faculty from practising there. For some reason Henrietta Maria, the English queen, intervened on behalf of Davidson. He was thus appointed physician to the king, which absolved him from the interdict. In 1648 he became professor of chemistry at the Jardin du Roi, becoming thereby the first occupant of such a chair in France and also the first native of the British Isles to hold such a chair. In 1651, perhaps because of the rising intolerance of the Catholic party, Davidson left Paris for Warsaw to become physician to King John Casimir. In this new position he had to abandon chemistry, and his life became disturbed by wars and political intrigue. In 1669 he returned to Paris, but died soon after.

It cannot be said that Davidson's chemical achievements were important. He was a follower of Paracelsus (1493 ?–1541), whose doctrines, whatever their original value, had become by Davidson's time an obstacle to any scientific development. Professor Read discourses, with his usual charm and learning, upon the work of Davidson. In forming an estimate of its value he exhibits both patience and charity. These high virtues are peculiarly necessary in dealing with the later "alchemists," especially those of the Paracelsan school. The brochure is beautifully and suitably illustrated.

CHARLES SINGER.

Reports of Societies

BRITISH ALLERGISTS

The annual general meeting of the British Association of Allergists was held at 1, Wimpole Street, on February 2. About 60 members and guests were present. At the morning session the chair was taken by Dr. D. A. Williams, president of the Society.

Allergic Rhinitis

Dr. H. A. LUCAS read a paper on the histopathology of rhinitis, which was illustrated by lantern slides of photomicrographs. He drew attention to the effect of various forms of non-specific injury leading to congestion of the erectile tissue and loss of the protective mucus layer which is normally in contact with the mucous membrane. Subsequently, paralysis of the ciliated epithelium with eventual metaplasia was associated with stagnation of mucous secretion. At this stage there was increased susceptibility to allergic sensitization. Infiltration of eosinophil cells and the presence of numerous plasma cells were demonstrated in allergic processes, whereas in acute infection there was a polymorphonuclear leucocytosis and in non-suppurative sinusitis a lymphocytosis.

The Eosinophil Response

Dr. J. PEPYS described an extensive series of experiments in animals and man designed to determine the primary and secondary factors responsible for local and general eosinophil responses. Evidence was put forward to show that the nucleotides, especially adenosine triphosphate, might be one of the primary factors in local responses, and guanylic acid in general responses. Secondary factors which enhanced the response were histamine or parasympathetic stimulation, either by drugs such as pilocarpine and acetylcholine or by direct vagal stimulation.

Limitations of A.C.T.H.

Professor G. W. PICKERING then gave an account of experiments carried out at the medical unit at St. Mary's Hospital. A survey of the literature had shown that the effects of adrenocorticotrophic hormone (A.C.T.H.) in asthma and hay fever were equivocal, except in infective asthma, in which they were conspicuously good. At St. Mary's the effect of A.C.T.H. on the skin's response to injury by serial dilutions of a number of substances had been studied. It had been shown that A.C.T.H. failed to modify the triple response caused by histamine, morphine, and pollen in sensitive subjects, but some modification of the effect of silver nitrate had been obtained. In two cases of atropine sensitivity the response to a patch test had been inhibited. The tuberculin test was definitely reduced in all cases. Others had shown that A.C.T.H. had no effect on the maximum breathing capacity of pollen-sensitive subjects exposed to the effect of pollen by aerosol inhalation. Professor Pickering had found no evidence that A.C.T.H. could affect either the liberation of histamine or its action on the tissues, although some forms of dermatitis and bacterial allergy were modified by the hormone.

Mode of Action of Antihistaminic Drugs

In the afternoon the chair was taken by Sir Henry Dale.

Dr. B. N. HALPERN (from Paris) discussed the mode of action of synthetic antihistaminic drugs, his observations being mainly based on animal experiments. In addition to their well-known antihistaminic and anti-allergic effects, these drugs had a powerful action in a number of other experimental and clinical syndromes, which possessed in common a disturbance of capillary permeability with the production of local or general oedema. The oedema fluid in these syndromes contained a high content of protein.

They included shock produced by injection of colloidal dyes, egg-white and dextran induced oedema of rats, acute pulmonary oedema, histamine shock, infective oedema, and various forms of inflammatory reactions. It could be assumed that histamine was the agent responsible for the production of all these conditions. The effect of antihistamines in preventing the haemoconcentration that occurred when animals were exposed to some of these agents was demonstrated. It was pointed out that adrenaline had a parallel effect, and Dr. Halpern suggested that both adrenaline and the antihistamines produced their effect by increasing the tone of the pre-capillary sphincters, thus lessening the flow of blood through the capillaries and favouring the reabsorption of oedema fluid. Histamine had a reverse effect. The synergistic effect of adrenaline and the antihistamines could also be demonstrated. This reduced the antagonism histamine–antihistamines to a particular case of their general competition on the smooth musculature. In reply to a question by Professor Pickering, Dr. Halpern said that the effect of antihistamines introduced locally into the skin differed from that of adrenaline, causing erythema and even local necrosis, instead of pallor.

Dr. Halpern suggested that the relatively poor effect of antihistamines in asthma might be related to the size of the antigenic particle. In asthma caused by sensitivity to large molecules such as those from feathers, hairs, horse dander, and animal proteins, their prophylactic effects were generally excellent. This contrasted with the results in asthma caused by dust, pollen, and bacterial infections where the antigen was supposed to be a polysaccharide molecule of rather small size.

Clinical Use of Antihistaminic Drugs

Dr. C. J. C. BRITTON then gave an account of the clinical use of antihistamines in allergic conditions. He had found them to be of greatest use in urticaria, angioneurotic oedema, and hay fever. In asthma in adults they were disappointing, but were sometimes valuable in cases of mild nocturnal asthma when any sedative side-reaction added to their effect. In asthma in children, however, they were very valuable when prescribed in the form of an elixir. The efficacy of the different drugs varied considerably with the individual patient, and it was essential to try a number of different types before abandoning their use. He drew attention to the many unpleasant side-effects of these drugs, and, though the more severe of these were uncommon, they could be extremely serious. Antihistamines were often individual in their action, and one drug might be tolerated when others would cause side-effects. He recorded his personal knowledge of patients who had been involved in car accidents following the use of antihistaminic drugs. Since in law the charge preferred against the driver who found himself in this predicament was "acting under the influence of alcohol or drugs," it was no defence to show that antihistamines were responsible. For this reason, patients should be advised to take the first dose of an antihistaminic drug at a time when it was convenient to observe any unpleasant side-effects that might develop, and never before carrying out any activity requiring an act of judgment. The first dose should always be small, and in the absence of side-effects it should be increased until the desired relief from symptoms was produced or side-effects noted.

Dr. Britton was not in favour of continuous administration of antihistaminic drugs prophylactically over a long period of time, but considered that they should be used chiefly as symptoms occurred. He was inclined to agree with certain American authors that the use of these drugs alone in hay fever favoured the development of pollen asthma. Certainly the proportion of cases of hay asthma now seen was very much greater than four or five years ago. Other factors might be important in this increase in hay asthma, but many things pointed to the antihistaminic drugs being the significant factor. A prolonged discussion followed these two papers.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Stellate-ganglion Block

SIR,—With reference to the work of Professor René Leriche (February 2, p. 231) on stellate ganglion infiltration in cases of cerebral ischaemia, it is interesting to note that similar results can sometimes be produced by ganglion-blocking drugs. May I refer to a recent article in the *Practitioner* (1951, **167**, 641)? A more dramatic sequel occurred recently. I was called to see an old lady who had had her third attack of cerebral thrombosis in a convalescent home after being discharged from my wards at St. John's Hospital. When I examined her she was comatose and collapsed. Having no apparatus for a stellate ganglion block available, I ordered 5 ml. of tetraethylammonium bromide (T.E.A.B.) to be given by intramuscular injection at once. Two days later I returned to see the patient again. To my great surprise I found her dressed and downstairs, carrying a large pile of plates to help with the work of the housekeeper.

Another case occurred with a patient convalescing after hemiplegia due to cerebral thrombosis. She had been sent home from hospital on a trial holiday. She suffered another cerebral vascular accident and was sent back to hospital in an ambulance by her doctor, who doubted whether she would survive many hours. Again my intramuscular injection of 5 ml. of T.E.A.B. roused this lady from her coma, and the next day she had returned to the level of convalescence which had been previously present.

I feel that, while one swallow does not make a summer, these two rather dramatic examples of recovery may indicate that ganglion-blocking drugs have a place in the treatment of cerebral vascular accidents.—I am, etc.,

London, S.W.11. TREVOR H. HOWELL.

SIR,—The very stimulating and interesting article by Professor René Leriche (February 2, p. 231) on stellate-ganglion block suggests to me that some of your readers may like to know of a simple technique which may be employed to effect the block. This was described by Virginia Apgar in *Current Researches in Anaesthesia and Analgesia*, 1948, **27**, 53. She advises that the patient should lie in the supine position, with head turned away from the operator. A wheal is raised just above the clavicle, and immediately lateral to the sternal head of the sternomastoid muscle, and through it a 2½-in. (7.2-cm.) needle is inserted directly backwards until bone is met; this is the lateral part of the anterior aspect of the body of the seventh cervical vertebra. As the ganglion and sympathetic chain lie on the longus capitis and longus colli muscles, and not on the periosteum, the needle point is withdrawn for 0.5 cm., and after aspiration tests for blood and cerebrospinal fluid have been proved negative 5 ml. of 2% procaine solution is injected. Horner's syndrome develops very rapidly. The carotid sheath, containing the great vessels and the vagus, lies lateral to the point of injection. This technique is just as simple to perform as it sounds.—I am, etc.,

Westcliff-on-Sea. J. ALFRED LEE.

Educating the Public about Cancer

SIR,—We were interested in Professor A. Rendle Short's letter on this subject (February 2, p. 276) and agree with the views he states. Since people are urged to consult a doctor directly the first symptoms of cancer appear it is logical that

they should be told what these are. There is no reason why careful educational work in cancer should not produce the same good results as in other diseases, notably tuberculosis. We have described elsewhere (*Lancet*, 1951, **2**, 495) the experiences of the Chelsea Cancer Education Committee and the methods adopted in this borough. Briefly, our work so far has been the organization of lectures and discussions and the careful distribution of leaflets with a questionary attached to help us in learning more about the response to our efforts. The general opinion was expressed that fear of cancer is chiefly due to ignorance, and more patients would consult their doctors earlier if wise education were given. The replies have been almost unanimous in agreeing that the leaflet we issued is desirable and useful. It is our view that if this subject is presented with care it will do a great deal of good.—We are, etc.,

RONALD W. RAVEN.
JOAN GOUGH-THOMAS.

London, W.1.

Stomach Tube in Trachea

SIR,—During the Christmas holiday I was reminded of the sensitiveness of the laryngeal reflex by a fit of coughing and choking caused by laughing and swallowing the contents of a liqueur chocolate at the same time. In the past I have several times seen expert laryngologists cocainize the cords before passing an endotracheal tube even under a general anaesthetic, showing the respect they had for the laryngeal reflex.

Thinking of these things, it was a great surprise for me to hear the anaesthetist say the other day while inducing a patient, "The tube is in the trachea," and to see her pull 6–8 in. (15–20 cm.) of Ryle's tube out of the larynx.

It is my custom before all stomach operations for the ward sister to pass a Ryle's tube into the stomach just before the premedication is given. The patient sits up, the tube is well lubricated, gently passed through the nose and paid out as the patient repeatedly swallows. In most cases no great difficulty is encountered. In this particular case the tube was passed by a nurse, who had a little difficulty, and the patient coughed quite a bit in the process. Nevertheless the tube was passed through the cords into the trachea and remained there until about two hours later when the anaesthetist wanted to pass her tube.

I do not know if this sort of thing is at all common, but I have never known it happen before. It makes one realize how important it is to make quite sure the tube really is in the oesophagus before giving an intranasal feed.—I am, etc.,

ERIC COLDREY.

Rotherham.

Vascular Spasm

SIR,—Your leader writer both on January 12 (p. 93) and February 2 (p. 262) this year deals with the problem of vascular spasm. On each occasion he advances the thesis that vascular spasm does not occur as the result of nervous intermediation. There are two suggestions supported, one of Kinmonth's that the collapse of the vessel is directly due to the fall in the general blood pressure, the other that the spasm is evidence of a proximal embolism or thrombosis and that according to this view it must always be associated with a preceding organic change.

Dealing with the latter view he seeks Pickering's support. Now Pickering in the *Lancet* a few months ago published a paper citing four cases of thrombosis in the limb vessels which had a previous history interpreted by him as that of embolism. This was purely an inference. If the symptoms and the antecedent history of at least one of them—the first—were examined there was an analogy with a case of Handler's (*Lancet*, 1949, **2**, 514), in which previous to the planned embolectomy the similarity was complete. But on exploration no embolus or thrombus was found in the external iliac, which had been suspected. Instead there was a marked spasm of a fair portion of the vessel's length. Presacral sympathectomy was instantly performed and there was a dramatic release of the spasm. Handler has had brought to his notice similar instances in France. It would be preferable to accept this actual happening in support of a thesis than any amount of inferential data.

Vascular spasm in the retinal vessels undoubtedly occurs. Osman (personal communication) has seen its onset. Many authorities claim that they are far from uncommon. If the spasm is initiated by an organic change in retinal vessels it is a matter of surprise that pregnancy has not been associated with permanent deterioration of vision.

Because continuing spasm can be harmful, and because of the availability of therapeutic measures to relieve it and especially in view of the likelihood of its occurring, it appears to me to be a retrograde step to brand its suggested occurrence as a cliché.—I am, etc.,

JOHN SOPHIAN.

Worthing.

Parkinsonism

SIR,—Dr. Hugh G. Garland's excellent article (January 19, p. 153) calls for comment. In his discussion of medical treatment I was surprised to read that he encounters toxic symptoms from "artane," sufficiently severe to prevent the use of the compound in doses above 20 mg. daily. It has been my experience that it is frequently necessary to use doses between 30 to 40 mg. daily to obtain maximum benefit, and I have a number of patients on such doses with only slight dryness of the mouth—a small price to pay for the benefit obtained—namely, relief of rigidity and increase in mobility.

Post-encephalitic cases are of course a separate group, and, as I have reported elsewhere, doses of artane as high as 100 mg. daily—or of "lysivane" 1,500 mg. daily—are, in my experience, frequently necessary to produce maximal benefit.

I must also disagree with Dr. Garland's statement that oculogyric crises never respond to any of the new remedies. I find both artane and lysivane materially reduce their frequency, but then, as such crises occur only in the post-encephalitic group, a higher dosage than he recommends is almost invariably required. It is probably true that amphetamine has a better effect in preventing these distressing crises, but again doses required are frequently of the order of 40 mg. daily or more. Again I find that, once patients have experienced the partial relief that may follow high dosage levels, they are only too glad to continue on the regime.—I am, etc.,

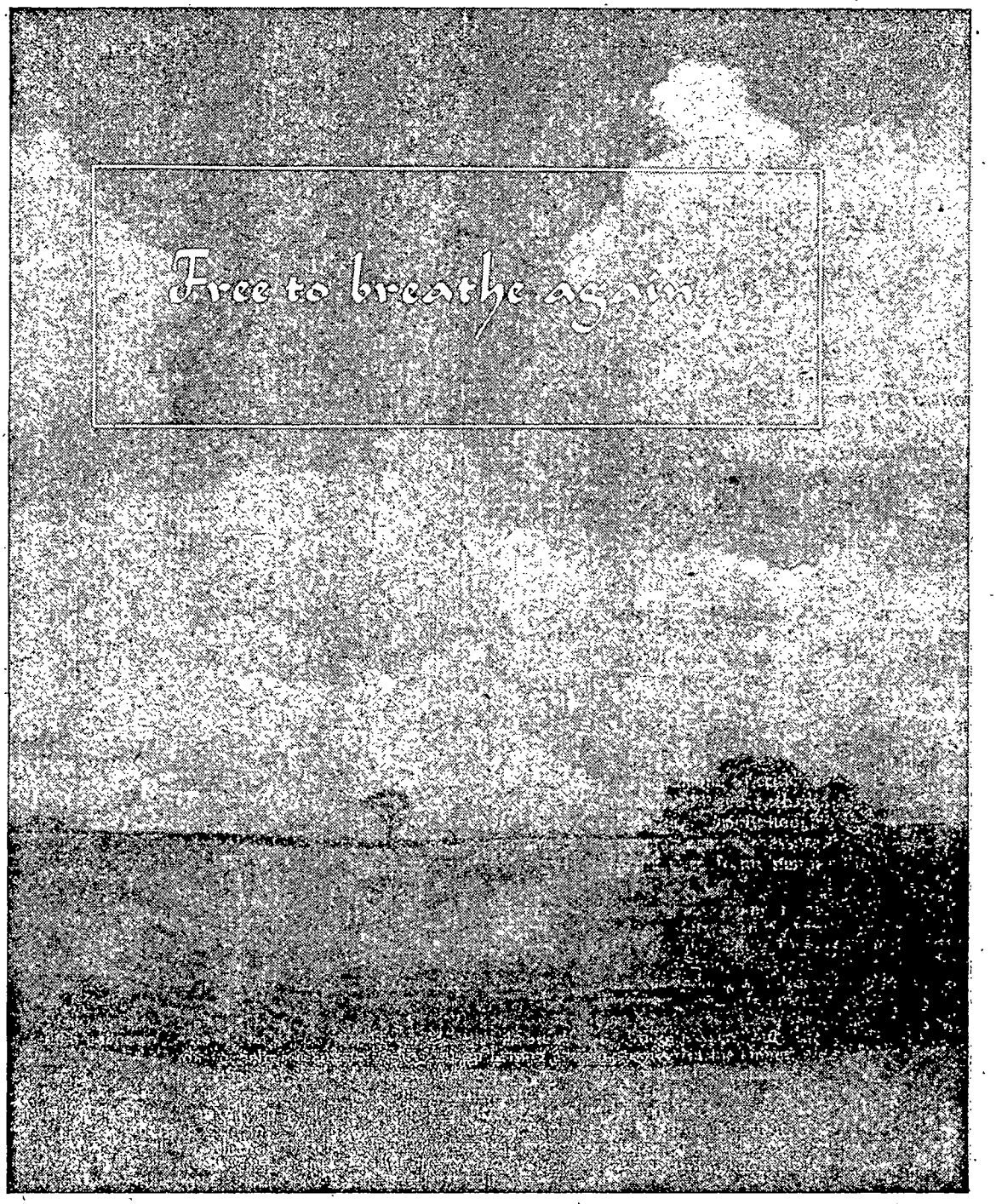
OLIVER GARAI.

London, W.1.

SIR,—I have read Dr. H. G. Garland's account of Parkinsonism (January 19, p. 153). In a mixed group of over 170 patients attending a clinic for the treatment of Parkinsonism I have used all the drugs he mentions in his article, and in certain cases I have made observations different from those of this author.

He states that there is a general feeling that the new drugs—i.e., those that he classifies as synthetic drugs of recent origin—are perhaps more effective than the old drugs and that they certainly seem to produce effects more quickly. My experience confirms this conclusion, but I do not think they represent the whole picture. I venture to suggest that, after treating a large number of cases with the new drugs recently introduced, the drug of choice is "lysivane." "Artane" is very useful when the action of lysivane is disappointing, and in only a few carefully selected cases is the use of "parpanit" and "diparcol" justified. In a recent unselected group of over 50 cases treated with lysivane over the past two years I have had significant improvement in about 77% of all cases treated. I have entirely abandoned the use of the so-called old drugs, as I have found the new drugs so much more effective.

Dr. Garland adds that the main effect of artane is in the relief of rigidity and that its effect on tremor is very questionable. I have found that the effectiveness of both artane and lysivane is chiefly due to their action in diminishing tremor as well as giving almost complete relief of the rigidity.



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Notes on High-Protein Diets

(1)

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In the treatment of obesity by dietary correction the intake of calories should be limited to between 1,000 *and* 1,200 *calories a day, and the patient should be supplied with optimum quantities of protein, vitamins and minerals. Thus the patient is forced to live for a time on his own fat resources and weight falls.*

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Telephone Welbeck 5555

It has been Dr. Garland's experience that, when a high dosage of these new drugs is given, patients will not tolerate taking so many pills and have voluntarily reduced the dosage so that the final amount taken is not much more than a placebo. I have found that my Parkinsonian patients are most conscientious when taking these tablets.

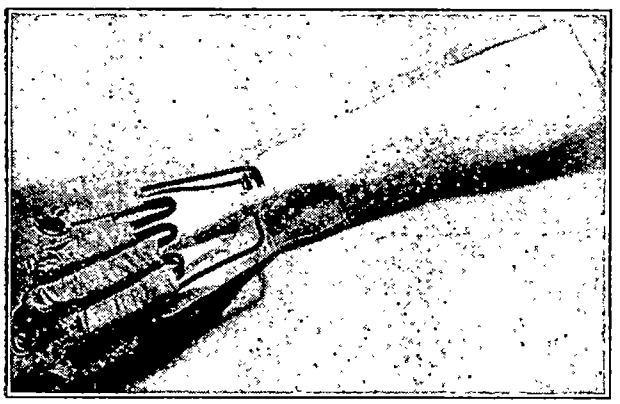
Finally, Dr. Garland states that oculogyric crises never respond to any of the above-mentioned drugs. These crises must be comparatively rare, as in 170 cases of all types I have met with oculogyric crises in only four instances, all of which responded favourably to lysivane.

—I am, etc.,

Birmingham. R. O. GILLHESPY.

A Modified Wrist Splint

SIR,—The illustration shows a method of moulding a simple slab-back plaster-of-Paris splint to give it greater strength and lightness. The patient sits with his forearm prone on a table level with his shoulder. The elbow is at right angles, and the fist clenched lightly. The slab is prepared in the usual way to reach from the knuckles to the elbow, and applied at once to the back of the wrist and forearm. A ridge is pinched up at the angle of the wrist and tapered distally and proximally. The plaster is allowed to set on the patient and then removed for drying before use. It can be sandpapered and varnished.



The advantages are (1) lightness; (2) reinforcement at the angulated part, in contrast with the weakness of a simple slab; (3) longitudinal ridging on the skin surface of the splint, which is less likely to cause soreness than the transverse ridging on a simple slab; (4) it is removable and washable; (5) it can be worn at work in most occupations; (6) it can be made quickly in the surgery by a general practitioner who has no access to perspex. It may be found advantageous to apply this technique to the making of perspex splints.

This splint has been found useful in the following conditions: (*a*) to relieve the pain of tenosynovitis; (*b*) sprains of the wrist joint; (*c*) paralysis due to cerebral thrombosis; (*d*) in the construction of a back splint for the knee of a patient suffering from painful osteoarthritis with flexion deformity; (*e*) in the construction of an instep splint for a patient with a dropped foot.—I am, etc.,

Hornchurch, Essex. I. H. J. BOURNE.

Primary Generalized Arthritis

SIR,—A long-standing interest in chronic arthritis, stimulated by the mass of clinical material available to anyone who cares to pursue this subject, prompts me to comment on Mr. J. H. Kellgren and Dr. R. Moore's article concerning generalized osteoarthritis and Heberden's nodes (January 26, p. 181). For several years I have used the label "hybrid arthritis" to denote the class of cases they describe so accurately under the title of primary generalized osteoarthritis; hybrid, because the radiological changes of degenerative arthritis are associated with clinical changes in the hands *apparently* rheumatoid in nature. The difference between the true rheumatoid hand and the apparent is very well illustrated in their Figs. 2 and 3. I am sure they are correct in describing primary generalized osteoarthritis as a clinical entity.

They make several individual points of importance. The acute onset, particularly in fingers and toes, may very well lead to drainage of a supposed infection, the more often now that the absence of pyrexia may be considered the result of using penicillin; the recognition of the significance of first carpo-metacarpal arthritis makes it fairly easy to recognize this class of case even when Heberden's nodes are absent; and these patients can be assured that they are not going to become what they most fear, a rheumatoid cripple, and this is of the greatest value.

It seems wrong to me to condemn surgical reconstruction of the larger joints *because* other joints are likely to be involved; better to relieve the burden where it is possible.—I am, etc.,

Liverpool. E. N. WARDLE.

Extensive Resection of Small Intestine

SIR,—Mr. H. J. Croot's review on extensive resection of the small intestine (January 26, p. 195) prompts me to describe a case on which I operated a year ago.

This was a young man aged 32 weighing 10 st. 13 lb. (69.4 kg.) who, at laparotomy for an undiagnosed emergency, was found to have a strangulation of a knuckle of mid-ileum through a congenital hole in the apex of the mesentery. The anterior border of this congenital hole was the superior mesenteric artery, which had become occluded by pressure. The distal three-quarters of the small intestine was quite gangrenous, above which was 3 ft. (90 cm.) of congested oedematous jejunum with submucous and subserous haemorrhages, and above this was about 18 in. (45 cm.) of normal bowel up to the duodeno-jejunal flexure.

For the upper limit of the resection to have been through normal gut would have left him with only a few inches of jejunum, so I implanted the oedematous congested jejunum into the caecum, resecting about 18 ft. (5.5 m.) and leaving between four or five (1.2–1.5 m.) of proximal jejunum. I was certain that this anastomosis would not stand the slightest strain, so I did a caecostomy through the lateral wall of the caecum and passed a No. 22 catheter through the anastomosis upwards for about 10 in. (25 cm.).

He made a satisfactory recovery, and the caecostomy began to drain 36 hours after operation and the tube was removed on the fifth day. By the eighth post-operative day he was taking a normal diet, but his morale was rather lowered when he discovered a piece of tomato which he had swallowed a bare 10 minutes previously appear at his caecostomy. He was becoming grossly dehydrated, so a formal intraperitoneal closure of the caecostomy was performed on the 11th post-operative day. He was discharged from hospital on the 29th post-operative day weighing 8 st. 13 lb. (56.6 kg.).

A month later he was having his bowels open eight times a day. His appetite was insatiable. He weighed 9 st. 2 lb. (58.1 kg.). On a fixed diet of 90 g. protein a day the average nitrogen content of the urine was 8.2 g., whereas the faeces contained 13.67 g., showing that very little protein absorption was occurring.

Six months after operation he was back at work. He had completely regained his weight. His bowels acted only twice a day, with a normal formed stool. His appetite was normal. A barium meal shows that it takes one and a half hours for food to reach the caecum. He is absorbing protein normally.—I am, etc.,

Chatham. B. E. CRAWFORD STANLEY.

Pink Disease and Antibiotics

SIR,—Pink disease (acrodynia), which was reported for the first time in this country as recently as 1922 by Thursfield and Paterson (*Brit. J. Child. Dis.*, **19**, 27), now appears to be fairly widely recognized, and in view of the unsatisfactory methods of treatment, and risk of complications, I feel that the successful results I obtained in two recent cases following "chloromycetin" treatment are worth recording.

The first patient, aged 9 months, came to me as a temporary resident from Devon. He had been diagnosed as a case of pink

disease two months before my seeing him, and presented the typical signs of the disease: insomnia, anorexia, wasting, photophobia, profuse sweating, blue and swollen extremities, etc. The mother brought him on account of cough with vomiting, and I suspected pertussis. I prescribed chloromycetin, 50 mg. in capsules four-hourly, to be given in syrup, and this was kept up for the 14 days he remained in my care. During this time he commenced to take regular feeds. His photophobia disappeared. He slept well, gained weight, and in fact ceased to be the miserable child he was when first seen. I thought perhaps this was due in part to change of air and environment, and did not feel inclined to give the medical aspect the whole credit for the improvement.

Since then, however, I have had another almost exactly similar case. The child, a girl aged 1 year, was diagnosed in hospital as pink disease two months previously. She developed pertussis, and again I gave the same dosage as in the previous case, 50 mg. four-hourly. I can say quite definitely that the child was much better when examined a week or two later, and apart from slight insomnia all the earlier severe symptoms had disappeared. She is now quite well.

This case was particularly interesting because an older brother who was breast-fed developed acrodynia at five months. My present patient was bottle-fed and her symptoms occurred after an acute influenzal bronchitis at the seventh month.

Although the aetiology of this disease is still obscure the successful response to chloromycetin, which has been shown elsewhere to be effective against certain virus diseases, would appear to lend support to the hypothesis that pink disease is due to a virus infection against which adults are immune. —I am, etc.,

Uxbridge. A. S. COOK.

The Nutritional Revolution

SIR,—Professor R. A. McCance in reviewing Sherman's book together with two other publications of the F.A.O. (January 19, p. 145) asks rightly whether the triumphs achieved in the improvement of nutrition were really so difficult to win. At the same time he reminds us of the hard task lying ahead in order to avoid the lurking shadow of world famine, especially if those who brought about this nutritional revolution fail to recognize that only an equally revolutionary increase in world food production may prevent what may be the greatest crisis in world history. The direct influence of the nutritional scientist in this respect may be limited by several factors. There are, however, some points which are not always sufficiently recognized in dealing with world food shortage, and in this respect his experience might be useful.

During recent years I referred repeatedly[1] to the work carried out by the Massachusetts Institute of Technology. Harris and his collaborators[2 3 4] systematically analysed some years ago the diet of the poorest section of Mexican and Central American people, which mainly consisted of certain unknown plants growing wild on the Mexican plateau, further of a kind of specially prepared maize-bread (tortilla) and of cheap dried fish (charal). Meat and dairy products were no part of their diet. A surprising adequacy, even abundance, was found in their diet not only in calories but also in specific nutrients like calcium, iron, proteins, and vitamins. When a nutritional survey of 1,000 Mexican schoolchildren was carried out by the same scientists using identical laboratory methods, they were startled to find the nutritional status of the poorest Mexican children to be superior to that of 760 middle-class schoolchildren in Michigan. Other group surveys in Mexico also indicated a negligible incidence of detectable malnutrition or of deficiencies. This work came as a great surprise to all interested in nutrition, and it demonstrated that, in choosing a well-balanced diet, not only the calories and essential nutrients are imperative, but also that it should conform with the dietary customs of the race, and with the geographical availability of the food. Similar further studies would greatly enhance the conservation of available but not universally known food supplies and alleviate anxiety about the adequacy and possible increase of world food resources.

There are some other aspects of the world food problem which escaped the recognition they deserve. With the increasing control of acute infectious diseases and with the large-scale improvement of living standards and of public health, the world population is increasing rapidly. This increase is characterized by the relative ageing of the whole population—i.e., while the total population doubled since the beginning of the century, the fraction of population over 60 years of age became roughly four times larger, with a tendency for further increase of the older age groups. While evidence is accumulating more and more that faulty nutrition may play an important part in many diseases beyond middle age, like hypertension, degenerative heart disease, and chronic mental disorders, comparatively little progress has been made in the elucidation of their relationship. All our effort would ultimately defeat its purpose should it not be possible to raise substantially the general health, working capacity, and mental vigour of those who survived to a higher age.

With the improvement of living conditions in Western civilized countries, like a 40-hour week, motor-cars, modern tools, and greatly mechanized production, the whole aspect of hard work has changed during the last generation. Even in the case of heavy manual workers the work output expressed in calories per day dropped by anything up to 30–40% in comparison with that used up previously. But the need for specific nutrients like proteins, vitamins, and minerals remained more or less the same. It is therefore evident that, unless the quality of our food improves very considerably, we are bound to have a distinctly inferior nutrition compared with that of the previous generation, so far as protective nutrients are concerned. This lower plane of nutrition might be one of the factors causing the craving for proteins and vitamins at the present time.—I am, etc.,

London, W.1. Z. A. LEITNER.

REFERENCES

1 Leitner, Z. A. (1948), *Lancet*, 1, 809; *Observer*, 1951, August 26.
2 Cravioto, R. O., *et al.* (1945). *Science*, 102, 91.
3 Cravioto, B. R., *et al.* (1945). *J. Nutrit.*, 29, 317.
4 Harris, R. S. (1946). *J. Amer. diet. Ass.*, 22, 974.

Cost of T-piece Anaesthetic Technique

SIR,—I have waited for some time for someone to criticize Dr. John Bullough's article (January 5, p. 28) and perhaps you will accept this rather tardy rejoinder. Dr. Bullough does a service in pointing out that breathing against pressure may well increase venous bleeding, but his cure, to my mind, is a grossly extravagant one.

The technique he describes for a radical mastectomy relies largely on thiopentone anaesthesia, and can just as easily be carried out with an ordinary semi-open technique with a Heidbrink valve with no tension on the spring, thus offering practically no resistance to respiration and a total consumption of nitrous oxide and oxygen of 5 litres/min. Even better, such technique would be conveniently carried out with a flow of, say, 2 litres/min. of nitrous oxide, and about 400 ml./min. oxygen with the expiratory valve on no tension and an absorber in the circuit.

The difference between this and Dr. Bullough's technique would be 4 litres/min. of nitrous oxide, or 52.8 gallons per hour. That this is a serious matter in these hard times is obvious by the simple calculation that if all the anaesthetics in the Northampton General Hospital were given by this method it would cost £36 per week, or £1,872 per annum less in nitrous oxide than if done by the method Dr. Bullough suggests.

While one must be ever mindful of one's duty to the patient, and to give him of our best, extravagant techniques should not be used where there are reasonably economical alternatives.—I am, etc.,

Northampton. F. F. WADDY.

Congenital Duodenal Obstruction and Mongolism

SIR,—We were very much interested in the paper by Drs. Martin Bodian, L. L. R. White, C. O. Carter, and J. H. Louw (January 12, p. 77) on the association of congenital duodenal atresia and mongolism. One of us (V. S.) saw a baby in 1948 with both conditions, and a further one in 1951. These babies were recognized as mongols and were not subjected to operation, the duodenal lesion being con-

firmed at necropsy. The second writer (M. C.) had seen a similar case in London in 1947, in which the duodenal lesion was confirmed at operation.

The combination of these two relatively rare conditions seems to us especially significant in so far as it may point to a limited interval of time, when the developmental abnormality leading to mongolism occurs.

Duodenal atresia probably results from a failure of the duodenum to recanalize during the fourth to seventh weeks of gestation. The septal defects unusually common in mongols result from a developmental aberration between the fourth and ninth weeks of foetal life.

Any attempt to explain the condition must also take into account the known rise in incidence of mongolism in the later years of the reproductive period. We feel that a detailed study of the early weeks of pregnancy in mothers over 40 years of age may possibly throw some light on the aetiology of mongolism.—We are, etc.,

V. SMALLPEICE.
Oxford. M. COXON.

Shortage of X-ray Films

SIR,—Following my recent inquiry made through the House of Commons and from the official reply which followed from the Board of Trade, I am informed that they hope to expand the manufacture of *x*-ray films by 7½% during the current year. This to meet the present increased demand of 76% (since the year 1947), with at the moment a disastrous acute shortage in the home market, requires no further astonished remarks from me. The Board of Trade letter goes further and states that according to the Ministry of Health records only one hospital has suffered from the present disastrous shortage of *x*-ray films. They conclude by saying that the position is being watched. No, 7½% increase will not do, but such is the continued toll of slow-moving officialdom and bureaucracy.

Surely here is an opportunity for a Government seeking new channels for export to expand rapidly the film industry and export, not only the 40% quota of films now going abroad, but perhaps greatly increase this figure, provided they meet first the needs at home. The industry backed by the Government could expand their plant quickly and so help the country in its present financial difficulties.

As one of the pioneers to introduce mass miniature radiography into this country I feel sure that to establish mass radiography as a form of economy is in itself largely a false economy and would have a very limited application in routine radiography owing to the shortcomings of the miniature film. For instance, it would be wrong to expect to detect, say, a very early osteomyelitis of a vertebra on a mass miniature film, but it could be used to record the rate of passage of a barium meal through the alimentary tract; not, however, for picking up fine detail such as minute ulcers in the stomach or duodenum which are sometimes barely detectable even on large-scale films.

Certainly it has its application and limitations in ordinary routine chest work. It seems to me that, as it has now become a wide practice in the Health Service for staff and also for emigrants going abroad to have routine *x*-ray examinations of chests, these people could quite easily be examined by mass radiography and if necessary go to centres for this purpose, and so again economizing in the number of mass radiographic machines in use. Subject to correction and according to available information, two Colonies only are using mass miniature radiography. Of the Canadian emigrants apparently 2,000 per month are mass radiographed. The Australians, approximately 7,000 per month, are also mass radiographed, except where disease of the lungs is known to be present, or in miners and others of similar occupation. South Africa and New Zealand, however, still insist on large-size films.

The time is now ripe for a deputation from one of our active radiological societies to visit the Board of Trade and enlighten them.—I am, etc.,

London, W.1. NORMAN P. HENDERSON.

L-*Nor*adrenaline as a Vasoconstrictor

SIR,—I was very much interested to read the article by Dr. H. C. Churchill-Davidson (December 29, 1951, p. 1551). I have used *nor*adrenaline in about 10 cases—mostly gross hypotension after surgical operations in extremely ill patients. In one case only I used it after hexamethonium bromide; this also responded so well that I have reason to believe that *nor*adrenaline and not methedrine is the answer to the dangerous fall of blood pressure which one sometimes gets after the administration of hypotensive drugs. On the other hand, I am inclined to stick to methedrine for fall of blood pressure to a low level under spinal analgesia, because of its ready means of administration and prompt results. Moreover, to maintain the blood pressure at a satisfactory level requires an infusion needing constant supervision and a very careful watch on the blood pressure.

The condition of the chest is one of the difficulties which appeared to me of real practical importance when using *nor*adrenaline in dealing with hypotension in elderly people. It has been often necessary to continue the infusion drip for 24 to 48 hours, though at a slower rate, to get a sustained rise in the B.P. level, and in these cases the patients get a chest condition with bubbling and rattling throughout. I would like suggestions from others on this point. However, I am convinced personally that it gives a slow but sustained rise in the blood pressure as opposed to prompt but transitory actions of methedrine, etc. On the other hand, the complexity of administration and the danger that the drug, if injected as opposed to infused, might kill the patient at once may for some time keep this valuable drug in the background in comparison with the others in common use. May I in this connexion put forward a suggestion that the manufacturers supply ampoules containing 2 or 2.5 ml. and not 4 ml.? In most hospitals the intravenous infusions are carried out from bottles containing 540 ml. of blood, saline, glucose, etc., and only 2 ml. or often 2.5 ml. *nor*adrenaline solution is given, the rest being wasted. The second dose from the open ampoule does not produce good results at all.—I am, etc.,

Manchester. RASHBEHARI GHOSE.

Placing Lymph for Vaccination

SIR,—Professor Robert Cruickshank (January 26, p. 212, and February 2, p. 268) does not say anything about getting vaccination lymph on to the skin. This is important for the inexperienced doctor. He might find himself trying to vaccinate a person without a blower or with one that does not work. The fact that some do not work is guessed from the fact that Pye's *Surgical Handicraft* describes a home-made one—a teat from a baby's bottle. In case one has no blower the following method is good enough. The ends of the tube are broken off cleanly and the lymph shaken down to the end. By applying this end to the site enough lymph can be easily deposited without having to blow by mouth. Only a very small amount is necessary.—I am, etc.,

Heath Hayes, Staffs. P. J. O'BRIEN.

POINTS FROM LETTERS

Penicillin and Colds

Dr. ERNEST JONES (Elsted, Sussex) writes: Those who vaunt the abortive influence of penicillin with colds would do well to record also the sequelae. Recently I used a nasal insufflation of penicillin and sulphathiazole three times in the first 24 hours, and at the end of the next day all symptoms had disappeared. I thought I had come across the real magic and prepared to spread the good news. But wait. Four or five days later the symptoms returned without any detectable reinfection, and I was in for one of the most miserable attacks for years, with several days in bed. Those viruses that had eluded the penicillin extorted an ample revenge for their slain brethren.

KING GEORGE THE SIXTH

"Our Most Illustrious Doctor"*

Four times within not much more than half a century the nation has mourned the death of a much-beloved sovereign. During the previous 63 years the throne had only one occupant; Queen Victoria reigned for so long that she came to be regarded as a permanent institution rather than a mortal being. Edward VII and George V lived out, the one almost the Psalmist's span, and the other slightly beyond it. George VI might have looked forward to many years of happy and useful reign. No English sovereign has died in his fifties since the Stuarts, who were short-lived. The average age at death of our sovereigns since George I is 73. On the other hand, during the 800 years which separate Alfred the Great from Queen Anne, no king or queen lived to be 70, and only seven out of the 46 of them reached the age of 60; and the average age at death was 44. The gradual prolongation of human life covers kings as well as their subjects.

An added poignancy is given to the passing of George VI because of the troubled and catastrophic events of his time. When he opened his first Parliament the Speech which he delivered from the Throne promised measures of slum clearance, the improvement of housing, meals for boys and girls attending industrial centres, and the lowering of the age at which the blind were to receive pensions. The threat of war certainly was hanging over Europe, but at home all seemed set for social betterment, a trim passage to the Welfare State. This prospect must have rejoiced the King's heart because of that unusual experience of the working conditions of the people which had earned him the title of "the industrial Prince." But the tragic interruption of the war came before he had reigned for three years, and although the war itself in some respects quickened the pace of social reform it brought about also such impoverishment as postponed indefinitely the realization of the brighter hopes which had been entertained.

"Real Work and Merit"

Against such a background a king with more showy gifts and more dominating personality might have played a more dramatic part, but possibly a more disastrous one for his country. This quiet domestic King, who on the eve of his 41st birthday came unexpectedly into this overwhelming inheritance, was well matched with his hour. The late Viscount Dawson of Penn, whose last appointment was to the headship of their medical household after the abdication of Edward VIII, wrote in March, 1937, to Sister Black, who had nursed George V, "The King and Queen are doing very well; they are basing themselves on real work and merit—and not on flairs."

People who were growing accustomed to a world in upheaval turned with relief to the King and his family, glad to feel that their titular head was someone like themselves—not a pompous emperor nor a swaggering dictator but one who preferred simple things, who smiled at the same jests, took pride in the same small achievements, claimed no particular genius to separate him from the common man, found his chief satisfaction in the home circle, and was, like his father, but not so like some previous occupants of the throne, the embodiment of themselves. He continued the pattern of life of George V. Archbishop Lang noted on receiving his first letter from the new King that his signature might have been taken for his father's. He was the same plain, direct, unassuming man. The industrial worker with whom he had talked during his hundreds of visits to factories, the boys with whom he had camped in summer holidays, the sailors with whom he had served in the first World War, found in him someone none the less kingly because he had the common touch.

It certainly seems as if the English people like a king who is a good family man. Even if they do not all practise the same virtues themselves they expect to find the example in their crowned heads. And so it has happened that the Throne is now more broadly based on popular affection and respect than ever it has been in the past. The hostility with which the Throne was regarded by not inconsiderable sections of the population in times gone by found no expression at all during the late reign. On the other hand, sycophancy, that unpleasant growth of courts, could not flourish in the presence of this modest and unpretentious ruler, so obviously unassuming and retiring, nor of his friendly and unaffected queen.

King George VI was not trained for the throne. He was not brought up, as he is reported once himself to have said, to be "palace minded." In fact, until his accession, he lived mostly in small houses. The worst training for a king is in the gilded cage where the heir apparent is imprisoned. King George when Duke of York took his full share of the duty and discipline which are imposed upon the general body of citizens—more so than most indeed, because, again like his father, his training was in the Royal Navy. He went to Osborne as a cadet, and then to Dartmouth, and afterwards came his service in the war of 1914–18. The service was interrupted by illness, but it included the Battle of Jutland. "In the *Collingwood*," he wrote, "[we] saw a good deal more than some of the other

*The form of toast given at dinners of London University schools.

ships, and we fired more than they did; but we were not hit at all, which was lucky, though we were straddled several times. One shell dropped over the fo'c'sle, missing us by inches."

The Industrial Prince

Towards the end of the war he served for a time in the Royal Air Force during its early period of organization, and then came the academic interlude of Cambridge, where he lived the life of the ordinary undergraduate, studying civics, commercial geography, and history, to which, when he became interested in industrial affairs, was added economics. His close acquaintance with industry began when he was made President of the Industrial Welfare Society. The idea behind that society as a means of bringing employers and workmen together was that of the Rev. Robert Hyde, who had worked for 15 years among the people of Hoxton and brought his experience to the Ministry of Munitions during the war. When he founded the society he secured the Duke of York as much more than an honorary president. The Duke at that time was a young man of 24, and it is reported that when asked to lead the enterprise he made the condition that there should be "none of that damned red carpet." He visited factories all over the country —150 of them in five years. The purpose was to explain employers and employed to one another. Particular stress was laid on physical training in industry, for which the help of the British Medical Association was sought. His greatest personal service to the country up to the time of his accession was given through that society. It represented a new departure in royal progresses, because, as Hector Bolitho says in his biography of the King, up to that time, although the Royal Family were noted for benevolence and had given their names to innumerable civic institutions, charities, and public services, there had been no personal link between them and the great masses employed in industry and transport, on whom, after all, the very life of the country depends.

The same idea of bringing classes together was behind the Duke of York's camps. As Duke of York, and for one year as King, he camped for the summer holidays with a company of boys, half of whom were drawn from public schools and half from industrial areas. In the course of 15 years something like 7,000 boys were his guests and shared with him the rough-and-tumble, the freedom and improvisation of camp life. Other like causes claimed his interest, such as the National Playing Fields Association. An organization with which he was closely identified was the British Empire Cancer Campaign. He presided over the annual meeting of that body at the House of Lords only a fortnight before his accession, and on that occasion mentioned the sympathy of his family with all work on the cancer problem, especially the interest taken in it by his father and mother and by his grandfather, Edward VII.

In 1933 he opened the International Paediatrics Congress, the first to be held in Great Britain, and reminded the assembly that there were people living who remembered the foundation of the first hospital for children. "Speaking as a father," he voiced the gratitude of parents far and wide. "Take care of the young and the country will take care of itself."

Another of King George's distinctions was as a traveller. Here again he followed the pattern set by his father. It is difficult to say which of them saw most of the British Commonwealth; both of them visited all the Dominions and other parts of the Empire as well. George V looked upon Empire tours for his sons as a part of their education, as they had been his own, much as the grand tour of the Continent had been to the "milords" of the eighteenth century. Both the late King and his father knew Britain overseas far better than any sovereign had known it before, and both of them appealed to the imagination of the peoples they encountered, white, or black, or brown, in much the same way.

His record as King, both during the war years and since, has been amply recalled in the daily press. If his interest in hospitals and medicine did not find so many outlets as his father's, it was none the less deep and sincere. Two occasions on which that interest was manifested in a special degree were his attendance at the celebrations of the 400th anniversary of the second founding of St. Bartholomew's Hospital in 1946 and the opening of the new building of the National Institute for Medical Research at Mill Hill in 1950. He became Patron of the British Medical Association within a few weeks of his accession. The speeches of princes on public occasions are usually formal and colourless. "As tedious as a king," says Dogberry. But King George, as might have been expected from a man of his methodical and painstaking nature, was said to make his own revisions and improvisations, sometimes continuing to revise until the moment of delivery. Up to the time he ascended the throne he had delivered over five hundred speeches in public.

Unfortunately he suffered from a disabling speech defect, inherited from his ancestors of the House of Brunswick—one of the most unhappy afflictions that can befall a man called to high office. It was the more grievous in view of the fact that broadcasting had made it possible for the voices of rulers and statesmen to be heard all round the world. With the help of an Australian speech therapist he made heroic efforts to overcome the disability, and, although his speech to the end remained slow, his later platform utterances and broadcasts were in marked contrast to his earlier ones, and showed how far he had succeeded in conquering the impediment.

The King's Illnesses

The King's life was chequered by frequent illness. He was a man of frail constitution, but with a real determination to make the best of it. The

testimony of his doctors was that he was an admirable patient, willingly submitting to irksome restrictions and co-operating completely in all measures of treatment. His various illnesses were never allowed to cause more than a minimum of interference with his duties. While he was a naval cadet at Osborne he had a severe attack of pneumonia. Soon after the beginning of the first world war, during his service in the Navy, he had severe dyspeptic symptoms and was taken from Scapa Flow in a hospital ship to Aberdeen. He went back again to play his part in the battle of Jutland, where he was second in command in the fore turret of his ship, but afterwards he returned to shore for less exacting duties, and eventually he was operated on in 1917 for duodenal ulcer. In the early part of his reign he had a severe attack of gastric influenza, which caused the abandonment of a number of engagements, including the opening of the Birmingham Hospitals Centre.

A more serious illness developed in 1948. In the late November of that year a bulletin announced that the King was suffering from obstruction to the arterial circulation in the legs. The bulletin, which was signed by the late Sir Maurice Cassidy, Sir Thomas Dunhill, Professor J. R. (now Sir James) Learmonth, and Sir John Weir, added that the strain of 12 such years of reign had appreciably affected his resistance to physical fatigue. After some days of rest, a reassuring bulletin stated that there had been an improvement in the general health of the King, which was an important factor in re-establishing the arterial circulation to the feet. It was also stated that the restoration was being encouraged by appropriate medicinal and physical means, but that it was a slow process, extending over a period of months. In the middle of December the re-establishment of the circulation in the left leg and foot had reached a stage sufficient to permit some activity, but in the right leg and foot it had been less rapid, so that only strictly limited activity, confined to indoors, could be undertaken. In March, 1949, the operation of lumbar sympathectomy was performed with a view to improving the blood supply in the right foot. The surgeons were Professor Learmonth and Professor (now Sir) J. Paterson Ross. The King made a good recovery, and a prolonged convalescence was undertaken in order to secure the continuation of the natural process of forming a collateral circulation which had been encouraged by the operation.

The King undertook a number of public engagements in 1950 and the early part of 1951, but those who saw him realized that he was evidently still a very sick man. Disease of the lung was first mentioned in a bulletin signed by Sir Daniel Davies, Sir Horace Evans, Dr. G. (now Sir Geoffrey) Marshall, and Sir John Weir, on June 1, 1951, when it was stated that the King was confined to his room with an attack of influenza, and that there was a small area of catarrhal inflammation in the lung. In the early autumn a visit of specialists to Balmoral was followed by the King's sudden return to London to undergo treatment not possible in the Highlands. A later bulletin stated that structural changes had developed in the lung. On September 23 an operation for resection of the lung was performed; the following eight medical men were in attendance: Sir Daniel Davies, Dr. Geoffrey Marshall, Sir Robert Young, Sir Thomas Dunhill, Mr. C. (now Sir Clement) Price Thomas, Dr. R. Machray, Sir Horace Evans, and Sir John Weir. On October 8, after daily bulletins, it was announced that His Majesty continued to make satisfactory progress and that no further regular bulletins would be issued.

In his broadcast on the following Christmas Day, in a voice that bore witness to the weakness of his respiratory system, the King paid tribute to "the faithful skill of my doctors, surgeons, and nurses," and he sent a special donation to Westminster Hospital as a token of his gratitude to the medical and nursing staff who had gone from that hospital to the palace. The honour of knighthood was conferred upon two of the medical men concerned —Sir Clement Price Thomas and Sir Geoffrey Marshall.

"A True King"

The late King admirably filled the throne vacated by his brother. He maintained the constitutional tradition of the monarchy, and his strong sense of public duty and high standard of family life were an inspiration at a time when that sense of duty was becoming confused and those standards had been lowered. The deaths of sovereigns, as of other great persons, are the occasion invariably for much uncritical praise; then after a time there succeeds a more balanced estimate, and sometimes the satirists and detractors get to work (as in the case of Queen Victoria) in their not always laudable attempts to re-write history. The enduring monument to the late King's reign is the firm establishment of the constitutional monarchy in the hearts and minds of the people. He was a true King and a good man.

Chrysostom wrote in his *Tasks of Kingship*, "The clearest mark of a true king is that he is one whom all good men can praise without compunction, not only during his life but even after his death."

A MESSAGE OF SYMPATHY

After the announcement of the King's death in his sleep on February 6 the following telegram was sent to the Private Secretary at Buckingham Palace:

"The President and Members of the British Medical Association are deeply grieved at the death of their Beloved Patron the King and humbly offer heart-felt sympathy to Her Majesty the Queen and all members of the Royal Family. E. A. Gregg, Chairman of Council."

This telegram, addressed to the Chairman of the Council of the British Medical Association, was received in reply on February 8:

"I am sincerely grateful for your message. Please assure all those for whom you speak that I deeply value their kindness and sympathy. Elizabeth R."

Obituary

Dr. ALBERT VICTOR JOHN RUSSELL died at his home in Birkenhead on January 14. Born at Strabane, in Northern Ireland, in 1899, he was educated at the Methodist College, Belfast. He studied medicine at Dublin, and graduated M.B., Ch.B., B.A.O. in 1921, taking the L.M. (Rotunda) in the same year. He served as house-physician and house-surgeon at the Chester Royal Infirmary, house-surgeon at the Shropshire Orthopaedic Hospital, and house-physician at the Queen's Hospital for Children, Hackney. Subsequently he was a medical officer with the Cunard White Star Company and much of his service was in the old *Mauretania*. He entered general practice in Birkenhead in 1934 and was an assistant physician at the Birkenhead and Wirral Children's Hospital from 1934 to 1942 and physician from 1942 to 1948. He served in the Army during the last war, and later, following his recall because of shortage of doctors in Birkenhead, he joined the Home Guard and served as medical officer to the 4th Cheshire Battalion. From that time onwards he took an ever-increasing interest in medico-political matters and was a member of the panel committee and local medical war committee. He was elected chairman of the administrative committee of the Birkenhead Executive Council in 1947, vice-chairman of the Birkenhead and Wirral Division of the B.M.A. in 1950, secretary of the Birkenhead local medical committee in 1949, and a member of the Representative Body of the B.M.A. and a member of the Conference of Local Medical Committees in 1949. All these appointments he held until the time of his death. Dr. Russell was an able and conscientious worker on behalf of his colleagues, and was an extremely well-informed and active supporter of the British Medical Association. He was a classical scholar, and in addition a man of many and diverse interests, widely read on a variety of subjects. He is missed by many friends among his colleagues and patients in Birkenhead.—R. W. L. P.

Dr. WALTER HENRY POLLARD, who was in general practice in Birmingham for upwards of fifty years, died at his home in Birmingham on January 29, aged 84. He studied medicine at St. Bartholomew's Hospital, where he won the senior entrance scholarship in science. After qualifying in 1894 and graduating M.B. a year later, he worked in and near London for some years before settling in practice in Bearwood, near Smethwick. Later he moved to Edgbaston, where he remained until his death. Dr. Pollard was well known in the district not only because he was a respected general practitioner but because of his keen interest in local affairs. He was elected a member of the Smethwick Borough Council many years ago, and in due course he became a justice of the peace, and eventually mayor of Smethwick just after the first world war, during which he had served as medical officer to the auxiliary military hospital at Lightwoods Hall. Dr. Pollard was one of the first members of the Birmingham panel committee and was a vice-president of the Birmingham Medical Institute. Later he became chairman of the Birmingham Central Division of the B.M.A. (1931–2) and president of the Birmingham Branch (1936–8). For several years in the nineteen-thirties he represented his Division at the Annual Meeting. Although he gave up general practice about ten years ago, Dr. Pollard retained his post as chairman of No. 5 medical recruiting board in Birmingham until 1948.

Dr. MAX HARTMANN, the distinguished Swiss chemist, for long associated with Ciba Ltd., of Basle, died on February 2. Born at St. Gallen, Switzerland, in 1884, Max Hartmann obtained his doctorate in chemistry at Munich, shortly afterwards joined the Ciba laboratories, and, after a brief interval again at Munich, settled in 1915 for good with Ciba, where he entered the pharmaceutical department, then in its early stages of development. His subsequent researches led to the production of many valuable medicinal products, of which "coramine" is probably the most widely known. Dr. Hartmann became an honorary member of the Swiss Chemical Society after long service as treasurer, received an honorary doctorate in medicine from the University of Basle and in technical science from the Swiss Polytechnical School, and became a member of the board of management of Ciba. He played a prominent part in the establishment of the Swiss Academy and very actively interested himself in the work of other foundations, such as those for chemical, biological, and medical scholarships, and the Swiss Tropical Institute. His last visit to London was to take part, with Sir Henry Dale and other distinguished men, in the opening ceremony of the Ciba Foundation for the Promotion of International Co-operation in Medical and Chemical Research, when he paid tribute to "the long line of great British research workers, past and present." Those who knew Max Hartmann will not forget the kindliness and the homely character of this man of rich personality. In his department there was no place for pettiness and jealousy, and, directing it with tolerance and understanding, Dr. Hartmann always gave the fullest credit and support to all his co-workers. His fine judgment and shrewd common sense made his advice highly valued beyond his department and beyond Ciba, not only in scientific matters and administration, and especially in the selection of staff, but also in the world of art. His aged mother and two children survive him.—G. E. W. W.

Dr. GRAHAM RENSHAW died after a short illness on January 13 at the age of 79. Educated at the Leys School, Cambridge, he graduated M.B., Ch.B. at Manchester University in 1899 and proceeded M.D. in 1914. Soon after qualifying he joined his father, Dr. Herbert Smith Renshaw, in practice in Sale, and when his father retired in 1916 he took complete charge. Graham Renshaw was a man of wide interests. A well-known naturalist, he wrote articles for a number of natural history journals, and from 1922 to 1924 owned and edited a monthly magazine called *Nature Lover*. At his home in Sale he kept a miniature zoo containing a variety of animals, birds, and fish. In 1940 he retired from general practice and went to live in Hale, but he continued his work as medical referee for a number of insurance companies till shortly before his death. He was of a friendly disposition and will be greatly missed by all who knew him. He is survived by his wife and daughter.—R. H.

The death occurred on January 11 of Dr. JOHN LEO MCSWEENEY at the early age of 48. He was the youngest son of Eugene McSweeney, of Cork, a prominent Irish educationist and sometime lecturer at University College, Cork. Leo McSweeney was educated at University College, Cork, and graduated M.B., B.Ch., B.A.O. at the National University of Ireland in 1926 in spite of being handicapped by the early onset of the illness from which he suffered throughout his professional career and from which he eventually died. The first five years after qualification he spent as a ship surgeon, and he then settled in general practice first at Ferndale in South Wales and finally, in 1938, in Birkenhead. Owing to his chronic ill-health his outside activities were limited, though he was keenly interested in sport, but he derived great consolation from his religion, being a very prominent member of the Roman Catholic community in Birkenhead. The esteem in which he was held by his patients was evidenced by a very large congregation at his requiem. He is survived by his widow, Sheila, daughter of the late Dr. T. McKelvie, of Cardiff, and his brother Dr. Christopher J. McSweeney, who is in consultant practice in Dublin.—E. G. W.

We record with regret the death at Newcastle-upon-Tyne on January 20 of Dr. ELDRED CURWEN BRAITHWAITE. He was born in Cumberland in 1885, and was educated at the University of Durham, where he graduated M.B., B.S. with first-class honours in 1909, taking the M.R.C.S., L.R.C.P. in the same year. In 1910 he took the D.P.H., and three years later proceeded M.S. He was elected F.R.C.S.Ed. in

1922. Dr. Braithwaite entered the Colonial Medical Service in 1911 and retired in 1944. For most of this period he served in West Africa, becoming senior specialist in Nigeria. He took part in the Cameroons campaign in 1914–16, was mentioned in dispatches, and received the thanks of the Secretary of State for the Colonies. He was appointed O.B.E. in 1936 and promoted C.B.E. in 1947.

Dr. H. R. MacK. Ferguson writes: A pupil of the late Rutherford Morison, Braithwaite specialized in surgery, and his work in Owassi, Nigeria, and other up-country stations, work of which I have first-hand knowledge, was of a very high order and of the greatest value to Africans, whom he served with devotion, and to the Colonial Government. Braithwaite was at his best when called upon to tackle some difficult surgical problem under almost impossible conditions. His cheery humour was the delight of his friends and a splendid tonic to countless patients.

Medical Notes in Parliament

Dentists' Bill in the Lords

In the House of Lords on February 5, Lord WOOLTON moved the second reading of the Dentists' Bill. He explained that the Bill was introduced to grant dentists the status and dignity of a self-governing profession, to regulate the admission of foreign and Commonwealth dentists to the dental register, and to provide for the training of ancillary dental workers. A new General Dental Council was to be set up, composed of 34 members, all but four being registered dentists. In addition, six members of the General Medical Council would act as members on the General Dental Council when matters concerning dental education were discussed. The visiting of dental schools, the registration of dentists, and disciplinary procedure would be transferred to the General Dental Council. The Bill gave a new right of appeal to the judicial committee of the Privy Council against a decision to remove a dentist's name from the register in the same way that that appeal had been given to a doctor in the Medical Act, 1950.

The only new principle introduced in the Bill empowered the General Dental Council to establish classes of ancillary dental workers. The public dental service for expectant and nursing mothers and young children was in serious need of additional manpower. In December, 1951, the equivalent of just over 700 full-time dental officers were employed on this work, whereas an adequate dental service for children would require some 2,800 full-time dentists. The number of dentists on the register was likely to increase, but slowly. Just before the war the annual entry into the profession was about 340; during the last five years between 600 and 650 students had entered dental schools each year. Expansion of the schools was costly and would be slow, and at the present rate of intake the number of 10,000 practising dentists in England and Wales would not be greatly increased. Meanwhile the public would have an insufficient dental service. The Bill would enable the General Dental Council to give official recognition to oral hygienists, but provided they should only work under supervision of a registered dentist. The Government was considering whether ancillary dental workers, able to undertake the extraction and filling of teeth, as in New Zealand, should also be introduced. The Bill provided that the Dental Council should arrange for the training and subsequent employment of a number of persons whose work would include extraction and filling, and that the Ministry of Health and Secretary of State for Scotland should be empowered to give financial help towards the cost of this experiment. A two-year training was envisaged, and after the first batch of dental workers had been employed for a year the council was to report on the experiment. If the results justified such action the council was authorized to proceed, in conjunction with the Privy Council, to draft regulations establishing such a class as ancillary workers.

Not Enough Dentists?

Lord TEVIOT said he did not agree that there were not enough dentists in the country to provide reasonable treatment for adult patients. When a moderate charge had been introduced for the supply of dentures the drop in the number of patients was most noticeable, and he believed that the new charge of up to £1 would make a large reduction in the number of patients seeking treatment. There was no doubt that the schools and children were alarmingly short of treatment and inspection. He contended that a dental surgeon rather than an ancillary worker should do the filling of a child's permanent teeth, but at the moment it barely offered a living for the dental surgeon to become a children's dentist. Parliament had to offer an inducement of a reasonable return for such work.

Lord WEBB-JOHNSON declared himself in favour of encouraging the training of dental nurses, provided the limits of their activities were narrower than was laid down in the Bill. The dental nurse should not be permitted to interfere with living tissues. The auxiliary workers could be made technically competent, but would not have sufficient training to make them competent to form a diagnosis, especially during the eruption of the second teeth. Lord AMULREE endorsed the plea for the foreign refugee dentists at present working in this country, and Lord MANCROFT hoped that the misgiving concerning ancillary workers would disappear. He dissented from the description of the auxiliary workers as partially trained. It was not right to describe a hospital sister as partially trained. She was trained to do her own job.

Lord HADEN-GUEST said the London County Council at present ought to have 66 dentists but had only 38. The deficiency in dental establishment amounted to a disaster which could not be made up. He was not convinced that, because of the charges now to be made for various dental services, dentists would go back to the school dental service. He believed that the setting up of a service of ancillary dental workers under the personal supervision of dentists would be valuable.

The Bill was read a second time without a division.

Milk for 5-year-olds

Mr. WILLIAM IRVING regretted on January 31 that the Ministry of Food and the Ministry of Education could not agree about supplying milk to schoolchildren. The Ministry of Food denied further responsibility when children reached the age of 5 and, if the education authorities who became responsible for the education of children at that age had no places in the schools for the children, those children could not get free milk. About 15,000,000 gallons of milk were consumed by schoolchildren each year (about twice the pre-war figure), and this was a good investment. The problem ought to be a simple one—if children at the age of 5 could not be provided with education they should be provided with school milk in the same way that schoolchildren were provided with it during the holidays. Mr. KENNETH PICKTHORN, for the Ministry of Education, agreed that the matter deserved attention. It was not true that the Ministry of Education became automatically responsible for children on their reaching the age of 5. The subject they were discussing was a gap of a few weeks, or at most of not many months. Most children were in attendance at school before they were 5 years and 1 month old. If the Minister allowed children who were not practically in attendance at school to be put nominally on the register in order to receive milk it would not only be a breach of the Statute but also a fraud upon the Ministry of Food. To continue the child's ration book so that until it was absorbed in the school machine it could receive cheap milk, orange juice, and the rest would have meant giving benefits worth 3d. and 4d. a week instead of 10d. worth of milk, and could not be done by administrative fiat. The simple truth was that neither the Ministry of Food nor the Ministry of Education had been able to find a means by which the thing could be done. If it were done, the effort and expense would be out of proportion to the benefits secured.

Industrial Injuries

In the House of Commons on February 4 Mr. BARNETT JANNER drew attention to the grave loss of life and health from industrial injuries and diseases. He said the report of the Ministry of National Insurance for November, 1951, gave the number of awards of Industrial Deaths Benefit as about 3,000 in 1949 and approximately the same in 1950. The position might deteriorate. Increased mechanization was being introduced in mining and quarrying, and machinery accounted for most of the accidents. He asked the Government to see that there was constant consultation between the departments which dealt with this problem. Sir PETER BENNETT, replying for the Ministry of Labour, said prevention of industrial accidents was primarily a matter for employers and employed. The Ministry always urged managements to appoint men specially devoted to safety work, and was arranging for special lectures to be given by factory inspectors in universities and technical schools. The setting up of an additional committee on the subject would be a waste of time.

Prescription Charge Exemption

Mr. H. F. C. CROOKSHANK on February 5 declined to exempt old-age pensioners from payment of 1s. for their prescriptions unless they already received a public assistance grant or were otherwise unable to meet the charges without hardship.

Pensions for Cancer.—About 1,400 awards of pension have been made in respect of disablement or death from cancer accepted by the War Office as attributable to or aggravated by service in the armed Forces during the 1939–45 war and since. Information in respect of the 1914–18 war is not available.

Schools for Epileptics.—Miss F. HORSBRUGH is anxious to increase the provision for epileptic children in special schools. Approved-school boys and girls under 16 who suffer from major epilepsy are placed in special schools. When they cannot be so placed they usually have to be discharged to their own homes.

Suicides.—Suicides in prison in England and Wales were 10 in 1949, 3 in 1950, and 8 in 1951.

Poliomyelitis.—In 1948–51 35.5 cases of poliomyelitis per 100,000 of the population were notified in Scotland and 41.6 per 100,000 in England and Wales.

Hearing-aids and Wigs.—During one year the issues were 93,454 and 9,750 respectively. The estimated cost excluding overheads was £329,000 and £124,000.

Hospital Reports.—In Scotland hospitals are not authorized to charge for copies of reports taken from their records.

Crematoria.—No authorizations to build crematoria were given in the years 1945 to 1949; one was given in 1950 and three in 1951. There are 59 crematoria in England, Scotland, and Wales.

Universities and Colleges

UNIVERSITY OF ABERDEEN

Dr. Ian Milne Richardson has been appointed Lecturer in Social Medicine in the University.

UNIVERSITY OF MANCHESTER

Professor Walter Schlapp has been appointed Dean of the Medical School for 1952.

Dr. E. L. Patterson and Dr. F. A. Langley have been appointed Senior Lecturers in Anatomy and in Special Pathology, respectively, and Dr. Basil Wolman, previously Assistant Lecturer in Child Health, Honorary Clinical Lecturer from December, 1951.

Miss Rose Heilbron, Q.C., will deliver the Margaret Ashton Memorial Lecture on "Women in the Professions" at the University on Friday, March 21, at 5 p.m.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

The following were admitted to the Membership of the College on February 1: R. C. Desai, E. G. Fox, J. P. R. Rees.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **January 26** (No. 4) and corresponding week 1951.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 160 great towns in England and Wales (London included), London administrative county, the 17 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	27	1	14	1	2	48	5	21	2	1
Dysentery	547	38	72	2		706	76	147	5	
Encephalitis, acute	6	0	1	0		6	1	0	0	
Enteric fever:										
Typhoid	2	0	0	0	0	4	2	0	1	1
Paratyphoid ..	10	2	1 (B)	0		4	0	4 (B)	0	
Food-poisoning ..	90	8		0		143	6		0	
Infective enteritis or diarrhoea under 2 years				10	9				13	20
Measles*	2,837	41	287	143	61	15,930	2210	182	37	90
Meningococcal infection	37	3	11	1	2	60	4	25	0	
Ophthalmia neonatorum	30	4	9	0		11	1	8	0	
Pneumonia† ..	836	38	294	10	1	3,572	179	613	122	120
Poliomyelitis, acute:										
Paralytic	18	0	1	0	2	20	1	1	1	
Non-paralytic ..	9	0				7	0			
Puerperal fever§ ..	207	28	14	1	2	102	9	16	2	1
Scarlet fever ..	1,293	89	233	36	34	955	44	172	27	45
Tuberculosis:										
Respiratory ..			154	37				143	29	
Non-respiratory..			19	8				25	4	
Whooping-cough ..	2,573	86	318	152	75	5,023	464	661	15	112

DEATHS ‡ in Great Towns	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	0	0		0	0	*0*	0	*0*	0	0
Dysentery	0	0		0			0		0	
Encephalitis, acute		0			0		0			0
Enteric fever ..	0	0		0		*0*	0	*0*	0	
Infective enteritis or diarrhoea under 2 years	13		4	0	1	*12*		*4*	0	0
Influenza	33	4		2	0	*1,239*	122	*81*	50	78
Measles		0		0	0		0	*1*	0	0
Meningococcal infection		1					1	*2*		
Pneumonia ..	303	41		7	8	*790*	113		49	44
Poliomyelitis, acute	0	0			0	*3*	0			0
Scarlet fever ..		0		0	0		0	*0*	0	0
Tuberculosis:										
Respiratory ..	176	26	30	2	13	*216*	29	*40*	9	15
Non-respiratory..		4	3	1	0		1	*3*	1	3
Whooping-cough ..	1	0		0	0	*10*	0	*0*	0	0
Deaths 0–1 year ..	269	31	30	14	24	*317*	40	*45*	12	20
Deaths (excluding stillbirths) ..	6,345	964	754	135	202	*9,648*	1448	*1100*	318	459
LIVE BIRTHS ..	7,564	1164	840	217	413	*7,358*	1228	*957*	274	401
STILLBIRTHS ..	194	15	31			*199*	35	*22*		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.
‡ See "Census Changes" overleaf.

Vital Statistics

Infectious Diseases

The chief features of the returns of infectious diseases in England and Wales during the week ending January 26 were increases in the number of notifications of whooping-cough by 224, dysentery by 113, and scarlet fever by 82.

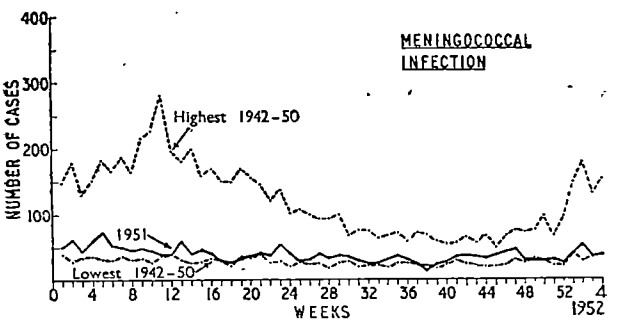
The largest increases in the incidence of whooping-cough were Yorkshire West Riding 62, Gloucestershire 38, and Durham 37. The only variation of any size in the local trends of scarlet fever was an increase of 42 in Essex. The number of notifications of measles have been practically constant for the last three weeks, and the notifications during the week reviewed were only 9 more than in the preceding week. The only large fluctuations in the local trends of measles were a decrease of 104 in Cheshire and an increase of 66 in Staffordshire. The notifications of diphtheria were 5 more than in the previous week. Almost two-thirds of the notifications of diphtheria were returned by three counties —Lancashire 6, Yorkshire West Riding 5, and Staffordshire 5.

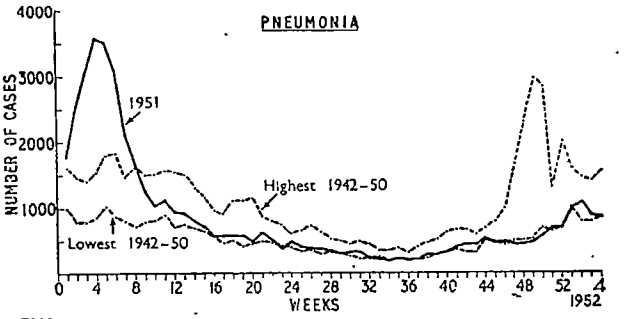
Notifications of acute poliomyelitis were 7 fewer for paralytic and 1 fewer for non-paralytic cases than in the preceding week. The largest returns were Lancashire 5 (Manchester C.B. 2); Gloucestershire 3 (Cheltenham M.B. 2); Kent 3; Yorkshire West Riding 3.

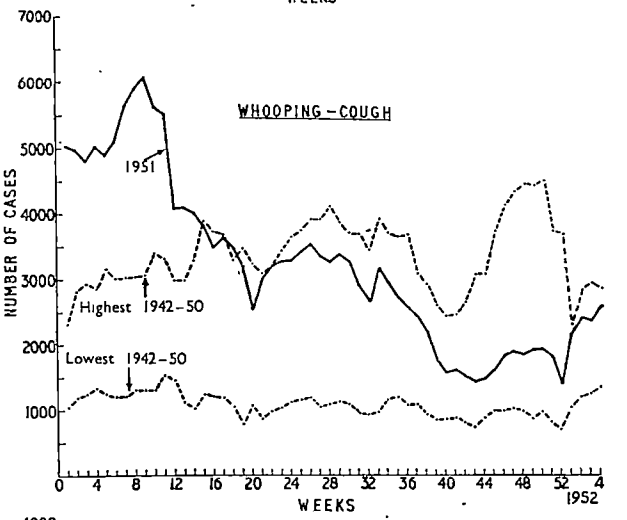
For the fourth consecutive week a rise has been recorded in the number of notifications of dysentery. A further 65 cases were notified in the outbreak in Norwich C.B., an increase of 13 on the total of the preceding week. The outbreak in this city began during the week ending November 24 with 25 notifications. In the next two weeks 117 and 200 cases were notified, and a steady fall occurred in the next five weeks to reach 31 cases in the week ending January 12, but in the succeeding two weeks a small rise has been reported. In the past ten weeks 788 cases have been notified in this city. Other large returns during the week reviewed were Lancashire 64 (Lancaster M.B. 11); Middlesex 44 (Willesden M.B. 17); Surrey 43 (Malden and Coombe M.B. 35); Devonshire 39 (St. Thomas R.D. 14, Exeter C.B. 13); London 38; Kent 31 (Beckenham M.B. 16); Yorkshire West Riding 29; Southampton County 26 (Portsmouth C.B. 24); Warwickshire 17 (Coventry C.B. 11); Denbighshire 15 (Ruthin R.D. 15).

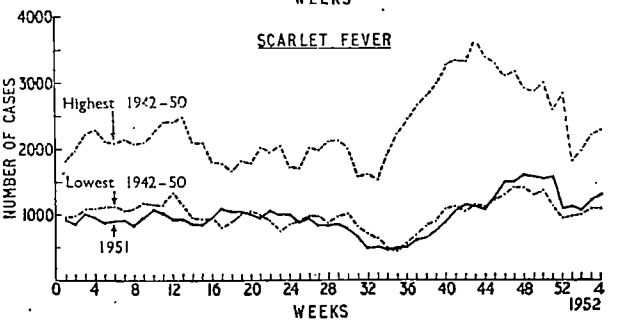
Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1942–50 are shown thus - - - - - - - -, the figures for 1951 and 1952 thus ———. Except for the curves showing notifications in 1951 and 1952, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.









Week Ending February 2

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,320, whooping-cough 2,652, diphtheria 24, measles 3,386, acute pneumonia 1,005, acute poliomyelitis 25, dysentery 490, paratyphoid fever 6, and typhoid fever 5.

Census Changes.—Population figures obtained at the 1951 census show that there are now 160 great towns (population over 50,000) in England and Wales instead of 126, and 17 principal towns (population over 30,000) in Scotland instead of 16. Therefore the 1952 figures for deaths, births, and stillbirths in these countries, published weekly in our Table, cannot be accurately compared with those for 1951, which are printed in italics. The 160 great towns in England and Wales have a population about 10% higher than the 126.

The Hospital for Sick Children in Great Ormond Street, London, W.C.1, has started its own periodical, which appears twice yearly, in June and December, at 7s. 6d. an issue. *Great Ormond Street Journal* publishes only the work of present or past members of the staff, and includes a sizable review of "laboratory diagnosis of virus and rickettsial infections" in its first issue, and of "paper chromatography" in its second (December, 1951), as well as shorter articles on such subjects as abdominal pain in childhood, and numerous case reports and special investigations. The journal is produced by H. K. Lewis and Co., Ltd.

Medical News

Silvester Traced.—Immediately after a request (*Journal*, January 26, p. 227) for information about the possible existence of a portrait of Dr. Henry Robert Silvester, Dr. F. C. Doble kindly telephoned to say that for many years one had hung in the house of the late Reverend Paul Silvester, of Land's End and Penzance. He suggested it might have passed to Mr. J. Allon Tucker, of Bath, a brother-in-law of Silvester, and through Mr. Tucker's kind permission we have been able to photograph the portrait,

Cyril Howe Studios, Bath

which is here reproduced. Silvester, the son of Dr. T. H. Silvester, was born in 1829, qualified M.R.C.S. in 1853, M.B. in 1854, and M.D.(London) in 1855. His paper on "A new method of resuscitating still-born children, and of restoring persons apparently drowned or dead" appeared in the *British Medical Journal* of July 17, 1858, at page 576. Silvester's method consists in placing the patient in the supine position, putting the arms firmly over the head to raise the ribs, and keeping them there until air ceases to enter the chest; the arms are then brought down to the chest and pressed against it for a second or so after air ceases to escape. This formula is repeated 16 times in a minute. In 1861 Silvester became honorary medical assistant to the Royal Humane Society, which awarded him the Fothergill gold medal in 1883. He died in 1908.

East African Blind.—A campaign for the 150,000 blind people in East Africa is being launched simultaneously in this country and in the East African territories this month. A committee headed by Sir John Hathorn Hall, until lately Governor of Uganda, has been set up by the British Empire Society for the Blind to make an appeal to firms with interests in East Africa. In Kenya and Uganda committees have been formed with the assistance of the Governments, and they are planning to raise £75,000 to provide funds for medical research into the causes and incidence of blindness and eye diseases, the provision of new or extended schools for the blind, demonstration teams, and aftercare facilities. A committee is also being formed in Tanganyika, where a sum of £24,000 will be required to carry out a similar scheme. The British Empire Society for the Blind is co-operating with the Zanzibar Voluntary Welfare Society to raise a fund for blind welfare work. The money raised by the United Kingdom committee will help forward the plans made by the four territories.

Careers in the Colonial Service.—The Stationery Office has just published, at 3s. 6d., a useful guide to *Appointments in His Majesty's Colonial Service* which gives full information on all the many occupations, medical, nursing, veterinary, scientific, etc., the Service includes. Conditions of service, pay, eligibility, methods of selection, and further training after selection are described for all the different territories.

North of England Obstetrical and Gynaecological Society.—The annual general meeting of the society was held in Manchester University on Friday, January 25. The following officers were elected for 1952: president, Mr. P. Malpas; treasurer, Dr. C. H. Walsh; general secretary, Dr. T. E. Lennon; reporting secretary, Mr. S. Bender. Dr. B. Dodd described four cases of recurrent placenta praevia; Dr. T. Fitzgerald described a case of pregnancy in a septate uterus simulating angular pregnancy; and Dr. H. Doberman described two cases of malignant ovarian tumours in pregnancy. Mr. S. Bender read a paper on twin pregnancy.

Prizes for Amateur Medical Films.—A prize of 100,000 francs (£100 approx.), which might be divided, and several other prizes are offered by *La Presse Médicale* for the best 16-mm. silent or talking films made by an amateur for medical or surgical teaching. No film subsidized by or made by a laboratory or a firm is eligible, and both cinematic quality and teaching value will be judged. For full information, and entries, send to Secrétariat de La Presse Médicale, Librairie Masson, 120, Boulevard St. Germain, Paris 6e, before March 1. Prizes will be presented in the Large Theatre of the Faculté de Médecine de Paris on April 4 at 8.30 p.m.

The "Pink Reports" are Back.—Most of the Industrial Health Research Board reports, familiarly known as "Pink Reports," have been out of print for some years. The demand for some of them has, however, continued, and it has now been decided that these should be reprinted. Three titles are now on sale again at the Stationery Office. No 34, *A Contribution to the Study of the Human Factor in the Causation of Accidents*, by E. M. Newbold; No. 61, *The Nervous Temperament*, by Millais Culpin and May Smith; and No. 77, *Fatigue and Boredom in Repetitive Work*, by S. Wyatt and J. N. Langdon (assisted by F. G. L. Stock). Others will follow in due course.

Liberian Tropical Medicine Institute.—The American Foundation for Tropical Medicine, in co-operation with the Harvard Medical School, in 1944 carried out a very successful investigation into all phases of human trypanosomiasis in Liberia, and this led Mr. Harvey S. Firestone, jun., to create a fund of $250,000 enabling the foundation to build a permanent institute for research in tropical diseases. The institute has been set up at Harbel, which is about 50 miles inland in Liberia and the site of one of the two large Firestone rubber plantations. On January 11 it was opened by Dr. Thomas Mackie, the foundation's president, and the director is Dr. Thomas C. Burch; a small staff is now in residence and research work is beginning.

Foreign Decoration.—The King of Iraq has conferred the Insignia of the Order of Al Rafidain, Class III, on Lieutenant-Colonel W. R. M. Drew, O.B.E., R.A.M.C., in recognition of valuable services rendered by him as Professor of Medicine at the Royal College of Medicine at Bagdad.

Emergency Bed Service: Applications and Admissions.—During the seven days ending February 11 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,209, of whom 85.52% were admitted.

COMING EVENTS

Eugenics Society.—The Galton Lecture arranged for February 15 has been postponed until April 4.

Course on Frustration and Fulfilment.—The Davidson Clinic, Edinburgh, will hold an Easter school from March 26 to April 1. Lectures will be given by Dr. W. Rushforth, Dr. W. P. Kraemer, and other members of the staff; the guest speaker will be Dr. Margaret Lowenfeld. Tickets for the course cost £3 3s., and those wishing to attend are requested to apply as soon as possible, not later than February 28, to the secretary, 58, Dalkeith Road, Edinburgh, 9, who will supply full details.

Conference on the Mentally Handicapped.—The National Association for Mental Health is holding its annual conference at Bedford College, Regent's Park, N.W.1, from March 27 to 29. An inclusive ticket admitting to all sessions costs £1 5s. 6d. A full programme may be obtained from the conference secretary, 39, Queen Anne Street, W.1.

Institute of Almoners.—The annual general meeting will be held on March 28 at 6 p.m. in the Great Hall, B.M.A. House. Miss Hornsby-Smith, M.P., will address the meeting.

Lay Course in Tropical Hygiene.—The annual course for laymen will be held at the Ross Institute this year from July 14 to 18 inclusive. The course is arranged so that the morning sessions provide a continuous course on malaria and its control, and in the afternoons other tropical diseases and problems are dealt with, such as hookworm, bilharzia, nutrition, housing and sanitation, and protection against heat. It is intended for such people as estate and mine managers and their assistants, missionaries, and all those whose work in the Tropics makes them responsible for the health and welfare of others. There is no fee for the course. The names of those proposing to attend should be sent as soon as possible to the organizing secretary at the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1, from whom full details may be obtained.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Saturday

BIOCHEMICAL SOCIETY.—At London School of Hygiene and Tropical Medicine, Keppel Street, W.C., February 16, 11 a.m., 305th meeting. Symposium: *"Lipid Metabolism."*

Monday

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—February 18, 8.30 p.m., *"The Surgery of the Heart and Great Vessels,"* First Lettsomian Lecture by Mr. R. C. Brock.

Tuesday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 19, 5.30 p.m., *"Chemical Aspect of Antibiotics,"* by Sir Robert Robinson, O.M., F.R.S.

CHADWICK TRUST.—At Royal Society of Tropical Medicine and Hygiene, 26, Portland Place, London, W., February 19, 2.30 p.m., *"How Improvement of Housing is Promoted in Belgium,"* Chadwick Public Lecture by Dr. J. Goossens (Brussels).

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 19, 5.30 p.m., *"Parapsoriasis and Poikilodermia Atrophicans Vasculare,"* by Dr. P. D. Samman.

INSTITUTE OF PHYSICS: ELECTRONICS GROUP, 47, Belgrave Square, London, S.W.—February 19, 5.30 p.m., *"The Mechanism of Radiation-Induced Chromosome Mutation,"* by Dr. J. M. Thoday.

MIDDLESEX COUNTY MEDICAL SOCIETY.—At North Middlesex Hospital, Silver Street, Edmonton, N., February 19, 3 p.m., general meeting; demonstration of clinical cases, etc.; 4.45 p.m., *"A Syndrome Resembling Haemophilia Due to a Circulating Anticoagulant,"* by Dr. I. S. Collins.

SOUTH WEST LONDON MEDICAL SOCIETY.—At Bolingbroke Hospital, Wandsworth Common, London, S.W., February 19, 8.30 p.m., *"Analgesics and Sedatives,"* by Dr. H. C. Stewart.

WEST END HOSPITAL FOR NERVOUS DISEASES, 40, Marylebone Lane, London, W.—February 19, 5.30 p.m., neurological demonstration by Dr. N. G. Hulbert.

Wednesday

CAMBRIDGE UNIVERSITY.—At Department of Physical Chemistry, Free School Lane, Cambridge, February 20, 12 noon, *"Some Aspects of the Physical Chemistry of Amino-acids, Peptides, and Proteins,"* by Professor John T. Edsall (Harvard University).

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 20, 5.30 p.m., *"Mycology—Treatment of Fungus Infections,"* by Dr. R. W. Riddell.

INSTITUTE OF UROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., February 20, 4.30 for 5 p.m., *"Radiotherapy of the Genito-Urinary Tract,"* by Dr. J. R. Ivey.

LONDON UNIVERSITY.—At Institute of Education, Malet Street, London, W.C., February 20, 5.30 p.m., *"The Physics and Chemistry of Molecular Interactions at Interfaces, with Special Reference to Haemolysis, Lipo-protein Associations, Fat Emulsion Systems, and the Possible Mode of Action of Some Biologically Active Molecules,"* special university lecture by Dr. J. H. Schulman.

ROYAL MICROSCOPICAL SOCIETY, Tavistock House South, Tavistock Square, London, W.C.—February 20, 5.30 p.m., film: *"Behaviour of Cells of a Chemically Induced Rat Tumour in Tissue Culture,"* to be introduced by Dr. Charity Waymouth.

Thursday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 21, 5.30 p.m., *"Recent Light on Mammary Function,"* by Professor H. D. Kay, D.Sc., F.R.S.

DONCASTER MEDICAL SOCIETY.—At Danum Hotel, Doncaster, February 21, 7 for 7.15 p.m., annual dinner and dance to be held in conjunction with Doncaster Division, B.M.A.

EDINBURGH CLINICAL CLUB.—At B.M.A. Rooms, 7, Drumsheugh Gardens, Edinburgh, February 21, 8 p.m., *"Some Observations on the Use of the Antibiotics,"* by Dr. D. M. F. Batty.

GLASGOW UNIVERSITY MEDICO-CHIRURGICAL SOCIETY, The Union, University Avenue, Glasgow.—February 21, 7.30 p.m., address by Professor Dugald Baird.

●INSTITUTE OF CHILD HEALTH, Hospital for Sick Children, Great Ormond Street, London, W.C.—February 21, 5 p.m., *"Patent Ductus Arteriosus and Pulmonary Stenosis,"* by Mr. T. Holmes Sellors.

LIVERPOOL MEDICAL INSTITUTION, 114, Mount Pleasant, Liverpool.—February 21, 8 p.m., ordinary meeting. *"Myasthenia Gravis,"* by Professor Andrew Wilson.

LONDON UNIVERSITY.—Institute of Education, Malet Street, London, W.C., February 21, 5.30 p.m., *"The Physics and Chemistry of Molecular Interactions at Interfaces, with Special Reference to Haemolysis, Lipo-protein Associations, Fat Emulsion Systems and the Possible Mode of Action of Some Biologically Active Molecules,"* special university lecture by Dr. J. H. Schulman.

MANCHESTER MEDICAL SOCIETY.—At Large Anatomy Theatre, Medical School, Manchester University, February 21, 4.30 p.m., *"The Art of Feeling the Pulse,"* University Lecture on the History of Medicine by Dr. W. Evan Bedford.

ROYAL ARMY MEDICAL COLLEGE.—At Lecture Theatre, John Islip Street, London, S.W., February 21, 5 p.m., *"The Neurology of the Cervical Spine,"* by Dr. W. Russell Brain, P.R.C.P.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—February 21, 5 p.m., *"Carotid-Cavernous Aneurysms and Pulsating Exophthalmos,"* Hunterian Lecture by Professor S. P. Meadows.

ROYAL MEDICAL SOCIETY.—At Assembly Rooms, Edinburgh, February 21, 8 p.m., annual ball.

ROYAL SOCIETY, Burlington House, Piccadilly, London, W.—February 21, 10.30 a.m., *"Excitation and Inhibition,"* discussion to be opened by Professor J. C. Eccles, F.R.S. (University of Otago).

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At 26, Portland Place, London, W., February 21, 7.30 p.m., ordinary meeting. Symposium: *"Insecticides,"* to be presented by Professor P. A. Buxton, F.R.S.

ST. ANDREWS UNIVERSITY.—At Lecture Theatre, Materia Medica Department, Medical School, Small's Wynd, Dundee, February 21, 5 p.m., *"The Management of Massive Gastro-duodenal Bleeding,"* by Professor F. H. Bentley.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—February 21, 4.30 p.m., lecture-demonstration in neurology.

UNIVERSITY COLLEGE, Physiology Theatre, Gower Street, London, W.C.—February 21, 4.45 p.m., *"Mitochondria and Biological Oxidations and Phosphorylations,"* by Dr. A. L. Lehninger (Chicago).

WREXHAM AND DISTRICT CLINICAL SOCIETY.—At Wynstay Arms Hotel, Wrexham, February 21, 7.30 p.m., *"Comparisons in Reproduction,"* by Mr. Owen Jones.

Friday

FACULTY OF RADIOLOGISTS.—At Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C., February 22, 2.15 p.m., Radiodiagnosis Section Meeting. *"The Lateral Position in Chest Tomography,"* by Dr. George Simon; *"Carcinoma of the Middle Lobe Bronchus,"* by Dr. G. Brian Locke. (Date changed from February 15.)

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 22, 5.30 p.m., "*Reticuloses*," clinical demonstration by Dr. P. D. Samman.

●INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 22, 5.30 p.m., "*Medical Aspects of Patent Ductus Arteriosus and Coarctation*," by Dr. Graham Hayward.

INSTITUTE OF PHYSICS: INDUSTRIAL RADIOLOGY GROUP, 47, Belgrave Square, London, S.W.—February 22, "*The Chemistry of Radiographic Film Processing*," by Mr. A. J. Axford.

MANCHESTER MEDICAL SOCIETY.—At Large Anatomy Theatre, Medical School, Manchester University, February 22, 4.30 p.m., "*Steroid Hormones and Behaviour, Experimental and Clinical Aspects*," by Professor Klein (Strasburg).

OXFORD UNIVERSITY.—At Magdalen College, Oxford, February 22, 5 p.m., "*The Neurophysiological Basis of Mind*," Waynflete Lecture by Professor J. C. Eccles, F.R.S.

ROYAL SANITARY INSTITUTE.—At Y.M.C.A. Hall, Talbot Road, Port Talbot, February 22, 10 a.m., papers: "*Housing Progress and Development at Port Talbot*," by Mr. G. V. Griffiths, A.M.I.C.E.; "*The Health and Local Authority Services and the Population Problem*," by Dr. D. J. Davies; "*Housing Repair Difficulties*," by Mr. G. A. Morgan. Afternoon visits.

UNIVERSITY COLLEGE, Physiology Theatre, Gower Street, London, W.C.—February 22, 5.30 p.m., "*Some Recent British Contributions in the Field of Pharmaco-therapeutics*," by F. Bergel, D.Sc.

APPOINTMENTS

Dr. G. A. Macgregor has been appointed an Official Member of the Legislative Council of the Colony of Aden.

GORDON, E. H., M.D., D.P.H., Assistant County Medical Officer and Medical Officer of Health, Urban Districts of Mansfield, Woodhouse, and Warsop, Nottinghamshire.

GRAHAM, H. A., M.D., F.R.C.S.Ed., Medical Officer (Consultant), Fitness Centre, Bridge of Earn Hospital, Perthshire, Eastern Regional Hospital Board (Scotland).

HERBERT, GLADYS M., M.R.C.S., L.R.C.P., D.P.H., Medical Officer of Health, Llandilo Health Division, and Assistant County Medical Officer, Carmarthen.

HORTON, E. H., M.B., B.Ch., T.D.D., Deputy Medical Superintendent (S.H.M.O. Grade), Glan Ely Hospital, Cardiff, Welsh Regional Hospital Board.

KERSHAW, J. B., M.B., D.P.H., Assistant County Medical Officer, and District Medical Officer of Health, East Suffolk.

MAIR, ALEX., M.D., D.P.H., Senior Lecturer, Department of Public Health and Social Medicine, University of St. Andrews; Consultant and Medical Adviser to the Almoner Service, Eastern Regional Hospital Board, Scotland.

PIERCE, J. W., M.D., M.R.C.P., D.M.R.D., Consultant Radiologist (Diagnostic), The Hospitals for Diseases of the Chest, London.

SOUTH-WESTERN REGIONAL HOSPITAL BOARD.—*Senior Registrar in Psychiatry to Bristol Clinical Area*, K. W. Aron, M.B., Ch.B., D.P.M. *Paediatric Registrar, Southmead Hospital, Bristol*, N. T. Jaco, B.M., B.Ch., M.R.C.P., D.C.H.

WATT, DAVID C., M.D., D.P.M., Consultant Psychiatrist, St. John's Hospital, Stone; Royal Bucks Hospital; and Stoke Mandeville Hospital, Aylesbury, Bucks.

WILSON, J. NOEL, Ch.M., F.R.C.S., Consultant Traumatic and Orthopaedic Surgeon, Cardiff United Hospital and Welsh Regional Hospital Board.

BIRTHS, MARRIAGES, AND DEATHS

DEATHS

Begbie.—On January 31, 1952, at a hospital, Glasgow, Ralph Stockman Begbie, M.D., M.R.C.P.Ed., D.P.H., D.T.M.&H., of 23, Carrick Road, Ayr, late of Hong Kong.

Boden.—On January 29, 1952, at 2, Methuen Park, London, N., John Smedley Boden, O.B.E., M.B., B.S.

Bodington.—On February 5, 1952, at a nursing-home, Winchester, Arthur Eaton Bodington, M.D., aged 87.

Cormack.—On January 31, 1952, at Mossgiel, Felpham, Sussex, Harry Slater Cormack, M.C., M.B., F.R.C.S.Ed., Lieutenant-Colonel, I.M.S., retired.

Fischer.—On January 26, 1952, at Dunmore, Bo'ness, West Lothian, Nicolai Christian Fischer, M.B., Ch.B.

Fraser.—On February 7, 1952, at a nursing-home, Hove, Charles Fraser, M.D., D.P.H., of 5, The Drive, Hove, Sussex, aged 79.

McLaren.—On January 29, 1952, at his son's home, Felixston, Zululand, Natal, South Africa, Donald James McLaren, M.B., Ch.B.

Miller.—On January 26, 1952, at Cairo, William Sloan Miller, M.B., Ch.B., Surgeon Commander, R.N.

Moore.—On January 28, 1952, William Struthers Moore, M.B.E., M.D., of 7, Church Hill, Purley, Surrey.

O'Neill.—On February 2, 1952, Charles Sefton O'Neill, O.B.E., M.D., D.P.H., of Inglenook, Hale, Cheshire, aged 70.

Pearson.—On January 31, 1952, at 87, Bickenhall Mansions, London, W., John Sidney Pearson, M.D., aged 75.

Scott-Dickson.—On January 29, 1952, at 9, Bruce Road, Dundee, Margaret Scott-Dickson, M.B., Ch.B., D.P.H., formerly of St. Andrews.

Strahan.—On January 28, 1952, at Winchester, Stuart Séguin Strahan, M.R.C.S., L.R.C.P., of Staceys, Bentley, Hants, late of Hong Kong.

Thornton.—On January 29, 1952, at Shepherds Hill, East Knoyle, Salisbury, Wilts., Gerald Earl Thornton, M.B.E., M.B., B.Ch., aged 68.

Wallis.—On January 26, 1952, at Jersey, Channel Islands, Preston Richard Wallis, L.S.A.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Analgesia for Urethral Instrumentation

Q.—*What is the best way of rendering the male urethra analgesic before instrumentation? Are there any special dangers to be guarded against? Please suggest suitable sources of further information on this subject.*

A.—Analgesia of the male urethra is obtained by instilling the chosen solution in sufficient quantity to distend the anterior urethra, and then massaging it back into the posterior urethra. The best syringe to employ is a rubber-bulb type (Canny Ryall or Riches's urethral syringe). After the injection of 1 oz. (28.4 ml.) of the solution the urethra is closed by compression between the left thumb and forefinger or by a penile clamp, and with the fingers of the right hand the fluid is coaxed back into the posterior urethra by gentle but firm strokes. Little should escape when the compression is released. If the whole process is repeated after 5 minutes analgesia is more complete.

Many solutions are in use: cinchocaine hydrochloride 1/1,000 is very satisfactory, as is procaine hydrochloride 4%. Cocaine hydrochloride with sodium bicarbonate in ½% solution freshly made is also employed; stronger solutions are sometimes toxic and may be dangerous. Many of the newer analgesic agents can be used, but it is advisable to get to know the effects of one. Care should be taken not to inject air, and if the urethra has been injured by previous attempts at instrumentation some other form of anaesthesia is preferable. Full details of the methods are given in *Cystoscopy and Urography*, by Macalpine (John Wright and Sons, Bristol, 1949), and in *Essentials of Urology*, by Ainsworth-Davis (Blackwell Scientific Publications, Oxford, 1950).

Fits for Diagnosis

Q.—*For the last 10 months a girl of 7 years has suffered from curious convulsive "fits," invariably induced by her bowel action. When entering the fit she strokes and plucks her hair, fixes her eyes glassily, licks her lips, emits a grunt, and moves her arms slowly about, with her fingers constantly flexing and "pill-rolling." She is pale throughout. There is no attempt to fall, bite her tongue, or froth at the mouth. She has an enormous appetite, and if thwarted will seek scraps even from the floor. She crams her food into her mouth, filling the whole cavity, but it is all digested when it comes through. She was successfully treated for threadworms some six months ago. There is no loss of weight. What is the differential diagnosis, and how should she be treated?*

A.—Assuming that there are no abnormal physical signs, the account of the attacks suggests that the patient is suffering from either psychomotor epilepsy or spontaneous hypoglycaemia due to excess secretion of insulin by an adenoma of the islets of Langerhans. With the first, a full family history and an electroencephalogram might be helpful in diagnosis together with a therapeutic trial of phenobarbitone and sodium phenytoin. It seems important to exclude the possibility of hyperinsulinism in this patient, and the critical test is an estimation of the blood sugar level during an attack. If the level is below 50 mg.% and if the patient recovers rapidly following intravenous administration of glucose, it is very probable that an insulin-secreting islet-cell tumour is present in the pancreas. The fact that she has an "enormous" appetite is rather in keeping with this second diagnosis.

Gastric 'Flu?

Q.—*I have a patient who has had 'flu five times in the last year. The duration is one or two days; intestinal signs predominate, with temperature and odd pains in the head and limbs. Recovery is completely without asthenia in four days. Blood smear is normal. He is incapacitated from his work for three days and resents this. What is the likely diagnosis? Is there any method of prevention?*

A.—It would be tempting to give this syndrome the label "gastric 'flu," but such a diagnosis is to be deprecated, for too often it masks some specific intestinal infection like bacillary dysentery or salmonella food-poisoning. The question does not state the age of the patient, what the "intestinal signs" are, whether catarrhal symptoms are present, or at what season of the year these attacks occur. The occurrence of "influenza" in the summer months should raise suspicion of a tuberculous infection. If headache and catarrhal symptoms are prominent, the activation of a chronic sinusitis may explain the symptoms. On the other hand, if this is an intestinal infection, and the patient has been abroad, the possibility of chronic bacillary or amoebic dysentery might be considered. It would be advisable in any case to have the chest radiographed and to send a specimen of faeces to the public health laboratory for bacteriological examination, preferably during an attack. If the condition is a recurrent febrile catarrh a course of mixed stock or autogenous vaccine in the "off season" may be of some prophylactic value.

Acrocyanosis

Q.—*What are the latest views on the treatment of acrocyanosis? In spite of wearing warm stockings and gloves a female patient of mine, aged 36, is getting worse. Is there any useful treatment short of lumbar sympathectomy? Are peripheral vasodilators, such as "priscol," worth trying?*

A.—As the question suggests, lumbar sympathectomy is usually a completely successful treatment for acrocyanosis, though it is, of course, justifiable only in the most severe cases. The benefit which one would theoretically expect from peripheral vasodilators is unfortunately not always by any means obtained in practice. Nevertheless, these drugs are worth a trial, and their effectiveness should certainly be investigated in any individual case before surgical operation is undertaken. Priscol, nicotinamide, and hexamethonium should all be given a trial, the dosage being cautiously increased to the limit of tolerance. Unfortunately, it usually happens that the dose which is effective in improving the condition of the legs produces other circulatory symptoms which make the drug useless in practice. At all events, the margin between the effective dose for acrocyanosis and the dose which produces a troublesome fall in blood pressure is a small one; individual response is decidedly variable, so that careful adjustment of the dose for each patient is the only method.

Marbled Skin

Q.—*Can anything be done to mask a very noticeable "marbled skin" in a girl aged 12? The condition is most pronounced on her chest and legs, and the appearance causes her unhappiness.*

A.—Marbled skin, or livedo reticularis, is a normal phenomenon, the blue areas representing parts of the skin where the capillary circulation is sluggish. Accentuation of the pattern is often due to cold and may often be improved if the subject is kept warm. Some accentuated cases appear to be due to an anatomical abnormality in the distribution of skin arterioles, and in such a case treatment is not likely to be effective.

Formerly, livedo reticularis was held to be sometimes an indication of tuberculosis, syphilis, rheumatism, hypothyroidism, and chronic debilitating illnesses. It is doubtful whether these views are widely held nowadays, but they are worth bearing in mind in the severe case. Improvement of the general health and adequate exercise may be sufficient to convert a disfiguring case of livedo into one well within normal limits where the appearance will no longer trouble the patient.

Bilateral Renal Tuberculosis

Q.—*A woman of 45, who had a nephrectomy for renal tuberculosis six years ago, has still occasional haematuria with dysuria and frequency of micturition. Tubercle bacilli have now been isolated from catheter specimens of urine. (1) Should a full urological examination in hospital be advised to establish the exact site and extent of the lesion, or (2) should streptomycin or P.A.S. (para-aminosalicylic acid) be given without more ado—if so, in what dosage?*

A.—Diagnosis should always precede treatment, and the site and extent of the lesion can be diagnosed only by full urological investigation. If there is a detectable renal lesion on pyelography it is unlikely that streptomycin and P.A.S. will do more than retard its progress, but under their cover a partial nephrectomy might be possible if the lesion is localized.

If no lesion can be demonstrated on the pyelogram it is possible that the urine can be made tubercle negative by a course of treatment; the usual dose is 0.5 g. of streptomycin twice daily up to at least 50 g. and about 2 to 3 g. of P.A.S. three to five times a day. The general regime for any tuberculous patient should be followed.

Emetine and Scorpion Stings

Q.—*One of my dispensary attendants claims that emetine hydrochloride, 1 gr. (65 mg.) intramuscularly, will relieve the pain of a scorpion sting at once, if given within three hours of stinging. Is there any foundation for this treatment?*

Q.—The idea that emetine might relieve the pain of a scorpion sting probably arose from the older statement by Simpson that local application of a paste of ipecacuanha was effective. There is little evidence that either is of much value. Injection into the wound of a local analgesic is usually very effective, and serious cases should be given the appropriate antivenin.

NOTES AND COMMENTS

Vitamins during Lactation.—Dr. MAVIS GUNTHER (London) writes: Might I make a small addition to your expert's answer about vitamins during lactation ("Any Questions?" January 26, p. 229)? The answer given may leave the impression that cod-liver-oil tablets given to mothers during lactation are of little use. The mother needs to take extra vitamin D not because she is likely to be depleted of that vitamin by its loss in milk, for, as your expert says, that is very little; in lactation, however, she is giving out much calcium, and she will be in negative calcium balance unless she herself has enough vitamin D to enable her to absorb sufficient calcium for her increased need.

OUR EXPERT writes: The vitamin D added to our margarine ration is probably adequate to prevent a negative calcium balance even in lactation, but the use of cod-liver-oil tablets would seem to be amply justified as an additional safeguard.

Speedy Hypnotic.—In the answer to this question ("Any Questions?" January 12, p. 118) the name sodium propylallylbarbiturate was wrongly used for quinalbarbitone (sodium propylmethylcarbinyl allylbarbiturate).

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CONTENTS

Medical Security in Sweden. Dag Knutson, M.D. - 59
Expensive Check - - - - - - - - 61
Charges on Prescriptions - - - - - - - 61
Health Service Charges - - - - - - - 62
Short-service Commissions - - - - - - 63
News in the Local Press - - - - - - - 63
Heard at Headquarters - - - - - - - 63
Correspondence - - - - - - - - 64
Diary of Central Meetings - - - - - - 64
Branch and Division Meetings to be Held - - - 64

MEDICAL SECURITY IN SWEDEN

BY

DAG KNUTSON, M.D.

President of the Swedish Medical Association; President of the World Medical Association

In many countries there seem to exist, even among doctors, some not very well founded notions on the actual organization of medical service under the present scheme of social security in my country. Time and again colleagues have indicated that they believe in the existence of a far-reaching socialization of Swedish medicine, depriving doctors of professional freedom and intruding upon the relationship between them and their patients.

Many may be the reasons for this. In Sweden as well as in the other Nordic countries social security has reached an advanced standard. We are all inclined to assume that such a state of things must mean a more or less all-embracing regimentation. Again, rumours of radical plans, leading up to the transformation of the profession into a group of full-time employed Civil Servants, may have spread, and these plans could easily be mistaken for an actual system already working. It would be difficult to know to what extent the plans have been made effective—that is, to tell where Sweden now stands..

Such difficulties exist also in relation to the general population of the country. Reforms, incessant planning of new ones, and voluminous investigations, poured forth by numerous State committees and loaded with proposals and Parliamentary decisions for immediate or future use, form a somewhat confused entirety, the description of which runs the risk of becoming out of date the moment it is being published.

Already because of this it is difficult to give a clear picture of to-day's medical services in Sweden, and the complicated aspects which every advanced system of social welfare offers make it impossible to cover the whole field in a short article. It would, though, perhaps be of interest to emphasize a few important features.

Salary and Free Enterprise

In spite of plans, reforms, and decisions it may be said that actual medical services in Sweden still rest on and have grown out of old traditions. There is accordingly still considerable freedom allowed to the doctor, and a third party has as yet hardly entered his consulting-room, harming the relationship between himself and his patient. If there are comparatively few doctors who work purely as private practitioners—15–20% perhaps of the profession—far fewer still could be labelled as full-time employed Civil Servants.. One of the peculiarities of the Swedish order of things, and perhaps the most outstanding one, is this mixture of service and free enterprise.

The general practitioner, found almost only in densely populated centres, shares his time between his practice and some job which gives him a salary and often a pension. As a rule the bulk of his income comes from his practice. The man in salaried service is generally entitled to conduct a private practice, and he often derives a substantial part of his revenue from what he does in independent enterprise. No doctor, of course, can be told what to do with his spare time, and the few full-time employed ones, who are supposed not to advertise a practice, can receive patients in their private office after hours if they want to—and naturally also their due reward.

It should be understood that by service is meant communal as well as State service. District and hospital doctors in towns as well as doctors in the provincial hospitals under provincial governments form one group, and the so-called provincial doctors or doctors in rural districts another. The latter exemplify the State-employed ones. It should also be made clear that only those doctors who are on the staff of a hospital are allowed to work there, unless the hospital is a private one. But there are only half a dozen private hospitals in Sweden, and they are to be found in the two largest cities only. Practitioners therefore cannot as a rule take care of their patients when they send them into hospital. On the other hand, they can use the resources of the hospitals or of policlinics for technical diagnostic work such as complicated laboratory tests or radiography. They are beginning now to create private laboratories of a capacity equal to those of the hospitals—a promising development.

Fee for Service

The fundamental principle underlying private practice in Sweden is the fee-for-service system. The patient pays his doctor. Exceptions from this rule are few and limited to some policlinics belonging to university hospitals and hospitals in the three biggest cities. Out-patient departments of other hospitals have developed out of the head doctor's private practice, formerly generally carried on outside the hospitals in his private consulting-rooms, nowadays mostly within the walls thereof, and have retained the old character of private practice in so far as fees are concerned. Even the district doctor in rural districts, who combines the work of a health officer in his district with general practice, is entitled to a fee, paid to him by his patient at the moment of consultation.

This is valid for all patients, whether insured or not. The authorities dislike the system—of course—and plans have come forth aiming at a radical change. For the time being consigned to oblivion because of financial difficulties, these

plans would probably have been realized if State finances had permitted the introduction of compulsory health insurance covering the whole population as well as the creation of a new costly group of Civil Servants—the doctors. Neither has been possible so far, though Parliament has adopted compulsory insurance in principle, and there are those who in this connexion have remembered that no evil is utterly without good aspects.

Voluntary Insurance

But, though doctors in private practice receive their fees from the patients, they are not always free to decide the size of their remuneration. To explain how this matter stands I must touch upon the question of insurance. Health insurance is voluntary in Sweden—it covers some 60 to 65% of the population. Everybody in reasonably good health between 15 and 50 years of age can become a member of his local insurance group. Children under 15 are automatically covered if the breadwinner is insured. It is recognized, and to some extent supported by, the State, but chiefly financed by contributions from the insured themselves, from employers, and from the community. The bulk of the money comes from the first group. Local insurance groups are scattered all over the country and are responsible only for members belonging to their districts.

Under the law, benefits must be of two kinds: for maternity and for sickness. The latter again is twofold; it grants reimbursement for medical and hospital care on the one hand and on the other a daily financial allowance. Of interest for this brief survey is chiefly the reimbursement for medical care.

Reimbursement of Patient

The insurance scheme has a schedule of fees containing every possible service that a doctor can perform. The rates have been set without consultation with the profession and have during the last years become very much out of date. When the doctor completes a case he fills in a form, marking what he has done, and generally also what he has been paid. This form goes with the patient to the insurance office, where every item is looked up in the schedule. Sums shown are added, and the patient gets two-thirds of the total if the doctor has charged just that much or more. If he has charged less, the patient receives two-thirds of what he has paid to the doctor.

Now, the peculiar thing is that most doctors are under no obligation to adjust their fees to correspond with the schedule which the insurance scheme has compiled as a standard. The medical profession has always stoutly refused to consider the insurance rates as anything but a basis for reimbursement, flatly denying that the schedule has anything to do with doctors' fees. The insurance, which at the start did not intend to tie the doctors down to its schedule, has now and then tried to put new ideas forward. But entirely free practitioners constitute an insurmountable obstacle. Hence the official fondness for the thought of doctors as Civil Servants.

Apart from its dislike for ties in general and everything which would promote socialization of the doctor, the profession rejects the structure of the system for reimbursement on principle. The adopted schedule undervalues the work of the doctor, unless it is of a technical nature. If applied to doctors' fees, it might serve fairly well for medical specialties, where costs for swiftly performed minor operations could be added. A surgeon examining a number of small cases in a short time could become a rich man—if it were not for the taxes—whereas a psychiatrist would quickly reach starvation. The profession finds unworthy of its traditions the method of scraping together little things of secondary value in order to arrive at a decent pay for the really important and significant work. The Swedish Medical Association has in fact proposed an altogether different system, aiming at regarding the doctor's performance as a whole, grading it economically according to completeness and expenditure of time.

The above-mentioned independence of the insurance tariffs exists, it is true, for most doctors in private practice, but there are two exceptions of some importance from this rule. The head doctors of hospitals under provincial governments, being the only specialists available in rural districts, did some years ago accept a tariff for their fees in private practice, and this, though not identical with the insurance scheme's reimbursement schedule, is based on it. As specialists they are entitled to add certain sums, but they are nevertheless tied to the present system for calculating the value of a doctor's work. A most unfortunate thing indeed, and not very necessary, as the authorities themselves pointed out that these doctors (anyway, as a rule) had voluntarily adjusted their fees to suit the reimbursement schedule very well. But even these doctors have a small, absolutely free sector: if a patient wants to come at a special time after surgery hours, the doctor can charge what he thinks is reasonable.

Rural Doctors

The district doctors in the rural parts form the other exception. As an institution they have existed for about 200 years. The regulation of their fees therefore is not really a result of the introduction of an insurance scheme. From the very beginning the district doctors had a salary and a pension: the country population was then too poor to pay fees that would support their doctor. Later on modern ideas transformed this kind of doctor into a health officer with manifold tasks, but he remained all the time, and still is, a general practitioner.

His fees, regulated by the Government and set at a very low level, were linked up with the insurance rates when these appeared, but the level of the fees is still rather lower. From the beginning of the 'twenties it has been altogether out of date, and poverty is no longer a general feature of the rural population. A revision has become urgent, and partly because of this the plans for the new system of appraising the doctor's work were made by the Swedish Medical Association. In principle this system has been adopted by the authorities for the group in question, which is satisfactory. But traditions will prove too strong, and a level common to all doctors connected with the insurance rates will not be reached. The rural district doctor will continue to work for smaller fees than others. But—he will have his fee. His patient will pay him, and through no third party.

A third exception to the rule of independence of insurance rates should perhaps be mentioned, although it lies in a different direction. Medical care of the indigents—fortunately very few in to-day's Sweden—is paid for by the community, and on a fee-for-service basis. But the community pays according to the rates which the insurance scheme has set down as a basis for refund. Indigents are generally referred to policlinics or district doctors, and the latter are thereby in this connexion tied to officially recognized fees.

This system of separating the theoretical fees of the insurance scheme from the real ones of most practising doctors may seem bewildering. One would suspect that the third party—the patient—would suffer financially through discrepancies between refund and payment. But that has not been so—at least up to the last few years. Investigations made a few years ago by State officials not in the least favourable to the medical profession showed that the insured population received about 85% of what it should have had as reimbursement if all doctors had been obliged to follow the insurance scheme's schedule. In view of the fact that the insurance scheme covers only non-specialist medical care, this shows that the general practitioners, in preparing their bills, have had the insurance rates—that is, the interest of their patients—very much in mind.

To-day such an investigation would probably not give the same result. The rates have not changed appreciably, but

prices have sky-rocketed as a result of the inflation as well as enormously increased wages all through the community. Doctors cannot charge, for instance, ten shillings for a first visit, when the patient costs him about eight; which goes to show that the rates, as has been stated above, must be changed.

On the whole this system has worked well. Above all, it has served one of its main purposes: it has saved the profession, so far, from being socialized. Under the law of compulsory insurance nothing is said about doctor's fees, but unless general ideas change very much the enacting of this law would place the doctors in the risk zone. Preference has, though, all the time been given to the thought of salaried Civil Servants.

Objections to Capitation Fee

The Swedish authorities do not seem to cherish the idea of a capitation fee. That system of payment does not exist in Sweden, and the profession would under no circumstances accept it—after having studied its effects in Denmark and Germany. Apart from that, the Swedish doctors raise theoretical and, as they think, valid objections to any system which means that the patient does not pay anything *to* the doctor and *at the moment* when the service is given. The result would inevitably be that the work of the doctor is not appreciated. He loses his patient's confidence, being looked upon more as a servant of the insurance scheme than as a personal friend and helper. The doctor's restrained attitude about the need for medicines and other forms of treatment, or to the need for a prolonged rest-cure, is misinterpreted and becomes to the patient a sign of undue care for the economy of the insurance scheme. The relationship between the doctor and his patient would thus be affected in an unfortunate way—a thing of primary importance.

Furthermore, whatever of freedom and a fair deal may be promised to the doctors, on accepting the capitation fee the profession would enter upon a hazardous venture. The total costs of insurance will for ever be prohibitive and for ever surprisingly much higher than calculations show. In times of stress the cake will be cut in very thin slices. This can now profitably be studied in Germany, where the situation of the doctors is critical—or worse. (In fairness it should be stated, though, that an enormous surplus of doctors complicates the situation in Western Germany. But, having entered upon the system when only one part of the population was covered by insurance, they now find themselves in a situation where the other part no longer exists. Unsound principles, adopted when practical repercussions were unimportant, revenge themselves, and neither the profession nor the population derives any benefits therefrom.)

Moreover, the character of the doctor's work would change, as has been seen in Denmark. Burdensome controls would have to be introduced and patients would come with trifles. Both circumstances would combine to rob the doctor of time for more important work within his own field. Restrictions on the doctor's choice of medicines and other methods of treatment would also be likely. Lists of permitted pharmaceutical preparations might appear. (In connexion with plans for free medicines put out in Sweden such lists became very much of interest.)

In any system involving so-called free medical care the costs have to be carried some other way, and the patient loses every feeling of economic responsibility for his use of the benefits he receives. This makes the task of the doctor even more difficult than it already is. The stress on his personal integrity as well as his willingness to work unlimitedly for a limited remuneration would become serious. He would probably often find it difficult to perform his tasks in a way which would satisfy his own professional conscience.

Hospital Services

As for hospital services, general wards should be considered as different from private rooms. In general wards, where assistant doctors in salaried full-time employment are responsible for the work under the head doctor, health insurance pays all the costs of the insured patient. They are calculated as a daily item, covering everything, and are low—about 2–5s. a day. The real costs, though, are eight to ten times higher, and the taxpayer makes up the difference. Everybody can, if medical prerequisites are fulfilled, claim a bed in a general ward regardless of his financial status, and nobody pays anything for medical services given there. The insurance generally reimburses the patient for transport costs to the hospital.

In private rooms patients pay to the hospital more or less what the real costs are, sometimes also a fee to the head doctor. An advisory schedule made up by the Royal Medical Board is at their disposal, but the doctor in charge of the patient is never allowed to demand a fee. Often the estimated income from the private ward is converted into a fixed sum paid annually to the doctor by the hospital: in this case patients do not pay him. The health insurance scheme contributes a daily sum for a member, corresponding to the costs in the general ward.

Conclusion

Space does not allow me to give a report on other forms of medical security in my country. They are numerous and of a kind which is met in most so-called advanced countries. Some of them have the character of public service; doctors taking part in them are often paid in proportion to time spent on the task. Others again are based on the insurance principle. The general tendency is to reject the voluntary in favour of compulsion and to extend public services at the expense of the insurance principle—and the taxpayer. As valuable features of a psychological nature seem to be embodied in both of these principles, which have, among other things, proved their educational merits, the medical profession regards the development with some apprehensions.

I have had to limit myself to some fundamental facts about medical services in my country. I must repeat, though, that very little is static in the modern community. Tomorrow may well reject what to-day accepts as sensible. This is especially true of social security, where responsibilities are rapidly taken from the individual and placed with the community, leaving the former with the rights and the latter with the more or less insoluble problem of how to meet individual needs within the framework of necessarily unyielding administrative schemes.

EXPENSIVE CHECK

The Government check to eliminate inflation of doctors' lists is estimated to cost £500,000 (*Civil Appropriation Accounts, 1950–1*).

CHARGES ON PRESCRIPTIONS

VIEWS OF G.M.S. COMMITTEE

The following statement has been issued by the General Medical Services Committee:

The Committee has considered the Government's proposal to levy certain charges on prescriptions and is disturbed that it will inevitably introduce a financial barrier between doctors and those who need their services.

Bearing in mind the Conference resolution:

113. *Resolved*: That this Conference places on record its opinion that under no circumstances whatever shall a doctor be required to be an "agent" to collect a Government charge on prescriptions,

the Committee instructs its representatives to press the Government to take such steps during the passage of legislation as will alleviate hardship to certain sections of the population and will ensure that the doctor is not required to play any part in the actual collection of the money.

The Committee reserves its final recommendation to the profession until the arrangements are available in their ultimate form.

HEALTH SERVICE CHARGES

PROVISIONAL DECISION BY G.M.S. COMMITTEE

A special meeting of the General Medical Services Committee was held on February 7, under the chairmanship of Dr. S. WAND, primarily to discuss the Government's proposal to levy certain charges on prescriptions. It was preceded by a meeting of the Rural Practitioners Subcommittee, at which the position of the dispensing doctor was discussed. At both meetings the resolution of the Annual Conference of Local Medical Committees in 1949 (when the suggestion of a charge on prescriptions was first made by the late Government) was reaffirmed:

> That this Conference places on record its opinion that under no circumstances whatever shall a doctor be required to be an "agent" to collect a Government charge on prescriptions.

The certainty that the levy would introduce a financial barrier between doctors and those who needed their services also figured largely in the discussion.

Dr. A. BEAUCHAMP opposed the levy on the ground of principle. He believed that it was wrong of a Government to impose a tax on people while they were ill and on the necessities of their illness. If it was true that the country could not afford a comprehensive National Health Service, and that as a social scheme it was financially a failure, the fact should be plainly stated and the whole structure of the Service looked at again with a view to making it a service which the country could afford. The insurance principle, in which premiums covered risks, might have consideration in such a review.

Dr. HOWIE WOOD said that Dr. Beauchamp's point of view would appeal to a number of people in the profession, but they had to be realists and recognize that what was required to be done must be done quickly, without administrative delay and temporary chaos such as Dr. Beauchamp's suggestion would entail. He had heard no criticism in his area concerning the imposition of this charge, although it was agreed that there must be strict provisions to ensure that needy and deserving patients were not penalized. All of them would also agree with the view that the dispensing doctor should not be required to collect the charge. The matter might be met by the purchase of a shilling stamp, to be attached to the prescription form.

Pharmacists' View

The DEPUTY SECRETARY (Dr. Stevenson) said that the National Pharmaceutical Union was calling an emergency conference of pharmacists to consider the situation. The Central N.H.S. Committee had expressed the view that the proposal could work, but only at the expense of considerable hardship on sections of the population. They further said that the proposals should not be resisted to the extent of refusing to operate the scheme, but that they should be subject to special arrangements to meet the rural area problem, that the regulations should include provisions requiring the levy to be paid at the time the prescription was presented for dispensing, that the standard levy should be one shilling for each form, with no exception for prescriptions the N.H.S. value of which was less than one shilling, and that the chemist should be protected effectively against multiple prescribing on a single form and similar abuses. The operation of the levy scheme would necessitate additional pharmaceutical service remuneration.

Sole Criterion

Dr. BRUCE CARDEW said he was bound to put forward the view of his own organization, which had always opposed charges on the Health Service, not on the ground of great hardship but on two fundamental principles: (1) that it should be a comprehensive service in which need was the sole criterion, and (2) that in a public service there should be no requirement to pay twice for the same thing. Those who paid a water rate did not expect to have to pay in addition so much a gallon. Once the shilling on the prescription had been conceded there would be no ground of principle on which increased charges could be contested. He also pointed out that it would be necessary for dispensing doctors to give a receipt for each shilling—a small matter singly but, multiplied, likely to be a burden.

Dr. TALBOT ROGERS said that if these charges were imposed, while the profession should do its best to work them, it should ask that the position be reviewed after a convenient time.

After further discussion, in which it was stated that a deputation, on which rural practitioners would be specially represented, would wait upon the Ministry later in the day, the Committee passed a further resolution, which, after reiterating the Conference resolution already quoted, went on:

> The Committee instructs its representatives to press the Government to take such steps during the passage of legislation as will alleviate hardship to certain sections of the population and will ensure that the doctor is not required to play any part in the actual collection of the money.
>
> The Committee reserves its final recommendation to the profession until the arrangements are available in their ultimate form.

The deputation was then constituted, consisting of the Chairman of the Committee, Dr. Talbot Rogers (Vice-Chairman), Dr. J. C. Arthur, and Dr. W. Woolley, together with Dr. C. F. R. Killick, the chairman, and other members of the Rural Practitioners Subcommittee.

Dr. WAND said that the deputation would report back to the Committee, and if necessary another special meeting would be called to look at the arrangements before a final decision was made.

The Adjudication

The Chairman outlined the arrangements so far as they had proceeded for the adjudication, and the Committee agreed upon a selection of witnesses representing different areas and types of practice. He said it was hoped that the hearing would begin during March, and frequent meetings were taking place with advisers and counsel.

The first fully constituted meeting of the Working Party would be held on February 26.

Inflation

A letter was read from the Ministry of Health with a redrafted E.C.L. concerning efforts to eliminate inflation. Practically all the points which the Committee had urged had been met by the Ministry. These included an extension of the time from three months to six months, during which a practitioner may provide information concerning the whereabouts of persons whom the executive council had been unable to trace; in the case of untraced persons who turned up after they had been removed from a doctor's list back credits would be paid to the doctor. The suggestion that executive councils should make use of the electoral rolls and of information in possession of housing authorities had been accepted. Means would be taken, in communications to the persons concerned, to emphasize the importance of the inquiry and the need for a reply by return.

The Chairman and those associated with him in this piece of work were heartily congratulated on the success of their endeavours.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Southwark, Stoke Newington.

Non-County Borough Councils.—Crewe.

Urban District Councils.—Droylsden, Houghton-le-Spring, Huyton-with-Roby.

SHORT-SERVICE COMMISSIONS

TAXATION OF SUPERANNUATION CONTRIBUTIONS

The Minister of Health has made several "directions" approving various kinds of employment outside the National Health Service, so that doctors leaving the N.H.S. and entering such approved employment for short periods may remain subject to the N.H.S. Superannuation Regulations, Section 19 (2) of the National Health Service (Amendment) Act.

Officers with short-service commissions in the armed Forces can take advantage of this. They have their superannuation contributions deducted from the terminal gratuity and not from current pay. In certain circumstances this could penalize the medical officer. If his commission ended early in the fiscal year the pay for that fiscal year might be insufficient when assessed to allow relief on the full superannuation contributions—i.e., for the whole period of the short-service commission. The gratuity is tax free.

The B.M.A. learns that officers for whom contributions have been paid by the Service department concerned may, on termination of their commission, claim a revision of their earlier years' income-tax liability so as to give them the full allowance to which they would have been entitled had they paid their superannuation contributions from their current Service remuneration.

NEWS IN THE LOCAL PRESS

[FROM A SPECIAL CORRESPONDENT]

The following notes from a lay journalist in the provinces may give some useful tips to Honorary Secretaries and Public Relations Officers of Branches and Divisions.

Many medical groups and societies may not realize that they can build up membership, prestige, and finances without spending a penny. In Great Britain are 1,300 local weekly newspapers and 120 provincial morning and evening newspapers. All are anxious to print in their editorial columns any bona-fide news a group or society can send them.

Weeklies particularly will willingly reserve space regularly if a group can find someone to fill it. Even the morning and evening papers will squeeze an inch from their precious space. A group should therefore appoint a member as press secretary to write a regular piece for the local weekly and keep the press apprised of forthcoming events and developments.

Brevity is the soul of good journalism, especially in these days of paper scarcity, and the press secretary's motto must be "Little but often." Reports should be terse and simple. No blurbs and self-praise are wanted—only news about events, plans, meetings, and personalities. Up to a point the news editor will print items which advertise forthcoming meetings, etc., but these should properly go in the paid-advertisement columns.

The best length to work to in a weekly contribution is about 180–200 words. Better still, ascertain what space there is to spare by ringing up or calling on the news editor. At the same time he could be asked to provide a label side-head—say, "Health News."

The press secretary should see that the news editor has his address and phone number—if possible his business phone number, too, in case he may be wanted to answer an urgent query.

Start Early

Reports should be sent in well before press day, preferably on the Monday or Tuesday. This is the best way of ensuring that a report is printed intact, most weeklies being short of copy at the beginning of the week. If the copy goes in the day before press day it is likely to be blue-pencilled severely. In the case of an evening paper, copy sent in before noon stands a good chance of getting adequate space, at least in the early editions; for morning papers, send in the copy between 6 and 7 p.m.

Write clearly or type one side of the paper; give ample space between lines, and leave wide margins. Don't pin sheets together; clip them. Carbon copies are permissible, but it is a good idea to write copies separately if one newspaper is likely to give more space than the others.

On the principle that names (of local residents) sell newspapers, editors of local papers like plenty of names in reports, if not dragged in unnecessarily. Their spelling should be accurate, and the initials of Christian names correct, for nothing so infuriates a reader as seeing his name wrongly given.

When special news "breaks," such as the visit of a notability, the news editor should be contacted beforehand if possible. This will give him time to cover the story adequately and assign a photographer if necessary.

A "literary" style should be avoided. Reports should be fair and objective, and comments few and far between. But humour without sarcasm is always welcomed.

Heard at Headquarters

A Matter of Precedence

The solemnities at Windsor sent one curious inquirer back to the old records containing particularized accounts of pre-Victorian royal funerals. One odd thing about them was the place assigned to the medical household in the royal procession. At George III's funeral in 1820, for example, there came first the "backstairs pages," followed by the two apothecaries and six surgeons of the late King and the two apothecaries and ten surgeons of the new King. Then at a little distance, following the grooms, came the higher members of the medical hierarchy, the serjeant surgeons and the physicians-in-ordinary. George IV and William IV were followed in like manner, the apothecaries and surgeons walking with the curate. One departure was made at the funeral of the ill-fated Princess Charlotte, daughter of George IV, and her infant; for in this instance, following the backstairs pages and immediately preceding the apothecaries, came the solicitor. Further along in the same procession were the medical men who had been in attendance at Her Royal Highness's confinement—John Sims, the consulting accoucheur, Matthew Baillie, the consulting physician, and Sir John Croft, who delivered the Princess, and who, a few weeks later, poor man, in his chagrin and mental distress, ended his life.

State Occasions

The late Lord Dawson of Penn, who was himself a conspicuous figure at the funerals of two monarchs—Edward VII and George V—was not only the King's physician, but a master on all questions of procedure and precedence on such occasions. As a privy councillor and an upholder of tradition these matters really interested him. Sometimes he intervened with suggestions for an alteration of arrangements. A few weeks before the death of George V, Dawson had attended at Windsor the funeral of the King's sister, the Princess Victoria. His biographer tells us that he had requested beforehand that the draft of the funeral service should be submitted to him to secure its brevity in view of the feeble state of the King. This was not done, however, and far too long a service was the result. Dawson watched the King in St. George's Chapel, weighed down in body and mind, and compelled to stand for overlong, and within little more than a month the King himself had followed his sister to the tomb. It was at the funeral of George V that Neville Chamberlain, catching sight of Dawson, was reminded to send him a line of appreciation of the beautiful words of the last bulletin: "The King's life is moving peacefully to its close."

Correspondence

Health Service Charges

SIR,—At a special meeting held on February 10 the physical aspects of the 1s. payment in a rural practice were the main theme. The aspects of dignity, fairness, exemptions, and finance were not forgotten. But it was felt that our allowing one and a half minutes to give change or certify an exempted person to each of half of the day's cases added up to the doctor being away from the clinical side of his practice, without any deputy, for 10 days in each year. The state of affairs proposed would be so ridiculous that the following was passed:

The East Norfolk Division B.M.A. is adamant in its decision not to add the duties of a tax collector to its obligations as general practitioners.

Most of us are aware of the tremendous waste of money and manpower in the administration of the Health Service from assistant deputy office messengers to motor-cars and chauffeurs, and it seems more equitable to concentrate on them than on the "sick" patient.—I am, etc.,

A. H. GREGSON,
Hon. Secretary, East Norfolk Division.

SIR,—Most practitioners must welcome the Government's attempt to introduce some degree of economy in the cost of prescriptions. But is a shilling on each prescription the best method to achieve this objective? There will be many objections raised. Would it not be a better practice that the patient should pay the chemist the actual price of all items costing less than 2s. 6d.? This would not only effect a considerable reduction in the number of prescriptions going through the mill of pricing bureaux—thus reducing administrative costs—but would not penalize those patients who require more expensive and often more important therapeutics. The diabetic, for instance, under the shilling-an-item scheme may often find his prescriptions costing him 5s. or 6s., when many would consider that he should receive his essential requirements without cost. Whereas the small charge of 1s. may be insufficient to deter the habitual "bottle of medicine" addict, a charge of about 2s. 6d. would be a reasonable deterrent—at any rate he would better appreciate the value of his medicine.

I believe that this alternative suggestion would effect an even greater saving in the cost of the pharmaceutical service and at the same time be an easier and fairer method of distributing the "surcharge."—I am, etc.,

Newton Abbot, Devon. ANGUS EVERARD.

SIR,—In the dilemma to save on the N.H.S.'s drug bill but not to cause hardship it seems to me the following arrangement would be a solution. All patients who have a certificate of unfitness to work—that means who have to live on National Insurance money—should be exempted from the shilling charge. The same should apply, naturally, to old-age pensioners.

In both cases the doctor has the necessary information to mark the prescription form in a way which can be agreed upon. This would have the desired effect of discouraging the habitual visitors to surgeries but exempting the neediest. —I am, etc.,

Birmingham. T. LASZLO.

Paying for the Health Service

SIR,—Mr. H. A. Marquand (*Journal*, February 2, p. 272) is right in stressing the necessity to dispel the belief that the Health Service is paid for by the insurance fund, in order to induce patients to be economical in their use of it. But who is responsible for this fallacy? Should not that man (I need not remind you of his name) who was Minister of Health when the Service started have ensured that the public were properly informed?

I rejoice that at long last another economic measure is to be introduced, the 1s. charge per prescription, for this will make for contented doctors by reducing frivolous calls on their time, despite the fact that "that man" considers it unnecessary and undesirable; does he consider contented doctors to be unnecessary and undesirable also?—I am, etc.,

London, S.E.27. F. H. HUNNARD.

Association Notices

Diary of Central Meetings

FEBRUARY

19	Tues.	B.M.A. and Royal College of Nursing Liaison Committee, 2.30 p.m.
20	Wed.	General Medical Services Committee, special meeting, 11 a.m.
20	Wed.	General Practice Review Committee, 11 a.m.
21	Thurs.	Dermatologists Group Committee, 10.30 a.m.
21	Thurs.	General Medical Services Committee, 10.30 a.m.
27	Wed.	Compensation and Superannuation Committee, 11 a.m.
27	Wed.	Committee on the Association of the General Practitioner with Hospital Work, 2 p.m. (*Date changed from February 20.*)
27	Wed.	Private Practice Committee, 2 p.m.
28	Thurs.	Committee on Control of Medical Manpower in War, 2 p.m.
28	Thurs.	Trainee Assistants Subcommittee, General Medical Services Committee, 2 p.m.
28	Thurs.	Welsh Committee, special meeting (at Raven Hotel, Shrewsbury), 2.15 p.m.
29	Fri.	Library Subcommittee, 12 noon.
29	Fri.	Science Committee, 2 p.m.

MARCH

3	Mon.	Armed Forces Committee, 2 p.m.
5	Wed.	General Practice Review Committee, 11 a.m.
10	Mon.	Conference between the B.M.A., Ministry of Health, and associations of local authorities on Dual Appointments (at 1, Richmond Terrace, Whitehall, London, S.W.1), 3.30 p.m.
11	Tues.	Central Ethical Committee, special meeting, 2 p.m. (*date changed from February 26*).
13	Thurs.	General Practice Review Committee, 11 a.m.
19	Wed.	Joint Meeting of B.M.A. and T.U.C. Committees, 11 a.m. (Preliminary meeting of B.M.A. Representatives, 10.15 a.m.)
26	Wed.	**Council**, 10 a.m.
27	Thurs.	**Council.**

Branch and Division Meetings to be Held

DUDLEY DIVISION.—At Bell Hotel, Market Street, Stourbridge, Thursday, February 21, 7.45 for 8.15 p.m., dinner. Principal guest, Dr. S. Wand, Chairman, Representative Body, B.M.A.

ENFIELD AND POTTERS BAR DIVISION.—At Eastern Gas Board Offices, Palace Mansions, Sydney Road, Enfield, Wednesday, February 20, 8.45 p.m., film meeting. Medical films: (*a*) "Oxygen Therapy"; (*b*) "Foxgloves in Medicine."

GREENWICH AND DEPTFORD DIVISION.—At Miller Hospital, Greenwich High Road, London, S.E., Wednesday, February 20, 8.30 p.m., B.M.A. Lecture by Dr. Keith Simpson: "Foul Play."

NORTH MIDDLESEX DIVISION.—At North Middlesex Hospital, Silver Street, Edmonton, N., Tuesday, February 19, 8.45 p.m., ordinary meeting; 9.20 p.m., short papers by Dr. Kathleen Dalton, Dr. M. P. K. Menon, and Dr. E. T. Bannister.

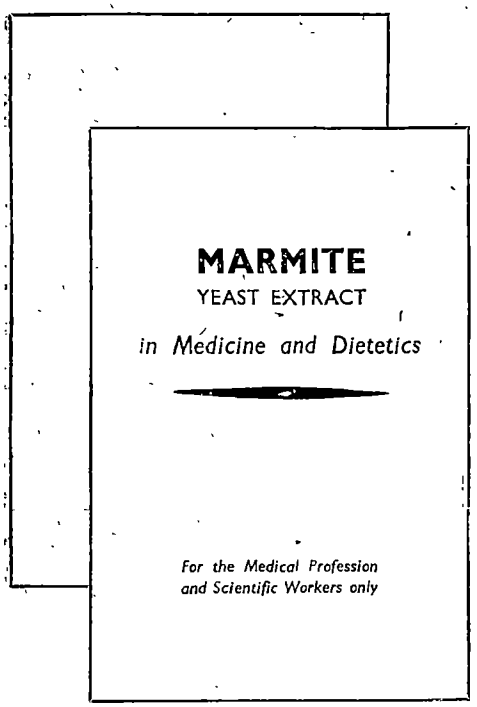
NORTH OF ENGLAND BRANCH.—Thursday, February 21, 7.15 p.m., scientific meeting, clinical demonstration by Mr. John Swinney; address by Professor J. Chassar Moir: "Some Queens of England and their Confinements."

OLDHAM DIVISION.—At Oldham Hotel, Rhodes Bank, Monday, February 18, 9 p.m., Dr. Benjamin Portnoy: "Diet in Diseases of the Skin."

ROCHESTER, CHATHAM, AND GILLINGHAM DIVISION.—At Kent County Ophthalmic and Aural Hospital, Maidstone, Thursday, February 21, 8 p.m., clinical meeting. All medical practitioners in the area of the Division are invited.

WEST DENBIGH AND FLINT DIVISION.—At Royal Alexandra Hospital, Rhyl, Thursday, February 21, 8.30 p.m., exhibition of sound films from B.M.A. film library: (*a*) "Control of Infection in Surgical Dressings"; (*b*) "Thrombosis and Embolism."

WESTMINSTER AND HOLBORN DIVISION.—(1) At the Refectory, Westminster Hospital, London, S.W., Thursday, February 21, 6.30 for 7 p.m., dinner meeting. (2) At Meyerstein Lecture Theatre, Westminster Medical School, Horseferry Road, S.W., 8.30 p.m., B.M.A. Lecture by Dr. J. A. Gorsky: "Medico-Legal Investigation of Murder." Medical and legal guests of members are invited.



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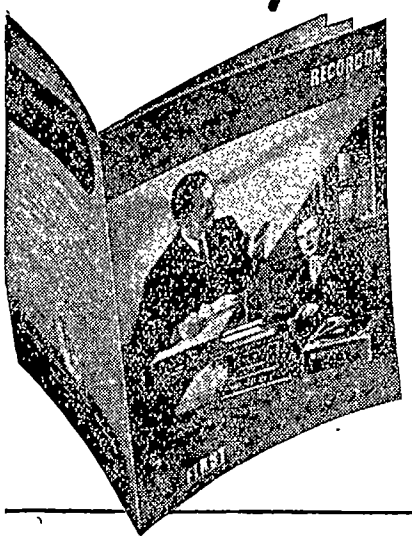

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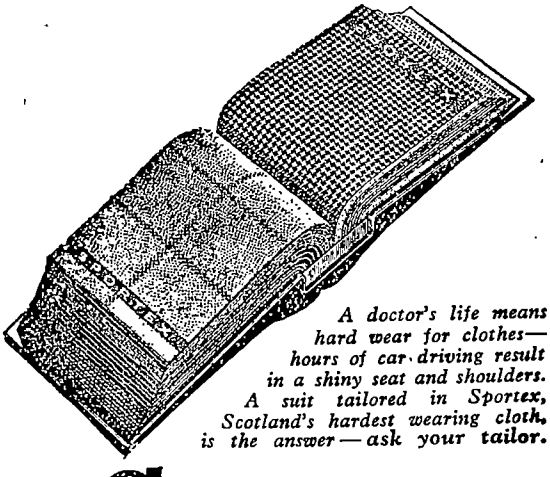

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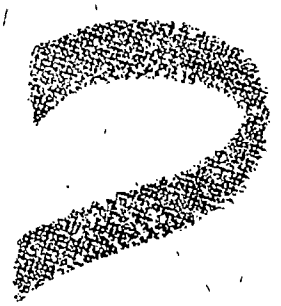

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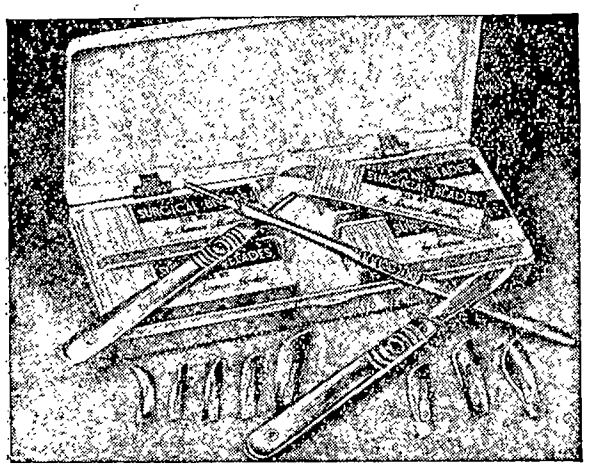

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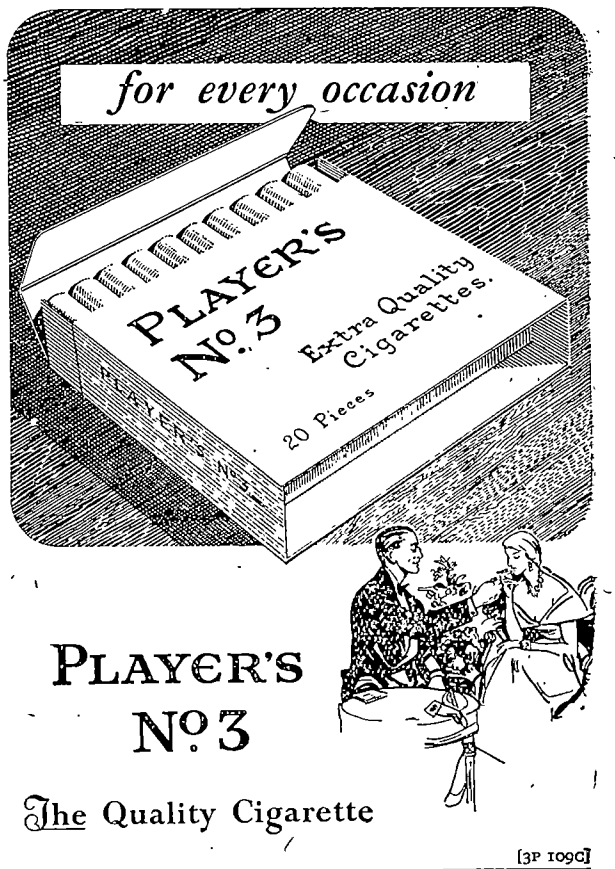

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19/12/51

CLASSIFICATION

and order of appearance

Practices — Assistantships
Partnerships — Locums
Situations (Medical)

HOSPITAL APPOINTMENTS

CONSULTANTS
S.H.M.O.s
REGISTRARS
J.H.M.O.s
SENIOR HOUSE OFFICERS
HOUSE OFFICERS
CLINICAL ASSISTANTS

under appropriate specialty headings, e.g.:—

Anaesthetics	Orthopaedics
Bacteriology	Paediatrics
Blood Transfusion	Pathology
Chest and Tb.	Physical Medicine
Dermatology	Psychiatry
E.N.T.	Radiology
Geriatrics	Radiotherapy
Haematology	Rheumatology
Infectious Diseases	Urology
Neurosurgery	Medicine
Obstetrics and Gynaecology	Surgery
Ophthalmology	Casualty

PUBLIC HEALTH
in alphabetical order of names of employing authorities

Governmental	Receptionists, etc.
Commercial	Houses
Eire	Accommodation
Overseas	Consulting Rooms, etc.
University	Hotels
Notices	Motor Cars, Hire, etc.
Educational	Miscellaneous
Lectures	Nursing Homes
Situations(Non-med.)	Homes
Pharmacists, etc.	Agents

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

KINGSTON-UPON-HULL

Applications invited for vacancy (urban). List at present approximately 2,350. Surgery accommodation may be available. Residence not available. Apply, on Form E.C.16A, before March 6, 1952, to J. W. Milton, Kingston-upon-Hull Executive Council, 52, Ferensway, Kingston-upon-Hull.

PEMBROKE DOCK, Pembrokeshire

Applications are invited for vacancy in the above urban area. List approximately 2,300. Applications, on Form E.C.16A, to reach the undersigned before Monday, March 3, 1952.—W. C. Scourfield, Clerk, Pembrokeshire Executive Council, 9, Quay Street, Haverfordwest.

PONTYPRIDD, TREHAFOD & PORTH, Glam.

Applications are invited for vacant industrial practice with list at present approximately 6,600. Practice at present being carried on from four separate surgery premises. Apply, on E.C.16A (obtainable from the address given below), before March 3, 1952, to undersigned.—W. Brynmor Samuel, Clerk of the Glamorgan Executive Council, 47, Park Place, Cardiff.

SHEFFIELD, Yorkshire

Applications invited for vacancy at April 24, 1952, in the Woodseats and Dore districts of Sheffield. Practice at present conducted as a partnership by man and wife. Joint lists at present 4,500. House and surgery accommodation available for purchase. Applications should be lodged with the undersigned, from whom further particulars of the practice may be obtained, not later than February 23, 1952.—J. H. Cargill, Clerk of the Sheffield Executive Council, 46, Kenwood Road, Sheffield, 7.

TOTTENHAM

Applications invited for vacancy (urban). List at present approximately 5,000. Residence and surgery not available. Apply, on E.C.16A, before March 1, 1952, to the undersigned.—F. J. Ashford, Middlesex Executive Council, Gloucester House, Gloucester Gate, London, N.W.1.

PRACTICES (Wanted)

WANTED, PRACTICE, PARTNERSHIP OR early view Succession in Lancashire. Principal, age 42, present practice 13 years. Or would exchange present practice, 2,100 N.H.S. Capital available for house purchase.—Box P621, B.M.J.

EXPERIENCED PRACTITIONER REQUIRES Partnership/Succession London/Home Counties. Capital for house and equipment.—Box P516, B.M.J.

EXPERIENCED G.P., 37, SCOT, SEEKS PARTnership or Succession. Capital for house purchase.—Box P602, B.M.J.

MIDDLE-AGED DOCTOR DESIRES CONTACT practitioner considering retirement. View succession. Capital for property.—Box P534, B.M.J.

PARTNERSHIPS (Offered)

North London. Share worth approximately £2,200 per annum in N.H.S. practice.—Box P603, B.M.J.

PARTNERSHIPS (Wanted)

M.B., D.R.C.O.G. seeks Succession, Partnership, Assistantship with view. Capital available house purchase. London or near.—Box P536, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, outdoor Assistant, with view, in pleasant S.W. seaside resort. Car essential Salary by arrangement.—Box 420, B.M.J.

Wanted, Assistant, partnership considered. Active, non-British acceptable. Practice near London Bridge. Time for study.—Box 632, B.M.J.

Wanted, Assistant, car owner, for industrial practice East Midlands. Definite view, partner retiring. Unfurnished flat available.—Box 622, B.M.J.

Wanted, Trainee Assistant, March or April, male, British, with car. Usual salary and allowances.—Dr. Wilfred Knight, 10, Fonnereau Road, Ipswich.

Wanted immediately, Assistant, married or single, some experience G.P. and midwifery preferable, South Staffs colliery rural, 20 miles Birmingham. £1,000 per annum all found, plus car expenses or use of car.—Box 501, B.M.J.

Assistant with View to Junior Partnership in approximately two years. Needed immediately. Semi-rural practice outside Oxford. Senior partner contemplating retirement. Married or single doctor required, preferably with some experience of G.P. and obstetrics. Salary, etc., by arrangement.—Box 642, B.M.J.

Trainee Assistant, male. North-east Derbyshire. Outdoor. Car owner preferred. Usual salary.—Box 523, B.M.J.

Trainee Assistantship vacant. Industrial and country. Guy's principal, obstetrics, car necessary. Salary to scale. English, personality and interest outdoor sports. Good postgraduate facilities.—Dr. Elwyn Evans, "Morwena," Westlecot Road, Swindon.

Trainee Assistant. Partnership of two. Good scope for midwifery experience. Salary usual scale. Car essential.—Dr. W. T. Westwood, 1,100 Chester Road, Stretford.

Trainee Assistant required, 16 miles from central London. Car owner. Salary by arrangement.—Box 604, B.M.J.

Trainee Assistant (woman) wanted, Manchester, for April. Married or single.—Box 610, B.M.J.

Trainee Assistant wanted March. Car essential. —Box 504, B.M.J.

ASSISTANTS AVAILABLE

Assistantship, early view to partnership or succession wanted by experienced woman doctor.—Box 539, B.M.J.

Assistantship, View, rural, ex-trainee, British, St. Mary's, married, car owner. Free June.—Box 605, B.M.J.

Assistantship with view, in rural area, preferably South, required by St. Mary's graduate, 28, married. G.P. and obstetric experience, ex-R.N.V.R. Car owner.—Box 623, B.M.J.

Assistantship required, single general practice, hospital experience, London preferred.—Box 625, B.M.J.

Assistantship or Trainee Assistantship wanted in London. Hospital experience, aged 24, married. Available immediately.—Dr. C. Myerson, 5, Cullingworth Road, N.W.10. Phone.: GLAdstone 1736.

Assistantship, View, S.W., soon, M.B., Ch.B., Liverpool, 27, hospital, G.P. Married, New car. Equipment.—Watkins, 43, Prentondell Road, Birkenhead.

Glasgow graduate, 28, desires Assistantship with View to Succession in small town within forty miles Glasgow or Edinburgh. Minimum 2,000 units. Experienced in obstetrics, trained orthopaedics, ex-house physician professorial units of medicine and medical paediatrics. Ex-R.A.F. At present Assistant general practice. Ample capital available house purchase. Other interests, outdoor sports.—Box 304, B.M.J.

London, part-time Registrar available for morning or evening surgeries, week-ends included.—Box 611, B.M.J.

Married woman, M.B., varied experience, requires Part-time Work London, preferably North. —Box 624, B.M.J.

Practitioner, 36, desires to contact doctor retiring in year or two, to arrange Assistantship or Partnership View Succession. Capital available for house purchase. Car owner. Free April.—Box 633, B.M.J.

Woman doctor, hospital and G.P. experience, seeks Assistantship, surgeries, etc., London area. Car driver.—Tel.: FREmantle 7902.

Woman doctor, married, offers regular part-time assistance from April in general practice. Reasonable radius Shepperton, Middlesex.—Box 643, B.M.J.

LOCUMS (Vacant)

Wanted, Locum (Polish), June 12 to July 20. London.—Box 612, B.M.J.

Energetic Locum with own car for busy Blackpool practice, June 6 to 29 inclusive.—Box 631, B.M.J.

Locums wanted, East Riding Yorks. (1) Ten days, June. (2) Three or four weeks from August 16.—Box 540, B.M.J.

Chichester Hospital Management Committee, Sussex.—Locum Registrar Anaesthetist (non-resident) required mid-February, for two to three months, pending proper appointment, for which applicants also required. Salary £775 per annum first year, £890 second year, etc. Work chiefly at Royal West Sussex and St. Richard's Hospitals, Chichester. Own car necessary. Apply Group Secretary, Royal West Sussex Hospital, Chichester. (7718)

Leicester General Hospital.—Applications are invited for the locum tenens post of **Senior House Officer (Anaesthetics)** for the period of March, 1952. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Senior Administrator. (8026)

Mansfield and District General Hospital.—Locum Casualty Officer required immediately. Salary £670 per annum. Application to the Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (7967)

Medway and Gravesend Hospital Management Committee.—Locum Assistant Anaesthetist (full-time) required for three months at least pending appointment of specialist. Applicants should be not less than Senior Registrar status. Salary 3½ guineas per session. Applications, with recent testimonials, to the Secretary, St. William's Hospital, Rochester. (7806)

St. Albans City Hospital (425 beds). Mid-Herts Group Hospital Management Committee.—Locum Registrar required from March 4, 1952, for an indefinite period for duties mainly at Osterhills Unit for gynaecological and obstetric work. Hospital recognized for the D.Obst.R.C.O.G. Applications, giving full particulars of age, qualifications and experience, together with the names of two referees, to be forwarded to the Secretary, Osterhills, Normandy Road, St. Albans. (8027)

St. Albans City Hospital (Osterhills).—West Herts Group Hospital Management Committee.—Immediate applications are invited for the post of **Locum Tenens Senior Registrar in Morbid Anatomy.** The post is non-resident. Vacant March 15 for six months. Previous experience of the specialty is necessary. Applications, with details of qualifications and experience, to the Morbid Anatomist, No. 9 Group Pathological Laboratory, Wandalli, Rickmansworth Road, Watford. (8107)

Sutton-in-Ashfield, Notts, King's Mill Hospital.—Locum Assistant Anaesthetist required for period of six to eight weeks. Salary £670 per annum, with a deduction of £135 in respect of residential emoluments. Applications to the Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (7968)

LOCUMS (Available)

Locum required, single general practice, hospital experience, London preferred.—Box 626, B.M.J.

M.B., Ch.B. (1946), D.R.C.O.G., hospital and G.P. experience. Free March, April, May. Locums anywhere.—Box 627, B.M.J.

SITUATIONS (Vacant)

David Lewis Epileptic Colony, Alderley Edge, near Manchester.—A Medical man or woman is required to assist the Medical Director of this Colony. The post should be combined with reading or research. Salary £475 a year, plus full emoluments. Please communicate with the Director at the Colony. (8211)

SITUATIONS (Wanted)

Registrar, ex-R.A.M.C., car owner, postgraduate dermatological and general medical appointments, including teaching hospital, some experience G.P., seeks opening in general practice and/or industry. —Box 613, B.M.J.

REPLIES TO BOX NUMBER ADVERTISEMENTS

The names and addresses of advertisers using box numbers are held by us in strict confidence and cannot be disclosed. Applications should be separately enclosed and clearly addressed:

Box No. .....
British Medical Journal,
B.M.A. House,
Tavistock Square, W.C.1.

All communications are forwarded to advertisers under plain cover.

It is not possible for this office to accept telephone messages for relay to advertisers.

APPOINTMENTS

ANAESTHETICS

BASINGSTOKE—SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of **WHOLE-TIME CONSULTANT ANAESTHETIST at the Plastic and Jaw Injury Unit, Rooksdown House, Basingstoke, Hants**

Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than March 15, 1952. Applicants may visit the hospital by local arrangement. (8064)

SHREWSBURY GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of **Part-time CONSULTANT ANAESTHETIST** (9 notional half days weekly). Duties mainly at Royal Salop Infirmary (241 beds). Candidates should possess D.A. and have had wide experience in specialty. Appointment subject to N.H.S. (Superannuation) regulations. Fifteen copies applications stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10 Augustus Road, Birmingham 15, before March 10. Candidates may visit group hospitals. (8212)

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners who are in possession of the D.A., for the whole-time post of

ASSISTANT ANAESTHETIST

for hospitals in the Mansfield area. The hospitals concerned would be Mansfield and District General Hospital; the Victoria Hospital, Mansfield; Kings Mill Hospital, Mansfield; and Harlow Wood Orthopaedic Hospital, near Mansfield. The person appointed will be required to reside within ten miles of Mansfield. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 8, 1952. (7655)

WHIPPS CROSS HOSPITAL
Whipps Cross Road, E.11

Applications are invited for the position of **ANAESTHETIC REGISTRAR (Non-resident)** to reside within reasonable distance of the hospital. The appointment is subject to review after one year. A local charge will be made for any residential amenities provided. Applications (in duplicate), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 1, 1952. (8165)

GRIMSBY AND DISTRICT GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the resident whole-time post of **REGISTRAR (Anaesthetics)** to the above hospital, which is recognized for training for the D.A. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 4, 1952. (7978)

NEWCASTLE REGIONAL HOSPITAL BOARD
Regional Chest Surgery Centre (160 beds), Shotley Bridge Hospital and associated sanatoria
WHOLE-TIME ANAESTHETIST (Senior Registrar)

Locum tenens appointment tenable up to August 31, 1952. It is possible that a longer term senior registrar post will be available after August 31, but this will be subject to open competition again. The great bulk of the work in the main centre, i.e., excluding the sanatoria, is concerned with non-tuberculous conditions (mediastinal, oesophageal, cardiovascular as well as pulmonary). Candidates must possess a D.A., have had considerable experience with anaesthesia, and preferably have had a sound preliminary general medical and/or physiological training. Appointee must be prepared to take an active part in clinical and physiological investigations, preoperative and postoperative management of patients in addition to undertaking the customary duties of an anaesthetist. The allocation of these duties may have to be varied from time to time according to clinical requirements by arrangement with the Senior Anaesthetist, but usually the work will be divided between the Centre and the Sanatoria. Appointment subject to National Health Service (Superannuation) Regulations, 1950. Applications, giving details of qualifications, and experience, together with copies of one to three testimonials, and/or the names and addresses of one to three referees, should be sent to the Senior Administrative Medical Officer, Newcastle Regional Hospital Board, Blythswood South, Osborne Road, Newcastle, 2, within fourteen days. Candidates are entitled to visit the hospitals by arrangement with the Senior Surgeon, Regional Chest Surgery Centre, Shotley Bridge Hosp. (7979)

GERMAN HOSPITAL, Dalston, E.8

Applications are invited for the post of **SENIOR HOUSE OFFICER (Resident Anaesthetist).** The successful candidate will also be required to act as Casualty Officer. The appointment is for a period of one year in the first instance. Salary £670 per annum, less £130 per annum for residential amenities. Applications, with copies of three testimonials, should reach the Group Secretary, Hospital Management Committee, Administrative Offices, Hackney Hospital, London, E.9, within six days of the appearance of this advertisement, quoting the reference GH/1. (8094)

WOOLWICH GROUP HOSPITAL MANAGEMENT COMMITTEE
SENIOR HOUSE OFFICER (Anaesthetics)

The appointment is to the Woolwich Group of hospitals and is tenable for one year, resident for six months at St. Nicholas Hospital, Plumstead, and for six months at Memorial Hospital, Woolwich. These hospitals are recognized for the D.A. Salary £670 per annum, less £150 per annum for board and lodging. Applications, together with copies of two recent testimonials, to be sent to the Sec., Memorial Hospital, Woolwich, S.E.18. (8126)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL (900 beds)
Birmingham (Dudley Road) Group of Hospitals
RESIDENT SENIOR HOUSE OFFICER (Anaesthetics)

Applications are invited for the above post, which becomes vacant on April 1, 1952. The person appointed will be based at Dudley Road Hospital, but duties within the Group may occur. This hospital is recognized for training for the Diploma in Anaesthetics. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of three recent testimonials, should be sent within seven days to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (8127)

CHESTER AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of **RESIDENT HOUSE OFFICER (Anaesthetist)** The post is recognized for the D.A. The successful applicant will be required to carry out duties in conjunction with the present Resident Anaesthetist at Chester Royal Infirmary and Chester City Hospital and will require to reside at the Chester Royal Infirmary. Salary £670 per annum, less a deduction of £150 per annum in respect of board and lodging, etc. Applications, giving details of age, experience and qualifications, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (8166)

Anaesthetics—contd.

BARNET GENERAL HOSPITAL, Barnet, Herts
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)

Required for one year from February 25. Post recognized for D.A. examination. Applications, stating age, qualifications, nationality, experience and names of two referees, to be sent to the Medical Director. (7766)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding
(Full Consultant Staffs)

Applications are invited for the appointment of
SENIOR HOUSE OFFICER in Anaesthetics
(Either sex)
for duty at the above hospitals for the acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment. Vacant now. Salary £670 per annum National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley. (7325)

LEICESTER GENERAL HOSPITAL (445 beds)

Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
commencing April 1, 1952. Recognized for the D.A. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond St., Leicester. (8028)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
commencing April 1, 1952. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8029)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Luton and Hitchin Group Hospital Management Committee

Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
The appointment, which is vacant now, offers varied experience, and the post is recognized for the D.A. examination. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (7371)

MAIDSTONE—MID-KENT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the appointment of
RESIDENT ANAESTHETIST
for joint duties at the Kent County Ophthalmic and Aural Hospital and the West Kent General Hospital, Maidstone (total beds 248). Post now vacant. The salary will be £670 a year, with a deduction at the rate of £150 for residential emoluments. The post is recognized for the Diploma of Anaesthetics, and there will be excellent experience for this examination with Consultant Anaesthetists. Applications should be forwarded to the Administrative Officer, West Kent General Hospital, Maidstone. (7497)

MEDWAY AND GRAVESEND HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the appointment of
RESIDENT ANAESTHETIST
(Senior House Officer grade)
Salary £670 per annum, in accordance with the national terms and conditions of service. The appointment is for twelve months, and preference will be given to those holding the Diploma in Anaesthetics. Residential accommodation will be available at All Saints' Hospital, Chatham. Applications, giving full particulars of age, nationality, qualifications, and experience, together with copies of recent testimonials, to be sent to the undersigned.—T. Rhodes, Secretary, Medway and Gravesend Hospital Management Committee, St. William's Hospital, Rochester. (7807)

STOURBRIDGE (near), WORDSLEY HOSPITAL (450 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
(Resident Anaesthetist)
Post now vacant. Applicants should have held house appointments and had previous experience in anaesthetics. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications, with dates, experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (6601)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested
not to apply
for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1, or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

LANCASHIRE COUNTY COUNCIL
(Assistant Divisional Medical Officers)

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE
(Assistant School Medical Officer)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,
A. MACRAE,
February 12, 1952. Secretary.

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer grade)
(Recognized for D.A.)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7401)

WARRINGTON GENERAL HOSPITAL 372 beds) and WARRINGTON INFIRMARY (172 beds)
Warrington and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
for Anaesthetic work

Required for duties at the above hospitals. The person appointed will be resident at the General Hospital. The commencing salary is £670 per annum, less £130 for full residential emoluments. Applications, stating age, experience and qualifications, should be sent immediately to H. L. Boot, Secretary to the Committee, c/o General Hospital, Warrington, Lancs. (7087)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee

Applications are invited for the appointment of
RESIDENT ANAESTHETIST and HOUSE PHYSICIAN
vacant February, 1952. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications and experience, with a copy of two recent testimonials, and the name of one referee, should be sent immediately to Group Secretary, St. Helier Hospital, Carshalton. (8030)

GLOUCESTERSHIRE ROYAL HOSPITAL
(2 units—600 beds)
Gloucester, Stroud and the Forest Hospital Management Committee

Applications are invited for the post of
HOUSE OFFICER (Anaesthetist)
which falls vacant on March 1, 1952. The post, which will be for one year, is recognized for the purpose of the D.A. examination. Salary £350 to £450 per annum, according to experience, less £100 per annum if resident. Applications, stating age, nationality, qualifications and experience, together with the names of two referees, should be forwarded to the Group Secretary, Gloucestershire Royal Hospital, Southgate St., Gloucester. (8025)

BROMSGROVE, WORCS., ALL SAINTS' HOSPITAL (468 beds)
Mid-Worcestershire Hospital Management Committee
HOUSE OFFICER (Anaesthetic duties)

Required at the above recently opened General Hospital. Resident post vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire Hospital Management Committee, Birmingham Road, Bromsgrove. (7664)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group

Applications are invited from registered medical practitioners for the appointment of
RESIDENT ANAESTHETIST
vacant March 17, 1952, second or third post. Salary and conditions of service in accordance with the National Health Service terms, with residential emoluments. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (8109)

SOUTHEND-ON-SEA, GENERAL HOSPITAL

Applications are invited for the post of
RESIDENT ANAESTHETIST
vacant on April 1, 1952. Appointment for six months at the General Hospital, Southend, at House Officer grade salary according to experience, followed by six months at the General Hospital, Rochford; and six months at hospitals in the Group generally as a Senior House Officer. Salary £670 per annum; salaries being subject to the appropriate deductions for board. This combined appointment has been recognized as fulfilling the conditions of the D.A. Applications, etc., should reach the undersigned at the hospital by March 5, 1952.—J. C. Field, Secretary. (8077)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
HOUSE OFFICER (Anaesthetics)

Vacant April 2, 1952. The hospital is recognized for the D.A. Applications, with copies of two testimonials, to Secretary. (8148)

BACTERIOLOGY

ST. MARY'S HOSPITAL, W.2

Applications are invited for the post of
SENIOR REGISTRAR in Bacteriology
(eight notional half-days). The appointment is for a first period of twelve months, and the holder will be eligible for re-election. The successful candidate will be required to devote the remaining three notional half-days to research work in the Wright Fleming Institute of Microbiology, for which he will receive a salary so that his total remuneration is equal to that of a whole-time Senior Registrar. Applications, stating nationality, date of birth, permanent address, qualifications (with dates) and details of previous and present appointments, together with the names and addresses of three referees, should reach the undersigned by Feb. 23, 1952.—Alan Powditch, House Governor. (7789)

NEWCASTLE-UPON-TYNE, UNITED, HOSPITALS

Applications are invited from registered medical practitioners for the appointment of
SENIOR HOUSE OFFICER
to the Bacteriological Department of the Royal Victoria Infirmary
This is the teaching hospital of the University of Durham and the successful candidate will work under the supervision of the Clinical Bacteriologist and the duties will include those concerned with hospital blood transfusion. The appointment, which is a non-resident one, is for one year and will be subject to National Health Service terms and conditions of service. The salary is at the rate of £670 per annum. Applications, giving age, nationality, experience and qualifications, with the names and addresses of three referees, should be sent to the undersigned within two weeks of the appearance of this advertisement.—A. W. Sanderson, House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne. (8167)

BLOOD TRANSFUSION

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of
Whole-time ASSISTANT MEDICAL OFFICER
(J.H.M.O. Grade) at the Regional Blood Transfusion Centre, Northfield Road, Sheffield
Applicants should have had previous clinical experience. The appointment affords scope in all aspects of blood transfusion work and serology, including research. Applications, stating present appointment, date of birth, qualifications and experience, and the names of three referees, should be sent to the Secretary, Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, not later than March 15, 1952. Applicants may visit the Blood Transfusion Centre by arrangement with the Director. (8031)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

CHEST AND TUBERCULOSIS

BEDFORD CHEST CLINIC
Bedford General Hospital
North Wing, 2, Kimbolton Road, Bedford
North-West Metropolitan Regional Hospital Board
WHOLE-TIME ASSISTANT PHYSICIAN

Duties will include the care of in-patients. Salary £1,300 to £1,750. Applications, giving date of birth and three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by March 15, 1952. Clinic may be visited by direct appointment. (7767)

BIRMINGHAM REGIONAL HOSPITAL BOARD and WOLVERHAMPTON COUNTY BOROUGH COUNCIL

Applications invited for joint appointment of **WHOLE-TIME ASSISTANT CHEST PHYSICIAN** (salary £1,300 by £50 to £1,750) to the Wolverhampton Group and Wolverhampton County Borough Council; duties at hospitals and clinics in the Wolverhampton area. Successful candidate will devote 9/11ths of time to hospital and clinic work, the responsibility of the Board, and 2/11ths of time to preventon and after-care work for the County Borough of Wolverhampton. Appointment subject to National Health Service (Superannuation) Regulations, 1950. Fifteen copies application, stating name, date of birth, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, Birmingham Regional Hospital Board, 10 Augustus Road, Birmingham 15, before March 10, 1952. Candidates may visit hospitals and clinics concerned. (8213)

DENBIGHSHIRE AND FLINTSHIRE AREA
Welsh Regional Hospital Board

Applications are invited for the posts of
TWO WHOLE-TIME ASSISTANT CHEST PHYSICIANS

Senior Hospital Medical Officer salary scale, £1,300 to £1,750 per annum. Candidates should have good general medical experience and special experience in tuberculosis and chest diseases. The successful applicants will be based at the Chest Clinic, Wrexham, and will work under the general supervision of the consultant chest physician in charge. Duties will include care of patients at Meadowslea Hospital (75 beds) in addition to routine clinic and area work. There are facilities for the investigation of patients in general hospitals, and the appointed candidates will be expected to assist in postgraduate teaching as required. Fourteen copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within 21 days of appearance of this advertisement. (8221)

KINGSTON AND MORTLAKE AREAS
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of
Whole-time ASSISTANT CHEST PHYSICIAN

Salary scale £1,300 by £50 to £1,750 per annum. Applicants should have wide experience in tuberculosis and allied chest diseases. The candidate appointed will be required to work under the direction of the Consultant Chest Physician at Kingston. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than March 15, 1952. Applicants may visit the Kingston and Mortlake Clinics by arrangement with the Consultant Chest Physician at Kingston Chest Clinic, 27, Queen's Road, Kingston-upon-Thames. (Tel.: Kingston 4658). (7980)

NORTHERN IRELAND TUBERCULOSIS AUTHORITY

The Authority invites applications for a post of **PHYSICIAN in the Special Department** established for the purpose of securing the co-ordination of B.C.G. work throughout the Province. The post will be on a whole-time basis for which the salary will be on the scale of £1,300 by £50 to £1,750 per annum. Contributions will be payable under the Health Services Superannuation Scheme. Form of application and conditions of appointment may be obtained from the Secretary, Northern Ireland Tuberculosis Authority, 27, Adelaide Street, Belfast, with whom completed applications must be lodged not later than Friday, Feb. 22. (8079)

NORTHERN IRELAND TUBERCULOSIS AUTHORITY

Applications are invited from registered medical practitioners for the whole-time post of
CHEST PHYSICIAN
(Senior Hospital Medical Officer scale)

to undertake hospital and clinic duties in No. 2 Area (County Armagh and part of County Down). Applicants must have had wide experience in the diagnosis and treatment of tuberculosis. Possession of a higher medical qualification is desirable. The person appointed will work under the direction of the Consultant to the Area. Forms of application and conditions of appointment may be obtained from the Secretary, Northern Ireland Tuberculosis Authority, 27, Adelaide Street, Belfast, with whom completed applications should be lodged not later than February 22, 1952. (8080)

NORTH GLOUCESTERSHIRE CLINICAL AREA
South-Western Regional Hospital Board

Applications are invited from registered medical practitioners for the appointment of
Whole-time ASSISTANT CHEST PHYSICIAN

on the Senior Hospital Medical Officer scale to the North Gloucestershire Clinical area. Applicants should possess high medical qualifications, and previous experience in diseases of the chest is essential. The successful candidate will be required for duty mainly at Salterley Grange Sanatorium, near Cheltenham (78 beds), where he will be required to reside. A furnished flat suitable for a married man is provided. Duties may include visits to other hospitals and sanatoria in the area, as may be determined by the Regional Board from time to time. The successful candidate, who will work under the supervision of the Senior Consultant Chest Physician in the area, will be given some chest clinic duties partly in the Birmingham Region. The successful candidate will also be required to collaborate with the medical officers of health of the local health authorities concerned in connection with the tuberculosis service. Opportunities will be given for experience in mass radiography. Fifteen copies of applications, stating date of birth, qualifications, and experience, together with fifteen copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol 6, not later than March 7, 1952. (8219)

WEST CORNWALL CLINICAL AREA
South-Western Regional Hospital Board

Applications are invited by the Regional Hospital Board and Cornwall County Council from registered medical practitioners for the appointment of
ASSISTANT CHEST PHYSICIAN

in the West Cornwall Clinical Area, which comprises the districts of Truro, Bodmin, Newquay, St. Austell, Falmouth, Redruth and Penzance. The appointment will be on a whole-time basis in the Senior Hospital Medical Officer grade, subject to possible adjustment in respect of local authority work. Applicants should possess high medical qualifications, and previous experience in diseases of the chest is essential. The successful applicant will be required to work under the general direction of the Senior Consultant Chest Physician, and the duties will be mainly concerned with the conduct of chest clinics in the area. Arrangements will be made for some in-patient work. He will also be required to collaborate with the County Medical Officer of Health in connexion with the tuberculosis services. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than March 7, 1952. (8252)

CHELMSFORD, ESSEX, BROOMFIELD HOSPITAL

Applications are invited for the position of
RESIDENT MEDICAL REGISTRAR
(Chest Diseases)

For duties in pulmonary tuberculosis wards and assisting with tuberculous thoracic surgery. Occasional duty in clinics and mass radiography unit. The appointment is subject to review after one year. A local charge will be made for residential amenities provided. Applications (three copies), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with three copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, February 23, 1952. (8168)

IPSWICH SANATORIUM (120 beds)
East Anglian Regional Hospital Board
MEDICAL REGISTRAR

Duties will include work in the thoracic surgical unit and in the Ipswich Chest Clinic. A flat is available. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 3, 1952. Candidates are invited to visit the sanatorium by direct arrangement with the Physician Superintendent.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8032)

LIVERPOOL REGIONAL HOSPITAL BOARD
Regional Thoracic Service

Applications are invited for the post of
SURGICAL REGISTRAR

with duties mainly at Broadgreen Hospital and Aintree Hospital. Candidates should hold the F.R.C.S. and have had wide experience in general surgery. The post will provide opportunities for training in the surgery of non-tuberculous and tuberculous conditions. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 1, 1952.—Vincent Collinge, Secretary to the Board. (8128)

NEWCASTLE REGIONAL HOSPITAL BOARD
Regional Thoracic Surgical Service
TWO REGISTRAR THORACIC SURGEONS
(Resident)

Required for duties at the Regional Centre (160 beds) at Shotley Bridge General Hospital, where the work is almost entirely non-tuberculous (cardiovascular, oesophageal and pulmonary), and at the associated Sanatoria. The appointments are intended for trainees in thoracic surgery. Applicants should have completed their training in general surgery and desire to obtain basic experience in thoracic surgery before finally deciding to take up a career in thoracic surgery. A higher qualification is necessary, and some experience in chest surgery will be an advantage. Salary scale £775 to £890, in accordance with the national conditions, and the appointments will be temporary in the first instance up to August 31, 1952. Canvassing of members of the appointments committee will disqualify, but candidates are entitled to visit the unit by arrangement with the Senior Surgeon, Thoracic Unit, Shotley Bridge Hospital. Applications, stating age, sex, nationality, qualifications and experience, together with copies of one to three testimonials, and/or the names and addresses of one to three referees, should be sent to the Senior Administrative Medical Officer, Newcastle Regional Hospital Board, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within twenty-one days. (7982)

NEWCASTLE REGIONAL HOSPITAL BOARD
Newcastle Hospital Management Committee Group
REGISTRAR CHEST PHYSICIAN

Required at Walker Gate Hospital, with duties in a chest clinic. The appointment, which is temporary in the first instance up to August 31, 1952, will be whole-time. Salary £775 to £890. An unfurnished house will be available at the hospital. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (7981)

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the resident whole-time post of
REGISTRAR (Chest Diseases)

for duties at Oakwood Hall Sanatorium (100 beds) and the Chest Clinic, Chatham Villas, Chatham Street, Rotherham. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 6, 1952. (8033)

CHEPSTOW, MON, MEMORIAL WARDS, MINISTRY OF PENSIONS HOSPITAL

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
in Tuberculosis

National salary scales and conditions. The resident medical staff consists of a Senior Hospital Medical Officer and this post, while the Consultant visits regularly. Apply, with the names of three referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (7011)

VENTNOR, ROYAL NATIONAL HOSPITAL FOR DISEASES OF THE CHEST, Isle of Wight
(249 beds)
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident)

Unmarried. Hospital has all facilities for major thoracic surgery. Applications, with names of two referees, should be sent to Physician-Supt. (8223)

GROVE PARK HOSPITAL, London, S.E.12
Lewisham Group Hospital Management Committee

Applications are invited for the resident post of
SENIOR HOUSE OFFICER
to the Department of Thoracic Surgery (52 beds)

at the above hospital, which has 401 beds for the treatment of pulmonary tuberculosis. The appointment is vacant immediately and tenable for one year. Salary £670, less £150 for residential emoluments. Applications, stating age, qualifications and experience, with copies of three recent testimonials or names of referees, should be sent to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (8034)

MANSFIELD (near), NOTTS, NEWSTEAD SANATORIUM, Fishpool (236 beds)

Applications are invited for appointment as
RESIDENT SENIOR HOUSE OFFICER (Female)

The successful applicant may be required to undertake some work at neighbouring chest clinics, including B.C.G. vaccination. Apply, giving age, qualifications and two referees, to the Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood Hospital, near Mansfield, Notts. (5843)

Chest and Tuberculosis—contd.

NOTTINGHAM CITY HOSPITAL (833 beds)
SENIOR HOUSE OFFICER
to the Department of Thoracic Surgery

Post vacant April 1, 1952. Salary £670 per annum, less £130 per annum for residential emoluments. The appointment will be for one year. Applications, stating age, nationality, qualifications, and experience, together with copies of not more than three testimonials, to be submitted immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (8224)

OXFORD, UNITED OXFORD HOSPITALS

Applications are invited for the post of

SENIOR HOUSE OFFICER
to the Thoracic Surgery Unit at the Churchill Hospital

for six months commencing March 1. Applications, stating age, qualifications and experience, together with the names of two referees, should be sent as soon as possible to the Administrator, Radcliffe Infirmary, Oxford. (8125)

YORK, FAIRFIELD SANATORIUM
COUNTY HOSPITAL, York
CITY HOSPITAL, York

Applications are invited for the post of

RESIDENT SENIOR HOUSE OFFICER
in Chest Diseases and General Medicine

to spend approximately half-time at Fairfield Sanatorium (63 beds), and at the City Hospital, where eight beds are reserved for investigation of chest cases, and where out-patient refill clinics are held, the remainder of time at the County and City General Hospitals (269 and 265 beds respectively), in the department of general medicine. Previous experience in treatment of tuberculosis an advantage. Salary £670, with deduction for residence near Sanatorium. Suitable for married or single medical officer. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (8169)

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Paddington Hospital, Harrow Road, W.9

Applications are invited for the post of

HOUSE SURGEON

for duty from March 1, 1952, in the Thoracic Department at St. Charles' Hospital, Ladbroke Grove, W.10. Previous experience an advantage. Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of two referees, to reach the Secretary to the Committee immediately. (8236)

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Paddington Hospital, Harrow Road, W.9

Applications are invited for the post of

HOUSE PHYSICIAN

for duty from March 1, 1952, on the T.B. wards of St. Charles' Hospital, Ladbroke Grove, W.10. This post provides good opportunity for studying for a higher degree. Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of two referees, to reach the Secretary to the Committee immediately. (8235)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (Thoracic Unit)

Vacant April 1. Salary £350 to £450, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (7769)

CHICHESTER (near), ALDINGBOURNE HOUSE SANATORIUM (71 beds) and Bognor Regis Annexe (31 beds)

HOUSE PHYSICIAN (Male or female)

Required immediately, liaison with thoracic unit, Chichester. Resident at Bognor Regis. Apply to Physician Superintendent, Aldingbourne House Sanatorium, near Chichester. (7983)

DERMATOLOGY

PRINCE OF WALES'S GENERAL HOSPITAL
South Tottenham, N.15
North-East Metropolitan Regional Hospital Board

Applications are invited for the following consultant position:

Part-time CONSULTANT DERMATOLOGIST

(two sessions a week). Applications (six copies), stating private address, date of birth, full details of qualifications and experience, present appointment(s) (including number of sessions), grade and salary, together with names and addresses of three referees, should reach C. E. Nicol, Secretary, 11a, Portland Place, London, W.1, by Saturday, March 1, 1952. (8170)

CARDIFF ROYAL INFIRMARY
United Cardiff Hospitals

The Board of Governors invites applications for the appointment of

REGISTRAR
to the Department of Dermatology

Salary in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, stating age, nationality, qualifications, experience, and present appointment, together with the names of two referees, should be sent to the undersigned as soon as possible.—Arnold Tunstall, Secretary and Principal Administrative Officer, The United Cardiff Hospitals, Cardiff Royal Infirmary, Newport Road, Cardiff. (8217)

LONDON JEWISH HOSPITAL
Stepney Green, E.1

CLINICAL ASSISTANT
(Out-patients' Skin Department)

For one notional half-day a week. Thursday 9.30 a.m. Salary £175 per annum. Applications, etc., with three recent testimonials, to the Secretary, Stepney Group Hospital Management Committee, Raine Street, London, E.1. (7770)

EAR, NOSE, AND THROAT, etc.

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest

A vacancy occurs April 1, 1952, for

PART-TIME REGISTRAR (Registrar Grade)
E.N.T. Department

to attend two half-days a week in London and one attendance fortnightly at Country Branch (near Letchworth). The appointment is for one year with the prospect of renewal. Applications, stating date of birth, qualifications (with dates) and previous appointments held, with copies of three testimonials, should reach the undersigned by February 20, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (7430)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the following positions:

NON-RESIDENT E.N.T. REGISTRAR
Whipps Cross Hospital, Whipps Cross Road, E.11
Non-resident PART-TIME E.N.T. REGISTRAR
Queen Elizabeth Hospital for Children, Hackney Road, E.2. Five sessions a week. Experience in treatment of children desirable.

Appointments are subject to review after one year. A local charge will be made for any residential amenities provided. Separate applications (in duplicate), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, 11a, Portland Place, W.1, by Saturday, March 1, 1952. (8171)

BIRMINGHAM, 16, CHILDREN'S HOSPITAL
Ladywood Road
United Birmingham Hospitals

Applications are invited for the appointment of

AURAL REGISTRAR (Non-resident)

in the grade of Registrar, vacant July 1, 1952, for one year. Preference will be given to candidates who are Fellows of the Royal College of Surgeons and/or hold the diploma in Child Health. Forms of application may be obtained from the undersigned and should be returned not later than March 8, 1952.—N. R. Winwood, House Governor. (8225)

LLANELLY HOSPITAL (164 beds)
Glantawe Hospital Management Committee

Applications are invited from medical practitioners for the non-resident appointment of

JUNIOR HOSPITAL MEDICAL OFFICER

at the above hospital, for work mainly in the E.N.T. Department. Applications, stating age, experience and qualifications, with the names of three referees, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (8253)

BLACKPOOL, VICTORIA HOSPITAL
SENIOR HOUSE OFFICER, E.N.T. Department

Post recognized for D.L.O. and F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (7683)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds) and SOUTHAMPTON GENERAL HOSPITAL (453 beds)
SENIOR HOUSE OFFICER (E.N.T.)

Applications are invited for this whole-time post, becoming vacant March 27. The post is recognized for the F.R.C.S. (Eng.) and D.L.O. examinations, providing experience in all branches of E.N.T. work, including audiometry. The Group includes a diagnostic and distributing hearing aid centre. Occasional work at other hospitals may be required. Applications, with copies of three recent testimonials, should be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8226)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18

RESIDENT HOUSE SURGEON
(E.N.T. and Eyes)

Six months' appointment. Vacant April 1. Application, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Secretary, by February 23. (7823)

AYLESBURY, BUCKS, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON
for E.N.T. and Ophthalmic Department

Recognized for D.L.O. and D.O. First or second post, which carries additional remuneration at the rate of £50 per annum. Vacant now. Please apply, with two testimonials, to the Secretary-Superintendent as soon as possible. (7984)

CARLISLE, CUMBERLAND INFIRMARY
(322 beds)
East Cumberland Hospital Management Committee

Applications are invited for the undermentioned resident post, vacant April 1, 1952, and tenable for six months.

"SPECIALS" HOUSE OFFICER
(Ear, Nose and Throat and Ophthalmic)

Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (7985)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
HOUSE SURGEON

Required in the Ear, Nose and Throat Department at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. Recognized for D.L.O. National scales and conditions. Six-monthly appointment, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8468)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of

HOUSE SURGEON to the E.N.T. Department

for a period of six months from April 1, 1952. The post is recognized for the D.L.O. and the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (8035)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Ear, Nose and Throat)

Applications are invited from registered medical practitioners for the above post, which is now vacant. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience, £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8075)

READING, ROYAL BERKSHIRE HOSPITAL
(403 beds)

Applications are invited for the post of

HOUSE SURGEON (E.N.T. Department)

Vacant March 1, 1952. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

YORK, COUNTY HOSPITAL (General hospital of 269 beds with full consultant staff)
CITY HOSPITAL, York (Modern general hospital of 265 beds with full consultant staff)
E.N.T. HOUSE SURGEON

The E.N.T. Department (which is mainly at the County Hospital) has approximately 30 beds, is recognized for the D.L.O. and offers excellent opportunities for learning the specialty. Appointment for six months initially and is vacant immediately. Previous experience preferable but not essential. Residence available at the County Hospital. Salary £400 for second post, £450 for third post, less £100 for residence. Applications, giving age, nationality, experience and qualifications and names of two referees, to be forwarded immediately to undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (8172)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Ear, Nose, and Throat, etc.—contd.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment as
CLINICAL ASSISTANT
to the Ear, Nose and Throat Department of the South Devon and East Cornwall Hospital, Plymouth. A total of four to six weekly sessions will be required, which may be divided between two or more applicants. Duties of the appointment will be carried out under the supervision of Consultant E.N.T. Surgeons. Payment will be at the rate of £175 per annum per weekly 3½-hour session. The appointment will, in the first instance, be on a temporary basis, and will be subject to review after one year, it will be in accordance with the terms and conditions of service of hospital medical staff. Applicants should state the number of hours per week they would be willing to undertake. Applicants should also state whether they are engaged in general practice and if so, the number of patients on their National Health Service list. Two copies of applications, stating date of birth, qualifications and experience, together with the names and addresses of two referees, should be addressed to Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (8095)

GERIATRICS

CARDIFF, ST. DAVID'S HOSPITAL
Welsh Regional Hospital Board
Applications are invited from registered medical practitioners for the appointment of a
MEDICAL OFFICER (S.H.M.O. scale)
for geriatric duties in the chronic sick wards. Previous experience in this branch is desirable. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty one days of appearance of this advertisement. (8245)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (First, second or third post) (preferably second or third)
Required for Geriatric Unit. Resident post. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to the Secretary, Management Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date February 26, 1952. (8129)

SUNDERLAND GENERAL HOSPITAL
HOUSE PHYSICIAN
for Geriatric Department (264 beds)
Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (8155)

HAEMATOLOGY

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
SENIOR HOUSE OFFICER
Department of Haematology
Vacant April 1, 1952. Whole-time, non-resident post. Appointment for six months, renewable for a second and possibly a third six months. Salary £670 per annum. Applications to be made on forms obtainable from the undersigned and to be returned not later than February 27, 1952.—F. J. Cable, General Superintendent. (7772)

INFECTIOUS DISEASES

MANCHESTER, MONSALL HOSPITAL
Manchester Regional Hospital Board
Applications are invited for the post of
SENIOR REGISTRAR IN INFECTIOUS DISEASES
Good training in general medicine and a higher qualification are desirable. The post will be held primarily for one year, and provides very good experience in the diagnosis and treatment of most infectious diseases. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names of three referees, to be received not later than March 3, 1952. (8081)

MIDDLESBROUGH, WEST LANE ISOLATION HOSPITAL (203 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER
which will become vacant March 1, 1952. Salary £670 per annum, conditions of service being in accordance with the Ministry of Health Regulations. Applications, with copies of two recent testimonials, should be forwarded to the Physician Superintendent, West Lane Hospital, Middlesbrough as early as possible. (7735)

GLASGOW, RUCHILL HOSPITAL
Western Regional Hospital Board, Scotland
Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:
SENIOR HOUSE OFFICER
for duties in Infectious Diseases
Applications, stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than March 4, 1952, to the Secretary, Board of Management for Glasgow Northern Hospitals, 13, Woodside Place, Glasgow, C.3. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (8254)

NEUROSURGERY

REGIONAL NEUROSURGICAL CENTRE
(50 beds)
Brook General Hospital, Shooters Hill Rd., S.E.18
SENIOR HOUSE OFFICER (Neurosurgery)
The post also provides excellent opportunity for training in neurology. Salary £670 per annum, less £150 per annum for residence. Apply to Sec., Memorial Hospital, Woolwich, S.E.18. (7747)

SWANSEA, MORRISTON HOSPITAL (450 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER
in the Neurological and Neuro-surgical Department
Salary and conditions of service will be according to the National Health Service scale. Applications, stating age, qualifications, and experience, should be addressed to Medical Superintendent, Morriston Hospital, Swansea.—O. C. Howells, Sec. (8227)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
HOUSE PHYSICIAN (Neurosurgical Unit)
Applications are invited from registered medical practitioners for the above appointment in the neurosurgical unit. Tenable for six months. This post would be suitable for candidate seeking a higher qualification as it offers excellent experience in neurology. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (5634)

OBSTETRICS AND GYNAECOLOGY

EAST FIFE GROUP OF HOSPITALS
South-Eastern Regional Hospital Board, Scotland
Applications are invited from suitably qualified medical practitioners for a whole-time appointment as
OBSTETRICIAN AND GYNAECOLOGIST
(Consultant Grading)
The duties of the post include charge of beds at Craigtoun Maternity Hospital (St. Andrew's), and at Netherlea Hospital, Newport. The post is superannuable, and the conditions of service are in accordance with the regulations. Applications (eight copies), giving particulars of age, previous experience and qualifications, together with the names of three referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, within thirty days. (8237)

BECKENHAM MATERNITY HOSPITAL
Stone Park Avenue, Beckenham, Kent
Applications are invited, preferably from candidates holding their M.R.C.O.G., for the non-resident post of
TEMPORARY SENIOR REGISTRAR
in Obstetrics and Gynaecology
The appointment is tenable until June 30, 1952, in the first instance, at a salary of £1,000 per annum. Applications, stating age, qualifications and experience, together with names and addresses of three referees, should be sent to the Administrative Officer, Beckenham Hospital, Croydon Road, Beckenham, Kent. (7811)

NORWICH, UNITED, HOSPITALS
East Anglian Regional Hospital Board
SENIOR REGISTRAR
in Obstetrics and Gynaecology
Candidates must possess the M.R.C.O.G. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 3, 1952. Candidates are invited to visit the hospitals by direct arrangement with the H.M.C. Secretary at the Norfolk and Norwich Hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8036)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid-Herts Group Hospital Management Committee
JUNIOR HOSPITAL MEDICAL OFFICER
Required April 1, 1952, for duties mainly at Osterhills Unit for gynaecological and obstetric work. Hospital recognized for the D.Obst.R.C.O.G. Applications, giving full particulars of age, qualifications and experience, to be forwarded to the Sec., Osterhills, Normandy Rd., St. Albans. (8037)

ST. MARY'S HOSPITAL, W.2
Samaritan Hospital for Women
Applications are invited from registered medical practitioners for the following appointment:
RESIDENT MEDICAL OFFICER
(Senior House Officer)
The appointment is for one year from April 1, 1952. Preference given to qualified medical practitioners intending to specialize in gynaecology and obstetrics. Applications, stating date of birth, qualifications (with dates), details of previous appointments, and accompanied by two testimonials, should be sent not later than February 23, 1952, to Arthur E. Tyler, Secretary, Samaritan Hospital, Marylebone Road, N.W.1. (7790)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
in Obstetrics and Gynaecology (with some General Surgery)
Vacant February 25, 1952, for one year's appointment (renewable). The post is recognized for the D.Obst.R.C.O.G. Apply to the Medical Superintendent. (7986)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for post, vacant now, of
RESIDENT SENIOR GYNAECOLOGICAL HOUSE SURGEON (Male or female)
for duties at the above hospital and Scarthoe Road Infirmary, Grimsby. Apply to Administrative Officer, Grimsby General Hospital. (7020)

MIDDLESBROUGH MATERNITY HOSPITAL
(57 beds)
Tees-side Hospital Management Committee
SENIOR RESIDENT MEDICAL OFFICER
(Senior House Officer Grade)
Applications are invited for the above appointment, which will be vacant in the middle of February. Good obstetrical experience is afforded and the appointment is recognized for the M.R.C.O.G. examination. Salary and conditions in accordance with National Health Service scales and terms of appointment. Applications, giving details of qualifications and experience, together with copies of three recent testimonials, should be sent as soon as possible to the Administrative Officer, Middlesbrough Maternity Hospital, Park Road North, Middlesbrough (7451)

NORTHALLERTON HOSPITAL MANAGEMENT COMMITTEE
Friarage and Maternity Hospitals, Northallerton
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
in Obstetrics and Gynaecology
for the above hospitals. Previous experience in obstetrics is essential. The post will be vacant about mid-March, will be tenable for six months and is subject to the terms and conditions of service for hospital medical staff. Applications, with copies of testimonials or the names of two referees, should be addressed to the Secretary at the Friarage Hospital. (8131)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Department of Obstetrics and Gynaecology
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for appointment of
RESIDENT OBSTETRICAL OFFICER
of Senior House Officer Grade
vacant April 1, 1952. There will be additional duties at the Flete Maternity Home and the Alexandra Maternity Home, which are parts of the department. Candidates should have had considerable experience in a department of obstetrics and gynaecology. The appointment will be for a period of twelve months and is renewable. Salary £670 per annum. Terms and conditions are in accordance with the National Health Service terms. The post is recognized by the Royal College of Obstetricians and Gynaecologists for the membership examination of the College. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (8110)

WORCESTER, RONKSWOOD HOSPITAL
Newtown Road (326 beds)
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER
(Gynaecology and Genito-Urinary)
for which there are 40 beds allotted. Applications, with copies of testimonials, to Administrator. (7877)

EAST END MATERNITY HOSPITAL
384/398, Commercial Road, London, E.1 (60 beds)
(Post recognized for M.R.C.O.G.)
RESIDENT OBSTETRICAL OFFICER
Required, six months' House Officer III, six months Senior House Officer. National scale salaries, deduction for emoluments £100 and £156 respectively. Application to Secretary, Stepney Group H.M.C., Raine Street, E.1. (7825)

Obstetrics and Gynaecology—contd.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60, Grove End Road, N.W.8
Applications are invited from registered medical practitioners (male) for the appointment of
HOUSE SURGEON
to the Midwifery and Gynaecology Departments
and to be responsible for the Casualty Department, to become vacant on Monday, March 31, 1952. Appointment will be for a period of six months. Salary is at the rate of £350 per annum. Applications should reach the Secretary on or before Tuesday, March 4, 1952, together with copies of three recent testimonials. (8096)

AMERSHAM GENERAL HOSPITAL, Bucks
High Wycombe and District Hospital Management Committee
Applications are invited for the post of
OBSTETRIC HOUSE SURGEON
in modern maternity department which is a training school for midwives. Post vacant on March 1, 1952, tenable for six months and is recognized for the D.R.C.O.G. Applications to Sec., Management Committee, Amersham General Hospital. (7987)

BIRMINGHAM, 19, HEATHFIELD ROAD MATERNITY HOSPITAL
134, Heathfield Road, Handsworth
Birmingham (Dudley Road) Group of Hospitals
OBSTETRIC HOUSE SURGEON
Required for a period of six months on April 1, 1952. This is a third post, salary in accordance with the recognized scales. This hospital is a 50-bed maternity unit, with a 15-cot premature baby unit attached. There is a large antenatal department, and the appointment is recognized for the D.(Obst.)R.C.O.G. Applications, together with copies of three recent testimonials, should be forwarded to the undersigned within seven days.—J. Preston, Secretary, H.M.C., Dudley Road Hospital, Birmingham, 18. (8173)

BIRMINGHAM MATERNITY HOSPITAL
United Birmingham Hospitals
HOUSE SURGEON
Salary £400 or £450 per annum, according to experience. The appointment is for a period of six months and is recognized for the D.R.C.O.G. Duties commence May 1, 1952. Application forms can be obtained from the undersigned, and should be returned not later than March 1, 1952.—H. N. Lamb, House Governor, The United Birmingham Hospitals, Birmingham and Midland Hospitals for Women, Showell Green Lane, Sparkhill, Birmingham, 11. (8130)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
GYNAECOLOGICAL HOUSE SURGEON
Required at Highland Court annexe, which is a new unit of 30 gynaecological beds situated three miles from the above hospital, with all ancillary services available. Six months' appointment. National Health Service conditions, and salary. Applications to be addressed to the Chief Administrative Officer at the hospital. (8132)

CARLISLE—EAST CUMBERLAND HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following resident posts for the six months commencing April 1, 1952:
Cumberland Infirmary, Carlisle (322 beds)
HOUSE OFFICER (Gynaecology and Obstetrics)
City General Hospital (146 beds) and City Maternity Hospital, Carlisle (57 beds)
HOUSE OFFICER (Obstetrics and Gynaecology)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (7988)

CHELTENHAM, SUNNYSIDE MATERNITY HOSPITAL
Cheltenham Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT OBSTETRIC OFFICER
The hospital, which is recognized for the purpose of training for the D.R.C.O.G., has 63 beds and deals with the majority of abnormal midwifery cases in North Gloucestershire. The appointment is for a period of six months and the salary will be £400 or £450 per annum, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, and accompanied by copies of three recent testimonials, should be sent to the Secretary, Cheltenham Group H.M.C., General Hospital, Cheltenham. (8255)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE SURGEON
to the Gynaecological Department
commencing May 18, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings. (8174)

EDINBURGH, 9, BRUNTSFIELD HOSPITAL FOR WOMEN AND CHILDREN
(80 beds and cots)
Applications are invited from registered women medical practitioners for the post of
HOUSE OFFICER (Gynaecology)
Appointment is for six months from April 1, 1952. Salary £350, £400 or £450 per annum, according to experience, less £100 per annum in respect of residential emoluments. Applications, with copies of testimonials, to the Medical Superintendent, Southern Hospitals Group, 21, Hill Street, Edinburgh, 2, not later than March 1, 1952. (8122)

HASTINGS, ST. HELEN'S HOSPITAL (452 beds)
Hastings Group Hospital Management Committee
RESIDENT HOUSE OFFICER (Obstetrics)
(Male or female)
Post vacant March 10, 1952, is recognized for D.(Obst.)R.C.O.G. National scales of salary. Applications to Administrator at hospital. (7989)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE SURGEON
to the Gynaecological and Abnormal Maternity Department
Required to commence duties on April 1, 1952. Salary in accordance with terms and conditions of service for hospital medical and dental staff, with full residential emoluments. Applications, together with copies of three recent testimonials, to be addressed to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (8082)

MIDDLESBROUGH MATERNITY HOSPITAL
Tees-side Hospital Management Committee
There will be a vacancy for a
JUNIOR RESIDENT MEDICAL OFFICER
(House Officer grade)
immediately. The post affords good obstetrical experience and is recognized for the D.Obst. R.C.O.G. examination. The appointment is for six months in the first place. The person appointed may be given the opportunity of proceeding to the Senior Resident Medical Officer's appointment, which is recognized for the M.R.C.O.G. examination. Applications, together with copies of testimonials, should be sent as soon as possible to the Administrative Officer, Middlesbrough Maternity Hospital, Middlesbrough. (7395)

READING AREA DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
vacant April 1, for a period of six months. Salary £400 or £450 (less £100 board, residence, etc.). Applications, stating age, nationality, qualifications (with dates), present post, together with copies of recent tesumonials, to Administrative Officer, Royal Berkshire Hospital. (8256)

ROMFORD, ESSEX, RUSH GREEN HOSPITAL
(247 beds)
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE SURGEON (Woman)
for duties in the Gynaecological Unit comprising 25 gynaecological and 6 maternity beds at the above hospital. Previous experience not necessary. Post tenable for six months. Applications, stating (in order) age, qualifications (with dates), present appointment and details of experience, accompanied by copies of two recent testimonials or names of referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. Applicants may see the hospital by arrangement with the Medical Supt. Telephone: Romford 7711. (5620)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL
OBSTETRICAL AND GYNAECOLOGICAL HOUSE SURGEON
Required for post vacant April 1. Salary on national scale. The successful candidate will be resident at the Old Windsor Unit of the hospital. Applications, stating age, nationality, qualifications (with dates), together with copies of recent testimonials or the names of three referees, should be sent to the Administrative Officer. (7990)

OPHTHALMOLOGY

ST. MARY'S HOSPITAL, W.2
Applications are invited for the post of
REGISTRAR (Non-resident)
at the Western Ophthalmic Hospital (43 beds). Candidates must be registered medical practitioners, with postgraduate experience, and must hold or be studying for the F.R.C.S. The appointment is for a first period of twelve months, as from April 1, 1952, the holder to be eligible for reappointment for three further periods of twelve months. The grading of this post is Senior Registrar. Applications, stating nationality, date of birth, permanent address, qualifications (with dates), and details of previous and present appointments and experience, together with the names and addresses of three referees, should reach the undersigned by February 27, 1952.—Alan Powditch, Secretary to the Board of Governors. (7721)

OXFORD REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time non-resident post of
REGISTRAR in Ophthalmology
to the hospitals and clinics of the Aylesbury-High Wycombe area. The appointment will be for one year and eligible for extension to a second year. Applications on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by March 1. (7991)

ST. MARY'S HOSPITAL, W.2
Western Ophthalmic Hospital
Applications are invited from registered medical practitioners, male or female, with ophthalmic experience for the following resident appointment:
HOUSE SURGEON (Senior House Officer)
The appointment is for one year from April 1, 1952. The post is recognized for the purposes of the D.O. examination. Applications, stating nationality, date of birth, permanent address, qualifications (with dates), and details of previous and present appointments and experience, together with the names and addresses of three referees, should reach the undersigned by February 29, 1952.—Arthur E. Tyler, Secretary, Western Ophthalmic Hospital, Marylebone Road, N.W.1. (8175)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952. Salary £670 a year, less £150 a year for residential emoluments. Applications should be forwarded as soon as possible to the Administrative Officer, Kent County Ophthalmic and Aural Hospital, Church Street, Maidstone. (5359)

BRADFORD, ROYAL EYE AND EAR HOSPITAL
HOUSE SURGEON (Ophthalmic)
Vacant April 3. Hospital recognized for F.R.C.S. and D.O.M.S. examination. Salary £350 to £450, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7773)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
OPHTHALMIC HOUSE SURGEON
for duties at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. (Recognized for D.O.M.S.) Vacant now. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer, Hull Royal Infirmary. (7397)

NOTTINGHAM AND MIDLAND EYE INFIRMARY
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
Required at the above Infirmary. Salary and conditions of service in accordance with the published conditions of the Ministry of Health. Duties to commence at the beginning of March. This post is recognized for the D.O.M.S. examination. Application, stating age, qualifications and experience, together with copies of testimonials, to be sent as soon as possible to H. M. Stanley, Secretary, General Hospital, Nottingham. (7285)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Ophthalmic)
Applications should be made immediately to the Secretary Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7405)

ORTHOPAEDICS

ISLE OF THANET GROUP OF HOSPITALS
South-East Metropolitan Regional Hospital Board
Applications are invited for an appointment as
CONSULTANT ORTHOPAEDIC SURGEON
Choice of whole-time employment or the maximum number of part-time sessions will be offered. The duties will be mainly at the Royal Sea Bathing Hospital, Margate, with clinical charge of both tubercular and other orthopaedic cases, together with some administrative duties in assisting the Medical Superintendent. In addition, other beds for acute trauma in the general hospitals of the Group will be allotted to the successful candidate. Candidates must have had wide general orthopaedic practice with particular experience in long-stay conditions. The possession of a Fellowship of a Royal College of Surgeons or a Mastership in Surgery is essential. Applicants may visit the hospitals concerned. The last day for acceptance of applications will be February 29, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1. (8065)

Orthopaedics—contd.

BARNSLEY, BECKETT HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
REGISTRAR (Orthopaedics)
to the above hospital. Single accommodation is available. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 25, 1952. (7667)

BOURNEMOUTH AND EAST DORSET HOSPITAL MANAGEMENT COMMITTEE GROUP
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
SENIOR ORTHOPAEDIC REGISTRAR
for the above hospital Group consisting of eighteen hospitals with 1,574 beds. The orthopaedic work is conducted mainly at the two major hospitals of the Group, viz., Royal Victoria Hospital, Bournemouth, and Poole General Hospital, with 100 orthopaedic beds and large out patient departments, and covers both traumatic and non-traumatic orthopaedics in all branches in children and adults. Forms of application, obtainable from Secretary, Bournemouth and East Dorset Hospital Management Committee, Royal Victoria Hospital, Boscombe, should be returned to him duly completed within fourteen days of the appearance of this advertisement. (7961)

COVENTRY GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
Whole-time REGISTRAR IN ORTHOPAEDICS
(R.S.O.). Duties at Hospital of St. Cross, Rugby (168 beds, including 40 orthopaedic). Resident appointment. Experience in specialty essential, possession of higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10 Augustus Road, Birmingham 15, before March 10, 1952. Candidates may visit the hospital. (8214)

DURHAM HOSPITAL MANAGEMENT COMMITTEE GROUP
Newcastle Regional Hospital Board
Whole-time ORTHOPAEDIC REGISTRAR
Required for Durham County Hospital, etc., in the above Group. Salary £775 to £890. Applications, with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (8038)

EDINBURGH, ROYAL INFIRMARY OF
South-Eastern Regional Hospital Board, Scotland
Applications are invited from suitably qualified medical practitioners for the appointment of
REGISTRAR in the Orthopaedic charge (professorial charge with teaching duties)
available from July 1. The appointment is for a period of one year in the first instance. The post is superannuable, and the conditions of service are in accordance with the regulations. Applications (ten copies), giving particulars of age, previous experience and qualifications, together with the names of two referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh 3, within thirty days. (8119)

GRIMSBY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
REGISTRAR (Orthopaedics)
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 25, 1952. (7668)

LEICESTER GENERAL HOSPITAL AND ROYAL INFIRMARY
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the whole-time post of
REGISTRAR (Orthopaedics)
to the above hospitals, which are recognized for the F.R.C.S. Accommodation can be provided if required. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 6, 1952. (8039)

NEWCASTLE REGIONAL HOSPITAL BOARD
Northallerton Hospital Management Committee Group—Friarage Hospital (270 beds)
Whole-time ORTHOPAEDIC REGISTRAR
Required up to August 31, 1952, in the first instance. Salary £775 per annum. A flat may be available. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (7992)

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the whole-time post of
REGISTRAR (Orthopaedics)
to the above hospital (269 beds). The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 25, 1952. (7669)

LEWISHAM GENERAL HOSPITAL
London, S.E.13
Lewisham Group Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
to the Orthopaedic and Traumatic Department
The medical staff of the department comprises two Registrars in addition to this vacancy, under the direction of two Consultants. There is a separate establishment of Casualty Officers. This post may be either resident or non-resident. It is vacant immediately and tenable for one year. Salary £670 per annum, subject to an appropriate deduction if resident. Applications, stating age, qualifications and experience, with names of three referees, should be sent to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (8063)

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL
234, Great Portland Street, London, W.1
Applications are invited for the appointment of
CLINICAL ASSISTANT (Whole-time)
The post is graded as Senior House Officer status, and will include assisting in out-patient and in-patient work. Appointment to commence May 1. Post is tenable for one year. Applications, together with copies of three testimonials, to be addressed to the House Governor by March 3. (8083)

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL
234, Great Portland Street, London, W.1
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE OFFICER
for period of six months, duties to commence April 15, 1952. Applications, with copies of three testimonials, to be addressed to the House Governor by March 3, 1952. (8084)

ST. JAMES' HOSPITAL
Ouseley Road, Balham, S.W.12
Wandsworth Hospital Group
RESIDENT SENIOR HOUSE OFFICER
(Orthopaedic and Trauma Unit—90 beds.)
Post vacant immediately. Applications, stating age, previous experience, qualifications and two referees, to the Secretary, 14, Atkins Road, Balham, S.W.12, by February 25, 1952. (8176)

BRADFORD ROYAL INFIRMARY
SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary.
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (8177)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Salary £670, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secy., Bradford Royal Infirmary.
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8178)

BRISTOL (near), WINFORD ORTHOPAEDIC HOSPITAL (235 beds)
SENIOR HOUSE OFFICERS
Applications are invited from registered medical practitioners to fill two vacancies which will occur in April and May, 1952. Positions are tenable for twelve months. Salary £670 per annum. Apply, stating age, qualifications and experience, with copies of testimonials, to the undersigned as soon as possible.—E. N. Roper, Sec.-Admin. (8133)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
SENIOR ORTHOPAEDIC HOUSE SURGEON
Applications are invited for the above appointment, which is tenable for one year. Salary £670 per annum and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (5468)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
SENIOR HOUSE OFFICER
to the Orthopaedic Unit in the area of this Hospital Management Committee. The orthopaedic unit consists of 30 beds at Eryri Hospital, Caernarvon, busy out patient clinics at the Caernarvon and Anglesey General Hospital, Bangor, work in peripheral hospitals, etc. The post offers excellent experience in orthopaedics and traumatic surgery. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, qualifications, details of previous hospital appointments, and three testimonials to be forwarded to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, within ten days of the appearance of this advertisement. (8160)

CHERTSEY, SURREY, ST. PETER'S HOSPITAL
(Late Botley Park War Hospital)
(430 beds)
SENIOR HOUSE OFFICER
Orthopaedic Department
Previous orthopaedic experience not essential. Appointment very suitable for candidate reading for a higher qualification and is recognized by the Royal College of Surgeons for the F.R.C.S. Salary in accordance with terms and conditions of National Health Service. Applications, together with names and addresses of referees, to Physician Superintendent as soon as possible. (7993)

DONCASTER ROYAL INFIRMARY
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners with the necessary experience for the appointment of
ORTHOPAEDIC HOUSE SURGEON
(In the grade of Senior House Officer)
Salary at the rate of £670 per annum, from which a deduction of £130 per annum will be made for board, residence, etc. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with copies of three testimonials, should be forwarded to the undersigned by March 1, 1952.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (7994)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds, 5 residents)
Applications are invited for the vacancy of
RESIDENT SENIOR HOUSE SURGEON
to the Traumatic and Orthopaedic Department
Vacant March 1. Duties include charge of casualty department, under Consultant staff, care of in-patient beds and supervision of other residents. The hospital is a peripheral centre of the Oxford Regional Orthopaedic Service based on the Wingfield-Morris Orthopaedic Hospital. Salary £670 per annum, with deduction for residence. Post recognized for F.R.C.S. Applications with references to the Secretary, St. Mary's Cottage, High Wycombe, Bucks. (7995)

IPSWICH—EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
Applications are invited for the following posts in the Fracture and Orthopaedic Department:
SENIOR HOUSE SURGEON
Salary £670 per annum, less £165 for residence.
HOUSE SURGEON
Salary £350 to £450, less £100 for residence.
Applications, with full particulars, to the Secretary, Hospital Management Committee. (8207)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
for duties at the Leicester General Hospital and the Leicester Royal Infirmary. Fracture and Orthopaedic Service. The successful candidate may either be non-resident or resident at the General Hospital. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to reach the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (7996)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)
Applications are invited from registered medical practitioners for the posts of
RESIDENT SENIOR HOUSE SURGEONS
The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

Orthopaedics—contd.

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
TWO SENIOR HOUSE OFFICERS
Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible. (6671)

MARGATE, ROYAL SEA BATHING HOSPITAL (200 beds)
SENIOR HOUSE OFFICER
Applications for the above post are invited from registered medical practitioners. The post affords special opportunities for the study of surgical tuberculosis. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, and qualifications, together with copies of three recent testimonials, should be sent as soon as possible to the Medical Superintendent, Royal Sea Bathing Hospital Margate (7307)

NUNEATON, MANOR HOSPITAL (139 beds)
SENIOR HOUSE SURGEON
to Fracture and Orthopaedic Department (40 beds)
Salary £670 per annum. The hospital treats all accident and orthopaedic cases for an area with a population of 100,000 and is well equipped with ancillary services. Applications to the Assistant Secretary. (8238)

PLYMOUTH, MOUNT GOLD ORTHOPAEDIC HOSPITAL
Applications are invited for the appointment of
TWO SENIOR HOUSE OFFICERS
at the above hospital (120 beds). The appointments are resident and the salaries and conditions of service are in accordance with the National Health Service terms. Some experience in orthopaedics is desirable. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, should be sent to the Secretary, Plymouth Special H.M.C., 8, Nelson Gardens, Stoke, Plymouth. (7737)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
TWO SENIOR HOUSE OFFICERS (Orthopaedic)/ CASUALTY OFFICERS
required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7795)

STANMORE, MIDDLESEX, ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Brockley Hill
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE OFFICER
for a period of six months, duties to commence April 22, 1952. Applications, with copies of three testimonials, to be addressed to the House Governor, at 234, Great Portland Street, London, W.1, by March 3, 1952. (8085)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
The post is recognized for the F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7377)

TRURO, ROYAL CORNWALL INFIRMARY (General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
to the Orthopaedic and Traumatic Department
Now vacant. This is a large and busy specialty with two consultants, 64 beds, and deals with the greater part of the casualties in West Cornwall. The post is tenable for one year at a salary of £670, less £100 for emoluments, and subject to the terms and conditions published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of two recent testimonials, should be forwarded to the Administrative Assistant without delay. (4807)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY
South-East Northumberland Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT SENIOR ORTHOPAEDIC HOUSE SURGEON and CASUALTY OFFICER
Salary £670 per annum. Applications, giving full details and with two testimonials (or the names of two referees), should be sent to the Secretary, South-East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (8153)

AMERSHAM GENERAL HOSPITAL, Bucks (124 acute beds)
RESIDENT HOUSE OFFICER
Orthopaedic and Accident Department
Applications are invited. Duties include charge of casualty department under visiting consultant staff and care of in-patient beds. Hospital is a peripheral centre of Oxford Regional Orthopaedic Service based on Wingfield-Morris Orthopaedic Hospital. Applications, with copies of three recent testimonials, to Medical Director. (7997)

AYLESBURY, BUCKS, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON
Required to the Department of Children's Surgery and Orthopaedics which is centred on this hospital for the area. There are 35 orthopaedic beds and 10 children's beds. First or second post, which carries additional remuneration at the rate of £50 per annum. Vacant now. Please apply, with two testimonials, to the Secretary-Superintendent as soon as possible. (7998)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
ORTHOPAEDIC HOUSE SURGEON
Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (8801)

CARLISLE, CUMBERLAND INFIRMARY (322 beds)
East Cumberland Hospital Management Committee
Applications are invited for the undermentioned resident post, vacant April 1, 1952, and tenable for six months:
HOUSE OFFICER (Orthopaedic and Fracture)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (7999)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Vacant now. National scales and conditions. Six-monthly appointment, terminable at any time by one month's notice on either side. Forms of application from the Administrative Officer. (7138)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
FULL-TIME RESIDENT HOUSE OFFICER
(First, second or third post), Orthopaedic Unit
Applications (endorsed "House Officer, Orthopaedic Unit, West Middlesex Hospital"), stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Secretary, West Middlesex Hospital, Isleworth, by February 26, 1952. (8180)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the post of
HOUSE SURGEON (Orthopaedic)
commencing April 1, 1952. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8040)

NORWICH, NORFOLK AND NORWICH HOSPITAL (440 beds)
HOUSE SURGEON
to the Orthopaedic Department
Post vacant now. Salary £350, £400 or £450 per annum, according to experience, less £100 per annum for residential emoluments. Six months' appointment. Applications, stating age, qualifications, experience, with names of two referees, to Secretary, Group 6 Hospital Management Committee, St. Stephen's Road, Norwich. (5161)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE HOUSE SURGEON
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

PORTSMOUTH, ROYAL HOSPITAL (213 beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the following appointment:
ORTHOPAEDIC HOUSE SURGEON
Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (8066)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7510)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant March 1. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Administrative Officer. (8151)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)
Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6675)

PAEDIATRICS

LIVERPOOL, ALDER HEY CHILDREN'S HOSPITAL
Liverpool Regional Hospital Board
Applications are invited for the post of
CONSULTANT PAEDIATRIC SURGEON
on maximum part-time sessions who will work with the Senior Consultant Surgeons at the above hospital. Applicants must possess the F.R.C.S. and have had wide experience in children's surgery. Special experience in surgery of newborn infants would be an advantage. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 7, 1952.—Vincent Collinge, Secretary to the Board. (8134)

NORTHERN IRELAND HOSPITALS AUTHORITY
The Authority invite applications for two posts as
CONSULTANT PAEDIATRICIAN
The posts may be on a whole-time basis or part-time involving duties remunerated at the rate applicable to nine half-days per week. The terms and conditions of the appointments will be in accordance with the Authority's application of the Spens Report to Northern Ireland. Applications should be made on a form which may be obtained (with further particulars) from the Secretary, Northern Ireland Hospitals Authority, Friends' Provident Building, 58, Howard Street, Belfast, and will be received not later than February 29, 1952. (8239)

EDINBURGH, ROYAL HOSPITAL FOR SICK CHILDREN
South-Eastern Regional Hospital Board, Scotland
Applications are invited from suitably qualified medical practitioners for the appointment of
REGISTRAR in a Paediatric charge
available on June 1. The appointment is for a period of one year in the first instance. The post is superannuable, and the conditions of service are in accordance with the regulations. Applications (ten copies), giving particulars of age, previous experience and qualifications, together with the names of two referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, within thirty days. (8117)

MANCHESTER REGIONAL HOSPITAL BOARD AND THE BOARD OF GOVERNORS OF THE UNITED MANCHESTER HOSPITALS
Applications are invited for a
SENIOR REGISTRAR POST IN PAEDIATRICS
at the Royal Manchester Children's Hospital, Pendlebury, and St. Mary's Hospitals, Manchester. Previous experience in paediatrics and a higher qualification are essential. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names of three referees, to be received by March 3, 1952. (8087)

BARNSLEY, ST. HELEN HOSPITAL
HOUSE OFFICER (Paediatrics) (S.H.O.)
Salary £670. Apply to Secretary, Barnsley H.M.C., 33, Gawber Road, Barnsley. (8042)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Paediatrics—contd.

CHILDREN'S HOSPITAL
Sydenham Road, Sydenham, S.E.26
RESIDENT MEDICAL OFFICER (House Officer)
Required from March 14, 1952. The post is recognized for the D.C.H., and provides experience in both the medical and surgical care of children. Applications, together with copies of three recent testimonials, should be sent to the Administrative Officer by February 27, 1952. (8086)

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.2 (St. Mary's Hospital)
Applications are invited for the post of
HOUSE PHYSICIAN (Second or third post)
Post vacant May 1, 1952, and tenable for six months. Applications, stating age, nationality, qualifications (with dates), together with copies of recent testimonials, should reach the undersigned not later than February 23, 1952.—E. W. Stockwell, Secretary-Superintendent. (7764)

QUEEN ELIZABETH HOSPITAL FOR CHILDREN MANAGEMENT COMMITTEE
Hackney Road, E.2, Shadwell, E.1, and Banstead Wood, Surrey
HOUSE OFFICER
The appointment will be made for two periods of six months each. First period House Physician, to commence April 1, followed by leave, and second period House Surgeon and Casualty Officer from November 1, 1952. Application forms may be obtained from the Secretary at Hackney Road, and should be returned, with copies of not more than three testimonials, on or before Feb. 23. (7774)

BIRMINGHAM (near), CANWELL HALL BABIES' HOSPITAL
(60 beds for babies and children up to the age of twelve years—two House Physicians)
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN (Male or female)
vacant April 1, 1952. This post includes attendance at out-patient clinics and neonatal departments in Birmingham Hospitals and a child welfare centre. Recognized for D.C.H. Applications to the Paediatrician, Sorrento Maternity Hospital, Wake Green Road, Birmingham, 13, not later than February 27, 1952. (8181)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
HOUSE OFFICER (Medical)
Required for six months, to commence duty on May 1, 1952. Forms of application may be obtained from the undersigned, and should be returned not later than February 29, 1952.—N. R. Winwood, House Governor. (8101)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
HOUSE OFFICER (Surgical)
Required for six months, to commence duty on May 1, 1952. The duties will be mainly general surgery, but the officer will have, in addition, the opportunity of undertaking a certain amount of special surgery. Forms of application may be obtained from the undersigned and should be returned not later than February 29, 1952.—N. R. Winwood, House Governor. (8103)

BRADFORD CHILDREN'S HOSPITAL (102 beds)
HOUSE OFFICER (Female)
Vacant April 1. Salary £350 to £450, less £100 per annum residential emoluments. Hospital recognized for D.C.H. Applications, stating age, nationality, qualifications and experience, to Secretary, Bradford Royal Infirmary. (7775)

HULL, VICTORIA HOSPITAL FOR SICK CHILDREN, Park Street (143 beds)
Hull (A Group) Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
now vacant. The post is for a term of six months and counts towards qualification D.C.H. Salary in accordance with terms of service issued by the Ministry of Health. Applications, together with testimonials, to be sent to the Administrative Officer at the above address. (7776)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
PAEDIATRIC HOUSE PHYSICIAN
(Male or female)
Must have held previous appointments as House Surgeon and House Physician. Post now vacant, full-time, resident, term of six months in first instance. Will count towards qualification for D.C.H. Duties will include care of newborn and prematures in maternity department, care of infants and children in children's department and attendance at children's out-patient clinics. Applications (endorsed "House Officer, Paediatric Unit"), stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Secretary, West Middlesex Hospital, Isleworth, by March 15, 1952. (8182)

LIVERPOOL, 12, ALDER HEY CHILDREN'S HOSPITAL, West Derby
Liverpool Region Children's Hospital Management Committee
Applications are invited for rotating internship
HOUSE OFFICER
vacant on April 1, 1952. The appointment is recognized for the D.C.H. and during the twelve months' term of office, which will consist of six months as House Physician and periods of three months in each of two specialties. Applications, stating age, nationality, liability to national service, qualifications (with dates), experience and details of present and previous appointments, together with copies of three recent testimonials, should be forwarded to reach the undersigned immediately.—H. R. Mason, Secretary to the Committee. (8097)

MANCHESTER, 19, DUCHESS OF YORK HOSPITAL FOR BABIES
Manchester Babies' and Children's Hospital Management Committee
HOUSE PHYSICIAN (Male or female)
Required for six months from March 1, 1952. Salary in accordance with National Health Service scales. Applications, with copies of three testimonials, to be sent immediately to the Administrative Officer of the hospital. (7828)

MANCHESTER, SAINT MARY'S HOSPITALS
United Manchester Hospitals
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
in the Neonatal Unit of Saint Mary's Hospitals (attached to the University Department of Child Health), for a period of six months, commencing April 17, 1952. Previous paediatric experience essential. Duties include the care of the newborn in the maternity department, the care of infants in the infants' ward, and work in the clinics under the charge of the department of child health. Salary in accordance with national scales. Application forms may be obtained from the undersigned and returned duly completed before March 7, 1952. —A. R. Wise, General Supt., Saint Mary's Hospitals, Whitworth Park, Manchester, 13. (8257)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
Applications are invited for the post of
HOUSE SURGEON
with duties in the Paediatric Department. Salary £350 to £450, according to previous posts held, with deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications, and experience, together with names of two referees, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible.—A. Ashworth, Secretary to the Committee. (4813)

MIDDLESBROUGH GENERAL HOSPITAL
Tees-side Hospital Management Committee
PAEDIATRIC HOUSE PHYSICIAN
Applications are invited for the above post, vacant April 1, 1952. This is an active unit of 60 beds and cots for acute cases, with a busy out-patients' department. Applications, stating age, qualifications, and accompanied by copies of three testimonials, to be sent to the Secretary Superintendent, Middlesbrough General Hospital, Ayresome Green Lane, Middlesbrough. (7738)

SHREWSBURY GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners (male or female) for the post of
PAEDIATRIC HOUSE OFFICER
for duties at the Monkmoor Children's Hospital, Shrewsbury (50 beds), an annexe of the Royal Salop Infirmary. Vacant immediately. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7557)

WREXHAM, MAELOR GENERAL HOSPITAL (Paediatric Unit)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the appointment of
PAEDIATRIC HOUSE PHYSICIAN
for a period of six months commencing March 1, 1952. The department is comprised of a small neonatal and premature unit, together with newly cubicled general paediatric wards for 45 children. The successful candidate will work under supervision of the Consultant Paediatrician and the post offers ideal opportunity for gaining experience in all branches of children's diseases. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (7969)

PATHOLOGY

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time, non-resident post of
CONSULTANT GROUP PATHOLOGIST
to the Rochdale and District Hospital Centre (laboratories at Birch Hill Hospital, Rochdale, and Rochdale Infirmary). The post is now vacant. Candidates must be of high professional standing, with good training and experience in all branches of hospital pathology. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than March 10, 1952. (8240)

PENARTH, LLANDOUGH HOSPITAL
United Cardiff Hospitals
The Board of Governors invites applications for the appointment of
Whole-time CONSULTANT PATHOLOGIST
Applicants should have had wide experience in clinical pathology and possess a higher qualification in medicine or pathology. The person appointed will be working in a separate department, but under the general direction of the Professor of Pathology. He will be given an honorary lectureship in the Welsh National School of Medicine. Applications, stating age, nationality, qualifications, experience and present appointment, together with the names of two referees, should be sent to the undersigned as soon as possible.—Arnold Tunstall, Secretary and Principal Administrative Officer, The United Cardiff Hospitals, Cardiff Royal Infirmary, Newport Road, Cardiff. (8241)

EPSOM (SURREY) GROUP OF HOSPITALS
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
Whole-time ASSISTANT PATHOLOGIST
(S.H.M.O. scale)
to work under the Group Pathologist. Candidates should be experienced in all branches of Clinical Pathology. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than March 15, 1952. Applicants may visit the hospitals by local arrangement. (8000)

ROCHDALE AND DISTRICT HOSPITAL CENTRE
Manchester Regional Hospital Board
Applications are invited for the vacant whole-time, non-resident post of
ASSISTANT PATHOLOGIST
Candidates should have had previous experience in all branches of hospital pathology. Salary £1,300 by £50 to £1,750. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than March 10, 1952. (8088)

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of a
WHOLE-TIME ASSISTANT PATHOLOGIST
(Senior Hospital Medical Officer scale) to serve the West Wales Hospital Management Committee. The successful candidate will work at Haverfordwest under the direction of the consultant in charge. Candidates should have had wide experience in the subject. Possession of a higher qualification will be an advantage. Twelve copies of application, stating date of birth; giving a summary of qualifications, experience, previous appointments (with dates), and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within 21 days of appearance of this advertisement. (8222)

MILE END HOSPITAL, Bancroft Road, E.1
Group Laboratory
Applications are invited for the position of
REGISTRAR in Pathology (Non-resident)
Candidates should have good general experience in pathology, particularly morbid anatomy and haematology. The appointment is subject to review after one year. A local charge will be made for any residential amenities provided. Applications (in duplicate), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 1, 1952. (8183)

CROYDON GROUP HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
Whole-time PATHOLOGICAL REGISTRAR
for duties in the Croydon Group of Hospitals. Immediate vacancy. Application forms, obtainable from George A. Paines, Secretary, Hospital Management Committee, General Hospital, Croydon, to be returned not later than March 1, 1952. (8041)

READING AREA HOSPITALS
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Pathology)
vacant near future. Deduction if resident £100. Previous experience in pathology desirable but not essential. Apply, stating age, qualifications (with dates), nationality, present post, together with copies of recent testimonials, to Chief Administrative Officer, 3, Craven Road, Reading, Berks. (8098)

Pathology—contd.

SHEFFIELD, UNITED, HOSPITALS
Children's Hospital Unit

Applications are invited from registered practitioners for the post of

RESIDENT PATHOLOGIST
(Senior House Officer status)

to commence on April 17. Salary according to scale. Applications, in writing, with copies of three testimonials, to reach the Superintendent, The Children's Hospital, Western Bank, Sheffield, 10, by March 1. (8277)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
Taunton Hospital Management Committee

Applications are invited from registered medical practitioners for the following post:

SENIOR HOUSE OFFICER (Pathologist)

Salary £670 per annum. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (6653)

ROYAL FREE HOSPITAL
Gray's Inn Road, W.C.1

Applications are invited from men and women practitioners for the appointment of

RESIDENT ASSISTANT PATHOLOGIST

at the above hospital. Salary in accordance with National Health Service scales for House Officers. Applicants should have held at least one Junior House appointment. The appointment is for six months in the first instance, duties commencing on May 1, 1952. Application forms may be obtained from the Secretary to the Board of Governors, to whom they should be returned not later than March 15. (8135)

OXFORD, CHURCHILL HOSPITAL
United Oxford Hospitals

Applications are invited for the post of

JUNIOR RESIDENT PATHOLOGIST
(House Officer grade)

duties to commence at once. Applications, stating age, experience and qualifications, together with the names of two referees, should be addressed to the undersigned as soon as possible.—E. J. R. Burrough, Administrator, The Radcliffe Infirmary, Oxford. (8242)

PHYSICAL MEDICINE

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for an appointment as **PART-TIME CONSULTANT in Physical Medicine** to undertake nine notional half-days a week, divided between the undermentioned three groups of hospitals: Bromley (two notional half-days), Sidcup and Swanley (two to three notional half-days), Lewisham (four to five notional half-days). Large orthopaedic and traumatic units are included in these groups. Candidates should have had considerable practice in the specialty and possess a higher qualification, preferably an appropriate Diploma or Membership of the Royal College of Physicians. Applicants may visit the hospitals concerned. The last day for acceptance of applications will be February 29, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1. (7962)

BEDFORD—MANOR HOUSE HOSPITAL
(Exempted from National Health Service)

Applications are invited for the post of

RESIDENT FULL-TIME PHYSICIAN

for their Rehabilitation Centre, Clapham Park, Bedford. Candidates should hold a Diploma in Physical Medicine and have had experience of rehabilitation. Commencing salary £1,300 a year, rising by increments of £50 to £1,750 a year, less charge for residential emoluments to be fixed by agreement. Applications, with copies of three testimonials, to be forwarded to the Secretary, Manor House Hospital, Golders Green, N.W.11. (8136)

LONDON HOSPITAL, Whitechapel, E.1

Applications are invited for the post of

SENIOR HOUSE OFFICER
to the Department of Physical Medicine

vacant on April 1, 1952. The appointment will be for six months in the first instance at a salary of £670 per annum. Applications (six copies), giving full particulars, should be addressed to the House Governor to arrive not later than March 10, 1952.—H. Brierley, House Governor. (8137)

PSYCHIATRY

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time appointment of

CONSULTANT PSYCHIATRIST

for duties mainly at Scalebor Park Hospital (289 beds), near Ilkley. The successful candidate will be given clinical charge of beds and may be required to undertake extra-mural clinical duties within the Bingley, Keighley, Skipton and Settle Hospital Management Committee area or at Leeds. The hospital, which has private amenity and free beds, has a high admission rate. All modern forms of treatment are undertaken. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than March 15, 1952. (8067)

PERTHSHIRE MENTAL HOSPITALS
Eastern Regional Hospital Board (Scotland)

Applications are invited for the whole-time post of

DEPUTY PHYSICIAN SUPERINTENDENT
(Consultant)

to the Perthshire Mental Hospitals, which are being brought under a unified medical administration. Candidates must have a wide experience in all branches of psychiatry. The possession of a specialist qualification in psychiatry is essential, and special consideration will be given to applicants holding a higher general medical qualification in addition. The successful applicant will be required to live at Murthly, where a suitable house is available, but he will have clinical duties at Murray Royal, and in out-patient clinics at Perth Royal Infirmary and Bridge of Earn Hospital, Perthshire. Salary and conditions of service in accordance with national agreement. Application forms and further particulars from the Secretary to the Board, Bracknowe, 430, Blackness Road, Dundee, with whom applications must be lodged not later than March 16, 1952. (8243)

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners with a higher qualification in psychiatry for the post of

CONSULTANT PSYCHOTHERAPIST

who may be either on a whole-time or part-time basis, with a minimum of eight notional half days per week, attached to Mapperley Hospital, Nottingham, and its out-patients departments. Analytical training and experience are essential. The post is non-resident. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 8, 1952. (8068)

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners, preferably holding a higher qualification in psychiatry, for the whole-time post of

ASSISTANT PSYCHIATRIST

To be attached to the Carlton Hayes Hospital, Narborough, Leicestershire. A house is available on the hospital estate. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 8, 1952. (7707)

BIRMINGHAM (MENTAL C) GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of

Whole-time REGISTRAR in Psychiatry

Duties at Highcroft Hall, Erdington (1,179 beds). Accommodation available for single person. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies application, stating name, age, nationality, qualifications, present and previous appointments, details of three referees, to Secretary, 10 Augustus Road, Birmingham 15, before March 10, 1952. Candidates may visit hospital. (8215)

CHESTER, COUNTY MENTAL HOSPITAL

Applications are invited for the following vacant post:

PSYCHIATRIC JUNIOR HOSPITAL MEDICAL OFFICER

Salary £700 by £50 to £1,000 per annum. Accommodation available for single man, or a house for a married man, for which a charge will be made. All forms of modern treatment available including insulin unit. There are psychiatric out-patient clinics at three general hospitals, occupational therapy units and voluntary treatment wards. Facilities given to study for higher qualifications. Apply Medical Superintendent. (7777)

DENBIGH, NORTH WALES HOSPITAL FOR NERVOUS AND MENTAL DISORDERS

Applications are invited for the post of

JUNIOR HOSPITAL MEDICAL OFFICER

Salary £700 to £1,000 per annum, less recognized charge for services provided by hospital. Single quarters, or flat available for married man. The hospital has modern treatment facilities and is associated under one Committee with the Child Guidance Service and Mental Deficiency Institutions in North Wales. Applications, with names of two referees, to the Medical Superintendent.—S. L. Frost, Secretary to the Management Committee. (7885)

ST. CLEMENT'S HOSPITAL, London, E.3
Bow Group Hospital Management Committee

SENIOR HOUSE OFFICER

Required for Psychiatric Unit consisting of 24 observation beds and 36 beds for the short-term treatment of psychoses and neuroses. O.P. facilities for follow-up of cases. The unit is visited by consultants from the London and Claybury Hospitals and training facilities exist for the D.P.M. Apply, giving age, qualifications and experience, and names of two referees, to Secretary, Committee Offices, 2a, Bow Road, London, E.3. (8184)

BEVERLEY, YORKS, BROADGATE HOSPITAL
(600 mental beds)

SENIOR HOUSE PHYSICIAN

Salary £670 per annum.

HOUSE PHYSICIAN

Salary £350 to £450, according to previous posts held.

Applications to Secretary, Westwood Hospital, Beverley, Yorks. (7691)

CHESTER, COUNTY MENTAL HOSPITAL

Applications are invited for the following vacant post:

PSYCHIATRIC SENIOR HOUSE OFFICER

Salary £670 per annum. Accommodation available for a single man, or a house for a married man, for which a charge will be made. All forms of modern treatment available including insulin unit. There are psychiatric out-patient clinics at three general hospitals, occupational therapy units and voluntary treatment wards. Facilities given to study for higher qualifications. Apply Medical Superintendent. (7778)

GLASGOW, STOBHILL HOSPITAL
Western Regional Hospital Board, Scotland

Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:

SENIOR HOUSE OFFICER in Psychiatry

Applications, stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than February 28, 1952, to the Secretary, Board of Management for Glasgow Northern Hospitals, 13, Woodside Place, Glasgow, C.3. The above appointment will be subject to the N.H.S. (Scotland) (Superannuation) Regulations. (8138)

OXFORD, WARNEFORD AND PARK HOSPITALS
Oxford Regional Hospital Board

Applications are invited for an appointment as

SENIOR HOUSE OFFICER

at the above hospitals. The Warneford Hospital (140 beds) is in process of development as an acute psychiatric unit, with special emphasis on postgraduate training and facilities for research. It is closely associated with the adjacent Park Hospital (a neurosis centre of 30 beds, with daily out-patient clinics) at which the successful candidate will have ample opportunities for working. Experience can thus be gained in all branches of psychiatry, including child psychiatry. The appointment, now vacant, is specially suitable for a young graduate beginning the study of psychiatry with a view to specialist training and higher qualification, and every facility will be granted for these purposes, including opportunities for attendance at other appropriate hospitals in Oxford. The clinical work and postgraduate training in the hospitals is conducted on the system of two medical firms each headed by a consultant, and the House Officer will have experience with both. Accommodation is available for an unmarried candidate, but permission to live out of the hospital, subject to the usual turns of duty, may be granted if married. Salary and conditions of service in accordance with national scales. Applications, together with copies of recent testimonials, should be sent to the Medical Superintendent, Warneford Hospital, Oxford, within fourteen days of the appearance of this advertisement. (8258)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee

FULL-TIME RESIDENT HOUSE OFFICER
(Second or third post), Department of Psychiatry

Previous medical experience essential and psychiatric experience an advantage. Department includes a neurosis centre and observation wards, and conducts extensive out-patient service. Applications (endorsed "House Officer, Psychiatry, West Middlesex Hospital"), stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Secretary, West Middlesex Hospital, Isleworth, by Feb. 26. (8185)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

RADIOLOGY

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the following consultant positions:

PART-TIME CONSULTANT RADIOLOGIST
Mildmay Mission Hospital, Austin Street, E.2
(Two sessions a week)

(Candidates are required to be in sympathy with the evangelical aims of this hospital)

PART-TIME CONSULTANT RADIOLOGIST
Plaistow Hospital, Samson Street, Plaistow, E.13
(Two sessions a week)

PART-TIME CONSULTANT RADIOLOGIST
Forest Hospital, Roebuck Lane, Buckhurst Hill, Essex (Three sessions a week)

PART-TIME CONSULTANT RADIOLOGIST
Claybury Mental Hospital, Woodford Bridge, Essex
(One session a week)

Applications (six copies, nine copies if for more than one post), indicating post concerned, and stating private address, date of birth, full details of qualifications and experience, present appointment(s) (including number of sessions), grade and salary, together with names and addresses of three referees, should reach C. E. Nicol, Secretary, 11a, Portland Place, London, W.1, by Saturday, March 1, 1952. (8186)

BOLTON ROYAL INFIRMARY
Manchester Regional Hospital Board

Applications are invited for the post of

RESIDENT REGISTRAR IN RADIOLOGY

Possession of the D.M.R.D. is desirable. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by Feb. 25, 1952. (8089)

LIVERPOOL REGIONAL HOSPITAL BOARD

Applications are invited for the posts of

TWO WHOLE-TIME SENIOR RADIOLOGICAL REGISTRARS

Both posts are tenable for four years subject to annual review and the duties will be initially at (a) Broadgreen Hospital and (b) Sefton General Hospital. It is possible, in the future, that these appointments will interchange with similar appointments in the teaching hospitals. Applicants should possess a Diploma in Radiology. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 1, 1952.—Vincent Collinge, Secretary to the Board. (8139)

MANCHESTER REGIONAL HOSPITAL BOARD AND THE BOARD OF GOVERNORS OF THE UNITED MANCHESTER HOSPITALS

Applications are invited for a

SENIOR REGISTRAR POST IN DIAGNOSTIC RADIOLOGY

The person appointed will be required to undertake duties at the Christie Hospital and Holt Radium Institute, Manchester, and at the United Manchester Hospitals (Manchester Royal Infirmary, etc.). Possession of the D.M.R.D. is essential. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names of three referees, to be received by March 3. (8090)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications invited for the post of

REGISTRAR IN RADIOLOGY

to the North Manchester Group of Hospitals, with main duties at Ancoats Hospital, Manchester. Previous experience in radiology is essential, and possession of the D.M.R.D. desirable. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by February 25. (8228)

OXFORD, RADCLIFFE INFIRMARY
United Oxford Hospitals

Applications are invited for the post of

TEMPORARY RADIOLOGIST (of Registrar status) in the X-ray Department

on a salary of £775 to £890 per annum for a period of twelve months or more. Applications, stating age, qualifications and experience, together with names of three referees, should be addressed within thirty days of the publication of this advertisement to the Administrator, Radcliffe Infirmary, from whom further particulars may be obtained. (8244)

OXFORD, UNITED OXFORD HOSPITALS

Applications are invited for the whole-time post of

REGISTRAR in Diagnostic Radiology

The appointment will be for one year and eligible for extension to a second year. Applications, on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by March 1. (8001)

OXFORD, UNITED OXFORD HOSPITALS

Applications are invited for the post of

SENIOR HOUSE OFFICER
in the X-ray Department at the Radcliffe Infirmary

Applications, stating age, qualifications and experience, together with names of three referees, should be addressed within fifteen days of the publication of this advertisement to the Administrator, Radcliffe Infirmary, from whom further particulars may be obtained. (8124)

RADIOTHERAPY

EXETER CLINICAL AREA
South-Western Regional Hospital Board

Applications are invited from registered medical practitioners for the appointment of

ASSISTANT RADIOTHERAPIST

in the Exeter Clinical Area. The appointment will be on a whole-time basis on the Senior Hospital Medical Officer scale. Applicants should possess high medical qualifications, and have had previous experience in radiotherapy. The successful candidate will be required to work under the general direction of the Consultant Radiotherapist mainly at the Royal Devon and Exeter Hospital, Exeter, but may be required to work at other hospitals in the clinical area as determined by the Regional Board from time to time. Opportunities for experience in radioactive isotope work will be available. Twelve copies of applications stating date of birth, qualifications, and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should reach the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol 6, not later than March 7, 1952. (8220)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL
East Anglian Regional Hospital Board

Whole-time ASSISTANT RADIOTHERAPIST

Candidates must have a wide experience in the specialty and possess the D.M.R.(T.). Salary scale £1,300 to £1,750. Eight copies of application, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 3, 1952. Applicants are invited to visit the hospital by direct arrangement with the H.M.C. Secretary at the hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8043)

LAMBETH HOSPITAL, Brook Drive, S.E.11

RESIDENT SENIOR HOUSE OFFICER

Required for the radiotherapy department of the above hospital. Sixty beds are allotted to this department. Facilities would be granted to the successful candidate to attend the necessary lectures for the Diploma of Radiotherapy. For form of application apply to the Secretary, Lambeth Group Hospital Management Committee, Renfrew Road, S.E.11. (8044)

HAMMERSMITH HOSPITAL and POST-GRADUATE MEDICAL SCHOOL, London, W.12

TWO HOUSE SURGEONS

Required April 1 and May 1 for radiotherapy wards. Age, qualifications, medical school, experience, copies of testimonials, to Secretary, Board of Governors, by March 1. (8187)

RHEUMATOLOGY

BATH, ROYAL NATIONAL HOSPITAL FOR RHEUMATIC DISEASES
Bath Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER in Rheumatology

Salary, terms and conditions of service in accordance with those published by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to the undersigned as soon as possible. The hospital is recognized for Part II of the Diploma of Physical Medicine.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (8045)

MAIDENHEAD (near), BERKS, CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow

HOUSE PHYSICIAN to the Special Unit for Research in Juvenile Rheumatism

The post offers scope for those interested in research, paediatrics, rheumatology or cardiology, and previous experience in one of these is desirable. Salary on national scale. Applications, stating age, qualifications (with dates) and experience, together with copies of two testimonials, should be sent to the Administrative Officer. (8002)

UROLOGY

PRESTON ROYAL INFIRMARY (400 beds)

HOUSE OFFICER (Urological)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7410)

MEDICINE

CROYDON GROUP OF HOSPITALS
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of

Whole-time CONSULTANT PHYSICIAN

Duties will be mainly at Mayday Hospital, Thornton Heath, Surrey. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than March 15, 1952. Applicants may visit the hospitals by local arrangement. (8069)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the following positions:

NON-RESIDENT MEDICAL REGISTRAR
Whipps Cross Hospital, Whipps Cross Road, E.11

To reside within reasonable distance of the hospital.

RESIDENT or NON-RESIDENT MEDICAL REGISTRAR
St. Clement's Hospital, 2a, Bow Road, E.3

RESIDENT or NON-RESIDENT MEDICAL REGISTRAR
Oldchurch Hospital, Romford

Necessary to sleep in on duty nights. The hospital has a total of 718 beds with specialized units for neurology, cardiology, neurosurgery, etc. There are over 100 beds in the medical unit and the post provides excellent training.

Appointments are subject to review after one year. A local charge will be made for any residential amenities provided. Separate applications (in duplicate), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, 11a, Portland Place, W.1, by Saturday, March 1, 1952. (8188)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—Main line railway from Liverpool Street)

Applications are invited from registered medical practitioners for the appointment of a temporary

WHOLE-TIME REGISTRAR (Medical)

at the above hospital, which includes duties in connexion with an active T.B. unit. Salary at the rate of £775 to £890 per annum, less £130 per annum for residential emoluments. Appointment for a period up to one year. Applications, stating age, nationality, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Administrative Officer. (8099)

CARDIFF, UNITED, HOSPITALS

The Board of Governors invites applications for the appointment of

MEDICAL REGISTRAR

Salary in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, stating age, nationality, qualifications, experience and present appointment, together with the names of two referees, should be sent to the undersigned as soon as possible.—Arnold Tunstall, Secretary and Principal Administrative Officer, The United Cardiff Hospitals, Cardiff Royal Infirmary, Newport Road, Cardiff. (8218)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of a

REGISTRAR IN GENERAL MEDICINE
(Non-resident)

For duties at hospitals in the York "A" Group. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars' Committee, Park Parade, Harrogate, not later than February 23, 1952. (7708)

NORWICH—EAST ANGLIAN REGIONAL HOSPITAL BOARD

MEDICAL REGISTRAR
at the United Norwich Hospitals

Ward duties at the West Norwich Hospital and out-patient clinics at the Norfolk and Norwich Hospital. Appointment for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 3, 1952. Candidates are invited to visit the hospitals by direct arrangement with the H.M.C. Secretary at the Norfolk and Norwich Hospital, Norwich.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8003)

Medicine—contd.

SCOTLAND, SOUTH-EASTERN REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified medical practitioners for the following appointments in hospitals in the South-Eastern Region:

FOUR REGISTRARS IN MEDICINE

two in the Royal Infirmary of Edinburgh and two in hospitals of the Edinburgh Northern Group. All posts are in teaching units and are available in July. The appointments are for a period of one year in the first instance. The posts are superannuable and the conditions of service are in accordance with the regulations. Applications (ten copies), giving particulars of age, previous experience and qualifications, together with the names of two referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, within thirty days. (8116)

LINCOLN, ST. GEORGE'S HOSPITAL (126 beds)
Lincoln No. 1 Hospital Management Committee

Applications are invited for the post of

RESIDENT MEDICAL OFFICER

within the J.H.M.O. Grade, at the above hospital. Salary and conditions of service in accordance with the terms for hospital medical staff. Salary is at the rate of £700 by £50 to £1,000 per annum. Applications, stating age, qualifications, and experience, together with copies of recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary, County Hospital, Lincoln. (5659)

WAKEFIELD, PINDERFIELDS GENERAL HOSPITAL

JUNIOR HOSPITAL MEDICAL OFFICER
to General Medical Unit (70 beds)

Applications are invited for the above appointment. Salary scale £700 by £50 to £1,000 per annum, less a charge at the rate of £130 per annum if resident. Address applications, with full particulars of qualifications, etc., and the names and addresses of two persons for reference, to the undersigned.—G. L. Banner, Secretary, Victoria Chambers, Wood Street, Wakefield. (8111)

KETTERING GENERAL HOSPITAL

Applications are invited from registered medical practitioners, who have held house appointments, for the post of

SENIOR HOUSE OFFICER IN MEDICINE
(Non-resident)

There are five Resident Officers and full Consultant Staff. Applications, stating age, nationality, qualifications, past experience, and enclosing copies of two recent testimonials, should be forwarded as soon as possible to the Assistant Secretary, Kettering General Hospital. (6769)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
SENIOR HOUSE OFFICER
to the Medical Professorial Unit

Now vacant. Whole-time non-resident post. Appointment for six months, renewable for a second and possibly a third six months. Salary £670 per annum. Applications to be made on forms obtainable from the undersigned and to be returned not later than March 12, 1952.—F. J. Cable, General Superintendent. (8259)

RHYL, ROYAL ALEXANDRA GENERAL HOSPITAL (107 beds)
Clwyd and Deeside Hospital Management Committee

Applications are invited for the appointment of

RESIDENT MEDICAL OFFICER

at the above hospital. The appointment is of Senior House Officer grade at a salary of £670 per annum, with a deduction for full residential emoluments and will, in the first instance, be tenable for twelve months. The successful applicant will be required to carry out duties under the supervision of the Consultant Physician. Applications, stating age, and giving details of qualifications, present and previous appointments, with copies of three testimonials, to be sent to the undersigned within fourteen days of the date of publication of this advertisement.—William Roberts, Secretary, H.M.C., Rhianfa, Russell Road, Rhyl. (8004)

SUNDERLAND GENERAL HOSPITAL and RYHOPE GENERAL HOSPITAL, near Sunderland

SENIOR HOUSE PHYSICIAN

Required, resident at Ryhope General Hospital (52 acute medical beds). Junior House Physician also resident. The beds are under supervision of two consultant physicians who visit the hospital regularly. Required to assist at Sunderland Out-patient Department. Appointment tenable for twelve months. Salary £670 per annum, less £120 emoluments. Apply to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (8156)

WEST HARTLEPOOL GENERAL HOSPITAL

Applications are invited for the appointment as

SENIOR HOUSE OFFICER (Medical)

at the above hospital, vacant March 15, 1952. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (8260)

YORK, COUNTY HOSPITAL
(General Hospital of 269 beds)
CITY HOSPITAL, York
(General Hospital of 265 beds)
YEARSLEY BRIDGE HOSPITAL, York
(Infectious Diseases Hospital of 86 beds)

Applications are invited for the post of

SENIOR HOUSE OFFICER
in Paediatrics and Infectious Diseases

to spend approximately half-time in connexion with paediatric duties at the County Hospital (22 paediatric beds), City Hospital (32 paediatric beds) and other hospitals of the Group, and approximately half-time at Yearsley Bridge Hospital. Candidates should have had previous experience of paediatrics and infectious diseases. Preference given to holders of D.C.H. Post vacant from April 1, 1952, for one year in first instance. Salary £670 per annum, less £170 for residence at Yearsley Bridge Hospital. Applications, giving age, nationality, experience, qualifications and names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (8189)

DREADNOUGHT SEAMEN'S HOSPITAL
Greenwich, S.E.10
(General Hospital of 142 beds)

There will be a vacancy for a

HOUSE PHYSICIAN

on March 24. Applications, stating qualifications, age, experience, nationality and medical school, together with the names of three recent referees, should be sent to the undersigned on or before February 25, 1952.—F. A. Lyon, Secretary of the Seamen's Hospitals Management Committee, Dreadnought Hospital, Greenwich, S.E.10. (8190)

MILLER GENERAL HOSPITAL, S.E.10
(180 beds)
(Recognized by Royal College of Physicians)

Applications are invited for the post of

HOUSE PHYSICIAN

six months from early March. National salary and conditions. Full particulars, and copies of testimonials, to Secretary, Greenwich and Deptford Hospital Management Committee, St. Alfege's Hospital, Greenwich, S.E.10. (8140)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1

Applications are invited for the post of

HOUSE PHYSICIAN (H.O. 1, 2 or 3)

Salary, etc., in accordance with national scale. Tenable for six months. Post vacant March 17, 1952. Application forms obtainable from, and returnable to, the Medical Superintendent. (8100)

ALTRINCHAM GENERAL HOSPITAL (130 beds)
near Manchester
North and Mid-Cheshire Hospital Management Committee

HOUSE OFFICER (Physician and Casualty)

to commence immediately. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to Sec., North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (7348)

AMERSHAM GENERAL HOSPITAL, Bucks

HOUSE PHYSICIAN (First or second post)

To take up appointment on March 1. Applications, stating age, nationality and qualifications (with dates), together with two recent testimonials, should be sent to the Secretary, Hospital Management Committee, Amersham General Hospital as soon as possible. (8005)

BANGOR, CAERNARVON AND ANGLESEY GENERAL HOSPITAL
Caernarvon and Anglesey Hospital Management Committee

Applications are invited for the appointment of

RESIDENT HOUSE PHYSICIAN

at the above hospital. Appointment is for a period of six months. Applications, stating age, experience and qualifications, together with copies of three testimonials, should be forwarded to the undersigned within ten days of the appearance of this advertisement.—Secretary, Plas Gwyn, Friddoedd Road, Bangor, N. Wales. (8159)

BATLEY, GENERAL HOSPITAL, Carlinghowhill
(102 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee

Applications are invited for the post of

HOUSE OFFICER

This hospital is a general hospital at present, but will shortly specialize in orthopaedic and general surgery, ophthalmology and oto-rhino-laryngology. Applications, giving full details of age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Sec., 20, Oxford Rd., Dewsbury. (4420)

BEVERLEY, YORKS, WESTWOOD HOSPITAL

JUNIOR HOUSE PHYSICIAN
(First or second post)
with care of Orthopaedic beds

Required immediately. Salary in accordance with National Health Service scale. Applications to the Secretary (7696)

BISHOP'S STORTFORD AND DISTRICT HOSPITAL, Rye Street, Bishop's Stortford, Herts
(67 beds—Medical, Surgical and Maternity)
(Midway between London and Cambridge—Main Line Railway from Liverpool Street)

Applications are invited from registered medical practitioners for a

RESIDENT HOUSE OFFICER
(First or second post held)

Salary £350 to £400 per annum, less £100 per annum for residential emoluments. Appointment to commence March 1, 1952. Applications, stating age, nationality, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Administrative Officer, Haymeads Hospital, Bishop's Stortford, Herts. (7513)

BRAINTREE, ESSEX, BLACK NOTLEY HOSPITAL

Applications are invited for the post of

HOUSE PHYSICIAN (First, second or third post)

in the medical and paediatric wards of the above hospital. Tenable for six months. Salary in accordance with terms of service issued by the Ministry of Health, plus £50 per annum. Applications, with copies of three recent testimonials, should be forwarded to the Secretary, Colchester Group Hospital Management Committee, 14, Pope's Lane, Colchester. (7743)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

HOUSE PHYSICIAN

to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee

Applications are invited for the posts of

TWO HOUSE PHYSICIANS

Vacant March. Applications, stating age, qualifications and experience, with a copy of two testimonials and the names of two referees, should be sent as soon as possible to the Group Secretary, St. Helier Hospital, Carshalton, Surrey. (8046)

CHANNEL ISLANDS, JERSEY, GENERAL HOSPITAL

Applications are invited for the post of

MEDICAL OFFICER

in the above hospital. The appointment is for six months, but is renewable. Salary from £350 to £550 per annum, according to qualifications and experience, less £100 for residential emoluments. Please apply to the President, Public Health Committee, General Hospital, Jersey. (7413)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee

HOUSE PHYSICIANS

Applications are invited from registered medical practitioners for the above posts. Vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (7808)

COSSHAM, QUEEN ALEXANDRA HOSPITAL
(464 beds)
Portsmouth Group Hospital Management Committee

Applications are invited for the following appointment:

HOUSE PHYSICIAN

Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (8070)

DARLINGTON MEMORIAL HOSPITAL
(210 beds)
Darlington District Hospital Management Committee

Applications are invited for the post of

HOUSE PHYSICIAN (J.H.O.—Resident)

Salary in accordance with national scale. Apply, giving age and references, to the undersigned at once.—G. W. Beckwith, Secretary. (7237)

DARTFORD, SOUTHERN HOSPITAL

HOUSE PHYSICIAN

A six months' appointment to commence March 1, 1952. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications and experience, together with the names of two persons to whom reference may be made, should be sent to the Medical Superintendent, The Southern Hospital, Dartford, Kent. (8006)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Medicine—contd.

DERBYSHIRE ROYAL INFIRMARY, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Applications, stating full details, together with copies of two recent testimonials, should be sent as soon as possible to the Secretary, Derbyshire Royal Infirmary, Derby. (7709)

DEWSBURY, GENERAL HOSPITAL
Moorlands Road, Dewsbury (119 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
vacant March 1, 1952. This is a modern general hospital with a large out-patient department. Excellent experience available. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (8047)

DRIFFIELD, YORKS, EAST RIDING GENERAL HOSPITAL
HOUSE PHYSICIAN
Post vacant end February. Duties to include medical wards, out-patients and some anaesthetics. Salary £350 to £450 per annum. Applications to Secretary, Westwood Hospital, Beverley. (7699)

DUNFERMLINE, NORTHERN HOSPITAL
West Fife Hospitals Board of Management
HOUSE PHYSICIAN
Required April 1. Salary £350 to £450, less £100 for board, lodging, etc. The Northern Hospital is being developed as a medical unit of approximately 120 beds and will provide ample clinical material and a varied experience. Applications, stating age, nationality, qualifications, and experience, with copies of three testimonials, should be forwarded to the Medical Superintendent, The Northern Hosp., Leys Park Rd., Dunfermline (7833)

EDINBURGH, 9, BRUNTSFIELD HOSPITAL FOR WOMEN AND CHILDREN
(80 beds and cots)
Applications are invited from registered women medical practitioners for the post of
HOUSE OFFICER (Medicine)
Appointment is for six months from April 1, 1952. Salary £350, £400 or £450 per annum, according to experience, less £100 per annum in respect of residential emoluments. Applications, with copies of testimonials, to the Medical Superintendent, Southern Hospitals Group, 21, Hill Street, Edinburgh, 2, not later than March 1, 1952. (8121)

ELLESMERE PORT HOSPITAL (50 beds)
Applications are invited from medical practitioners, male or female, for the post of
HOUSE PHYSICIAN (General)
The appointment is for a period of six months commencing February 24, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (8091)

FALMOUTH, DISTRICT HOSPITAL
West Cornwall Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
vacant February 26, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, Falmouth and District Hospital, Falmouth. (5262)

GRIMSBY GENERAL HOSPITAL (200 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
The post will fall vacant in February, and is tenable for six months. Applications, together with the names of two referees, should be sent to the Admin. Officer, Grimsby General Hospital. (6688)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE PHYSICIAN
Required to commence duty on March 4. Salary in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, together with copies of three recent testimonials, should be addressed to the undersigned.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (7471)

HUNTINGDON COUNTY HOSPITAL
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (Medical)
to the above hospital. The selected candidate will be required to look after medical and paediatric cases under the direction of the consultants concerned, and may be required to give emergency anaesthetics. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (8191)

IPSWICH BOROUGH GENERAL HOSPITAL
(301 beds)
HOUSE PHYSICIAN
Required early March. House Officer grade. Post normally for six months. Applications to Secretary, Ipswich Group H.M.C., Ipswich. (8141)

IPSWICH, ST. HELEN'S HOSPITAL
(100 beds for infectious diseases, pulmonary tuberculosis, and long-stay orthopaedics. The Area Chest Clinic is in the hospital)
Ipswich Group Hospital Management Committee
HOUSE OFFICER
Accommodation available for married man. The person appointed will be required to undertake certain duties in the Children's Ward at the Borough General Hospital, in addition to duties at St. Helen's Hospital. Applications, with full particulars, to John Williams, Secretary, at East Suffolk and Ipswich Hospital, Ipswich. (7414)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
Required at the above hospital. Post vacant February 16. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (7672)

KINGSTON-UPON-THAMES, KINGSTON HOSPITAL, Wolverton Avenue
Kingston Group Hospital Management Committee
Applications are invited from suitably qualified, experienced medical practitioners for the position of
RESIDENT HOUSE OFFICER (General Medicine)
The post will be vacant on April 1, 1952. Applications, by letter, stating age, qualifications and experience, with copies of not more than three recent testimonials (or names of three referees), should reach the Physician Superintendent as soon as possible. (8048)

LOUGHBOROUGH GENERAL HOSPITAL
(120 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
commencing April 1, 1952. Applications, stating age, experience and qualifications, with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (8049)

LOUTH, LINCS, COUNTY INFIRMARY
(240 beds)
Grimsby Hospitals Management Committee
HOUSE OFFICER (Medical)
Applications are invited for the above post, vacant March 1, at this busy general hospital. Salary £350 to £450 per annum. Applications, giving details of age, experience, nationality, together with names of two referees, to be addressed to the Administrative Officer at the hospital. (8050)

MERTHYR AND ABERDARE HOSPITAL MANAGEMENT COMMITTEE
Aberdare General Hospital (102 beds)
HOUSE OFFICER
St. Tydfil's Hospital, Merthyr Tydfil (395 beds)
HOUSE OFFICER
Applications are invited for either of the above posts. The appointments, which are resident, are for periods of six months. Salary in accordance with the terms of service issued by the Ministry of Health, plus £50 per annum higher than standard rate. Applications, with full particulars, should be sent to the Secretary, Merthyr and Aberdare Hospital Management Committee, St. Tydfil's Hospital Merthyr Tydfil. (8007)

MIDDLESBROUGH, HEMLINGTON HOSPITAL
(220 beds)
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
at the above hospital. Salary at the rate of £400 or £500 per annum. Applications, stating age, experience and qualifications, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (7264)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)
For the care of both medical and surgical cases. Appointment for six months. Duties to commence immediately. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (7623)

PENZANCE, WEST CORNWALL GENERAL HOSPITAL (100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN (Male)
which falls vacant on March 6, 1952. Salary at the rate of £350 or £400 per annum, from which a deduction at the rate of £100 per annum will be made for board residence, etc. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6689)

NUNEATON, MANOR HOSPITAL (139 beds)
Applications are invited for the post of
HOUSE PHYSICIAN (32 general medical beds)
Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (8112)

ROCHDALE INFIRMARY
Rochdale and District Hospital Management Committee
HOUSE PHYSICIAN
Apply to the Secretary, Central Offices, Birch Hill Hospital, Rochdale, Lancs. (8192)

ROMFORD, ESSEX, VICTORIA HOSPITAL
(91 beds)
RESIDENT HOUSE PHYSICIAN
Applications are invited from registered medical practitioners (male) for the above post, vacant now. Six months' appointment. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (8051)

ST. ALBANS CITY HOSPITAL, St. Albans
HOUSE PHYSICIAN
Required to one of the medical teams, for duties mainly in the acute medical wards, but the successful candidate would also have some work with the Consultant Physician in the tuberculosis wards. Post vacant middle of March, 1952 Applications, giving age, qualifications and experience, to be forwarded to the Secretary, Osterhills, Normandy Road, St. Albans, as soon as possible. (8052)

SHREWSBURY (near), CROSS HOUSES HOSPITAL (183 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT MEDICAL OFFICER
Vacant immediately. Preference will be given to those applicants with previous obstetrical experience. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (6063)

SOUTHPORT, PROMENADE HOSPITAL
Southport and District Hospital Management Committee
HOUSE PHYSICIAN (Resident)
Post falls vacant in April. Apply, with details of age, nationality, qualifications, enclosing copies of two recent testimonials, to T. Crook, Secretary, Promenade Hospital, Southport. (8193)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 32 beds)
Staffordshire Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
HOUSE PHYSICIAN
vacant March 1, 1952, first, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H Jones, Secretary to Committee, 13 Foregate Street, Stafford. (7353)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
(96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Medical)
Post vacant mid-March. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned, at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7379)

STROUD GENERAL HOSPITAL
Gloucester, Stroud and the Forest Hospital Management Committee
HOUSE PHYSICIAN
Salary £350 to £450 per annum. Post now vacant. Applications, naming two referees, to the Secretary, Stroud General Hospital, Stroud, Gloucestershire. (8008)

SUNDERLAND (near), RYHOPE GENERAL HOSPITAL (208 beds)
HOUSE PHYSICIAN (Male or female)
Post vacant March 24, 1952. Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (8157)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the above hospital. Resident. The appointment will be for six months in the first instance and the post becomes vacant on February 29, 1952. Applications together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Sec., Thurrock Hospital, Grays, Essex. (7963)

Medicine—contd.

WALLASEY, VICTORIA CENTRAL HOSPITAL
(135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6770)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)
HOUSE OFFICER (Medical) (First or second post)
Post vacant middle March. Salary, terms and conditions as issued by the Ministry of Health. Applications, with at least two testimonials, should be sent to the undersigned immediately.—Cyril Hopkinson, Administrator. (7781)

WESTCLIFF HOSPITAL
Balmoral Road, Westcliff-on-Sea
Applications are invited for the position of
RESIDENT HOUSE MEDICAL OFFICER
(House Officer grade)
at the Westcliff Hospital, post now vacant. The hospital deals with communicable diseases in its widest sense, e.g., common exanthemata, primary pneumonias, infections of the nervous system, tuberculosis, infective hepatitis, gastro-enteritis, etc. In addition there is a ward for general medical cases. The appointment covers a wide field of medicine, including paediatrics, and offers excellent training for general practice. An additional £50 per annum above the standard salaries laid down may be paid. Applications, etc., to be sent to the Secretary at the above hospital as soon as possible. —J. C. Field, Secretary, Southend-on-Sea Hospital Management Committee. (8194)

WHISTON, COUNTY HOSPITAL (882 beds)
St. Helens and District Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE PHYSICIAN
Six months' appointment. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, and experience, and giving two names for reference, should be forwarded to the undersigned as soon as possible.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (8093)

WOKING, VICTORIA HOSPITAL (74 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
Salary and conditions of service as published by Ministry of Health. Apply to Assistant Secretary, Victoria Hospital, Woking, Surrey. (6977)

WREXHAM, WAR MEMORIAL HOSPITAL
(170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
at the above hospital. The appointment will be for six months and will commence at the beginning of March, 1952. Salary will be at the rate of £350 to £450 per annum, according to experience, less £100 per annum for full residential accommodation. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, to be addressed to the Secretary, Wrexham, Powys and Mawddach H.M.C., Maelor General Hospital, Wrexham. (7674)

SURGERY

WHIPPS CROSS HOSPITAL
Whipps Cross Road, E.11
Applications are invited for the position of
SURGICAL REGISTRAR (Non-Resident)
to reside within reasonable distance of the hospital. The appointment is subject to review after one year. A local charge will be made for any residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 1, 1952. (8195)

BARNSLEY, BECKETT HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole time post of
SURGICAL REGISTRAR
to the above hospital. Recognized for training for the F.R.C.S. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than February 25, 1952. (7711)

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications invited for following whole-time appointments:
SURGICAL REGISTRAR
(Resident Surgical Office.)
to the Stafford Group; duties at Staffordshire General Infirmary, Stafford (159 beds) and Yarnfield Recovery Unit (32 beds). Vacant May 1, 1952.
SURGICAL REGISTRAR
(Resident Surgical Officer)
to the Coventry Group; duties at Hospital of St. Cross, Rugby (168 beds, including 45 general surgical). Resident appointment.
SURGICAL REGISTRAR
(Resident Surgical Officer)
South Warwickshire Group; duties mainly at Warneford Hospital, Leamington Spa (207 beds). Resident appointment.
For each appointment experience in general surgery essential, and higher qualification an advantage. Appointments subject to National Health Service (Superannuation) Regulations. Ten copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10 Augustus Road, Birmingham, 15, before March 10, 1952. Candidates for more than one appointment should forward seven copies of applications in respect of each vacancy. Candidates may visit the hospitals concerned. (8216)

HASLEMERE AND DISTRICT HOSPITAL
(82 beds)
South-West Metropolitan Regional Hospital Board
Guildford Group Hospital Management Committee
Applications are invited for the post of
SURGICAL REGISTRAR (General)
Unfurnished house available. Candidates may visit the hospital by arrangement. Application forms are obtainable from the Secretary, Guildford Group Hospital Management Committee, Group Office, St. Luke's Hospital, Guildford (stamped addressed envelope), and should be returned to the Sec., duly completed, to arrive not later than March 7. (8053)

LEEDS, BOARD OF GOVERNORS OF THE UNITED LEEDS HOSPITALS and the LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the joint appointment of
REGISTRAR in Genito-Urinary Surgery
The out patient and diagnostic department is at the Leeds General Infirmary and the ward unit is in St. James's Hospital, Leeds. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than Feb. 29. (7970)

OXFORD REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time post of
REGISTRAR in General Surgery
to the hospitals of Aylesbury Hospital Management Committee with duties mostly at Stoke Mandeville Hospital. The appointment will be for one year and eligible for extension to a second year. Applications, on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by March 1. (8009)

SCOTLAND, SOUTH-EASTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for the following appointments in hospitals in the South Eastern Region:
ONE SENIOR REGISTRAR AND TWO REGISTRARS in Surgery
The Senior Registrar appointment will be in a teaching unit either in the Royal Infirmary of Edinburgh or in one of the hospitals of the Edinburgh Northern Group, available on July 1. The Registrar posts are: (1) In a teaching charge in the Royal Infirmary of Edinburgh, available on July 1 (2) At Leith Hospital, available on May 16. The appointments are for a period of two years in the first instance in the case of the Senior Registrar, and for one year in the first instance in the case of the Registrars. The posts are superannuable, and the conditions of service are in accordance with the regulations. Applications (ten copies), giving particulars of age, previous experience and qualifications, together with the names of two referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, within thirty days. (8118)

STORNOWAY, LEWIS HOSPITAL
Northern Regional Hospital Board (Scotland)
The Northern Regional Hospital Board (Scotland) invites applications for the post of
SURGICAL REGISTRAR
Applicants should have previous experience in general surgery, and a higher qualification would be an advantage. Schedules of application and further particulars are obtainable from the undersigned, with whom applications should be lodged by Saturday, March 8, 1952.—A. M. Fraser, M.D., Secretary and Administrative Medical Officer, Office of the Northern Regional Hospital Board, Raigmore, Inverness. (8261)

WISBECH, NORTH CAMBRIDGESHIRE HOSPITAL
East Anglian Regional Hospital Board
Resident SURGICAL OFFICER (Registrar grade)
The appointment will be for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 3, 1952. Candidates are invited to visit the hospital by arrangement with the H.M.C. Secretary. Peterborough Memorial Hospital, Peterborough.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8054)

GRIMSBY, SCARTHO ROAD INFIRMARY
(218 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
The officer appointed will have charge of 40 surgical beds, under visiting Consultant's care, attend operating sessions, etc., and share routine ward duties. A furnished flat is available and married candidates may apply. Applications, stating age, nationality, qualifications and experience, with copies of recent testimonials, or names of referees, to Administrative Officer. (7649)

BLACKPOOL, VICTORIA HOSPITAL
ASSISTANT RESIDENT SURGICAL OFFICER
Required with responsibility for Casualty Department. (Senior House Officer grade) Post recognized for F.R.C.S. Vacant February, 1952. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (7700)

BROMLEY GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from suitably qualified medical practitioners for the post of
WHOLE-TIME RESIDENT SENIOR HOUSE OFFICER in Surgery
The appointment, tenable at Bromley Hospital, is recognized for the F.R.C.S., and is for one year from March 1, 1952, which may be renewed. Applicants should have been qualified for not less than one year and be experienced in orthopaedics. Salary £670 per annum, less £150 per annum for residential emoluments. The appointment is superannuable and Whitley conditions of service apply. Applications, stating age, appointments held, accompanied by three testimonials, or names and addresses of three referees, should be sent within fourteen days to the Administrative Officer, Bromley Hospital, Cromwell Avenue, Bromley, Kent. (8262)

COSSHAM, QUEEN ALEXANDRA HOSPITAL
(464 beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the following appointment:
SENIOR HOUSE SURGEON
Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (8071)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER (Surgical)
Vacant end February, 1952. The post affords good experience in general surgery and casualty work. Apply to the Medical Superintendent. (8010)

HOVE GENERAL HOSPITAL, Sussex
(75 beds, 3 Resident Medical Officers)
Brighton and Lewes Hospital Management Committee
Applications are invited for the following resident posts, vacant mid-March, 1952:
SENIOR HOUSE SURGEON
(preference will be given to candidates with previous experience). Duties chiefly ward and theatre work.
HOUSE SURGEON
for casualty and with charge of surgical beds.
Salaries and conditions of service in accordance with national scale (£350 to £450, less £100 per annum for residential emoluments). Applications, with full details of experience, etc., and enclosing names and addresses of two referees, should be sent to the Administrative Officer at the hospital within ten days of the appearance of this advertisement. (7782)

MEXBOROUGH, MONTAGU HOSPITAL
(123 beds)
SENIOR HOUSE OFFICER (Surgery and Casualty)
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Rd., Rotherham, Yorks, as soon as possible. (7661)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Surgery—contd.

NEWMARKET GENERAL HOSPITAL, Suffolk
(268 beds)
Applications are invited for the resident post of
SENIOR HOUSE OFFICER (Surgical)
Duties to commence immediately, in a busy hospital staffed by consultants. Appointment offers opportunity for experience in obstetrics and gynaecology, in addition to general surgery. Salary £670 per annum. Conditions of service in accordance with Ministry of Health regulations. Applications, stating age, qualifications, and experience, together with copies of testimonials, to be sent to Physician Superintendent. (7898)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence early in March. Salary £670 per annum and conditions of service in accordance with the conditions published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (6969)

REDRUTH, CAMBORNE-REDRUTH HOSPITAL
(159 beds, 4 residents)
West Cornwall Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Duties to commence on March 1, 1952. Salary £670 per annum, less £100 per annum for residential emoluments. Applications, stating age, experience and nationality, together with names of two persons to whom reference can be made, should be submitted to the Administrative Assistant. (8011)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
(96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7380)

STOKE-ON-TRENT, LONGTON HOSPITAL
(55 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7381)

STROUD GENERAL HOSPITAL
Gloucester, Stroud and the Forest Hospital Management Committee
RESIDENT SURGICAL OFFICER
Required, Senior House Officer grade, i.e., £670 per annum, less £125 per annum residential emoluments. Applications, naming two referees, to the Secretary, Stroud General Hospital, Stroud, Gloucestershire. (8012)

TORQUAY, TORBAY HOSPITAL
(166 General beds)
RESIDENT SENIOR SURGICAL HOUSE OFFICER (Male or female)
Required immediately. Appointment for one year. Salary £670 per annum, less £100 in respect of accommodation and services. Applications, stating qualifications, nationality, and age, with copies of testimonials, to be sent to the Secretary, Torquay District Hospital Management Committee, 62/64, East Street, Newton Abbot, S. Devon. (8263)

WOKING, VICTORIA HOSPITAL
Woking, Surrey (74 beds)
SENIOR HOUSE OFFICER
(Surgical and Medical duties)
Resident preferred. Non-resident considered. Salary and conditions of service as published by Ministry of Health, viz., £670 per annum, less emoluments. Applications, with testimonials, to Assistant Secretary, Victoria Hospital, Woking, Surrey. (7289)

CONNAUGHT HOSPITAL
Walthamstow, E.17 (118 beds)
SURGICAL HOUSE OFFICER
Required for six months (including special departments). Post vacant February 27, 1952. Recognized for F.R.C.S. Applications, with full details and copy testimonials, should be sent immediately to the Secretary, H.M.C. Forest Group, Langthorne Road, E.11. (7675)

GERMAN HOSPITAL
Dalston, London, E.8
Applications are invited for the post of
HOUSE SURGEON (First, second or third post)
at the above hospital, and should be sent to the Group Secretary, Hospital Management Committee, Hackney Hospital, London, E.8, within six days of the appearance of this advertisement. (8102)

HAMPSTEAD GENERAL HOSPITAL
The Green, Hampstead, N.W.3
Applications are invited from registered medical practitioners, male and female, for resident post of
HOUSE SURGEON
for a period of six months from April 1, 1952. Salary in accordance with the national scales. Applications on the prescribed form, with copies of three recent testimonials, to be returned by March 10, 1952, to Administrative Officer. (8229)

HIGHLANDS HOSPITAL
Winchmore Hill, London, N.21
HOUSE SURGEON
Six months' appointment, now vacant. Application forms obtainable from Secretary, Northern Group H.M.C., Royal Northern Hospital, London, N.7. (8230)

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60, Grove End Road, N.W.8
Applications are invited from registered medical practitioners (male) for the appointment of
HOUSE SURGEON
to become vacant on Monday, March 3, 1952. Appointment will be for a period of six months. Salary is at the rate of £350 per annum. Applications should reach the Secretary on or before Tuesday, February 26, 1952, together with copies of three recent testimonials. (7836)

METROPOLITAN HOSPITAL, Kingsland Road, London, E.8 (General—147 beds)
Central Group Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
The appointment is for six months only, and the salary, depending upon the number of previous posts held, £350, £400, or £450 per annum, less residential charges of £100 per annum. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should reach the Assistant Secretary to the hospital by February 23, 1952. (7899)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
vacant now. Applications, stating age, qualifications and experience, with a copy of two testimonials, and the name of one referee, should be sent to the Group Secretary, St. Helier Hospital, Carshalton, Surrey. (8055)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT HOUSE SURGEON
(General and Thoracic Surgery)
Six months' appointment. Vacant April 1. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Secretary, by February 23. (7837)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT HOUSE SURGEON
(General and Genito-urinary Surgery)
Six months' appointment. Vacant April 1. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Secretary, by February 23. (7838)

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Paddington Hospital, Harrow Road, W.9
Applications are invited for the posts of
HOUSE SURGEON (General Duties)
from March 1, 1952, as follows: St. Charles' Hospital, Ladbroke Grove, W.10 (two vacancies) (579 beds), National Temperance Hospital Hampstead Road, N.W.1 (138 beds) (one vacancy). Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of two referees, to reach the Secretary to the Committee immediately. (8246)

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Paddington Hospital, Harrow Road, W.9
Applications are invited for the post of
HOUSE SURGEON
to the Departments of Plastic, E.N.T., Ophthalmology at St. Charles' Hospital, Ladbroke Grove, W.10. Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of three referees, to reach the Secretary to the Committee immediately. (8264)

ST. ALFEGE'S HOSPITAL
Greenwich, S.E.10 (506 beds)
(Recognized by Royal College of Surgeons)
Applications are invited for the post of
HOUSE SURGEON
for six months from approximately early March. National salary and conditions. Full particulars and copies of testimonials to Secretary, Greenwich and Deptford Hospital Management Committee, at the above hospital. (8196)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

ABERYSTWYTH GENERAL HOSPITAL
Mid-Wales Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
RESIDENT HOUSE SURGEON
(First, second, or third post)
Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned. Salary in accordance with terms and conditions of service in accordance with Ministry of Health.—J. P. Thomas, Secretary, Mid-Wales H.M.C., Administrative Office, General Hospital, Aberystwyth (8231)

ALTRINCHAM GENERAL HOSPITAL (130 beds)
near Manchester
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Surgical)
to commence duties immediately. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to Sec., North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (7357)

BARNSLEY, BECKETT HOSPITAL
HOUSE OFFICER SURGEON
Salary first post £350, second post £400, third post £450. Apply Secretary, Barnsley H.M.C., 33, Gawber Road, Barnsley. (8056)

BATLEY, GENERAL HOSPITAL (102 beds)
Carlinghow Hill, Batley, Yorks
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This general hospital will shortly provide all the in-patient treatment for the Group in the specialties of orthopaedics, E.N.T., and ophthalmology in addition to some general surgery, together with the usual out-patient clinics. Applications, stating age, qualifications and experience, together with recent testimonials, should be submitted immediately to the Secretary, 20, Oxford Road, Dewsbury. (7971)

BEDFORD GENERAL HOSPITAL (South Wing)
HOUSE SURGEONS
These appointments are recognized for F.R.C.S., and offer exceptional opportunities for general experience in a busy acute surgical unit. These posts are now vacant. Applications, stating age, nationality, qualifications, previous appointments, together with copies of two testimonials, should be addressed to the Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton Road, Bedford. (6608)

BEXHILL HOSPITAL, Bexhill-on-Sea (62 beds)
Hastings Group Hospital Management Committee
HOUSE SURGEON
National scales of salary. Applications to Administrator at the hospital. (8013)

BOLTON, ROYAL INFIRMARY (237 beds)
Bolton and District Hospital Management Committee
RESIDENT HOUSE SURGEON
Required for general surgical duties. Post vacant immediately and tenable for six months. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (8057)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (General)
Vacant March 1, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary. (8197)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON
Vacant March 1, 1952. Salary £350 to £450, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (7842)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
HOUSE SURGEON
Vacant now. Recognized for the F.R.C.S. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, should be sent to the Administrative Officer of the hospital within seven days of the appearance of this advertisement. (6880)

Surgery—contd.

BRISTOL, SOUTHMEAD GENERAL HOSPITAL GROUP MANAGEMENT COMMITTEE
RESIDENT HOUSE SURGEON (Genito-Urinary) at Southmead Hospital (571 beds including 133 maternity)

Required for six months commencing March 1, 1952. Salary £450 to £500 per annum, according to experience, less £100 per annum for board residence. Applications, stating age, qualifications and experience, and giving the names and addresses of two referees, to be made to the undersigned forthwith.—C. C. Hancock, Secretary, Southmead Hospital, Bristol. (8113)

BROMSGROVE, WORCS, ALL SAINTS' HOSPITAL
Mid-Worcestershire Hospital Management Committee
TWO HOUSE SURGEONS
(for acute Surgical Wards and Casualty Department)

Required at this recently opened General Hospital, which has a bed complement of 468 beds. Posts are resident, and are vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire Hospital Management Committee, Birmingham Road, Bromsgrove, Worcs. (7676)

BURNLEY, GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)

The post is vacant now, and is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. The post is recognized for the F.R.C.S. examination. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (9287)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical, with beds for ortnopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee

Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the following appointments:

Caernarvon and Anglesey General Hospital, Bangor
RESIDENT HOUSE SURGEON
RESIDENT HOUSE SURGEON
for Casualties and Special Departments
Llandudno General Hospital, Llandudno
Eryri General Hospital, Caernarvon
RESIDENT HOUSE SURGEONS

The appointments are for a period of six months. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, experience, and qualifications, together with copies of three testimonials, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Friddoedd Road, Bangor. (8161)

CAMBRIDGE, ADDENBROOKE'S HOSPITAL
United Cambridge Hospitals

Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
Vacant on April 17, 1952. Salary, terms and conditions as approved for hospital medical staff. Applications, stating age, qualifications (with dates) and nationality, and accompanied by copies of three recent testimonials, should be sent to the undersigned not later than Saturday, March 1, 1952. —J. A. Beardsall, Secretary. (8014)

CARLISLE, CUMBERLAND INFIRMARY (322 beds)
East Cumberland Hospital Management Committee

Applications are invited for the undermentioned resident posts, vacant April 1, 1952, and tenable for six months
THREE HOUSE OFFICERS (General Surgery)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (8015)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON

Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (7809)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for
TWO HOUSE SURGEONS
The appointments are for a period of six months. Duties to commence February 20, 1952, and April 4, 1952 respectively. Applications, giving full particulars, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, King Street, Chester. (7120)

CHICHESTER, ROYAL WEST SUSSEX HOSPITAL
RESIDENT HOUSE SURGEON

Required for six months' appointment at this General Acute Hospital of 202 beds. Six residents on staff, including R.S.O. and three House Surgeons. National scale for first, second or third post. Applications, giving details of qualifications, age and experience, should be forwarded to the Senior Administrative Officer. Vacancy occurs middle of February. (7843)

COBHAM, SURREY, SCHIFF HOME OF RECOVERY (80 beds)
RESIDENT HOUSE OFFICER (Surgical)

Required at the above hospital. Post vacant April 2, 1952, considered suitable for anyone reading for a higher examination. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent immediately to Group Secretary, Epsom District Hospital, Dorking Road, Epsom, Surrey. (7964)

DARTFORD, KENT, WEST HILL HOSPITAL
HOUSE SURGEON (General)

Required at the end of March for duty at the above hospital. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. The hospital is a large general one offering opportunity for wide experience and is within easy reach of London. The appointment is recognized by the Royal College of Surgeons. Applications, stating age, qualifications, experience and the names of two persons to whom reference for testimonials may be made, should be sent to the Surgeon Superintendent of the hospital. (8016)

DEWSBURY, GENERAL HOSPITAL (119 beds)
Moorlands Road, Dewsbury

Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy modern general hospital, with a large out-patient department and the usual ancillary services. The hospital is recognized for the F.R.C.S. and provides excellent experience. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (7972)

DEWSBURY, YORKS, STAINCLIFFE GENERAL HOSPITAL, Healds Road (316 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee

Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy general hospital with the usual out-patient and ancillary services. It is recognized for the F.R.C.S., and provides excellent experience. Salary and conditions of service in accordance with the national scales. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent to the Secretary, 20, Oxford Road, Dewsbury. (7973)

DORSET COUNTY HOSPITAL, Dorchester (109 beds)
HOUSE SURGEON (Male or female)

Post now vacant and tenable for six months. Applications, giving details of age, experience, qualifications and nationality, together with copies of testimonials, to be sent to the Secretary, West Dorset Group Hospital Management Committee, Damers Rd., Dorchester, Dorset, immediately. (8092)

EDGWARE GENERAL (formerly Redhill County) HOSPITAL, Edgware, Midd'esex (715 beds)
RESIDENT GENITO-URINARY HOUSE SURGEON

Post vacant March 17, 1952. Salary £400 to £450 per annum, according to experience. Deduction of £100 per annum for board, lodging, etc. Six months' appointment. Post recognized for F.R.C.S. Applications, stating age, qualifications, experience, and enclosing copies of up to three recent testimonials, to Medical Director of hospital by March 1, 1952. (8247)

EDINBURGH, 9, BRUNTSFIELD HOSPITAL FOR WOMEN AND CHILDREN
(80 beds and cots)

Applications are invited from registered women medical practitioners for the post of
HOUSE OFFICER (Surgery)
Appointment is for six months from April 1, 1952. Salary £350, £400 or £450 per annum, according to experience, less £100 per annum in respect of residential emoluments. Applications, with copies of testimonials, to the Medical Superintendent, Southern Hospitals Group, 21, Hill Street, Edinburgh, 2, not later than March 1, 1952. (8123)

EPSOM DISTRICT HOSPITAL
Dorking Road, Epsom, Surrey (300 beds)
RESIDENT HOUSE OFFICER (Surgical)

Required at the above hospital. Full consultant staff. Post recognized by Royal College of Surgeons is now vacant. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent immediately to Group Secretary at above address. (8058)

GLOUCESTERSHIRE ROYAL HOSPITAL (245 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
HOUSE SURGEON

Salary £350 to £450 per annum, required to commence March 17. Post recognized for F.R.C.S. Applications, naming two referees, to the Secretary. (8017)

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL (229 beds)
HOUSE SURGEON

Required for general surgery only. The post is recognized for the F.R.C.S. examination and is vacant early in March. Apply, with copies of three testimonials, to Secretary-Supt. (7783)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)

Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
for a term of six months. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (8142)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus service.)

Applications are invited for the appointment of
HOUSE SURGEON (Male)
First, second or third post held, for general surgery, gynaecology and obstetrics
Six months' appointment. Salary is at the rate of £350 to £450 per annum, less £100 per annum for residential emoluments. Duties to commence mid-March, 1952. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (8265)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
RESIDENT HOUSE SURGEON

Required at the above busy acute general hospital. Four other resident medical staff. Busy casualty and out-patient departments. Applications, stating age, qualifications and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe, Bucks. (8018)

HOUNSLOW HOSPITAL
Staines Road, Hounslow, Middlesex
(General Acute—81 beds)
Staines Group Hospital Management Committee

Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
with duties in the Casualty Department. Post vacant March 25, 1952. Salary £350, £400 or £450 per annum, according to experience, less £100 for residence. Six months' appointment. Applications, stating age, qualifications, nationality, and experience, with up to three recent testimonials, to Assistant Secretary of hospital. (7784)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee

Applications are invited for the post of
HOUSE SURGEON
Vacant now. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8754)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee

Applications are invited for the post of
HOUSE SURGEON
at the Sutton Branch Hospital. Vacant February. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Admin. Officer. (5757)

HUNTINGDON COUNTY HOSPITAL

Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (General Surgery)
to the above hospital. This is a busy hospital staffed by Consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (8199)

IPSWICH, BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)
(Post recognized for Examinations of R.C.S.)
TWO HOUSE SURGEONS (General Surgery)

Posts vacant mid-February. House Officer grade appointments normally for six months. Applications to the Administrative Officer (7197)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Surgery—contd.

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (First, second or third post)
(Resident) (General Surgery)
Applications (endorsed "House Officer," General Surgery, West Middlesex Hospital), stating age, nationality, qualifications, and experience, with copies of up to three recent testimonials, to Secretary of the Committee, West Middlesex Hospital, Isleworth, Middlesex, by February 26, 1952. (8198)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
HOUSE OFFICER
(Preferably second or third post)
Required for Specials Unit, comprising E.N.T., plastic and ophthalmic departments. Applications, stating age, nationality, qualifications, with dates and details of experience, together with copies of up to three recent testimonials, to Sec., Management Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date February 26, 1952. (7900)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL, Keighley (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton (64 beds)
(Yorkshire, West Riding—Full Consultant Staffs)
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON (Either sex)
at each of the above hospitals. First, second, or third appointments. Now vacant. Six months' appointments. Salary in accordance with the National Health Service terms and conditions. Applications, stating age, qualifications, experience, and nationality, together with copies of recent testimonials, to be forwarded as soon as possible to the Secretary, Bingley, Keighley, Skipton, and Settle Hospital Management Committee, St John's Hospital, Keighley. (7362)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee
TWO HOUSE SURGEONS (Resident)
Required at the above hospital. Posts vacant now. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (7678)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL (140 beds)
King's Lynn Area Hospitals Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
at the above hospital. Appointment will be for six months in the first instance. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Duties of the post offer valuable experience in general surgery and E.N.T. work in a busy acute general hospital. Applications to be forwarded as soon as possible to the Secretary of the above Committee, St. James' Hospital, King's Lynn. (7965)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the posts of
TWO HOUSE SURGEONS
commencing April 1, 1952. Recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester (8059)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
HOUSE SURGEON
for a period of six months from April 1, 1952. The post is recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8060)

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)
Applications are invited for the vacancy of
HOUSE SURGEON
commencing April 1, 1952. Applications, stating age, qualifications and experience, together with copies of recent testimonials, to the Secretary, Leicester No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8062)

MAIDENHEAD HOSPITAL
St. Luke's Road, Maidenhead, Berks (100 beds)
Applications are invited for the post of
HOUSE SURGEON
now vacant. Salary on national scale. Applications, stating age, qualifications and experience together with copies of testimonials, should be sent to the Administrative Officer. (8019)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham, Manchester, 8 (105 beds)
(Non-sectarian)
Applications are invited for the post of
HOUSE SURGEON
(House Officer grade)
Vacant March 13, 1952. Applications, together with copies of not less than two recent testimonials or names of two referees, to the Hospital Administrator forthwith. (7363)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy General Hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (4139)

NEWMARKET GENERAL HOSPITAL, Suffolk (268 beds)
Applications are invited for the post of
HOUSE SURGEON
Vacant immediately, in a busy general hospital staffed by consultants. Offers excellent opportunity for experience in general, E.N.T., and eye surgery. Salary in accordance with national scale, with usual deduction for board and residence. Full particulars of age, qualifications, and experience, should be forwarded to the Physician Superintendent. (7902)

NEWPORT, MON, ROYAL GWENT HOSPITAL (259 beds—10 Residents)
(Base hospital for the Newport and East Monmouthshire Group)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant March 1. The appointment is recognized for the Fellowship of the Royal College of Surgeons, and covers 33 surgical and 12 gynaecological beds. National salary scales and conditions. Apply, with the names of three referees, to T. A. Jones, Sec., 17 Cardiff Road, Newport, Mon. (7364)

NORTHWOOD, MIDDX, MOUNT VERNON HOSPITAL AND THE RADIUM INSTITUTE
Harefield and Northwood Group Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER
(General Surgery, Urology, and Ophthalmology)
at Mount Vernon Hospital, Northwood, Middx. Post is vacant immediately. This post is recognized in General Surgery for the final F.R.C.S. Applications, accompanied by testimonials, to be sent to the Secretary and House Governor. (8232)

NOTTINGHAM CITY HOSPITAL (833 beds)
HOUSE OFFICER (General Surgery)
Post vacant now. Conditions of service in accordance with terms issued by Ministry of Health. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be sent immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (8266)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence immediately. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

NUNEATON, GEORGE ELIOT HOSPITAL (289 beds)
HOUSE SURGEON
Required for general duties (54 surgical beds). Applications to the Medical Superintendent. (8267)

PENZANCE, WEST CORNWALL HOSPITAL (General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (Male or female)
Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6702)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Freedom Fields
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
vacant April 4, 1952, recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications and experience, together with names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (8114)

PONTYPRIDD (near), EAST GLAMORGAN HOSPITAL, Church Village
(316 beds—Committee's base hospital serving population of 177,000)
Pontypridd and Rhondda Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (First or second post) (Surgical)
Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary of the Pontypridd and Rhondda Hospital Management Committee, Courthouse Street, Pontypridd. (8201)

PORTH AND DISTRICT HOSPITAL
Rhondda (110 beds)
(This hospital is visited regularly by Consultants from the Cardiff Royal Infirmary)
Pontypridd and Rhondda Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (First or second post)
(Duties mainly surgical)
Applications, stating age, qualifications, experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary, Pontypridd and Rhondda Hospital Management Committee, Courthouse Street, Pontypridd. (8202)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments:
Saint Mary's Hospital (773 beds)
HOUSE SURGEON
Queen Alexandra Hospital (464 beds)
HOUSE SURGEON
Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (8072)

PRESTON ROYAL INFIRMARY (400 beds)
GENERAL HOUSE SURGEON
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7417)

ROCHDALE, BIRCH HILL HOSPITAL
Rochdale and District Hospital Management Committee
HOUSE SURGEON
Apply to the Secretary, Central Offices, Birch Hill Hospital, Rochdale, Lancs. (8200)

ST. LEONARDS-ON-SEA, BUCHANAN HOSPITAL (94 beds)
Hastings Group Hospital Management Committee
RESIDENT HOUSE SURGEON
Post vacant April 1, 1952, and is recognized for the M.R.C.O.G. National scales of salary. Applications to Administrator at the hospital. (8020)

SCARBOROUGH HOSPITAL, Yorks (163 beds)
Applications are invited from registered medical practitioners, male or female, for two posts of
RESIDENT HOUSE SURGEON (Surgical)
both posts now vacant. The salaries are in accordance with the national scale, and the appointments will be for six months. Applications, stating age and qualifications, together with testimonials, to be sent to the Secretary. (7200)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SOLIHULL HOSPITAL
Lode Lane, Solihull, near Birmingham
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Vacancy immediately for
HOUSE SURGEON
This is a General Hospital and offers good experience in general and traumatic surgery. There are five other Resident Medical Officers. Applications, within fourteen days of this advertisement, giving qualifications, experience and age, with copies of recent testimonials (or names of two referees) to the Medical Superintendent, Solihull Hospital, Lode Lane, Solihull, near Birmingham. (8143)

SOUTH-EAST NORTHUMBERLAND HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners for
HOUSE SURGEON posts
at Tynemouth Victoria Jubilee Infirmary and Preston Hospital
Applications, together with two testimonials, should be sent to the Secretary, South-East Northumberland Hospital Management Committee, Preston Hospital, North Shields, as soon as possible. (8154)

SOUTHAMPTON GENERAL HOSPITAL (453 beds)
HOUSE SURGEON (Resident)
(General Surgical Unit)
Required early March. Post tenable for six months. Applications, with copies of testimonials, to be forwarded as soon as possible to the Secretary Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7903)

Surgery—contd.

SOUTH SHIELDS, INGHAM INFIRMARY (158 beds)

Applications are invited from registered medical practitioners for the post of

HOUSE SURGEON (First or second post)

now vacant. The hospital is an acute general hospital with the usual special departments, staffed by whole time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Secretary. (7201)

SOUTHPORT, PROMENADE HOSPITAL
Southport and District Hospital Management Committee

HOUSE SURGEON (Resident)

Post vacant now. Apply, with details of age, nationality, qualifications, enclosing copies of two recent testimonials, to T. Crook, Secretary, Promenade Hospital, Southport. (8203)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 52 beds)
Stafford Hospital Management Committee

Applications are invited from registered medical practitioners (male or female) for the post of

HOUSE SURGEON

vacant March 15, 1952. First, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Sec. to Committee 13 Foregate Street, Stafford (7365)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL (96 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

RESIDENT HOUSE OFFICER (Surgical)

Post vacant mid-March. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7384)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

RESIDENT HOUSE OFFICER (General Surgery)

The post is recognized for F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7383)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

HOUSE OFFICER (General Surgery)

vacant March 1, 1952. Post recognized for F.R.C.S. examination. Applications, with copy testimonials, should be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (7385)

SUNDERLAND, GENERAL HOSPITAL (517 beds)

HOUSE SURGEON (Male or female)

Apply immediately to the Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (8158)

SUTTON-IN-ASHFIELD, NOTTINGHAMSHIRE KING'S MILL HOSPITAL

Applications are invited for the post of

HOUSE SURGEON

The hospital contains 115 surgical beds and the post offers facilities for practical training in general surgery and E.N.T. surgery. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Salary £350 to £450, according to previous posts held, with a deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary to the Committee. (4818)

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee

Applications are invited from registered medical practitioners for the resident appointment of

HOUSE SURGEON

Full particulars of age, qualifications and experience should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (8251)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

HOUSE SURGEON

at the above hospital. Resident. The appointment will be for six months in the first instance, and the post becomes vacant on March 15, 1952. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Sec., Thurrock Hospital, Grays, Essex. (7966)

TRURO, ROYAL CORNWALL INFIRMARY (General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee

Applications are invited for

HOUSE SURGEON (Male or female) for General Surgery and Gynaecology

Post vacant March 18, 1952. The successful candidate will be responsible jointly with the House Surgeon for the 66 beds allocated to the two specialties. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, qualifications and experience, and copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5268)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for the following appointments:

TWO RESIDENT HOUSE SURGEONS
(vacant April 1, 1952)

Post is/are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)

Applications are invited from registered medical practitioners for the following post:

HOUSE SURGEON (Second or third post)

Vacant end of February. Salary according to National Health Service scale. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent to the undersigned.—Cyril Hopkinson, Administrator (5862)

WEST BROMWICH AND DISTRICT GENERAL HOSPITAL, Edward Street, West Bromwich
West Bromwich and District Hospitals Management Committee Group No. 18

Applications are invited for the post of

HOUSE SURGEON

Range of salary £350 to £450 per annum according to experience, with deduction of £100 per annum in respect of board and lodgings. The post is tenable for six months. Applications, together with three recent testimonials, should be submitted to John O. Robins, Secretary (7569)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY
Wigan and Leigh Hospital Management Committee

HOUSE SURGEON (Male or Female)

Post, which is house officer grade, and is recognized for F.R.C.S. examinations, falls vacant on March 21, 1952. Applications, stating age, qualifications, etc., together with the names of two referees, should be received by the undersigned as early as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (7904)

WESTON-SUPER-MARE GENERAL HOSPITAL (110 beds)

Applications are invited from registered medical practitioners for the resident appointments of

TWO HOUSE OFFICERS (House Surgeons)

Duties to commence as soon as possible. Salary at the rate of £350 to £400 per annum, according to previous posts held, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be addressed to the Secretary, Weston-super-Mare Hospital Management Committee, c/o The General Hospital, Weston-super-Mare. (8268)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)

TWO HOUSE SURGEONS

Vacancy March 16 and 29 respectively. General Surgery and work in E.N.T. Department. Applications, with copies of two testimonials, to Secretary. (8149)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL

HOUSE SURGEON in General Surgery

Required immediately. Post recognized for F.R.C.S. Salary on national scale. Applications, stating age, experience, qualifications, with dates, nationality, together with copies of recent testimonials, should be sent to the Administrative Officer. (7712)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL

HOUSE SURGEON in General Surgery (Male or female)

Required for post vacant March 2, 1952. Post recognized for F.R.C.S. Salary on national scale. Applications, stating age, qualifications, with dates, and nationality, together with copies of recent testimonials, should be sent to the Administrative Officer. (7713)

WORCESTER ROYAL INFIRMARY (300 beds)

Applications invited for the following appointments:

HOUSE SURGEON (General Surgery/Gynaecology)

Vacant February 27, 1952.

HOUSE SURGEON (General Surgery/Orthopaedics)

Vacant March 24, 1952.

In both appointments the division of duties between specialties is approximately equal; each is tenable for six months and is subject to the terms and conditions of service of hospital medical staff. Applications, with copies of testimonials, should be sent as soon as possible to the Secretary, from whom further particulars can be obtained. (7905)

WREXHAM, MAELOR GENERAL HOSPITAL (513 beds)
Wrexham, Powys and Mawddach Hospital Management Committee

Applications are invited for the post of

HOUSE SURGEON

at the above hospital to commence at the beginning of March. The appointment is recognized for the Diploma of F.R.C.S. (Eng. and Edin.). Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (7974)

CASUALTY

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee

Applications are invited from registered medical practitioners for the non-resident appointment of

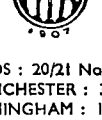
CASUALTY OFFICER
of Junior Hospital Medical Officer Grade

to the above hospital. Full particulars of age, qualifications and experience should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe Hospital Management Committee, St. Helen's Road, Swansea. (8250)

Chairman: James Fenton, CBE, MD.

MEDICAL INSURANCE AGENCY

Hon. Secretary: Henry Robinson, MD, DL, JP.



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LEEDS: 20/21 Norwich Union Bldgs., City Sq
MANCHESTER: 33 Cross Street.
BIRMINGHAM: 154 Great Charles Street.

CHIEF OFFICE, B.M.A. House, Tavistock Sq., London, W.C.1.
Telephone: Euston 5561-2-3.
EDINBURGH: 6 Drumsheugh Gardens.
NEWCASTLE-UPON-TYNE: 16 Saville Row

GLASGOW: 234 St. Vincent Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.

Casualty—contd.

YORK, CITY HOSPITAL
(Modern general hospital of 265 beds, with full Consultant staff)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC OFFICER
Post graded Junior Hospital Medical Officer (salary £700 by £50 to £1,000 per annum). Residence is available for which a charge of £153 per annum will be made. Person appointed may be non-resident or partly resident. Post vacant immediately. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (8204)

HACKNEY HOSPITAL, E.9 (783 beds)
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
for Casualty Officer duties
Post tenable for twelve months. Salary is at the rate of £670 per annum, less £130 per annum for residential emoluments. Applications, together with copies of three testimonials, should be sent to the Secretary, Hackney Group Hospital Management Committee, Hackney Hospital, E.9, by not later than February 25, 1952. (8105)

NATIONAL TEMPERANCE HOSPITAL
Hampstead Road, N.W.1
Paddington Group Hospital Management Committee
Applications are invited for the post of
RESIDENT CASUALTY OFFICER
(Senior House Officer)
The appointment is tenable for one year in the first instance. Applications, stating age, qualifications, experience, together with names and addresses of two referees, should be sent immediately to C. R. Jolly, Secretary, Paddington Group Hospital Management Committee, Paddington Hospital, 285, Harrow Road, W.9. (8144)

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
NON-RESIDENT CASUALTY OFFICER
(Senior House Officer)
at St. Charles' Hospital, Ladbroke Grove, W.10
The appointment is tenable for one year in the first instance, and candidates will be interviewed on March 21 for duty as from April 1, 1952. Applications, stating age, qualifications, experience, together with the names and addresses of three referees, should reach the undersigned by March 10, 1952.—C. R. Jolly, Secretary, Paddington Group H.M.C., 285, Harrow Road, W.9. (8269)

BECKENHAM HOSPITAL
Croydon Road, Beckenham, Kent
CASUALTY OFFICER
Required immediately for the Casualty Department of this General Hospital of 100 beds with duties in the Orthopaedic and Fracture Departments. Salary £670 a year, less £150 a year for residential services. The appointment is tenable for one year in the first instance. Applications, stating age, qualifications and experience, together with names and addresses of three referees, should be sent to the Administrative Officer. (7812)

DARTFORD HOSPITAL MANAGEMENT COMMITTEE
RECEIVING ROOM OFFICER (Resident)
(Hospital admissions and casualties)
Candidates should have held House Officer appointments. Salary £670 a year, less £150 a year for residential emoluments. Six months' appointment with possible renewal up to one year. Applications, stating age, qualifications, experience, nationality, and the names of two persons to whom reference may be made, to the Secretary, Dartford Hospital Management Committee, The Bow Arrow Hospital, Dartford, Kent, immediately. (8023)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (7810)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary. (5418)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of either
RECEIVING ROOM OFFICER
Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or
CASUALTY OFFICER
Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant.
Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

MIDDLESBROUGH GENERAL HOSPITAL
(350 beds)
Tees-side Hospital Management Committee
SENIOR HOUSE OFFICER (Casualty)
Applications are invited for the above appointment. Salary and conditions in accordance with national scales. Applications, stating age, qualifications and experience, together with names for reference, should be forwarded to the Secretary-Superintendent, Middlesbrough General Hospital, Middlesbrough. (7452)

NOTTINGHAM, GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Casualty)
Duties to commence as soon as possible. Salary £670 per annum, less £150 emoluments. Terms and conditions of service as published by the Ministry. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (4819)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for appointment of
SENIOR HOUSE OFFICER
to Casualty and Fracture Department
vacant immediately. Salary at £670 per annum. Terms and conditions in accordance with the National Health Service terms. The appointment will be for a period of twelve months and is renewable. Applications, stating age, nationality, qualifications and experience, together with the names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (8115)

POOLE GENERAL HOSPITAL, Poole, Dorset
Bournemouth and East Dorset Hospital Management Committee
CASUALTY OFFICER (S.H.O. £670)
Required for February 24. Post suitable for person reading for higher diplomas. Applications to the Assistant Secretary of the hospital. (7652)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
CASUALTY OFFICER
Applications are invited from registered medical practitioners for above post, vacant March 1, 1952. Post offers good experience with fractures and emergency surgery, and is tenable for twelve months. Salary £670 per annum. Applications, stating age, nationality, qualifications, and experience, together with recent testimonials, to be addressed to the Administrative Officer. (8150)

ROTHERHAM, DONCASTER GATE HOSPITAL
(155 beds)
SENIOR HOUSE OFFICER
(Duty in Casualty, E.N.T. and Eye Departments)
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (8021)

ROTHERHAM, DONCASTER GATE HOSPITAL
(155 beds)
SENIOR HOUSE OFFICER
(Casualty and Orthopaedic)
Salary £670 per annum, less £140 per annum residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (7663)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
CASUALTY OFFICER
(Resident or non-resident)
(Senior House Officer status)
Duties to be from 9 a.m. to 5 p.m. each day, except Saturday, which should be 9 a.m. to 1 p.m., and the applicant may be required to do one week-end's duty in each month. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7123)

WALSALL GENERAL HOSPITAL (181 beds)
Walsall Hospital Management Committee
CASUALTY OFFICER (S.H.O. grade)
Required immediately. Apply Secretary (7527)

BATTERSEA GENERAL HOSPITAL
Battersea Park, S.W.11
Battersea and Putney Group Hospital Management Committee
RESIDENT CASUALTY OFFICER
(House Officer Grade)
Required immediately for six months. Apply, enclosing copies of two recent testimonials, to Administrative Officer. (8104)

KING EDWARD MEMORIAL HOSPITAL, Ealing
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (First, second or third post) to Casualty, Orthopaedic and Fracture Departments
Vacant now. Applications, stating age, nationality, qualifications (with dates), and details of experience, together with copies of two recent testimonials, to the Secretary of the Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date February 26, 1952. (8179)

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.2 (St. Mary's Hospital)
Applications are invited for the post of
CASUALTY OFFICER (Second or third post)
The appointment is non-resident and tenable for six months as from April 1, 1952. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of recent testimonials, should reach the undersigned not later than February 23, 1952.—E. W. Stockwell, Secretary-Superintendent. (7763)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE SURGEON
Casualty and Orthopaedic Department
Post recognized for F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, B'ackpool. (7703)

CARLISLE, CUMBERLAND INFIRMARY
(322 beds)
East Cumberland Hospital Management Committee
Applications are invited for the undermentioned resident post, vacant April 1, 1952, and tenable for six months:
HOUSE OFFICER (Casualty)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary Carlisle. (8022)

CHESTERFIELD ROYAL HOSPITAL (321 beds)
Chesterfield Hospital Management Committee
CASUALTY OFFICER (House Officer)
Required immediately. National salary and conditions. Apply M. H. Boone, Secretary. (7299)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
CASUALTY OFFICER AND SECOND HOUSE PHYSICIAN (Male) (Joint post)
(First or second post held)
Six months' appointment. Salary at the rate of £350 to £400 per annum, less £100 per annum residential emoluments. Duties to commence March 15, 1952. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (8270)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for residential emoluments. The post will be tenable for six months and terminable by one month's notice either side. Forms of application from the Administrative Officer. (6325)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN
Busy Casualty Department. Applications immediately to the Secretary, Hospital Management Committee. (8208)

Casualty—contd.

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of

CASUALTY OFFICER and HOUSE SURGEON

for a period of nine months from April 1, 1952. The first three months will be served as Casualty Officer and Deputy House Surgeon to future chief. The post of House Surgeon recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (8061)

MAIDENHEAD HOSPITAL

St. Luke's Road, Maidenhead, Berks (100 beds)

Applications are invited for the post of

HOUSE SURGEON to the Accident Department

Salary authorized at £50 per annum higher than the standard rate. Applications, stating age, qualifications and experience, together with copies of testimonials, should be sent to the Administrative Officer. (8024)

MANCHESTER (near), PARK HOSPITAL

Davyhulme (General Hospital—426 beds)

West Manchester Hospital Management Committee

HOUSE OFFICER (Casualty and Orthopaedic)

Applications are invited from registered medical practitioners for the above post, which is vacant now. The post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8076)

NEWPORT, I.W., ST. MARY'S HOSPITAL

Isle of Wight Group Hospital Management Committee

CASUALTY HOUSE OFFICER

Required for new department in recently completed premises, with charge of some beds in special departments. Salary according to previous posts held (£350, £400 or £450), less £100 for board, lodging and services provided. National terms and conditions of service. Applications, stating full details as to age, qualifications, experience and nationality, together with names and addresses of three referees, to be sent to the Chief Administrative Officer, Hospital Management Committee, at above address as soon as possible. (8271)

PENZANCE, WEST CORNWALL HOSPITAL

(General Hospital, 100 beds)

West Cornwall Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

CASUALTY HOUSE SURGEON

Post now vacant. National salary and conditions of service. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6447)

PRESTON ROYAL INFIRMARY (400 beds)

CASUALTY OFFICER (House Officer Grade)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (7423)

SOUTH SHIELDS, INGHAM INFIRMARY

(158 beds)

Applications are invited from registered medical practitioners for the post of

CASUALTY OFFICER "SPECIALS" HOUSE SURGEON (First or second post)

which is now vacant. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Secretary (7205)

STOURBRIDGE, CORBETT HOSPITAL

(106 beds)

National Health Service Act, 1946

Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

HOUSE OFFICER (Resident Casualty)

Post now vacant and will be tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (5384)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL, Watford, Herts

(189 beds)

Applications are invited for the post of

CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON

The Traumatic and Orthopaedic Department consists of 24 beds, and is integrated with the Royal National Orthopaedic Hospital. Salary according to N.H.S. scale. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent to undersigned.—Cyril Hopkinson, Administrator. (7573)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY

Wigan and Leigh Hospital Management Committee

CASUALTY OFFICER (Male or Female)

House officer grade post recognized for the F.R.C.S. examinations. Post vacant March 3, 1952. Applications, stating age, qualifications, etc., together with the names of two referees, should be received by the undersigned as early as possible.—T. W. Hurst, Sec., Knowsley House, Wigan. (7906)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

PUBLIC HEALTH

(See Important Notice page 21)

BIRMINGHAM, CITY OF

Public Health Department

Applications are invited for the appointment of

ASSISTANT ADMINISTRATIVE MEDICAL OFFICER

in the Maternity and Child Welfare Department. The work in this department includes duties in connection with children of all ages in the care of the Children's Committee. Applicants should have had experience in work with mothers and children, including a six months' resident post in a maternity hospital and in a children's hospital. The D.P.H. or the D.C.H. and any administrative experience will be considered an additional qualification. The salary scale is £1,050 by £50 to £1,250, the commencing salary within the scale depending on the medical officer's experience. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. The appointment will be subject to one month's notice on either side. Applications, endorsed "Assistant Administrative Medical Officer for Maternity and Child Welfare," giving full details of training and experience, together with copies of three recent testimonials, should be submitted on a form obtainable from the Medical Officer of Health, Council House, Birmingham, 3, and returned to him on or before March 3, 1952. (8205)

GLAMORGAN EDUCATION AUTHORITY

Rhondda Urban District Council

Committee for Education

Applications are invited from registered medical practitioners for appointment as

ASSISTANT MEDICAL OFFICER

under the supervision of the District School Medical Officer at a salary of £850 per annum, rising by annual increments of £50 to £1,150 per annum. Preference will be given to candidates holding the D.P.H. or D.C.H., and experience in paediatrics will be an advantage. The successful candidate, if in need of housing accommodation and not already a resident of the Rhondda Urban Area, may be offered the tenancy of a Council house. Forms of application and conditions of appointment may be obtained from the District School Medical Officer, Tydfil House, Pentre, Rhondda, by whom completed applications should be received as soon as possible.—D. J. Jones, Clerk of the Council. (8280)

GLOUCESTERSHIRE COUNTY COUNCIL

Applications are invited for the appointment of

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH (Male)

Salary in accordance with the Whitley Council for Health Services, Medical Council, £850 per annum, rising by annual increments of £50 to £1,150 per annum. The commencing salary within this scale will be determined in accordance with the candidate's previous Local Government experience. Applicants must be registered medical practitioners and the possession of a Diploma or Certificate in Public Health will be an advantage. The appointment will be superannuable and the successful applicant will be required to pass a medical examination. Candidates must be able to drive and be in possession of a car, travelling and subsistence allowances will be paid in accordance with the Council's scale. Forms of application, with particulars of duties and conditions of appointment, may be obtained from the County Medical Officer of Health, Berkeley House, Berkeley Street, Gloucester, to whom completed applications should be sent within fourteen days of this advertisement. —Guy H. Davis, Clerk of the County Council, Shire Hall, Gloucester. (7975)

IPSWICH, COUNTY BOROUGH OF

ASSISTANT MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER

Applications are invited from registered medical practitioners for the above post. The possession of the D.P.H. or the D.C.H. is a desirable qualification although not essential. Salary will be £850 by £50 to £1,150 per annum. A commencing salary above the minimum of the grade may be fixed, having due regard to the experience of the applicant. The post is established and superannuable. The officer appointed will be required to provide, maintain and use a car in the course of the duties, for which an allowance will be paid. Application forms and conditions of appointment may be obtained from the Medical Officer of Health, Elm Street, Ipswich.—J. C. Nelson, Town Clerk, Town Hall, Ipswich. (7976)

LINCOLN, COUNTY OF—PARTS OF LINDSEY

ASSISTANT COUNTY MEDICAL OFFICER AND DISTRICT MEDICAL OFFICER OF HEALTH for Horncastle Rural, Horncastle Urban and Woodhall Spa Urban Districts

Applications are invited from any duly qualified medical practitioner registered in the *Medical Register* as the holder of a Diploma in Sanitary Science, Public Health or State Medicine, for the above-mentioned combined appointments providing whole-time employment. The combined salary will commence at £1,040 2s. 1d. per annum and will rise by four annual increments of £52 12s. 1d. and two annual increments of £42 3s. 9d. to a maximum of £1,334 17s. 11d. per annum. Travelling allowances according to the County Council's scale will be paid. The appointment of District Medical Officer of Health will be made by the District Councils in accordance with the Local Government Act, 1933, and the Sanitary Officers' (Outside London) Regulations, 1935, as amended by the Sanitary Officers' (Outside London) Regulations, 1951. The appointment will be superannuable. Applications, on forms obtainable from the Clerk of the County Council, County Offices, Lincoln, must be returned not later than ten days after the appearance of this advertisement.—H. Copland, Clerk of the Lindsey County Council, Lincoln. (7846)

SWANSEA, COUNTY BOROUGH OF

Applications are invited from duly qualified medical practitioners for the post of

ASSISTANT MEDICAL OFFICER (Female)

Applicants must have had postgraduate resident hospital experience and should be under 45 years of age unless already holding a similar superannuable appointment. Salary £850 by £50 to £1,150 per annum. Application forms may be obtained from the Medical Officer of Health, Public Health Department, The Guildhall, Swansea, to whom they should be returned not later than Monday, February 25, 1952. Canvassing, either directly or indirectly, is a disqualification.—T. B. Bowen, Town Clerk, The Guildhall, Swansea. (8206)

TOTTENHAM, BOROUGH OF

Applications are invited for the post of

DEPUTY MEDICAL OFFICER OF HEALTH

from duly registered medical practitioners holding the Diploma of Public Health. The officer appointed will be required to devote 30 per cent of his time to the work of the Area Health Service of the Middlesex County Council. The salary will be £1,298 15s. per annum, rising by five annual increments of £53 15s. and one of £18 15s. to £1,586 5s. per annum. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and to the satisfactory passing of a medical examination. Details of the terms of the appointment may be obtained from the Medical Officer of Health, Town Hall, Tottenham N.15. Applications must comply with the above-mentioned conditions and must be received by the undersigned in envelopes endorsed "Deputy Medical Officer of Health," not later than 12 noon on Saturday, March 1, 1952. Canvassing disqualifies.—M. Lindsay Taylor, Town Clerk, Town Hall, Tottenham, N.15. (8145)

WORCESTERSHIRE COUNTY COUNCIL

ASSISTANT COUNTY MEDICAL OFFICER with Additional Public Health Duties

Applications are invited from registered medical practitioners (men or women) for the above whole-time post. The duties will chiefly concern school health and child welfare services. The possession of the D.C.H. or the D.P.H. and experience in connexion with infectious diseases will be of advantage. The salary and conditions of service will be in accordance with the recent award of the Industrial Court, i.e., £850 per annum, rising by annual increments of £50 to £1,150. Past experience will be considered in fixing the starting point within the scale. The successful candidate must own and drive a car. The holder of this appointment (now vacant) also acted as occasional Deputy at the Hayley Green Isolation Hospital and to the Medical Officer of Health for the boroughs of Halesowen and Stourbridge, for which additional payment is made. The appointed officer will be considered for all or any of these additional appointments. The post is superannuable, subject to medical examination and determinable by three months' notice. Applications, on forms to be obtained from the County Medical Officer, County Buildings, Worcester, should be returned to him by February 29, 1952.—W. R. Scurfield, Clerk of the County Council (X42). (8272)

Public Health—contd.

WARWICKSHIRE COUNTY COUNCIL
County Medical Officer of Health's Department
TWO ASSISTANT COUNTY MEDICAL OFFICERS OF HEALTH (Male or female)

Applications are invited from registered medical practitioners for the above permanent appointments. Preference will be given to those holding D.P.H. or D.C.H. and with previous experience. Salary according to experience within the following scale: £850 per annum by annual increments of £50 to a maximum of £1,150 per annum. The posts are superannuable and appointment is subject to the production of a satisfactory medical certificate. The successful candidates will be required to provide and use a motor car in the performance of their duties, for which a mileage allowance is payable. Further particulars (including details of area) and application forms may be obtained from the County Medical Officer of Health, Shire Hall, Warwick. Closing date for applications is March 1, 1952.—L. Edgar Stephens, Clerk of the Council, Shire Hall, Warwick. (7977)

GOVERNMENTAL

PRISON AND BORSTAL SERVICE

Applications are invited for three posts of

PSYCHIATRIC SOCIAL WORKERS (Women)
at Liverpool, Manchester and London

Salary £420 by £20 to £580 per annum. Starting pay according to age, experience and qualifications. Pensionable under the Health Service Superannuation scheme. Applicants must hold the Mental Health Certificate of either the University of Edinburgh, London, or Manchester, and should preferably be experienced in mental work. Regulations and application forms from Establishment Officer (E84/3/6), Prison Commission, Horseferry House, Dean Ryle Street, London, S.W.1, to be returned by March 1, 1952. (8273)

COMMERCIAL APPOINTMENTS

LONDON PHARMACEUTICAL HOUSE REquires full-time services of registered medical practitioner (male), of good address, aged 30 to 40, for special publicity work. Salary £1,000 per annum. Please give full particulars of experience. —Box 614, B.M.J.

EIRE

COUNTY HOSPITAL, Waterford
Local Appointments Commission
SURGEON

Application forms and particulars from the Secretary, 45, Upper O'Connell Street, Dublin. Minimum age limit 30 years. Salary £1,340 plus fees in certain cases. Latest time for receiving completed application forms, 5 p.m. on February 22, 1952. (8248)

OVERSEAS

NEW ZEALAND

Wanted immediately, Locum for established practice in North Island. Early option to purchase. Terms and conditions from Mr. J. Martin, 171, Anderson Drive, Aberdeen, Scotland.

ALBERTA
PHYSICIAN (Preferably M.R.C.P.)

Required for growing practice in Southern Alberta. Facilities available for work in two city hospitals. Applicant must be prepared to do some general practice initially. Interview in London in May. Reply, with photo, by airmail to John Morgan, M.R.C.O.G. Picture Butte, Alberta, Canada.

CAPE TOWN

For Sale. Well-established practice in a high class suburb of Cape Town. Doctor's magnificent residence included in sale. For particulars, write Box P511, B.M.J.

SOUTH GEORGIA

Wanted immediately, **Doctor for a Whaling Station at South Georgia.** Higher qualifications necessary. Salary £100 per month, board and lodging provided. Applications to Medical Superintendent, Chr. Salvesen and Co., 29, Bernard Street, Leith.

MANITOBA

Assistant wanted, North Canadian Mining practice, good prospects of early succession to suitable man. Must be able to do emergency surgery and obstetrics. Particulars from Sir John Nicholson, 24, Upper Mall, W.6.

GOLD COAST

Resident Medical Officer required by Mining Company in the Gold Coast. Tour of duty twelve months followed by three months' leave on full pay. Remuneration £140 per month. Furnished bungalow and passages provided. Write, with full particulars to Box 606, B.M.J.

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

ALBANY HOSPITAL, Albany, N.Y.

Residency in tuberculosis available at Albany Hospital, Albany, New York, associated with Albany Medical College, beginning July 1, 1952, for a period of twelve months. Salary ranges from $1,800 to $2,400. (9920)

ALBANY HOSPITAL, Albany, N.Y.

Internships and residencies available in Albany Hospital, Albany, New York, 750-bed general hospital, directly associated with Albany Medical College. House officers receive appointments in medical school. Salaries range from a minimum of $300 a year for interns to $1,400 a year for residents. Details on request. (9695)

HER MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom with one or more years' experience after qualification are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH
for General Medical and Health duties

Appointment is available (a) on probation for permanent establishment; (b) on employment from the National Health Service; and (c) on short-term contract with gratuity. (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in Her Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g., F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malaya salary on leaving Malaya at the end of their engagements. Emoluments as under (a), including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a), including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e., those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/242/51). (5187)

GOVERNMENT OF INDIA

Required for the Irwin Hospital, New Delhi, under the Colombo Plan for Technical Co-operation in South and South-East Asia, an

ORTHOPAEDIC SURGEON

with postgraduate qualifications and at least ten years' experience in the practice and teaching of orthopaedics, to act as Consultant and to train postgraduate and undergraduate students. The Irwin Hospital is a general hospital of 300 beds with a large surgical section where all types of general surgery, including orthopaedics, are done. Candidates should be between 30 and 55 years. Two-year appointment in first instance with first-class return passage. Salary £3,250 (taxable in this country) with substantial allowances (tax free) and free board and lodging. Write, giving age, full particulars of experience and qualifications, to the Secretary (Division 5A), Ministry of Health, Savile Row, London, W.1. (7730)

UNIVERSITY OF THE WITWATERSRAND
Johannesburg, South Africa

Applications are invited for appointment to three posts of

FULL-TIME LECTURER

on the permanent staff of the Department of Anatomy. The salary scale attached to the appointment is £550 by £25 to £800 per annum, plus a cost-of-living allowance which amounts to £208 per annum in the case of a married man or a single person with dependants, and £109 per annum in the case of others. The duties involve the teaching of gross anatomy and/or microscopic anatomy and embryology to undergraduate medical, dental and science students. Applicants need not be medically qualified and those with good qualifications and teaching experience in fundamental sciences, such as zoology and comparative anatomy, will also be considered. Duties are to be assumed as soon as possible. Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, 5, Gordon Square, London, W.C.1. The closing date for the receipt of applications is April 7, 1952. (8274)

UNIVERSITY APPOINTMENTS

BEIT MEMORIAL FELLOWSHIPS FOR MEDICAL RESEARCH

Notice is hereby given that an election of Junior Fellows to begin work on October 1 next will take place in June, 1952. Junior Fellowships are of the annual value of £600 for three years with, in certain circumstances, superannuation benefits to which the successful candidates will be required to contribute 5 per cent of the annual stipend and to which the Trust will make a contribution of 10 per cent. Candidates must have taken a degree in a faculty of a university in His Majesty's Dominions, Protectorates and Mandated Territories, India, Pakistan, and the Republic of Ireland approved by the Trustees, or a medical diploma registrable in the United Kingdom. Elections to Junior Fellowships are rarely made above the age of 35 years. Applications from candidates must be received not later than April 14, 1952. Candidates must submit evidence that they can be given accommodation in the departments where they propose to work, which must be either in Great Britain or Ireland. Forms of application and all information may be obtained by letter only, addressed to the Secretary, Beit Memorial Fellowships for Medical Research, The Lister Institute, Chelsea Bridge Road, London, S.W.1. For overseas candidates forms of application may be obtained from the Secretary, South African Medical Council, P.O. Box 205, Pretoria, South Africa; The Secretary, Universities Commission, Box 4061, G.P.O., Sydney, Australia; The Department of Health, Wellington, New Zealand; and the Canadian Medical Association, 184, College Street, Toronto, Canada. (4503)

NUFFIELD FOUNDATION
MEDICAL FELLOWSHIPS

As part of its programme for the advancement of health the Nuffield Foundation is prepared to award a number of Fellowships to highly qualified medical men and women of the United Kingdom, usually between the ages of 25 and 35, who wish to train further for teaching and research appointments in any branch of medicine. Between equally qualified applicants preference will be given to those who wish to pursue an academic career in child health, social medicine, industrial health, psychiatry, and chronic rheumatism. Applications for awards in 1952 must be received not later than May 1, 1952. The value of the awards will be variable but will not be less than £900 per annum plus travelling expenses. The conditions of these fellowships and the application forms are obtainable from the Secretary, The Nuffield Foundation, 12 and 13, Mecklenburgh Square, London, W.C.1. —L. Farrer-Brown, Secretary of the Nuffield Foundation. (7796)

University Appointments—contd.

GONVILLE AND CAIUS COLLEGE, Cambridge
BERKELEY BYE-FELLOWSHIP
(Founded in memory of Sir G. H. A. Comyns Berkeley and of his wife, Ethel Rose Berkeley)

The Council of Gonville and Caius College invite applications for a Berkeley Bye-Fellowship for research in either of the following fields: (1) Medicine. (2) Any branch of Natural Science, excluding Medicine. Candidates should be men of not less than twenty-six years of age. The tenure of the Bye-Fellowship is from one to three years and the emolument from £500 to £1,000, according to standing. Full particulars may be obtained from the Registrary, Gonville and Caius College, Cambridge. Applications must be received not later than April 1, 1952. (7851)

INSTITUTE OF UROLOGY
in Association with St. Peter's and St. Paul's Hospitals
PART-TIME BIOCHEMIST
(Medical qualification not essential)

Required to undertake research and laboratory investigation in connexion with urological disease. Graduates of at least two years' standing may apply. Appointment (approximately half-time) might suit applicant engaged in preparing thesis for higher degree. Salary commencing at £450 per annum. Apply, Secretary, St. Paul's Hospital, Institute of Urology, Endell Street, W.C.2, stating age, qualifications and experience, and enclosing copies of two recent testimonials. Closing date February 25, 1952. (7787)

WELSH NATIONAL SCHOOL OF MEDICINE
(University of Wales)

Applications are invited for the appointment of
FULL-TIME ASSISTANT LECTURER
in the Department of Obstetrics and Gynaecology
for a period of one year in the first instance. Salary within the range £650 by £100 to £950 per annum, with participation in family allowance and superannuation schemes. Further particulars of the appointment may be obtained from the undersigned, by whom applications must be received not later than Saturday, March 8, 1952.—F. Dodsworth, Secretary, 34, Newport Road, Cardiff. (8275)

NOTICES

APPLICANTS ARE ADVISED NOT TO SEND original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

APPEAL TO THE MEDICAL PROFESSION
for financial support
for the Y.M.C.A.

REMINDER

The Appeal is still open and intending contributors should remit to:

Sir Horace Evans, K.C.V.O., M.D., F.R.C.P.
26, Weymouth Street, London, W.1

FACULTY OF ANAESTHETISTS
ROYAL COLLEGE OF SURGEONS OF ENGLAND
Annual General Meeting

Notice is hereby given that the Annual General Meeting of the Faculty will take place at the College in Lincoln's Inn Fields, London, W.C.2, on Wednesday, March 19, 1952, at 4 p.m. Notices of motion must reach the Secretary by not later than Saturday, March 8. An Agenda Paper will be available three days before the date of the meeting and will be issued to any Fellow or Member who applies for it. All Fellows and Members of the Faculty are eligible to attend the Annual General Meeting.—W. F. Davis, Secretary. (8106)

MINISTRY OF LABOUR AND NATIONAL SERVICE
Medical Boards and Disablement Advisory Committees

From time to time vacancies occur in the panels of medical practitioners who are prepared to serve, as required, as members of National Service Medical Boards. Such Boards meet at intervals according to the requirements of the area, and payment is on a sessional basis. A general practitioner wishing to be considered for any vacancy which might arise in the panel of the Medical Board nearest to the district in which he resides should make his wish known to the appropriate Local Medical Committee or to the Secretary, Ministry of Labour and National Service, Cumberland Terrace, London, N.W.1. Occasional vacancies also occur in the membership of that Department's Disablement Advisory Committees and their panels. A general practitioner wishing to be considered for such appointment should similarly apply to his Local Medical Committee or the Secretary, Ministry of Labour and National Service, 32, St. James's Square, S.W.1. (8276)

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

EDUCATIONAL

CLINICAL SURGERY (F.R.C.S.). WEDNESDAY, March 12, 19, 26, and April 2, at 2 p.m. Whittington Hospital (St. Mary's Wing). General surgical and gastro-intestinal cases. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

SURGICAL REVISION COURSE. MONDAY, Thursday and Friday mornings, March 10 to April 26. Royal Cancer Hospital. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

SURGICAL REVISION COURSE. SATURDAY afternoons, March 1 and 22, 2.30 to 7 p.m. Royal London Homoeopathic Hospital. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

POSTGRADUATE STUDY. Diploma in Anaesthetics; Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Laryngology; Diploma in Child Health; F.R.C.S.Eng., and all Surgical Examinations; M.R.C.P.Lond. and all Medical Examinations; M.D. Thesis of all Universities; Courses for all qualifying Examinations. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested. Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1.

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes. 1937-1950; M.D.Lond., 62; M.B., B.S.Lond., Final, 133; F.R.C.S.Eng., Primary, 212, F.R.C.S.Eng., Final, 173; M.R.C.P.Lond., 209; M.R.C.S., L.R.C.P., Final, 303; D.A., 177; D.C.H., 135; M and D.Obst.R.C.O.G., 232; D.O., C.P.H., D.P.H., D.L.O., D.P.M., F.R.C.S.Edin., many successes. Assistance with M.D. Thesis. Prospectus, list of tutors, etc., on application to Dr. G. E. Oates, University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313

SOCIETY OF APOTHECARIES OF LONDON.—DIPLOMA IN INDUSTRIAL HEALTH.—The next examination will begin on Monday, July 7, 1952. The following Examination will be held in December. For regulations apply Registrar, Apothecaries' Hall, Black Friars' Lane, London, E.C.4.

TUNSTALL HALL COLLEGE, MARKET DRAYTON, SHROPSHIRE. Girls' Country Boarding School, beautifully situated in lovely parks and woodlands. Within easy access to railway station. Full curriculum for certificate of education. All extras. Own riding school, fourteen horses. Fees 48 gns. a term. For illustrated prospectus apply Principal

ROYAL COLLEGE OF PHYSICIANS OF LONDON
CHARLES MURCHISON SCHOLARSHIP IN CLINICAL MEDICINE

The next examination for this Scholarship will be held at the Examination Hall, 8-11, Queen Square, W.C.1, on Wednesday, June 11, 1952. The examination is open to any student of medicine, whether holding a medical qualification or not, who, subsequently to the date of passing his professional examination in anatomy and physiology for a medical qualification, commenced clinical studies not less than two and a half and not more than five years previously at a medical school in London, recognized by the Royal College of Physicians, or at the University of Edinburgh, including medical classes recognized by the Medical Faculty of the University. The Scholarship is of the value of twenty guineas and is tenable for one year. Intending candidates are required to send their names to the Registrar of the Royal College of Physicians, Pall Mall East, London, S.W.1, not later than Wednesday, May 28, 1952, with evidence of the duration of their medical studies from the Deans of their respective schools and evidence of the date at which they passed their examination in anatomy and physiology.—Harold Boldero, D.M., Registrar, Pall Mall East, London, S.W.1. (8249)

UNIVERSITY OF SHEFFIELD
Postgraduate Course in Microbiology

A one year full-time course, leading to a Diploma in Microbiology, will start in October, 1952. The course will cover the biology and biochemistry of the bacteria and yeasts and fungi. Candidates who already hold the degree of B.Sc. with honours may read for the degree of M.Sc. The number of places is limited and applications for admission, with details of previous training, should be made to the undersigned, from whom further information may be obtained, by May 31, 1952.—A. W. Chapman, Registrar. (8162)

TANCRED'S STUDENTSHIPS
Divinity, Medicine, Law
£100 per annum each. For men only

About Whitsuntide next the Governors propose to elect one Student in Physic at Gonville and Caius College, Cambridge, and one Student in Law at Lincoln's Inn. Candidates must have been born in England, Scotland or Wales and be members of the Church of England and unmarried. An examination will be held at Caius College on Wednesday, April 16, 1952, for Physic candidates who must be within the ages of 17 and 22 years. The Law candidates, who must be within the ages of 20 and 23 years, must have passed an approved examination of school certificate standard. The last day for sending in petitions for the Physic and Law Studentships is March 11, 1952.

A Divinity Studentship will be awarded later in the year, on the result of the scholarship examinations conducted in December, by the Queen's, Christ's, St. John's, Emmanuel and Sidney Sussex Group of Colleges, in the University of Cambridge. A further announcement relating to the Divinity Studentship will appear in this *Journal* in September.

Apply for further particulars and form of petition, stating kind of Studentship and mentioning this *Journal*, to the Clerk, R. M. C. Howard, Esq., D.S.O., 28, Lincoln's Inn Fields, London, W.C.2. (7788)

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UNIVERSITY OF LONDON.—A LECTURE ON "The Pathology and Treatment of Portal Hypertension" will be given by Professor R. Milnes Walker (Bristol) at 5.30 p.m. on February 26, at Westminster Medical School (Meyerstein Lecture Theatre), Horseferry Road, S.W.1. Admission free, without ticket.—James Henderson, Academic Registrar. (8163)

UNIVERSITY OF LONDON.—A LECTURE ON "Antidiuretic Effects of Blood and Urine in relation to Neurohypophysial Secretion" will be given by Professor H. B. van Dyke (Columbia University) at 5 p.m. on February 25, at University College (Physiology Theatre), Gower Street, W.C.1. Admission free, without ticket.—James Henderson, Academic Registrar. (8164)

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North Devon Hospital Management Committee.—Pathological Laboratory, Boutport Street, Barnstaple.—Applications are invited for the post of **Technician** or **Junior Technician** in a new laboratory serving the North Devon District. Considerable experience in haematology is essential. Salary and conditions in accordance with Whitley Council scales. Applications, stating age, qualifications and experience, together with the names of two referees, to the Pathologist at the above address. (8108)

Situations (Vacant)—contd.

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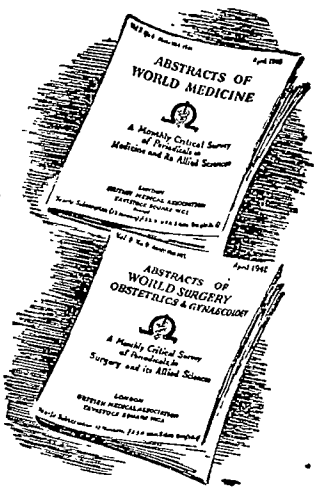

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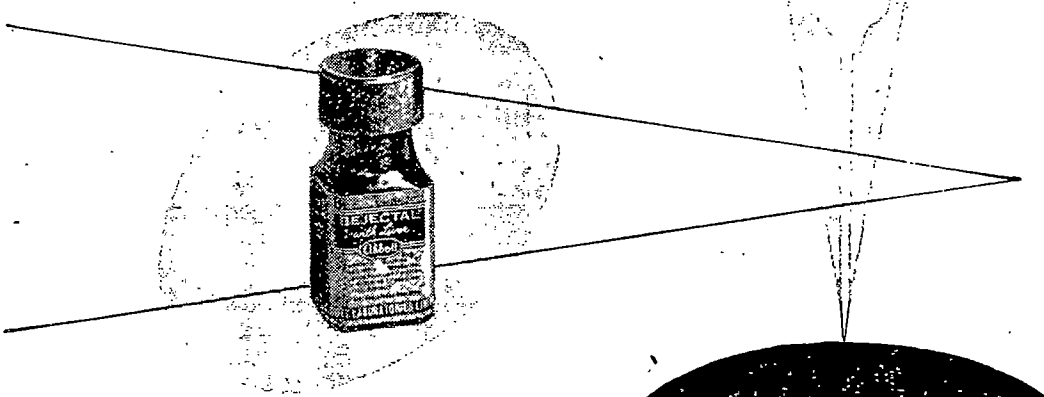

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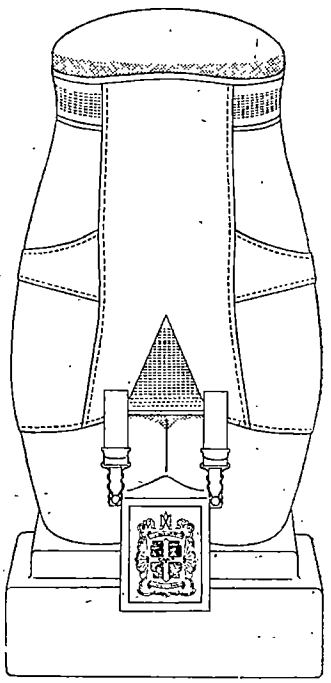

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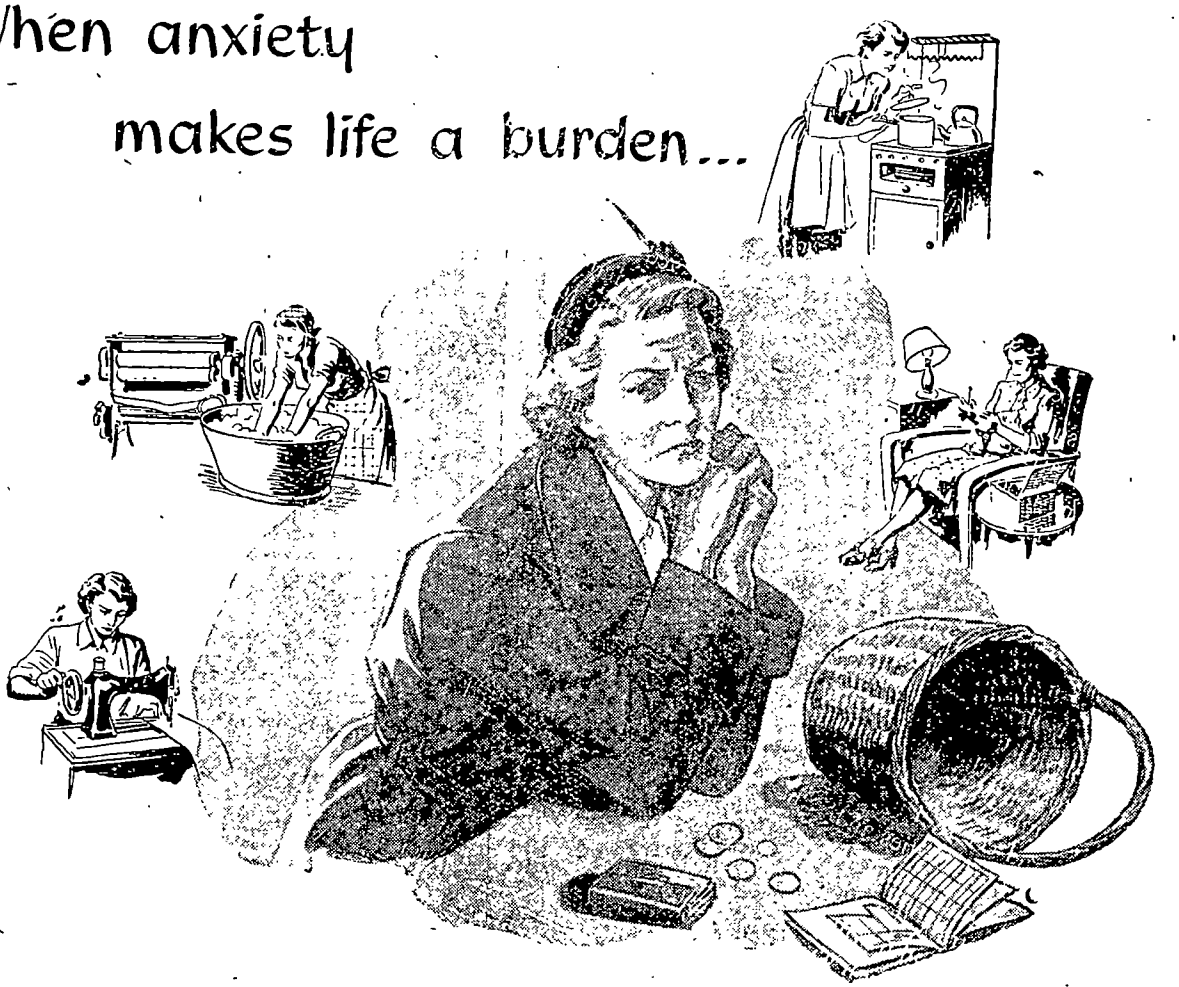

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BRITISH MEDICAL JOURNAL

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OBSERVATIONS ON PROLONGED CORTISONE ADMINISTRATION IN RHEUMATOID ARTHRITIS*

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In a preliminary study of the therapeutic effects of cortisone and other steroid substances in rheumatoid arthritis, certain methods of objective assessment by which relatively small clinical variations can be detected were described (Copeman *et al.*, 1950). The application of these methods to a further series of patients with active rheumatoid arthritis under treatment with cortisone for longer periods is the subject of the present report.

We have been mainly concerned in devising a suitable method of administration which will suppress the disease indefinitely and enable the patients to resume useful and independent lives, free from unpleasant side-effects. Haematological and metabolic changes occurring during routine administration of cortisone were investigated, and such side-effects as did occur in this small series were studied in detail.

Selection of Patients

The patients selected had suffered from active and undoubted rheumatoid arthritis for at least six months, and in most cases much longer, as shown by the clinical signs and a raised erythrocyte sedimentation rate. They were all regarded as "severe cases," since they could not carry out their normal occupation and had already become dependent on others. They described themselves as "crippled," though, since the joint changes as studied radiologically were often minimal, much of their disability was potentially reversible.

*This study was aided by grants from the Medical Research Council, the Empire Rheumatism Council, and the Dan Mason Research Foundation of the West London Hospital Medical School.

Each of the 20 cases was observed for at least three months. Thirteen have been examined in detail by the methods of assessment previously described, with the addition of a finger-ring test (Hart and Clark, 1951), and concurrent metabolic studies. The remaining seven patients, who provided their own cortisone, were placed in the same clinical category, though they were submitted to a less extensive metabolic study. The length of study under continuous administration was as follows:

Months:	3	4	5	6	7	8	9	10	Total
No. of cases ..	1	3	4	3	6	1	1	1	20

Dosage Schedule

On the assumption that cortisone does not cure rheumatoid arthritis but only suppresses the disease (Hench, 1950), it was decided that as soon as the symptoms had been relieved adequately the dose should be lowered to a level at which this improvement might be maintained for a prolonged period without the appearance of undesirable reactions. Such a scheme has recently been favourably reported on by Boland (1951), who studied a much larger series for a longer period. Our dosage schedule therefore consisted of the following three phases: a period of initial high (suppressive) dosage; a period of gradual reduction of dosage; and a period of minimal (maintenance) dosage.

In most cases cortisone has been given by intramuscular injection during the first two periods (initial suppression and reduction of dosage). When the minimal maintenance level has been found the oral route was used. In this way we were able to compare the relative effectiveness of muscular and oral administration; furthermore, it was much more convenient for out-patients to take the compound by mouth.

Initial Suppressive Dosage

Two initial dosage schemes have been studied: (1) The "classical" method described by Hench, Kendall, Slocumb, and Polley (1949) in their original report—namely, 300 mg. on the first day, 200 mg. on the second, 150 mg. on the third, and subsequently 100 mg. daily; and (2) 100 mg. daily from the first day onwards. Doses of more than 100 mg. were divided into two injections, whereas 100 mg. and below was given once a day.

A daily dose of 100 mg. has been given until the patient has improved enough to lead a comfortable life and to have a reasonable prospect of returning to work. This level of improvement is assessed by the methods already described, which are based on disappearance of pain and tenderness and performance of functional tests (Copeman *et al.*, 1950). If possible, the patients leave the hospital for a day or two to test their functional capacity in their home surroundings.

Ten patients have been treated according to scheme 1 and 10 patients according to scheme 2. It is our impression that the lower dosage is sufficient and gives a smoother response, though there may be no measurable improvement for five to seven days.

"Boost" Dosage.—In our recent cases we have given a higher dose—200 mg. a day for 7 to 10 days—at the "comfortable" stage, which usually develops 14 to 21 days after treatment has begun, in order to obtain further improvement. Increasing experience with the "classical" initial dosage scheme has led us to the conclusion that, despite dramatic loss of pain and tenderness, patients who had often been "crippled" for months might be unable to take full advantage of the improvement owing to their prolonged relative immobility, and that they tended to develop pains due to muscular strain. By giving the "boost" dosage for a short time after the patients had been rehabilitated and had been free from pain for two weeks or more we frequently obtained a further gratifying degree of improvement.

Period of Gradual Reduction of Dosage

At a stage when the disease process seems to be satisfactorily under control the daily dose is reduced by 12.5 mg. (0.5 ml.) at a time. During this stage we find that careful methods of assessment are most important, as it is only in this way that the lowest maintenance dose can be found. The patient, knowing the dose is being reduced and fearful of relapse, will tend to exaggerate minor changes. Originally the dose was reduced every two or three days, but this proved to be too rapid, and dose reduction every five to seven days seems to be more satisfactory. The daily dose is raised by 12.5 mg. or more on changing over to oral administration, since, as other workers (Boland and Headley, 1951) have found, oral dose requirements are slightly larger. Eventually the oral dose is lowered in the same way as described for diminution of the intramuscular dose.

Maintenance Dosage

Because most cases of rheumatoid arthritis will require prolonged treatment with cortisone, as low a maintenance dose as possible must be found. Although this may need to be increased temporarily during periods of physical and mental stress, it will remain effective in most cases for prolonged periods without relapses occurring, and may even in some cases be further diminished as time goes on.

When the oral maintenance dose has been established the patient is discharged from hospital, encouraged to return to his normal duties, and asked to attend once a week for clinical and haematological assessment.

Oral Dosage.—The relative effectiveness of intramuscular and oral maintenance doses is subject to individual variations. In some cases the difference between the two is not more than 25 mg. a day. In at least one case (Case 7) the response seemed to be actually better when the drug was taken by mouth. In Case 6 it was impracticable to administer the drug intramuscularly as the patient was having a large dose of insulin at the same time. We have used "cortone" tablets in a few cases, but most of the oral administration has been in the form of the aqueous crystalline suspension produced for intramuscular injection, which is satisfactory except for its obnoxiously bitter taste, to which most patients become accustomed. We recommend that the dose should be measured accurately with a syringe into a spoon; in view of the tendency of the crystals to adhere to the sides of glass great care should be taken that none of the dose is wasted.

Clinical Assessment

The methods of assessment which we have previously described have provided a satisfactory means of controlling the dosage of cortisone. We now rely on them to a much greater extent than on metabolic or pathological investigations, including even the sedimentation rate. The methods as described are rather laborious for day-to-day clinical use, so that the full joint chart and set of functional tests are now completed only from time to time, six or seven representative joints and tests being chosen for day-to-day assessment.

Of the tests described, joint tenderness continues to correlate accurately with the clinical state. We are less impressed with the tests involving the study of the range of movement of individual joints—unless, as in the knee-joint, the range can be accurately measured between two fixed points—because the increase in range of movement is either too obvious to need measuring, or, if it is slight, measurements are not accurate enough to eliminate the error due to subjective bias on the part of the assessor.

We find the grip test particularly useful if the fingers, hands, or wrist-joints are involved. Similarly, the ring-size test is an accurate and objective measurement of the swelling in the interphalangeal joints.

Where stiffness is a prominent feature, tests involving speed of movement—for example, the speed with which the arms can be "flailed" or lifted vertically above the head in a fixed period of time, usually 15 seconds—are especially useful. Where the lower limbs are predominantly involved the rheumatoid "flop" disappears early in treatment and its study is of little use in assessing progress in the later stages; but the ability to stand on a chair without holding on, to kneel, and to lie on the ground and get up without help, or—in bedridden patients—the speed at which they can flex and extend their knee-joints, are all satisfactory tests.

In general it is important to choose the tests individually for each patient according to his particular disabilities. No single quota of tests can possibly be satisfactory if indiscriminately used.

Results

Of the 20 patients treated, improvement was graded as good in 12 cases (fully employed in normal work and able to undertake normal recreation and normal housework); fair in 5 cases (fully employed in light work—limited recreation and all but heaviest housework); and definite but poor in 3 cases (unemployable—limited physical activity—light housework).

Table I shows that cortisone treatment has enabled 17 of the patients chosen for this study to leave hospital and resume their previous work or, in the case of the women, carry out normal housework. In three patients the results were disappointing. In one (Case 4) we were unable to find a maintenance dose low enough to avoid adverse effects. In the other two (Cases 16 and 19) permanent joint damage was too severe for the patients to become independent of help.

In Case 1 cortisone appeared to induce a complete clinical remission which has lasted so far for eight months. In spite of this the patient has had a persistently raised sedimentation rate, suggesting that the condition is latent and not cured.

The maintenance dose necessary to keep a patient comfortable varies considerably from case to case, but the

requirements of any single individual fall within a small range —for example, 25 mg. We have not seen the type of case reported by Boland (1951), in which maintenance requirements fluctuated wildly and inexplicably. No case has so far become refractory on prolonged administration. We have not been able to determine any factors which will enable us to predict in advance whether a patient will need a high or a low maintenance dose. As our cases were chosen from those showing the disease in a highly active condition, though the permanent deformity was not extensive, we are unable to correlate dosage with the duration of the disease, but our results do not suggest that there is a significant relationship between dosage and the degree of activity of the disease as judged on a clinical and haematological basis.

TABLE I.—*Results*

Case No.	Age and Description	Clinical Assessment and Duration of Disease	Initial Dose High or Low	Maintenance Dosage (mg.)		Result
				I.M.	Oral	
1	Married woman aged 50. Housework	Rheumatoid arthritis 2 years Unable to run house or carry anything for 11 months. Walked 100 yards with difficulty. Wakened every night by pain	High	37·5	37·5	After 3 weeks' administration was able to return home and lead a normal life, including housework. Cortisone gradually reduced, and stopped after 6 months. No signs of relapse 7 months after suspending administration
2	Unmarried woman aged 55. Company secretary	R.A. 4 years. Unable to work for 2½ years. Walked ½-mile slowly. Continually wakened by pain Large synovial swellings on dorsum of both wrists and knees	High, and "boost" dose of 200 mg./day for 4 days on 98th day and 5 days on 134th day	75	70	Able to resume full-time secretarial work 6½ months after starting administration. Successfully ran her own flat for 4 months. This patient was found dead in her flat on 8/8/51, having been at work the previous day. Necropsy (Dr. Keith Simpson) revealed a massive intracerebral haemorrhage
3	Married woman aged 34. Housework and 3 children	R.A. 16 months. Light cooking; nothing else. Wakened ½-hourly by pain for 2½ years	High, and "boost" dose of 200 mg./day for 13 days on day 101	75	87·5–100	Able to lead a completely normal life, including housework, care of children, shopping, while under administration. Knees relapsed rapidly whenever dosage was cut to below her maintenance dose; the rest of her joints retained their improvement
4	Married woman aged 38. Housework and child	R.A. 20 months. Unable to dress herself or do housework for over a year. Could shuffle only 300 yards. Had not slept well for 18 months. Could not get into a bath	High, and "boost" dose of 200 mg./day for 6 days on day 40 and 7 days on day 84	75	100	Able to run her home and look after her child and do light gardening. Administration suspended because of side-effects. Rapid relapse
5	Married woman aged 46. Housework and child (Figs. 1 and 4)	R.A. 5 years. Rapid deterioration in last 3 months. Able to do only very light housework. Continually wakened by pain	Low	62·5	80	Can lead a normal life as a housewife
6	Army officer aged 31 Married	R.A. 2½ years Partly bedridden; with great difficulty could walk 30 yards. Unable to dress or climb stairs. Wakened for 6 months nightly by pain	Low	75–100	75–100	Starting training as a telephone operator. Can travel independently
7	Married woman aged 34. Housework	R.A. 9 years. Permanent flexion deformity in one knee. Could walk only 100 yards. Unable to dress herself or get into a bath. Unable to run her home	High, and "boost" dose of 200 mg./day for 10 days at day 14	100	100	Can carry out all domestic duties except those involving kneeling; runs her home by herself, which she has not been able to do for years. Able to go out visiting and to theatres
8	Married woman aged 40. Housework	R.A. 2 years. Could walk only ½ mile very slowly. Unable to do her own hair for 5 months. Could not get into bath or climb stairs	Low, and "boost" dose of 200 mg./day for 10 days at day 21	100	100	Symptomless on high dose, but gets side-effects. Comfortable but not symptomless on lower dose
9	Married man aged 44. Superintendent water inspector (Fig. 2)	R.A. 12 years. Rapid deterioration, in last 2 years. Unable to work	High	50	62·5	Has returned to full employment. Work involves much travelling, walking, stair-climbing. Completely free from pain and tenderness
10	Unmarried woman aged 32. Clerk	R.A. 5½ years Unable to work for the past 18 months. Could walk only ½ mile slowly and with a limp. Could not get into a bath	Low, and "boost" dose of 200 mg./day for 15 days on day 14	25		Apart from her wrist-joints, which are permanently deranged, she can lead a normal life. Can do only light clerical and housework because of her wrists
11	Married woman aged 38. Housework and child	R.A. 26 months. See Case 4. Entire relapse within month of stopping treatment. On objective tests was significantly worse than on previous occasion	Low	100	100	Can do housework and look after child, light gardening, and shopping. Still discomfort on overexertion
12	Married man aged 34. Civil servant	R.A. 9 months. Could only dress himself slowly and incompletely. Had not slept well for 9 months. Unable to climb stairs or get into a bath	Low, and "boost" dose of 200 mg./day for 13 days on day 16	62·5	75	Returned to work. No pain or analgesics. Able to dress completely at normal speed. Sleeping well
13	Married woman aged 37. 3 children. Housework and 1 child to look after	R.A. 4½ years. Cannot dress herself. Help required to do stairs. Wakened by pain during the night	High	50	50	Able to do housework and take part in family life—dancing a little and light gardening
14	Married woman aged 59. Household duties	R.A. 8 months. Febrile. Swelling and pain in interphalangeals, wrist, knees, and feet. Confined to bed with pain	Low	75	50	Free from pain and able to live a slightly restricted but normal life
15	Business man aged 46	R.A. 6 years. Had to give up attending his business. Could barely walk	High	75	50	Walks slowly with some pain, but can get to his work
16	Business man aged 50	R.A. 10 years. Could get about only with difficulty; in constant pain	Low	50	50	Can walk without a stick. Some permanent deformity in hands. Can work only part-time
17	Unmarried woman aged 41. Schoolteacher	R.A. 3 years, interfering intermittently with her work as a teacher. Faced with possibility of permanent inability to continue working	,,	50	50	Able to return to work
18	Married woman aged 27. Housework and 2 children	R.A. 9 years. Gradual deterioration in last 3 years. Barely able to look after herself and children. Unable to do housework. Walked with a stick	,,	62·5	75	Able to lead a normal life
19	Unmarried woman aged 35. Independent means	R.A. 9 years. Ankylosis of right knee. Chair-bound	High	50	50	Able to walk without sticks. Less rest pain
20	Business man aged 66	R.A. 1 year. Practically bedridden and able to attend to his business only intermittently	,,	100	100	Able to return to work after 2 months

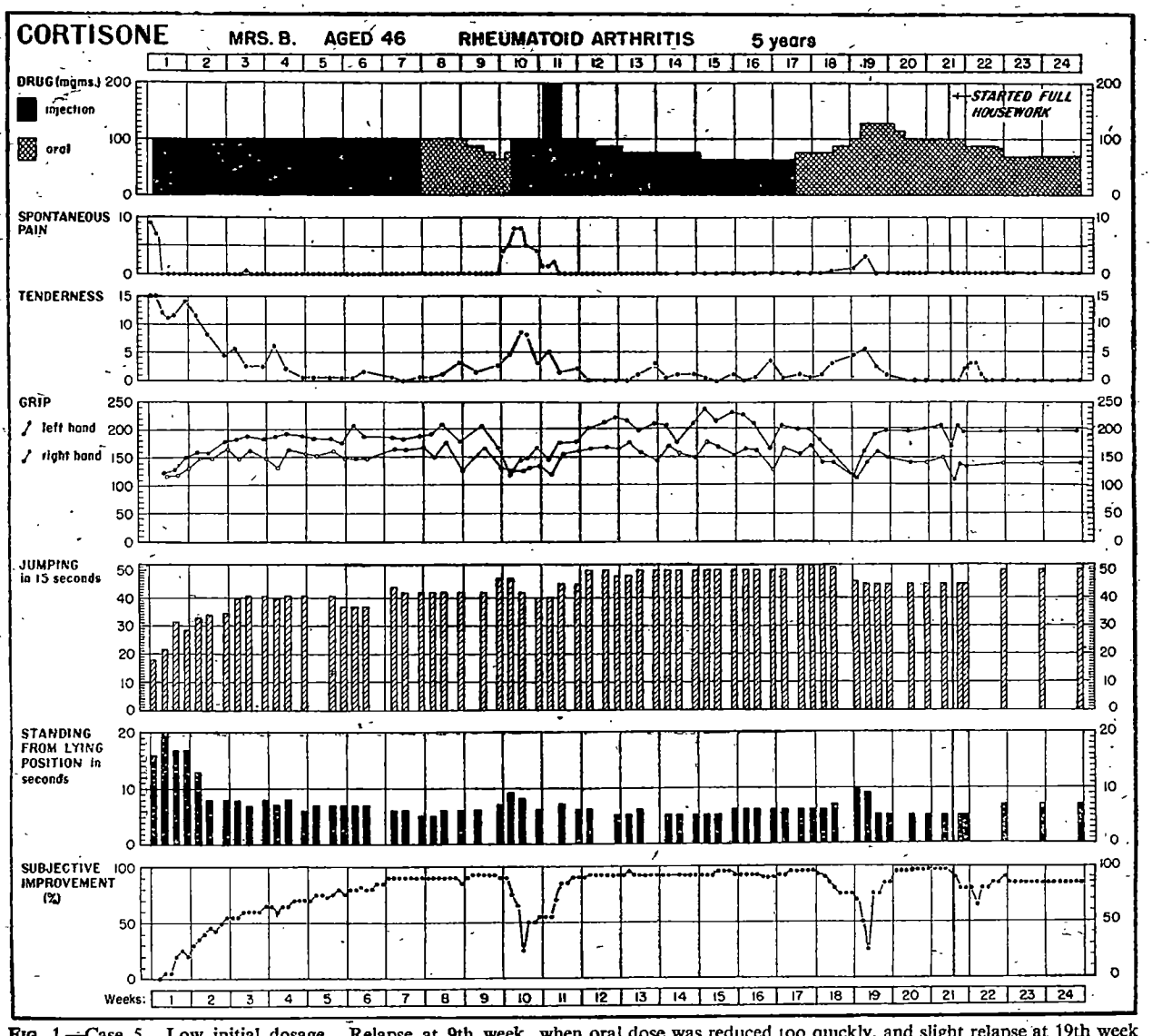

FIG. 1.—Case 5. Low initial dosage. Relapse at 9th week, when oral dose was reduced too quickly, and slight relapse at 19th week after changing to oral therapy in insufficient dosage.

Side-effects

Our series has been notable so far for the absence of serious side-effects, and in only Case 4 have they been severe enough to cause us to stop administration of the drug. Table II summarizes all the side-effects observed. In nearly every case they were slight, and might have been ignored but for the alarming reports which have been published by other observers.

Injection Abscesses.—Cortisone acetate is prepared in a microcrystalline suspension which forms a depot at the site of the injection. The injections are painless if they are placed deeply in the intramuscular tissue. An abscess may start from injection into the superficial fat, from an intramuscular haematoma, or from imperfect skin sterilization. The onset is insidious, with mild local pain but no constitutional disturbance. This failure of constitutional response can be most misleading, and in our early cases caused us to delay incision until a large amount of pus had accumulated, with considerable necrosis of the gluteal muscles. If recognized in time we have found that most of these abscesses can be satisfactorily dealt with by aspiration of the pus through a wide-bore needle and local replacement by the appropriate antibiotic.

Rounding of the Face.—This complication occurred in five cases. In two the patient was having a "boost" dose of 200 mg. a day when it appeared. In these cases it con-

TABLE II.—*Side-effects*

Case No.	No Side-effects	Injection Abscess	Rounding of Facies: Mild Moderate Severe	Decreased Carbohydrate Tolerance	Fluid Retention Causing Oedema	Spontaneous Bruising	Menstrual Irregularities	Paraesthesia and Enlarged Submandibular Glands	Comments	Treatment Suspended Because of Side-effects
1		*								
2	*									
3		* *				*	*			
4		* *	*				*			*
5		* *								
6				*	*					
7			* * *		* *	*		*	Oedema on high dose only	
8			* *		*			*		
9	*									
10		* *					*			
11		*	*							
12	*									
13	* *									
14	* *									
15	* *									
16	*									
17							*			
18	*									
19		*								
20					*					
Total	8	7	3 mild 2 mod.	1	4	2	4	2		1

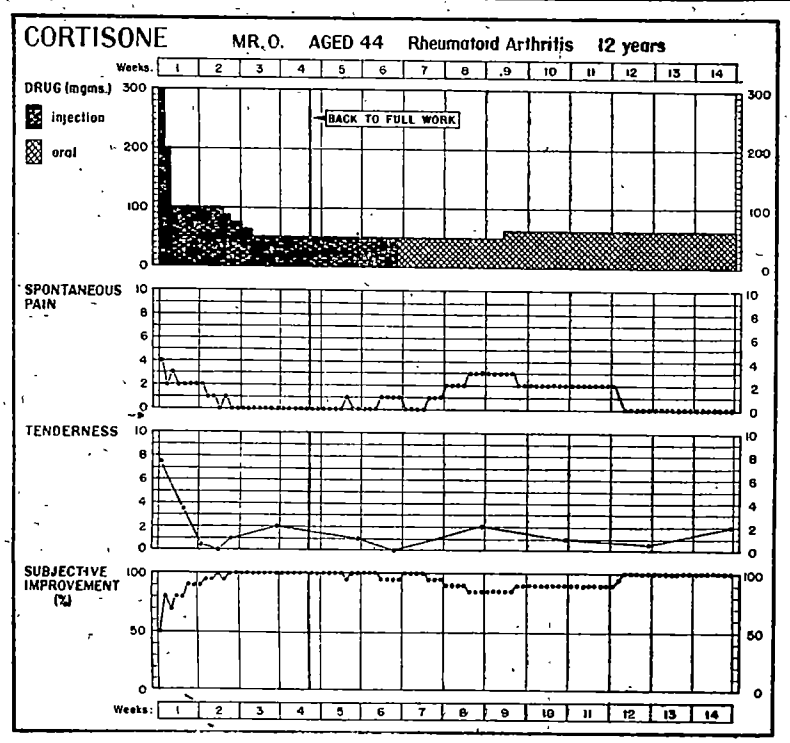

FIG. 2.—Case 9. Previous improvement with A.C.T.H. and relapsed to 50%. High initial dosage and adequate suppression of arthritis at oral maintenance dosage of 62.5 mg. a day.

sisted of a mild degree of "moon face"; there were no supraclavicular pads, no dorsal hump, no striae, and no acne, but one of the patients subsequently developed an excess of fair fine hair on her cheeks and lips. The third case (Case 6) developed a rounding of the face in association with a significant degree of water retention. Case 4 developed a "moon face," supraclavicular pads, and a small dorsal hump, but no other manifestations of Cushing's syndrome. As it was impossible to control this patient's arthritis on a lower dose and as she objected on cosmetic grounds, treatment was suspended. The nature of the "moon face" in Cushing's syndrome is not properly understood, nor is its significance in cortisone and A.C.T.H. therapy. From our brief experience with these substances it would appear that a "moon face" may occur in the absence of any other manifestation of Cushing's syndrome and is therefore merely of aesthetic concern to the patient.

Carbohydrate Tolerance.—No patient developed persistent glycosuria during treatment, but ketone bodies were occasionally found, in some cases without glycosuria. Case 6, however, had been rendered diabetic by a previous course of high-dosage A.C.T.H. therapy. (This case is to be reported in detail later.) When cortisone treatment was started he was insulin-sensitive and the diabetes was well controlled with 12 units (P.Z.I. and soluble) given once a day; but cortisone rendered him insulin-insensitive for a time, though his urine is now sugar-free on 104 units of insulin a day. It was considered justifiable to continue treatment in spite of the insulin resistance, as he was responding so well and would have become totally crippled had cortisone treatment been stopped.

Fluid Retention Causing Oedema.—Fluid retention causing temporary oedema has occurred in four cases. In Cases 7 and 8 it developed while the patient was on the "boost" dose of 200 mg. a day and soon disappeared when the dose was reduced. In Cases 6 and 20 it was controlled by moderate salt restriction in the diet.

Psychic Effects.—Possibly because our patients were chosen, among other things, for their mental stability and intelligence, we have not encountered any serious psychic effects. Some of them complained temporarily of mild exhaustion and apathy. Two complained of a feeling of tension and quick temper while on the high dosage; one complained for a short period of a feeling of unreality. There has been an absence of pathological euphoria, and in no case was insomnia a prominent symptom. Some of the patients complained of transient morning headaches, which may have been associated with mild psychological symptoms already described.

Spontaneous Bruising. — Two patients developed a mild spontaneous bruising. This is a classical feature of Cushing's syndrome. Robson and Duthie (1950), however, have observed that cortisone increases capillary resistance, in which case bruising would not be expected to occur.

Menstrual Irregularities.—The intervals between menstrual periods increased slightly in four cases without other symptoms. In Case 4 menstruation ceased after the second month of treatment, and amenorrhoea persisted until after treatment was suspended on account of the development of a "moon face," to which the patient objected on aesthetic grounds.

Oral Paraesthesia and Enlarged Submandibular Glands.—Cases 7 and 8 developed paraesthesia in their tongue and cheeks. Case 7 developed small buccal ulcers which disappeared without treatment. Case 8 has developed bilateral swelling of her submandibular glands. They are not painful, but are associated with a dryness of the mouth.

Steroid Metabolism Studies

A large number of estimations were carried out during cortisone administration. These are too voluminous to publish in detail, and the following is a summary of the main findings.

Corticoids.—The pre-treatment values of urinary formaldehydogenic steroid excretion in four cases were below the normal range for the method—namely, 0.4–1 mg./24 hours. On treatment with cortisone (100 mg./24 hours) a small increase into the normal range was observed. A further increase to levels exceeding the normal range was noted when the daily dose of cortisone was increased to 200 mg.

17-Ketosteroids.—In the seven cases studied, pre-treatment levels of 17-ketosteroid also tended to be at the lower limit of the normal range. The inception of treatment in all

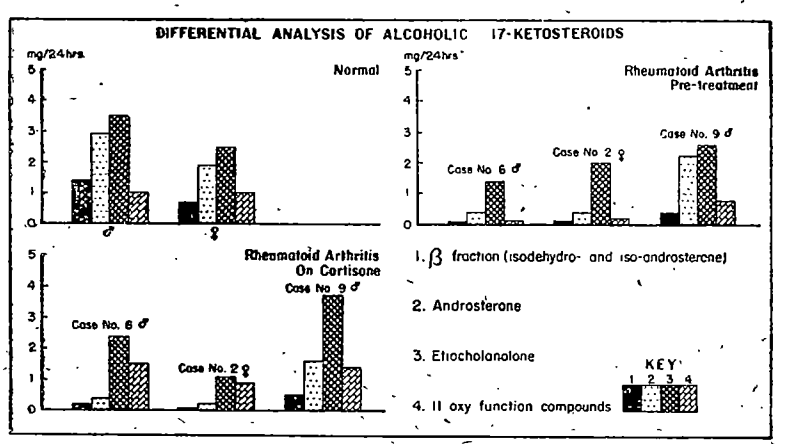

FIG. 3.—Differential analysis of alcoholic 17-ketosteroids.

cases investigated was associated with an initial fall in 17-ketosteroid excretion. On prolonged administration those cases having a relatively high pre-treatment 17-ketosteroid output continued to excrete reduced amounts, while in those cases with a low pre-treatment output excretion rose above pre-treatment levels. In the three cases in which a differential analysis of 17-ketosteroids was attempted (Fig. 3) there was an increased excretion of steroids with the 11-oxy-function—possibly catabolic products of the administered cortisone. In two of these cases, and in others not reported here, the ratio of etiocholanolone/androsterone excreted was significantly raised compared with normal subjects, although this is not necessarily of particular significance to rheumatoid arthritis (Robinson and Goulden, 1949). In no case was the raised etiocholanolone/androsterone ratio restored to normal during the treatment with cortisone; on the contrary, there was a further relative and absolute increase in etiocholanolone in two cases.

Haematological Investigations

Three cases were investigated in detail (Nos. 5, 6, and 9), including observations on all types of cell in the peripheral blood and bone marrow, and serial readings of the sedimentation rate.

Peripheral Blood

Haemoglobin and Erythrocytes.—In all three cases an increase in reticulocytes was noted during the second week of treatment, and this was followed by a rising haemoglobin and red-cell count until normal levels were reached. At the same time the cells showed a full complement of haemoglobin, and microcytosis, if it had been present, disappeared.

The Leucocytes

Eosinophils.—The administration of cortisone resulted in a diminution of 60–70% in the number of circulating eosinophils in all cases. In two cases this effect was obtained in the first 24–48 hours, but in the third case the lowest level was not reached until the fifth day. In two cases the eosinophils "escaped" to levels much above the original in two to four weeks. This phenomenon was also observed in five other patients treated with cortisone on whom eosinophil counts were performed but which were not studied in detail. In Case 9 the eosinophils returned transitorily to their original level—the marked and sustained increase noted in the other cases not being present.

Total Leucocytes.—In all cases the total count rose and a leucocytosis was observed at some stage. This contrasts with the low normal or subnormal level before treatment. The neutrophil granulocytes showed the most spectacular rise, but the lymphocytes and monocytes showed some small increases also. A lymphopenia was not observed at any stage.

Blood Platelets.—The changes in the blood platelets were not so dramatic as in the leucocytes. Generally speaking, the count appeared to follow the granulocytes—rising and falling with the level of these cells.

The Bone Marrow

The bone marrow was studied in each case by repeated sternal punctures. Initially, the bone marrow showed some increase in plasma cells—a fact which had previously been noted by Hayhoe and Robertson-Smith (1951). After the beginning of treatment the most marked change was an increase in the number of cells of the marrow. This increase in number applied to all types of cells, but particularly the granulocytes. The number of plasma cells appeared to decrease, but this was probably a relative rather than an active diminution due to an increase in the number of the other cells. In the most anaemic case (No. 6) a marked erythroid hyperplasia was also noted during the second week of treatment.

The number of eosinophils in the marrow varied considerably from time to time, though they probably decrease slightly at first but later increase.

The Plasma Volume

During treatment all patients showed some degree of fluid retention as studied by fluid-balance estimations and increase in weight. In Case 6, pitting oedema of dependent parts was noted. At the same time plasma-volume studies showed a decrease. These changes were observed in all three cases, but were most marked in Case 6, in which the results were as follows:

Date	Plasma Volume	Hb	P.C.V.
16/4/51	3·6 litres	60%— 8·7	29%
27/4/51	2·0 ,,	80%—11·6	38%
8/5/51	2·0 ,,	86%—12·5	40%
12/6/51	2·2 ,,	87%—12·6	40%
21/6/51	2·4 ,,	88%—12·8	41%
13/9/51	3·5 ,,	90%—13·0	40%
29/9/51	3·5 ,,	88%—12·8	39%

It will be seen that, initially, during the period of rapid change the haemoglobin and packed-cell volume showed similar variations to the plasma volume. But, as the latter returned to its normal level rather slowly, the red cells, etc., had increased and no change was seen. The period of maximum oedema appeared to coincide with the minimum plasma volume. At the same time serum potassium levels fell from 19 mg. to 10.6 mg. per ml.—the lowest level being reached when oedema was at its height.

Effect on Serum Antibodies

The effect of cortisone administration on serum antibodies was also studied, and for this purpose the following antibodies were chosen: (1) naturally occurring alpha and beta antibodies, one or both according to the group of the case; (2) antistaphylococcal toxin titres; (3) Rose's differential agglutination titre; and (4) antistreptolysin O titre.

Among the first three groups of antibodies studied no significant change in titre was noted in any case. In two cases no change in the antistreptolysin titre was observed, but their titre was low at the beginning of treatment. In the third case (No. 6) the titre was high before treatment and the level fell from 700 units to 300 units per ml. at the end of the period of observation.

The Sedimentation Rate

Both Wintrobe and Westergren techniques were used. There did not seem to be any great difference between them, but the impression gained was that the Wintrobe was probably the more sensitive. In rheumatoid arthritis treated with cortisone, it must be emphasized that the actual level of the sedimentation rate does not appear to be of great importance, particularly in the case of the Westergren method. Thus cases which are clinically active and with numerous manifestations of the disease may have sedimentation rates only slightly above normal levels. Further, cases which are clinically progressing favourably may show a raised figure.

In this short study it was noticed that there seemed to be some correlation with the clinical condition if the general trend was noted. Thus cases which are deteriorating show a rising rate and cases improving show at first a falling rate which later flattens out and remains more or less steady, though sometimes at a figure greatly in excess of the conventional "normal." On the results so far, it would appear that the trend, rather than the absolute level, is much more significant, and if this is noted it is capable of giving some indication of the progress of the case. But the clinical assessment still remains the most important, as an intercurrent infection may raise the sedimentation rate quite independently and possibly without affecting the arthritic condition.

Discussion

It is apparent from this series of cases that the manifestations of active rheumatoid arthritis can be suppressed by the administration of cortisone. We have not encountered any case in which rheumatic symptoms are resistant to adequate doses of cortisone, and we have been impressed by the consistency of the clinical

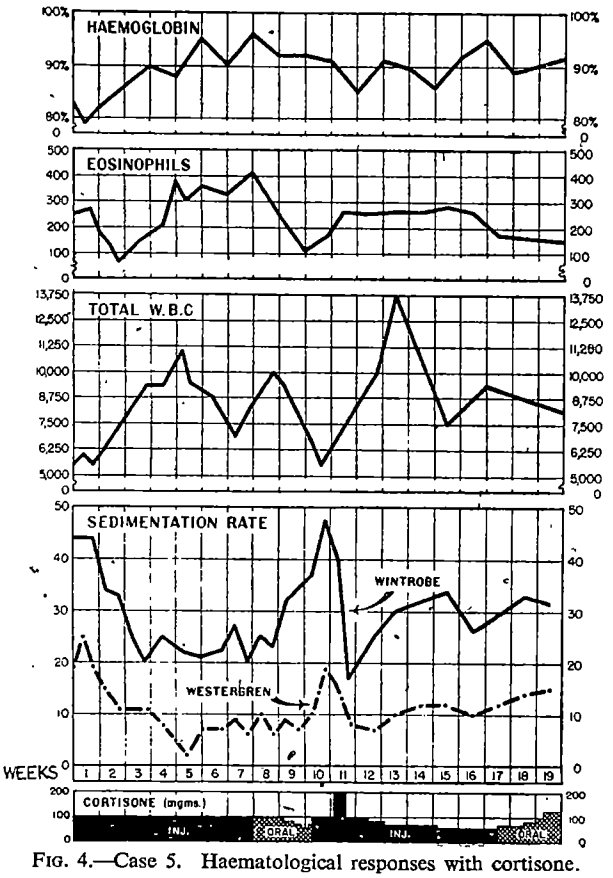

FIG. 4.—Case 5. Haematological responses with cortisone.

response as compared with the variability of the metabolic and other effects of cortisone (Browne, 1951). Where permanent damage is absent or moderate patients can eventually be returned to their own work, or to some form of lighter work, and women will be able to undertake most household duties. However, in almost every case administration has to be continued indefinitely to maintain this suppressive effect, although it seems likely that in the occasional case—for example, Case 1—cortisone can precipitate a remission of symptoms of considerable duration, and we have seen and heard of other such cases.

The success of cortisone treatment depends upon careful selection of cases and is much influenced by the difference between the suppressive dose and the "toxic" dose. This varies greatly from patient to patient and cannot be predicted in any given case.

Where the margin is large, as for example in Case 3, cortisone administration is both simple and highly satisfactory; where it is small (Case 4) it may be extremely difficult to achieve and maintain the balance between the control of symptoms and the incidence of undesirable side-effects.

Nevertheless we are of the opinion that there is a tendency at the moment to attach too great significance to mild side-effects, such as facial rounding and slight irregularity of the menstrual cycle. For instance, the incidence of side-effects reported by Ward *et al.* (1951) was 63% of 21 cases treated by 75 mg. or more of oral cortisone daily, though all these side-effects were reversible and none necessitated the discontinuance of treatment. The preoccupation of many observers with these mild side-effects reminds one of a house-proud woman overconscious of a speck of dust which the visitor has not noticed.

It would appear from our series that no single-cell type of blood investigation is of much value as a method of controlling treatment. Indeed, the changes observed in the blood all appear to be secondary to the general effect of the drug on the body as a whole—the changes in the blood being indirect. Apart from the first few days of treatment, eosinophil counts are unreliable and their level would seem to have little or no bearing on the clinical progress of the case. The remaining blood changes, if viewed as a whole, may, however, give some indication. The sedimentation rate is of some help, but even here it is the general trend rather than the absolute level which must be noted. Any sustained or sharp increase heralds deterioration in the clinical condition. Any marked and sustained fall in the erythrocyte, leucocyte, or haemoglobin levels, particularly that of the granulocytes, coincides or precedes a clinical deterioration, but the correlation is not absolute and is in the nature of a pointer—a danger signal. The clinical assessment still remains the best and most reliable guide to progress.

The discovery of this form of treatment emphasizes the importance of the early diagnosis of rheumatoid arthritis. It is probable that the results achieved in our series, in which we purposely excluded very early cases, could have been further improved—on a lower dosage and therefore with fewer side-effects—if earlier cases without joint damage had been selected. Cortisone will have little effect where extensive joint damage is present, and may be dangerous in view of the high dosage required to obtain a small amelioration of symptoms.

Until the significance of cortisone's side-effects is more fully understood, our aim should be to maintain the patient in a state in which he remains reasonably comfortable. We do not consider it advisable to attempt to suppress the symptoms of rheumatoid arthritis completely when this requires a high maintenance dosage.

Summary

Twenty selected cases of active rheumatoid arthritis have been studied during prolonged cortisone administration and have been separately assessed from the clinical, haematological, and metabolic aspects.

In 17 cases the patient has been enabled to return to previous work or household duties.

In only one case has it been possible to stop administration.

Certain methods of dosage have been assessed and side-effects have been studied.

The cortisone used in this study was provided from a generous gift made jointly to the Medical Research Council and the Nuffield Research Foundation by Messrs. Merck & Co., Inc. We wish to acknowledge the valuable assistance given to us by Dr. B. Gottlieb, consultant physician, St. Mary Abbots Hospital, and his assistants, and by the following pathologists and biochemists and their assistants: Dr. H. E. Archer and Dr. R. G. L. Waller, West London Hospital, and Dr. A. G. Signy, St. Mary Abbots Hospital.

REFERENCES

Boland, E. W. (1951). *British Medical Journal*, 2, 192.
—— and Headley, N. E. (1951). *J. Amer. med. Ass.*, 145, 8.
Browne, J. S. L. (1951). *British Medical Journal*, 1, 880.
Copeman, W. S. C., Savage, O., Bishop, P. M. F., Dodds, E. C., Gottlieb, B., Glyn, J. H. H., Henly, A. A., and Kellie, A. E. (1950). Ibid., 2, 849.
Hart, F. D., and Clark, C. J. M. (1951). *Lancet*, 1, 775.
Hayhoe, F. G. J., and Robertson-Smith, D. (1951). *J. clin. Path.*, 4, 47.
Hench, P. S. (1950). *Proc. roy. Soc. Med.*, 43, 769.
—— Kendall, E. C., Slocumb, C. H., and Polley, H. F. (1949). *Proc. Mayo Clin.*, 24, 181.
Robinson, A. M., and Goulden, F. (1949). *Brit. J. Cancer*, 3, 62.
Robson, H. N., and Duthie, J. J. R. (1950). *British Medical Journal*, 2, 971.
Ward, L. E., Slocumb, C. H., Polley, H. F., Lowman, E. W., and Hench, P. S. (1951). *Proc. Mayo Clin.*, 26, 361.

SICKLE-CELL TRAIT IN SOUTHERN INDIA

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AND

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When the traveller in East and Central Africa inquires from the inhabitants about their distant past, they will often tell him of tall men, fairer than themselves, bearded and with long hair, who came from afar bringing codes of law, handicrafts, and cattle.

Several leading anthropologists have speculated whether there were migrations to prehistoric Africa from other continents, possibly Asia. Such speculations have been supported by the observation that the tall, broad-shouldered skeleton of the modern Bantu appears only in Neolithic excavations, whereas the types found in older strata are more slender. It had been noted that, with the exception of the Ankole herds, which are related to those of ancient Egypt, the East African cattle show a resemblance to the Indian cow. Similarities are also found between the poultry of Africa and India.

Fortunately for anthropologists the present-day inhabitants of Africa possess distinctive features in their blood—the sickle-cell trait, a very high incidence of a particular combination of Rh antigens known as R_0 (cDe), and another blood-group antigen provisionally referred to as He. So far as we know, the sickle-cell trait and sickle-cell anaemia have not been reported in people who were not either Africans or members of groups which must be expected to have an admixture of African blood. For example, Negro slaves undoubtedly mixed with Mediterranean races in Roman times. The sickle-cell trait has not been found in races which do not also show a raised incidence of the gene combination R_0 (cDe) (Mourant, 1951). This combination is found comparatively rarely in Northern and Central Europe and in Northern India, with a frequency of approximately 2%. By contrast, it has a frequency of over 50% in all African populations south of the Sahara so far tested. It is distributed fairly evenly all over tropical Africa, regardless of the incidence of the sickle-cell trait (Wiener, 1946; Boyd, 1950; Ikin and Mourant, 1952). The antigen here called He has been detected in about 5% of West Africans but has not been found in the course of testing about 1,000 Europeans (Ikin and Mourant, 1951, 1952).

It seemed possible that an investigation of the blood of certain Southern Indian communities might serve to refute or support the idea of a racial link between Africa and India. The aboriginal tribes were chosen as the group in whom a search for African blood features appeared most likely to yield positive results.

There is no general agreement how the peoples of South India should be classified. They have in the past often been divided into settled communities, or Dravidians, and aborigines, or Pre-Dravidians, but there are objections to this on both linguistic and cultural grounds; nor does the division correspond clearly to anything in the history of these populations. The so-called Pre-Dravidians of the Nilgiri Hills vary from civilized agricultural communities such as the Badagas (who have affiliations with the Canarese) to tribes such as the Irulas, Kurumbas, and Paniyans, who are found living under primitive conditions in the jungle.

Materials and Methods

Three aboriginal communities—the Badagas, the Todas, and the Irulas—were investigated. Sex, approximate age, and relationship to other persons tested were noted. To determine the incidence of the sickle-cell trait each blood sample was examined after incubation with a 2% sodium metabisulphite solution (Daland and Castle, 1948). Blood samples were collected from 60 Todas, 60 Badagas, and 80 Irulas for the determination of blood groups in the following systems: ABO, MNS, Rh, Duffy, P, and for the detection of the He antigen.

A control group of other peoples was investigated for the sickle-cell trait.

Results

The sickle-cell-trait incidence among 191 unrelated Badagas was 8.4%, among 60 Todas 3.3%, and among 80 unrelated Irulas 30%. No sickle-cell trait was found among 443 unrelated members of other communities of the region (see Table).

The Incidence of the Sickle-cell Trait in Some South Indian Communities (With the exception of the Todas, all individuals are unrelated)

Population	Number Examined	Sickle-cell Trait	
		Number of Individuals	%
Irulas	80	24	30
Badagas	191	16	8·4
Todas	60	2	3·3
Tamils	128	0	0
Malayalis ..	111	0	0
Canarese	95	0	0
Telegus	109	0	0

All first-degree relations have been excluded from the Table, except in the case of the Todas. As the whole Toda community numbers fewer than 500 individuals, practising polyandry, it was impossible to exclude close relatives. However, the 60 samples were collected from seven widely separated settlements; the two sickle-cell-trait carriers were children living in settlements some miles apart.

The incidence of the Rhesus chromosome R_0 (cDe) was at the low level found in Europeans and Northern Indians, rather than at that found in Africans. Among 60 Badagas, 2 individuals were of the phenotype R_0 or ccDee; among 60 Todas, 2; and among 80 Irulas, none.

None of the 120 blood samples contained the He antigen.

Discussion

These findings lend support to the idea of an Indian migration to Africa in prehistoric times. The reverse possibility—an influx of African blood bringing the sickle-cell trait to the hills of Southern India—should have resulted in a raised incidence of the gene combination R_0 (cDe). The fact that the incidence of R_0 is high everywhere among the negro races of Africa, whereas the incidence of the sickle-cell trait shows wide variations among them, suggests that Africa received the sickle-cell trait at a period too recent to allow an even distribution over the continent. It is realized that there are other possible interpretations of the above results.

It is not suggested that the actual migrants to Africa were Badagas or Todas or even Irulas. The first came from the North to the Nilgiri Hills only within the last 1,000 years; the second, though allegedly autochthonous, resemble Europeans in appearance and in their possession of the subgroup A_2 and of the Rh genotype rr (cde/cde). It is likely that at least the Badagas and Todas received the sickle-cell trait from older Southern Indian communities.

The examination of "pre-Dravidian" people is being continued with the hope of further defining the distribution of the sickle-cell trait in Southern India. However, the main purpose of the investigation has been achieved since the results lend support to the possibility of a link between prehistoric Africa and India.

Summary

The sickle-cell trait was found to be present in a number of individuals belonging to three aboriginal communities of Southern India. There was a low incidence of the Rh chromosome R_0 (cDe).

No sickle-cell-trait carrier was discovered among a control group of the non-aboriginal or "Dravidian" population.

The possible anthropological significance of these findings is discussed.

We should like to thank the Minister of Health of the Government of India and the Secretary of the Indian Council of Medical Research for making the necessary arrangements for these investigations. We are especially indebted to Dr. V. N. Patwardhan, Director of the Nutrition Research Laboratories, Coonoor, and to Dr. N. Veeraraghavan, Director of the Pasteur Institute, Coonoor, for generously allowing us laboratory facilities. We also wish to thank Dr. A. E. Mourant, of the Blood Group Reference Laboratory, London, for supplies of testing sera. The expenses of this work were generously defrayed by the Nuffield Foundation.

REFERENCES

Boyd, W. C. (1950). *Genetics and the Races of Man.* Oxford: Blackwell Scientific Publications.

Daland, G. A., and Castle, W. B. (1948). *J. Lab. clin. Med.*, 33, 1082.

Ikin, E. W., and Mourant, A. E. (1951). *British Medical Journal*, 1, 456.

—— —— (1952). Personal communication.

Mourant, A. E. (1951). *Cold Spring Harbor Symposia on Quantitative Biology*, 15, 221.

Wiener, A. S. (1946). *Amer. J. clin. Path.*, 16, 477.

THE SICKLE-CELL TRAIT IN WESTERN NIGERIA

A SURVEY OF 1,881 CASES IN THE YORUBA

BY

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AND

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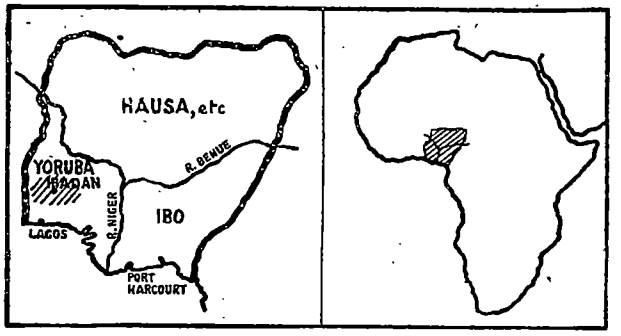
Yorubaland occupies the greater portion of Western Nigeria, lying between the Lagos lagoon in the south, the River Niger in the north, the Dahomey frontier in the west, and the Benin country in the east. Ibadan itself is a huge sprawling city of mud-brick buildings. The population, which is mainly Yoruba, is in the region of half a million. Ibadan's present importance is due to the fact that it lies at the centre of the cocoa-growing area of Nigeria, although it has been the site of a considerable town for over a hundred years.

The Yoruba are for the most part peasant farmers and petty traders. Their diet is largely vegetarian, the staple farinaceous foods being yams, maize, and cassava. Animal protein is deficient in the food of the majority, as cattle cannot be reared locally but have to be brought for slaughtering from northern Nigeria.

Groups Examined

In this survey 1,881 Yoruba were examined. The majority were from Ibadan, although some came from all parts of Yorubaland. Sickling was looked for by the method of



Sketch map of Nigeria showing area of survey

Scriver and Waugh (1930), although no preliminary congestion was used. The finger was pricked and a drop of blood transferred to a coverslip. This was inverted and placed face downwards on a clean slide. The coverslip was ringed with petroleum jelly and the preparation examined for sickling after 72 hours. In a few, the enclosed blood became either haemolysed or dried. These cases were not included in the series.

It is felt that the cases reviewed here represent a fair cross-section of the Yoruba population of Ibadan. The newborn babies were examined in the maternity wards and the other infants while attending welfare clinics. The older pre-school children and the elderly were difficult to test in large numbers. The few that were examined were in-patients, out-patients, or visitors at hospital. The three groups of schoolchildren were tested at several schools serving a wide area of the town. The young adult male group was the least balanced, as the majority were either policemen or Army recruits, and were probably of more than average physical development.

Results of the Survey

The results are shown in Table I. The average incidence in the whole series of 1,881 was 23.7%. As can be seen, no case of sickling was observed in any of the 51 newborn babies examined. The possible significance of this is discussed later. In the other groups the incidence of sicklaemia

TABLE I.—*Results of Survey for the Sickle-cell Trait in 1,881 Yoruba*

Age	No. Examined	No. Positive	% Positive
1st 2 weeks	51	None	—
Over 2 weeks to 1 year	120	30	25·0
„ 1 year to 4 years	60	17	28·3
„ 4 years „ 8 „	301	84	27·9
„ 8 „ „ 15 „	512	133	25·0
„ 15 „ „ 18 „	144	30	20·9
Young adult males	302	58	19·2
„ „ females	339	80	23·6
Older adults (males and females)	52	14	26·9
Total	1,881	446	23·7

varied from 19.2% in young adult males to 28.3% in children between the ages of 1 and 4 years. If the first group containing babies up to 2 weeks old is omitted from analysis, a χ^2 test shows that the proportions of positive cases in the other age groups do not vary more than would be expected by chance ($\chi^2=8.83$). For 7 degrees of freedom P lies between 0.3 and 0.2. In other words, the sickle-cell trait would appear to occur with equal frequency at all ages, with the exception of the newborn.

Discussion

Comparatively few surveys for the sickle-cell trait have been undertaken in tropical Africa, and results in different countries vary. Thus, 45% of the pygmoid Baamba show sickling (Lehmann and Raper, 1949), while Sarmento (1944) found only 8% positive in a survey of adult males in

Angola. It is, however, correct to say that most investigators have found from 15 to 30% to show sicklaemia, so that the findings in the present series are in rough accord with observations made elsewhere.

As has been stressed by several authors (Raper, 1950), the sickle-cell trait is common in tropical Africa, while sickle-cell anaemia is rarely recorded. This is in contradistinction to findings in American negroes, in whom the sickle-cell trait is much less common (6–9%), but in whom sickle-cell anaemia is frequently seen. It has been estimated that in America the ratio of sickle-cell anaemia to trait is 1:50, while Raper (1950) estimates that the ratio in Africa must be below 1:1,000. The explanation of this undoubted fact is unknown. Raper suggests that it may be connected with genetic modification produced by intermarriage with Caucasians in the case of the American negro. However, as has been pointed out elsewhere (Jelliffe, 1952), it must be realized that a partial explanation for the rare reports of sickle-cell anaemia in Africa lies in the comparatively few doctors and laboratories in these regions, together with a lack of awareness of the disease entity and the difficulty of making a rapid and certain diagnosis, especially in view of the numerous other forms of anaemia which occur so commonly in indigenous Africans. The possibility that sickle-cell anaemia may be more frequent than has hitherto been suspected is suggested by Jelliffe and by a recent report from Kenya (Foy, Kondi, and Brass, 1951).

At the present state of knowledge, it nevertheless seems certain that sickle-cell anaemia is relatively rare in tropical Africa, despite the presence of an enormous population showing the sickle-cell trait. This is confirmed by the present survey. Of the 1,881 cases examined, none were observed to have an obvious haemolytic anaemia, although this cannot be regarded as scientific evidence, as neither careful clinical examinations nor full haematological investigations were undertaken. However, it is significant that, during the past nine months in Ibadan, where there must be over 100,000 persons with the sickle-cell trait, only 12 cases of sickle-cell anaemia have been seen.

The mode of inheritance of sickle-cell anaemia and its relation to the sickle-cell trait is still far from certain. The most recent suggestion (Neel, 1949) is that sickle-cell disease may be due to a gene which in a homozygous condition produces sickle-cell anaemia and in the heterozygous condition sicklaemia (sickle-cell trait). As Lehmann (1951) has noted, if this theory is correct, sickle-cell anaemia would be expected to occur more frequently in Africa than in America. As he remarks, "One possible explanation for this discrepancy could be that the gene is lethal and that homozygotes die earlier than the rest of the population." If this were the case the incidence of sickling would be expected to fall in the older age groups, whereas the frequency was found to be the same at all ages in three tribes examined in Uganda.

As has been noted previously, in the present series no variation in incidence could be found in the different age groups, with the exception of the newborn babies. This can be interpreted as supporting Lehmann's view that the simple homozygous-heterozygous theory does not appear to fit the facts as seen in tropical Africa. The most interesting feature of this survey was the apparent absence of sickling in newborn children examined in the first two weeks of life. In no instance were sickle-cells seen after 72 hours' observation; and, in order to follow up this type of case more carefully, blood from the last 18 newborn babies was examined again after 216 hours. The results are recorded in Table II. As can be seen, 12 showed no sickling even after this interval, 5 specimens were haemolysed, while 1 case showed the presence of less than 5% sickle cells.

It has recently been shown that the haemoglobin of sickle-cell anaemia and normal haemoglobin differ physicochemically, and that the haemoglobin of a subject with the sickle-cell trait is a mixture of the two (Pauling *et al.*, 1949). A possible explanation for the absence of sickling in these newborn infants is that sickle-cell haemoglobin is not present in foetal blood but develops after birth. Unfortunately, it was not possible to follow up this series of cases. In addition, in the normal subject, foetal haemoglobin has different biophysical properties from adult haemoglobin, although exact differences in chemical structure are still far from clear-cut. However, it is well recognized that foetal haemoglobin has an increased affinity for oxygen and that, conversely, it reduces more slowly. It has been shown by various workers that foetal haemoglobin persists, to a diminishing degree, in the blood of newborn infants, although the length of time it can be detected is uncertain. Periods varying from days to a few months have been described by different investigators (Smith, 1945).

TABLE II.—*The Sickle-cell Trait in the Newborn*

Case No.	Age in Days	Result at 72 Hours	Result at 216 Hours
1	5	Negative	Negative
2	8	,,	,,
3	7	,,	,,
4	2	,,	Haemolysed
5	4	,,	,,
6	10	,,	Negative
7	3	,,	,,
8	5	,,	,,
9	3	,,	,,
10	4	,,	Haemolysed
11	6	,,	Under 5% positive
12	3	,,	Negative
13	1	,,	Haemolysed
14	5	,,	,,
15	7	,,	Negative
16	4	,,	,,
17	4	,,	,,
18	6	,,	,,

Sickling of red blood corpuscles probably occurs only when haemoglobin is in a reduced state, at least in subjects showing the sickle-cell trait. It seems possible, therefore, that the apparent absence of sickling in the first two weeks of extrauterine life may be due to this persistence of foetal haemoglobin, and that sickling cannot be demonstrated because of the extreme difficulty of causing this type of haemoglobin to become reduced.

In this context it may be mentioned that recent work by Liquori (1951) has shown that in Cooley's anaemia, a disease with many points of similarity to sickle-cell anaemia, 40–60% of the haemoglobin may still be foetal at the age of 8 years. Although this is in contrast to the hypothesis suggested here, nevertheless both findings would seem to indicate that further work on the relation of foetal haemoglobin to sickle-cell haemoglobin is required.

Summary

A survey for the sickle-cell trait was undertaken in 1,881 Yoruba in Ibadan, Western Nigeria. The average incidence was 23.7%. The incidence showed no real variation with age, although no cases of sickling were noted in 51 newborn babies. The latter was thought to be related to a persistence of foetal haemoglobin into the first weeks of extrauterine life. The results of the survey are discussed, with especial reference to the homozygous-heterozygous theory of inheritance of the sickle-cell trait.

Thanks are due to Professor A. Brown, of the Department of Medicine, University College, Ibadan, for permission to publish this paper.

REFERENCES

Foy, H., Kondi, A., and Brass, W. (1951). *E. Afr. med. J.*, 28, 1.
Jelliffe, D. B. (1952). *Trans roy. Soc. trop. Med. Hyg.*, in press.
Lehmann, H. (1951). *Nature*, 167, 931.
—— and Raper, A. B. (1949). Ibid., 164, 494.
Liquori, A. M. (1951). Ibid., 167, 950.
Neel, J. V. (1949). *Science*, 110, 64.
Pauling, L., *et al.* (1949). Ibid., 110, 543.
Raper, A. B. (1950). *J. trop Med. Hyg.*, 53, 49.
Sarmento, A (1944). *An. Inst. Med. trop., Lisbon*, 1, 345.
Scriver, J. B., and Waugh, T. R. (1930). *Canad. med. Ass. J.*, 23, 375.
Smith, C. A. (1945). *The Physiology of the Newborn Infant*, 1st ed., p. 24. Thomas, Illinois.

IRON AND THE "PHYSIOLOGICAL" ANAEMIA OF PREGNANCY*

BY

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The volume of the vascular bed increases during pregnancy, necessitating a commensurate increase in the blood volume. Dieckmann and Wegner (1934) found that the total blood volume was increased by 23% during pregnancy, and that, although this increase was proportionately much greater in the plasma content, the cellular element was also increased. Since the haemoglobin level tends to return to normal values during the puerperium there would appear at first sight to be a prima facie case for the assumption that the anaemia of pregnancy is physiological and for the acceptance of the minimal normal figures of: haemoglobin 10 g.%, erythrocytes 3,360,000, and a packed cell volume of 33%, which were suggested by Adair, Dieckmann, and Grant (1936). On the other hand, many investigators deny that haemodilution can cause such low figures as those quoted above, and believe that the so-called physiological anaemia of pregnancy denotes a marked deficiency of iron.

Before animadverting upon the conflicting reports in the literature it is desirable to see the main factors of the problem in perspective. They are: the level of the maternal haemoglobin before pregnancy occurs, the cessation of menstruation during pregnancy, the increased blood volume, and the foetal demand for iron.

Davies *et al.* (1946), in a survey of 2,000 women in the London region, found that anaemia was encountered twice as often in married as in single women, and there is evidence, particularly that emanating from the blood transfusion services, that anaemia is more widespread in England in 1951 than it was in 1946. Strauss and Castle (1932), Strauss (1934), Corrigan and Strauss (1936), Linder and Massey (1939), Young *et al.* (1946), Laurell (1947), Cartwright and Wintrobe (1949), Lundström (1950), and Ventura and Klopper (1951) are all of the opinion that there is manifested during pregnancy a tendency towards anaemia which is commonly caused by iron deficiency. Davidson and Fullerton (1938) showed that the saving of iron due to the cessation of menstruation failed to counterbalance the loss of iron to the growing foetus, and maintained that the normal pregnant woman is dangerously near to iron starvation. Whitby and Britton (1942) assert that an erythrocyte count below four millions is pathological, and Vaughan (1936) doubts whether an anaemia which responds to iron can be physiological.

On the other hand, Wolff and Limarzi (1945) regard a normocytic normochromic anaemia occurring during pregnancy as physiological and, together with Rath and Finch (1949), consider it unnecessary to give iron to pregnant women unless there is evidence of pathological anaemia. Some observers, indeed, regard the lowered blood viscosity associated with the hydraemia of pregnancy as mechanically advantageous, and it is true that the loss of haemoglobin during delivery is thereby lessened.

Adair *et al.* (1936) and Evans (1943) go further and aver that iron administered during pregnancy fails to maintain the normal level of haemoglobin. Dieckmann *et al.* (1950) have more recently shown that the addition of molybdenum renders the iron more efficacious, and in an earlier paper Dieckmann *et al.* (1949) showed that even in cases of true anaemia of pregnancy the haemoglobin can be raised from 9.9 to 11.8 g.% by this modified form of iron therapy.

The Present Investigation

This clinic serves a large industrial area in the centre of the heavy woollen industry. The purpose of the investigation was to report: (1) the incidence of anaemia in patients attending the antenatal clinic; (2) the results obtained by administering iron from the 16th week of pregnancy until term; (3) the results obtained by administering iron for eight weeks only, beginning at the 24th week of pregnancy; and (4) whether the addition of a small amount of molybdenum increases either the absorption or the utilization of iron.

All the patients who participated in the following investigations were in the third decade of life, and each group was carefully matched according to age, parity, previous health, and home conditions. They were all reasonably healthy, and each case was carefully supervised by one of us (N. B.), who got to know each woman personally.

All these women took four tabellae calcii cum vitamino D (*N.F.*) daily. Each tablet contained calcium sodium lactate, 7½ gr. (488 mg.), calcium phosphate, 2½ gr. (163 mg.), and calciferol 1/4.800 gr. (0.014 mg.), which is equivalent to 500 international units of vitamin D. They also took the extra rations and vitamins supplied by the Ministry of Food.

Experiment 1.—Seventy-two patients at or before the 16th week of pregnancy whose initial haemoglobin levels were not below 11 g.% were divided into two matched groups—A and B, the latter being the control group. *Group A* took iron in the form of tabellae ferri sulphatis compositae (*N.F.*), two tablets thrice daily. Each tablet contained: exsiccated ferrous sulphate, 3 gr. (195 mg.), copper sulphate, 1/25 gr. (2.4 mg.), and manganese sulphate, 1/25 gr. (2.4 mg.). *Group B (Control)* took a mixture known as "mist. antenatal," which was made up to the following prescription:

Syrup	20 min. (1.2 ml.)
Glycerin	10 min. (0.6 ml.)
Blackcurrant flavouring q.s.	
Aqua	to 1 fl. dr. (3.5 ml.)

1 fl. dr. (3.5 ml.) to be taken twice daily.

Experiment 2.—Thirty patients at or before the 16th week of pregnancy whose initial haemoglobin levels were not below 11 g.% were divided into two matched groups C and D. *Group C* took tabellae ferri sulphatis compositae (*N.F.*), two tablets thrice daily for eight weeks, beginning at the 24th week of pregnancy. *Group D* took White's "mol-iron" tablets,* two thrice daily for eight weeks, beginning at the 24th week of pregnancy. Each tablet contained ferrous sulphate, 3 gr. (195 mg.), and molybdenum oxide, 1/20 gr. (3 mg.).

Methods of Blood Examination

Investigations were carried out at monthly intervals until term, and again on the sixth day of the puerperium. The estimations made were the haemoglobin and the packed cell volume, from which was calculated the mean corpuscular

*The expenses of this investigation were defrayed by a grant from the Endowment Fund generously afforded to one of us (G. W. T.) by the Bradford Hospital Management Committee (A), to whom we express our grateful thanks.

*These tablets, similar to those used by Dieckmann *et al.*, were most generously sent to one of us (G. W. T.) free of all cost through the kindness of Dr. H. A. Strade, of the Medical Department of Messrs. White Laboratories, Inc., Newark, New Jersey.

haemoglobin concentration. The haemoglobin was estimated by means of a Sahli colorimeter (standard 14.8 g. = 100%). This was calibrated at the beginning of the experiment and recalibrated six months later. The packed cell volume was estimated by Wintrobe's method.

The initial haemoglobin estimations used in Fig. 1 were made by the pathological laboratory of St. Luke's Hospital, and were estimated by means of a "unicam" photoelectric colorimeter. The remaining blood examinations were carried out by one of us (N. B.) not more than 30 minutes after collecting the blood.

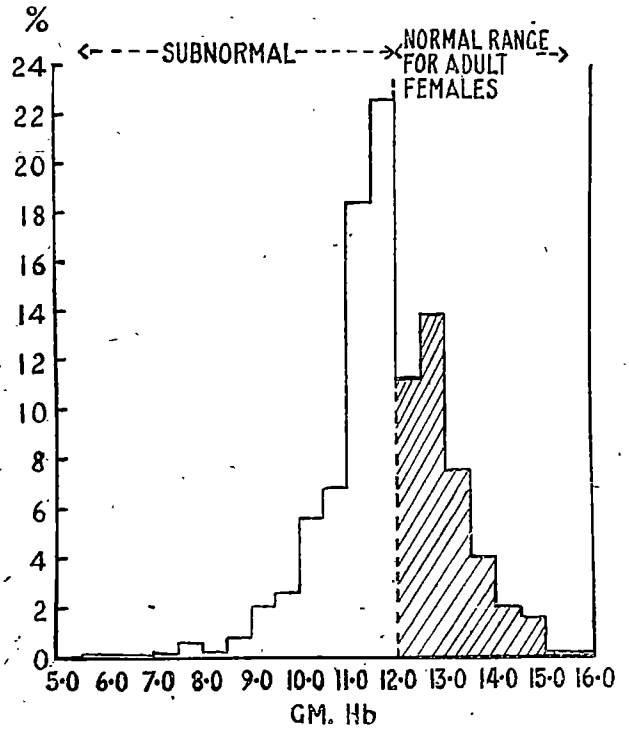

FIG. 1.—Distribution of the initial haemoglobin values of the 2,000 consecutive antenatal patients mentioned in the text.

The initial haemoglobin estimations of 2,000 consecutive cases, all less than 16 weeks pregnant, attending the booking-in clinics from January to October, 1950, were as follows (see Fig. 1):

40.15%	had	readings	of	12 g.	or more	per	100	ml.
59.85%	„	„	„	below	12 g.	„	„	„
37.25%	„	„	„	„	11.5 g.	„	„	„
18.85%	„	„	„	„	11 g.	„	„	„
12.05%	„	„	„	„	10.5 g.	„	„	„
6.55%	„	„	„	„	10 g.	„	„	„

Notes on Statistical Analysis of Experiments.—The standard error of the difference between the means was calculated by using the second method described by Bradford Hill (1948), and, in order to facilitate these calculations, the haemoglobin estimations are all reported as percentages. Where the difference between the means (D.M.) is greater than twice the standard error of the difference between the means—that is, D.M./S.E.D.M.>2—it is regarded as significant.

Discussion of Results

It is a matter of no little concern that 6.5% of 2,000 consecutive patients attending this clinic were severely anaemic at the 16th week of pregnancy, before any significant haemodilution had occurred, and that about 60% of all cases showed readings below 12 g.%. The normal range for adult non-pregnant women is regarded by Whitby and Britton as lying between 12 and 15.5 g.%.

The results reported in Figs. 2 and 3 and in Tables I to III vary significantly from those published by most other

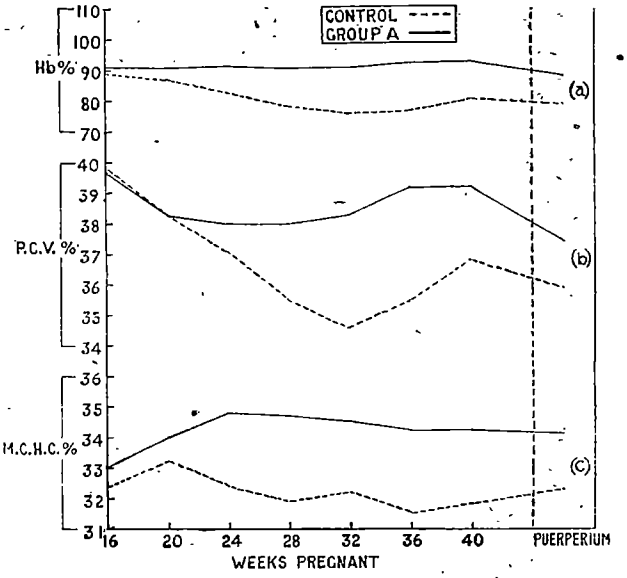

FIG. 2.—Experiment 1. (*a*) Shows the arithmetic means of the haemoglobin values plotted at four-weekly intervals in group A and the control group B. (*b*) Shows the arithmetic means of the packed cell volume in the same two groups plotted at the same intervals of time. (*c*) The curves denote the arithmetic means of the mean corpuscular haemoglobin concentration of groups A and B at the same time intervals.

authors. It will be seen that the adequate administration of iron makes it possible for normal haemoglobin values to be maintained throughout pregnancy, whereas if the woman does not take iron she begins the puerperium with a significantly lessened amount of haemoglobin.

This latter observation is all the more important when it is realized that the average initial haemoglobin value for the control group (B) was 88.8%, which means that the subjects chosen for the investigation were almost exclusively recruited from 40% of those who booked at the clinic (see Fig. 1).

Similar advantages are observed in the mean corpuscular haemoglobin concentrations from taking iron throughout pregnancy, but although the differences between the two

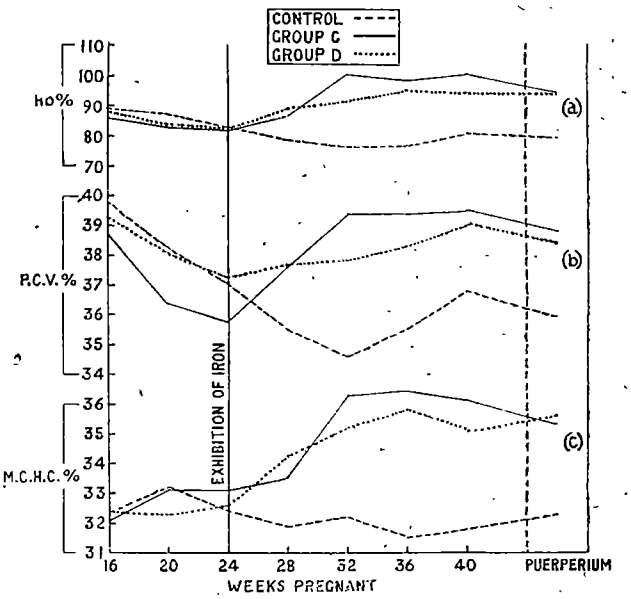

FIG. 3.—Experiment 2. (*a*) Shows the arithmetic means of the haemoglobin values for groups B (control), C, and D plotted at four-weekly intervals. (*b*) The curves denote the arithmetic means of the packed cell volumes in the same three groups plotted at the same time intervals. (*c*) The curves show the arithmetic means of the mean corpuscular haemoglobin concentration of the same three groups at identical intervals of time.

groups on the sixth day of the puerperium are significant, it will be noted that the value for the 16th week of pregnancy in the control group is almost identical with that for the sixth day of the puerperium.

It is certainly a matter of interest that the administration of iron for eight weeks only, beginning at the 24th week of pregnancy, causes a rapid recovery from the commencing "physiological" anaemia, and that thereafter satisfactory normal blood values are maintained. It will be observed that all the figures for the sixth day of the puerperium are higher in groups C and D than in Group A.

This investigation provides no evidence to support the contention of Neary (1946), Chesley and Annitto (1948), and Dieckmann *et al.* (1949), that molybdenized iron is more efficacious than ferrous sulphate in either the treatment or the prevention of anaemia during pregnancy. On the other hand, the important observation made by both Neary (1946) and Chesley and Annitto (1948) that molybdenized iron is more easily tolerated has been amply confirmed. It was found that 33% of the patients in group A and 40.2% in group C found it difficult or impossible to tolerate ferrous sulphate tablets, and it can be assumed that between 30 and 40% of all antenatal patients will not, in fact, take these tablets if they are routinely prescribed in the antenatal department. The mol-iron tablets were tolerated by 86% of the patients in group D and were equally well tolerated by other patients not included in the experiment (Table IV). It must, however, be borne in mind that the old scale preparation

TABLE I.—*Experiment 1 (Groups A and B) (See Fig. 2)*

	Weeks Pregnant							Puerperium
	16	20	24	28	32	36	40	
Average Hb estimations (%):								
Group A	90·8	90·6	91·5	90·7	91·2	92·9	93·3	88
Control (group B)	88·8	87·4	83·2	78·7	76·6	77·1	80·8	79·5
S.E.D.M.	2·67	2·38	2·16	2·23	1·75	2·18	3·63	2·83
Significance (D.M./S.E.D.M. >2)	0·75	1·35	3·05	5·38	8·35	7·25	3·44	3·26
Average P.C.V. (%):								
Group A	39·7	38·3	38	38	38·3	39·2	39·2	37·4
Control (group B)	39·8	38·3	37·1	35·5	34·6	35·5	36·8	35·9
S.E.D.M.	0·88	0·85	0·64	0·597	0·54	0·614	0·965	1·01
Significance (D.M./S.E.D.M. >2)	0·114	0	1·4	4·9	6·81	6·03	2·7	1·49
Average M.C.H.C. (%):								
Group A	33·0	34·0	34·8	34·7	34·5	34·2	34·2	34·1
Control (group B)	32·4	33·2	32·4	31·9	32·2	31·5	31·8	32·3
S.E.D.M.	0·815	0·66	0·61	0·409	0·588	0·673	1·02	0·721
Significance (D.M./S.E.D.M. >2)	0·736	1·21	3·91	6·85	3·91	4·01	2·35	2·5

TABLE II.—*Experiment 2 (Groups B and C) (See Fig. 3)*

	Weeks Pregnant							Puerperium
	16	20	24	28	32	36	40	
Average Hb estimations (%):								
Group C	85·8	83·3	82·3	86·7	100·6	98·2	100·1	94·3
Control (group B)	88·8	87·4	83·2	78·7	76·6	77·1	80·8	79·5
S.E.D.M.	3·19	2·42	3·44	2·92	2·83	3·55	3·57	3·4
Significance (D.M./S.E.D.M. >2)	0·94	1·69	0·262	2·74	8·48	5·94	5·41	4·35
Average P.C.V. (%):								
Group C	38·7	36·4	35·8	37·6	39·4	39·4	39·5	38·8
Control (group B)	39·8	38·3	37·1	35·5	34·6	35·5	36·8	35·9
S.E.D.M.	0·945	1·3	1·06	0·834	0·725	0·729	1·11	1·18
Significance (D.M./S.E.D.M. >2)	1·16	1·46	1·23	2·52	6·62	5·35	2·43	2·46
Average M.C.H.C. (%):								
Group C	32·1	33·1	33·2	33·5	36·3	36·4	36·1	35·3
Control (group B)	32·4	33·2	32·4	31·9	32·2	31·5	31·8	32·3
S.E.D.M.	1·02	1·19	1·11	0·822	0·757	0·791	1·18	0·802
Significance (D.M./S.E.D.M. >2)	0·294	0·084	0·721	1·95	5·42	6·19	3·64	3·74

TABLE III.—*Experiment 2 (Groups B and D) (See Fig. 3)*

	Weeks Pregnant							Puerperium
	16	20	24	28	32	36	40	
Average Hb estimations (%)								
Group D	88·0	83·8	83·7	89·4	91·7	95·2	94·0	94·7
Control (group B)	88·8	87·4	83·2	78·7	76·6	77·1	80·8	79·5
S.E.D.M.	3·49	2·77	2·32	2·45	2·44	3·05	4·09	3·62
Significance (D.M./S.E.D.M. >2)	0·229	1·3	0·216	4·37	6·19	5·93	3·23	4·2
Average P.C.V. (%):								
Group D	39·3	38·1	37·3	37·7	37·8	38·3	39	38·4
Control (group B)	39·8	38·3	37·1	35·5	34·6	35·5	36·8	35·9
S.E.D.M.	0·884	0·825	0·818	0·712	0·706	0·808	0·91	1·09
Significance (D.M./S.E.D.M. >2)	0·566	0·242	0·244	3·09	4·53	3·47	2·42	2·29
Average M.C.H.C. (%):								
Group D	32·4	32·3	32·6	34·2	35·2	35·8	35	35·6
Control (group B)	32·4	33·2	32·4	31·9	32·2	31·5	31·8	32·3
S.E.D.M.	0·865	0·67	0·624	0·734	0·868	0·799	1·14	0·64
Significance (D.M./S.E.D.M. >2)	0	1·34	0·32	3·13	3·46	5·38	2·81	5·16

TABLE IV.—*Tolerance to Iron*

Group	Intractable Diarrhoea and Vomiting (Removed from Experiment)	Gastro-intestinal Symptoms (Persevered with Treatment)
A	6	6
C	3	3
D (mol-iron)	1	1

ferri et ammonii citras was even better tolerated and proved equally efficient. The mol-iron tablets are easier to prescribe and to take than this latter preparation, but the increased expense involved and the world shortage of molybdenum may delay the routine use of these tablets (which are now made in England). The important point to realize is that many pregnant women cannot tolerate ferrous sulphate pills and therefore do not take them.

This investigation suggests that a high percentage of pregnant women in Bradford suffer from iron deficiency, and that the administration of iron together with calcium and vitamin D prevents both the microcytic and the "physiological" anaemia of pregnancy. An idea to be considered further is whether iron deficiency may in some way be associated with the occurrence of miscarriage and hypertension (see Table V). The only disadvantage of maintaining the haemoglobin level at its normal value throughout pregnancy would

TABLE V.—*Additional Observations*

Group	Miscarriage	Hypertension (Blood Pressure Exceeding 140/90 mm. Hg on at Least 2 Occasions)	Post-partum Haemorrhage—More than 20 fl. oz. (570 ml.)
A	—	—	3 (one required blood transfusion)
Control (B)	2 {18 weeks, 28 ,,}	5 (1 eclampsia)	1
C	—	1	1 (required blood transfusion)
D	—	1	1

appear to be a slightly increased risk of post-partum haemorrhage. We therefore conclude that the so-called "physiological" anaemia of pregnancy is in reality the expression of iron deficiency, and that the diet in Bradford, and probably in many other centres, is and is likely to remain deficient in this mineral. It would clearly be important to see whether the controlled administration of iron to a much larger group of women would decrease the high incidence of hypertension in pregnant women in Bradford, and whether the maintenance of the normal haemoglobin level throughout pregnancy is associated with the accepted figure for the increase in blood volume.

Summary and Conclusions

A review of haemoglobin readings obtained from 2,000 consecutive cases at or below the 16th week of pregnancy showed that about 60% were subnormal, and that 6.5% of the women were severely anaemic.

The changes in haemoglobin and packed cell volume readings which occurred during pregnancy in matched groups of young healthy women lead us to conclude that: (*a*) the "physiological" anaemia of pregnancy is associated with a low or subnormal mean corpuscular haemoglobin concentration; (*b*) normal (non-pregnant) blood values are maintained if therapeutic doses of ferrous sulphate are administered throughout pregnancy; and (*c*) the administration of ferrous sulphate, or of molybdenized iron, from the 24th to the 32nd week of pregnancy, results in recovery from the commencing "physiological" anaemia, followed by maintenance of normal (non-pregnant) blood values.

The mol-iron tablets were not found to be more efficacious than ferrous sulphate tablets either in preventing or treating the "physiological" anaemia of pregnancy, but they were better tolerated. We would suggest that ferrous sulphate is not a suitable preparation for the routine administration of iron in antenatal clinics.

We think that the controlled administration of iron to a large group of women should be undertaken in order to see whether the incidence of hypertension would thereby be lessened. It would also be of interest to determine whether the maintenance of the normal haemoglobin level throughout pregnancy is associated with the accepted value for the increase in blood volume.

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REFERENCES

Adair, F. L., Dieckmann, W. J., and Grant., K. (1936). *Amer. J. Obstet. Gynec.*, 32, 560.
Cartwright, G. E., and Wintrobe, M. M. (1949). *J. clin. Invest.*, 28, 86.
Chesley, R. F., and Annitto, J. E. (1948). *Bull. M. Hague Maternity Hosp.*, 1, 68.
Corrigan, J. C., and Strauss, M. B. (1936). *J. Amer. med. Ass.*, 106, 1088.
Davidson, L. S. P., and Fullerton, H. W. (1938). *Edinb. med. J.*, 45, 1, 102, 193.
Davies, D. T., Gunson, E. B., Matheson, A., and Pyke, M. (1946). *J. Obstet. Gynaec. Brit. Emp.*, 53, 260.
Dieckmann, W. J., and Priddle, H. D. (1949). *Amer. J. Obstet. Gynec.*, 57, 541.
—— Priddle, H. D., King, J. A., and Forman, J. B. (1950). Ibid., 59, 442.
—— and Wegner, C. R. (1934). *Arch. intern. Med.*, 53, 71.
Evans, E. G. (1943). *Illinois med. J.*, 84, 317.
Hill, A. Bradford (1948). *Principles of Medical Statistics*, p. 115. Lancet, London.
Laurell, C. B. (1947). *Acta physiol. scand.*, 14, Suppl. 46.
Linder, G. C., and Massey, P. J. H. (1939). *J. Obstet. Gynaec. Brit. Emp.*, 46, 885.
Lundström, P. (1950). *Acta Soc. med., Upsala*, 55, 1.
Neary, E. R. (1946). *Amer. J. med. Sci.*, 212, 76.
Rath, C. E., and Finch, C. A. (1949). *J. clin. Invest.*, 28, 79.
Strauss, M. B. (1934). *J. Amer. med. Ass.*, 102, 281.
—— and Castle, W. B. (1932). *Amer. J. med. Sci.*, 184, 655.
Vaughan, Janet M. (1936). *The Anaemias*, 2nd ed., p. 68. London.
Ventura, S., and Klopper, A. (1951). *J. Obstet. Gynaec. Brit. Emp.*, 58, 173.
Whitby, L. E. H., and Britton, C. J. C. (1942). *Disorders of the Blood*. London.
Wolff, J. R., and Limarzi, L. R. (1945). *J. Amer. med. Ass.*, 128, 482.
Young, J., King, E. J., Wood, E., and Wootton, I. D. P. (1946). *J. Obstet. Gynaec. Brit. Emp.*, 53, 251.

HAEMOGLOBIN LEVELS IN ADULTS AND CHILDREN

BY

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This paper reports the results of haemoglobin studies on 245 males and 266 females of adult age employed in clerical and industrial work, on 214 housewives under 60 years, all living in and around London, and on 1,628 boys aged 6, 10, and 14 years living in two Lancashire towns (I and K), one Surrey town (J), and one Gloucestershire town (L) (see Table I). The method was the same as that employed in earlier studies (Magee and Milligan, 1951), except that oxyhaemoglobin was the pigment determined instead of alkaline haematin. As before, many precautions were taken to ensure accuracy —the two photometers were re-checked by the National Physical Laboratory, pipettes were re-calibrated, and blood was drawn by finger-prick after a period of rest, depending on the previous state of activity of the individuals. The findings are expressed as grammes of haemoglobin per 100 ml. of blood, and, for comparison with previous findings, especially those of the M.R.C. 1943 Survey (M.R.C., 1945), as Hb% on the Haldane scale.

TABLE I.—*Haemoglobin Levels g./100 ml. and Percentages (Haldane), compared with 1943 Haemoglobin Survey*

Category	No.	Present Survey Mean and Standard Deviation (g. Hb/100 ml. Blood)	% Haldane and Standard Deviation	Mean 1943 Survey. % Haldane Scale
Adult Males				
A. Clerical workers	94	15·9±1·1	107·1±7·1	Mean of all married men102·4, all single men 102·1
B. Factory ,,	100	15·6±1·0	105·5±6·9	
C. ,, ,,	51	15·5±1·1	104·9±7·3	
Total ..	245			
Employed Females				
D. Clerical workers	100	14·1±1·1	95·4±7·4	Mean for all manual working women 92·5, all unmarried 94·4
E. Factory ,,	101	14·1±1·3	95·0±8·7	
F. ,, ,,	65	13·6±1·4	91·8±9·2	
Total ..	266			
Housewives				
G. London borough	115	13·5±1·5	91·3±10·2	91·5
H. ,, ,,	99	13·6±1·2	91·9±8·3	
Total ..	214			
Schoolboys aged 6:				
Town I	147	13·1±0·8	88·8±5·6	Two samples, 87·1 and 94·0
,, J	150	13·8±1·0	93·0±6·8	
Schoolboys aged 10:				
Town I	196	13·5±1·0	91·2±6·6	91·0
,, J	133	14·0±0·8	94·2±5·7	
Schoolboys aged 14:				
Town I	176	14·3±0·9	96·8±6·0	Two samples, 97·6 and 97·9
,, J	190	14·7±1·0	99·5±6·5	
,, K	184	14·6±1·1	98·8±7·4	
Town L:				
1. Modern schools	211	14·6±0·9	98·7±6·5	,, ,,
2. Grammar ,,	165	15·0±0·9	101·5±6·1	,, ,,
3. Public ,,	76	14·9±0·7	100·5±5·1	,, ,,
Total ..	1,628			

Methods of Sampling

Adult males and females were selected at random; a letter was sent to every *n*th person on the roll of employees asking if he or she would co-operate; the refusal rate was low. No person of income above £1,000 per annum was included.

For housewives, streets were chosen at random and two constant house numbers in the street were nominated. If for some reason the housewife could not participate the house number adjoining was taken. The refusal rate was low. The tests were carried out in their own homes, and pregnant or lactating women and women over 60 were excluded, but no woman was excluded on the grounds of apparent ill-health. However, some housewives excused themselves from participating on health grounds. They numbered one-seventh of all refusals. Since, so far as we could judge, ill-health of a comparable degree existed among those housewives whose haemoglobin levels are reported here, we think that there is no bias from this cause.

For boys, the whole school population of the age groups 6, 10, and 14 years in certain schools, chosen for convenience, were examined.

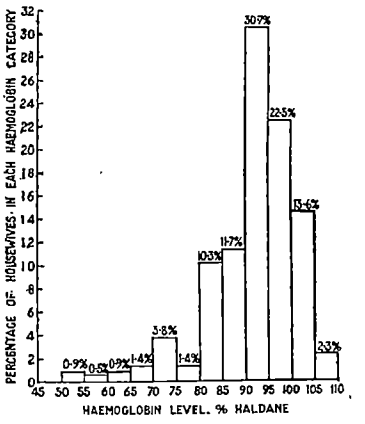
Results

Adult Males.—The mean haemoglobin level in clerical workers was slightly higher than that in manual workers (Table I). But the difference is not statistically significant, since it is less than twice its standard error. All three means are higher than those obtained in similar people in the 1943 Survey—102%. The higher value for the clerical workers in the present survey is in harmony with the findings of Adcock *et al.* (1948), who obtained higher values in sedentary men than in those of similar age receiving similar diets but engaged in more strenuous occupations—for example, the mean level for the Foot Guards was 99.9% and for R.A.M.C. hospital workers 103%. Adcock *et al.* did not make similar comparisons for women engaged in different occupations.

Adult Women.—The values obtained in the present survey for women show no consistent differences between the clerical and the manual workers, but it should be remembered that the occupation of the manual workers was far from strenuous. Taking the three groups of women (D, E, and F) as a whole, they compare favourably with the 1943 means for women manual workers and for unmarried women—92.5 and 94.4%, respectively.

Blood Donors.—There were 15 men and 28 women in the above groups (A–F) who had been blood donors for the National Blood Transfusion Service. Their mean haemoglobin levels were 104% for men and 94% for women. Among these were two men with haemoglobin levels of 104 and 111% and six women with levels of 86, 92, 92, 97, 100, and 86% who, for no disclosed reason, had been rejected on the last occasion they presented themselves for bleeding.

Housewives. — The means for the two groups of housewives (Table I) show no differences either between themselves or from the 1943 mean—91.5%. The distribution curve is negatively skewed (see Chart). The S.D. of the two groups is 9.65, which means that on a normal distribution 2.3% of the values would fall below 72.3% and 2.3% above 110.9%. There are no values above 110.9, but 5.6% of the total are below 72.3%. In practically all these women medical reasons for the low haemoglobin levels were elicited by questioning, and all of them were reported to their family doctors.



Percentage distribution of haemoglobin levels in 214 housewives.

Boys.—The haemoglobin determinations on boys were only part of a much more comprehensive survey which involved physical measurements, physical efficiency tests, medical examinations, inquiries into living conditions, and other socio-economic matters. A detailed analysis of the data, which will be published later, shows that where higher mean haemoglobin levels were observed they were merely one facet of a general physical superiority, which was reflected in larger stature, greater weight and strength, and an earlier onset of puberty. Among the socio-economic factors with which these differences were associated, non-dietary as well as dietary factors appear to be responsible. The various haemoglobin values compare favourably with those obtained in 1943 on boys of the same age.

Discussion

It has been suggested that the higher average haemoglobin level in male clerical workers (Group A) than in male manual workers (Groups B and C, Table I) is attributable to the, presumably, more active life of the latter. It might, however, be suggested that the difference is due to higher incomes and presumably better diets of the clerical workers. We were unable to obtain the incomes of Group A, but we found it for most men in Groups B and C. In Group B there was no relationship between income and haemoglobin levels. In Group C the mean haemoglobin of 16 men with incomes at or above £350 per annum was 106.4%, and of 22 men in the same group with incomes at or below £300 per annum, 103.7%. A similar relationship was found for employed women in Group F; 13 of these with incomes of £250 per annum or more had a mean of 94.9%, and 46 with incomes of £200 per annum or less a mean of 91.0%. These numbers are small, and an element of chance cannot, therefore, be entirely excluded. There would seem, however, to be some sort of relationship

between income and haemoglobin level, but this might be explained by the higher-paid workers being older and leading a more sedentary life than the lower-paid ones.

There was no evidence of a difference between the haemoglobin of married and that of unmarried men. Employed married women, on the other hand, had a higher mean level than spinsters in all three groups, D, E, and F, the differences being 0.65, 2.5 and 3.0%, respectively. These differences were found to be independent of income.

In 187 of the housewives the effect of parity could be investigated. Over the range 0–3 children no change in level was found, but the level for mothers of four or more children was well below that of the rest (Table II).

TABLE II.—*Haemoglobin Levels of Housewives According to Parity*

No. of Pregnancies	No. in Sample	Mean Hb % Haldane
0	14	90·2
1	62	91·4
2	64	90·8
3	31	91·7
4 and over	16	86·2

In the study of Magee and Milligan (1951) the haemoglobin of women who had borne three or more children and who were either pregnant or within 65 weeks after labour was lower than in comparable women who had had a smaller number of children. In the present survey all pregnant and nursing women were excluded, and it may be that this effect of repeated pregnancies disappears gradually.

Summary

Haemoglobin levels were determined in 245 adult men and 266 adult women employed in clerical and industrial work, on 214 non-pregnant and non-nursing housewives under 60 years living in and around London, and on 1,628 boys aged 6, 10, and 14 years living in two Lancashire towns (I and K), one Surrey town (J), and one Gloucestershire town (L). The mean findings are set out in Table I.

So far as they are comparable with the M.R.C. survey of 1943 the present findings are about the same or on a slightly higher level. Of the 214 housewives 5.6% had values less than 72.3% (Haldane). Medical reasons for the low levels were elicited by questioning.

Male clerical workers had higher values than male manual workers, a difference attributable to the more active lives of the latter. In some of the groups of men and women a direct relationship between income and haemoglobin level was observed; this difference may have been due to a more leisurely life in the higher income groups.

The haemoglobin level of boys of town I was lower than that of the boys of any of the other towns, and that of grammar and public school boys in town L was slightly higher than for modern school boys in the same city. The reasons for these differences in boys living in different parts of England and in different surroundings are being further investigated.

ADDENDUM.—Since writing the above, the doctors of women with Hb below 80% have tried the effects of iron therapy, in almost every case with satisfactory results. The proportion (8.9%) of women with Hb below 80% in this unselected sample and their ready response to iron medication suggests that the work of the general practitioner would be facilitated by routine Hb determinations in women patients. The colour of the mucous membranes, as reported elsewhere (Adcock *et al.*, 1949) may fail as an index of Hb level, but the Tallqvist method provides a simple and inexpensive means of ascertaining the Hb level with sufficient accuracy for practical purposes. This method was found by Macfarlane *et al.* (1948) to compare surprisingly well with other more complicated procedures.

REFERENCES

Adcock, E. W., Berry, W. T. C., Cowin, P. J., and Milligan, E. H. M. (1949). *Mon. Bull. Minist. Hlth, Lond.*, 8, 59.
—— Brown, J. K., Magee, H. E., and Milligan, E. H. M. (1948). *Brit. J. Nutrit.*, 2, v.
Macfarlane, R. G., King, E. J., Wootton, I. D. P., and Gilchrist, M. (1948). *Lancet*, 1, 282.
Magee, H. E., and Milligan, E. H. M. (1951). *British Medical Journal*, 2, 1307.
Medical Research Council (1945). *Spec. Rep. Ser. Lond.*, No. 252.

EFFECT OF VITAMIN-K PREPARATIONS ON HYPOPROTHROMBINAEMIA INDUCED BY DICOUMAROL AND TROMEXAN

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The administration of dicoumarol (3,3′-methylene-*bis*-(4-hydroxycoumarin)) or "tromexan" (*bis*-3,3′-(4-oxycoumarinyl)-ethyl acetate) in the treatment of thromboembolic states may lead to severe or even fatal haemorrhage. Although careful control of treatment by repeated estimation of the blood prothrombin levels reduces this risk, a reliable and convenient antidote against such potent therapeutic substances would be of great value. Both dicoumarol and tromexan are anticoagulants by virtue of their causing hypoprothrombinaemia, and the two measures recommended to reverse this effect are the administration of preparations possessing vitamin-K activity and the transfusion of blood. There is no doubt that the latter treatment gives immediate and significant results, but for it to be most effective the blood must be in sufficient quantity. It is not always easy to meet this requirement, and reliance may be placed on the use of vitamin-K preparations such as are commercially available.

There is a measure of belief, based on experimental observations carried out during the past ten years, that these vitamin-K preparations are capable of reversing dicoumarol-induced hypoprothrombinaemia. From the available evidence at hand there can be no doubt that substances with vitamin-K activity do possess such powers, but there is still much confusion regarding the practical value of the various preparations which are available for this purpose.

It is hoped that the experiments described below will provide more conclusive evidence concerning the action and therapeutic value of these preparations.

Material and Methods

Either dicoumarol or tromexan was administered in therapeutic doses to patients in whom there was no obvious potential source of haemorrhage or evidence of hepatic, alimentary, or renal dysfunction. A test dose of the anticoagulant drug was given, and the effect on the prothrombin levels was observed at least daily. When the prothrombin levels had returned to normal, and had remained normal for two to three days, the same dose of the same drug was repeated, and a selected dose of a vitamin-K preparation was given. Plasma prothrombin levels continued to be estimated at least daily. In a few instances the technique was varied in respect of time of administration and of the number of the doses of vitamin K. The variations are indicated with the results in Table II.

The hypoprothrombinaemia expected from the anticoagulant therapy was not usually beyond customary therapeutic levels, as it was not considered necessary or justifiable to induce dangerous depletion of the plasma prothrombin.

TABLE I.—*Details of the Vitamin-K Preparations Tested*

Substance	Other Designation	Route of Administration	Dosage
2-methyl-3-phytyl-1:4-naphthoquinone	Vitamin K_1	Intravenously	200–340 mg. single doses
2-methyl-1:4-naphthoquinone	"Prokayvit" (B.D.H.); menaphthone; menadione	Intramuscularly	15–30 mg. in 2–3 days
2-methyl-1:4-naphthohydroquinone diacetate	Acetomenaphthone; oral prokayvit (B.D.H.)	Orally	90 mg. in 3 days
2-methyl-1:4-naphthohydroquinone carboxymethoxine	"Kapilon" (Glaxo)	Intramuscularly	60 mg. in 3 days
2-methyl-1:4-naphthohydroquinone diphosphate	"Synkavit" (Roche)	Intravenously	300–1,600 mg. in 3–4 days
Dipotassium 2-methyl-1:4-naphthylene bisulphate	Water-soluble K analogue (Boots)	,,	200 mg. i.v. single dose

Vitamin-K Preparations.—The vitamin-K substances which were tested, and their routes of administration, are shown in Table I. With the exception of vitamin K_1 these preparations are readily available commercially, and the doses of those which were given parenterally were limited only by the occurrence of untoward reactions. In the case of vitamin K_1, which is fat-soluble and which was received as an oily concentrate, a preparation suitable for intravenous administration was made as described by Davidson and MacDonald (1943). The oily fluid was dissolved in absolute alcohol (200 mg. K_1 in 4 ml. alcohol), and the solution was then added to 5% glucose (200–400 mg. K_1 in 500 ml.). The preparation was then autoclaved. Suspension of the vitamin in the glucose solution was assisted by injecting the alcoholic solution forcibly through a long fine needle into the centre of the bottle of glucose solution, but in spite of this the preparation tended to be unstable and had to be used almost at once. This preparation of vitamin K_1 was administered by intravenous infusion over a period of half to five hours without delay, otherwise the vitamin K_1 tended to settle out and adhere to the glass, with consequent loss of potency. No untoward reaction of any kind was encountered.

Estimation of Plasma Prothrombin.—Plasma prothrombin was estimated by the one-stage method of Quick. The same batch of rabbit-brain thromboplastin was used in each case, for the control and the test periods. The estimations were carried out on 100% and on 12.5% plasma. Only the figures obtained with 100% plasma are recorded here.

Results

The results of the various therapeutic trials of the vitamin-K analogues against the hypothrombinaemic effect of dicoumarol and tromexan are presented in Table II. In the case of vitamin K_1 the results of single tests are tabulated. In the case of the other preparations the average results from groups of patients are recorded: a more detailed analysis of these results is given below.

Vitamin K_1

Vitamin K_1 was tested against a single dose of tromexan in three patients. In the first case (Table II) 900 mg. of tromexan resulted in a prothrombin time approximately four times normal. The same dose of tromexan was given on the first day of the test period, and on the following day, when the prothrombin time had begun to rise, 200 mg. of vitamin K_1 was given intravenously. Within twenty-four hours the prothrombin time was 19 seconds, as compared with 60 seconds at this stage in the control period. In Case 2, 200 mg. of vitamin K_1 given at the same time as 900 mg. of tromexan appeared to act as a complete antidote. In Case 3

TABLE II.—*Effect of Dicoumarol and Tromexan on Plasma Prothrombin Time and the Modification of this Effect by Vitamin-K Analogues*

	Days of Control and Test Period					Remarks
	1	2	3	4	5	
		sec.	sec.	sec.	sec.	
Case 1	16 (T)	32	60	25	—	Control. T=900 mg. tromexan. K=200 mg vitamin K_1 i.v.
	15 (T)	28 (K)	19	16	—	
,, 2	20 (T)	30	22	18	—	Control. T=900 mg. tromexan. K=200 mg vitamin K_1 i.v.
	19 (TK)	18	20	20	—	
,, 3	17 (T)	36	26	—	—	Control. T=900 mg. tromexan. K=340 mg vitamin K_1 i.v.
	21 (TK)	20	19 (T)	38	—	
,, 4	17 (D)	19	28	33	25	Control D=400 mg. dicoumarol. K=200 mg vitamin K_1 i.v.
	20 (D)	22	28 (K)	19	19	
,, 5	19 (D)	19	28	33	25	Control. D=400 mg. dicoumarol. K=300 mg vitamin K_1 i.v.
	16 (DK)	19	22	19	19	
,, 6	17 (T)	22 (T)	40 (K)	12	—	T=600+300 mg. tromexan. K=300 mg. vitamin K_1 i v
,, 7	—	75 (T)	75 (TK)	to 21 in 6 hours		T=Maintenance 300 mg. tromexan/day. K=300 mg vitamin K_1 i.v.
Group 8 (5 cases) ..	16 (T)	25	28	—	—	Control T=900 mg. tromexan M=10 mg. menaphthone i.m.
	16 (TM)	21 (M)	23	—	—	
Group 9 (5 cases) ..	16 (T)	24	28	21	—	Control. T=900 mg. tromexan. AM=300 mg acetomenaphthone
	18 (TAM)	26 (AM)	21 (AM)	16	—	
Group 10 (2 cases) ..	16 (D)	20	22	21	—	Control. D=200 mg dicoumarol. AM=30 mg. acetomenaphthone
	18 (DAM)	22 (AM)	22 (AM)	21	—	
Group 11 (5 cases) ..	16 (T)	25	22	18	—	Control T=900 mg. tromexan. K=20 mg. kapilon i.m.
	18 (TK)	22 (K)	22 (K)	18	—	
Group 12 (3 cases) ..	15 (D)	19	26	29	—	Control. D=200–400 mg. dicoumarol. K=20 mg kapilon i.m.
	16 (DK)	24	22	20.	—	
Group 13 (6 cases) ..	15 (T)	24	28	12	—	Control T=600 mg. tromexan. S=100 mg. synkavit i.v.
	16 (TS)	24 (S)	20 (S)	11	—	
Group 14 (5 cases) ..	15 (D)	20	28	25	—	Control D=200 mg. dicoumarol. S=100 mg synkavit i.v.
	15 (DS)	16 (S)	28 (S)	20	—	
Group 15 (1 case) ..	18	18 (T)	31	23	18	Control T=1,200 mg. tromexan. S=400 mg synkavit i.v.
	18 (S)	18 (TS)	29 (S)	22 (S)	19	
Group 16 (1 case) ..	16 (T)	42	34	17	—	Control. T=1,200 mg. tromexan. B=200 mg. water-soluble analogue (Boots)
	17 (TB)	40	29	18	—	

the effect of 900 mg. of tromexan was likewise blocked by simultaneous administration of 340 mg. of vitamin K_1. As an additional check on the method of testing, this patient was given a further dose of tromexan without vitamin K_1. Hypoprothrombinaemia resulted.

Vitamin K_1 was tested against a single dose of dicoumarol in two patients. In the first of these (Case 4) the administration of 200 mg. of vitamin K_1 on the third day of the test period was followed by return of the prothrombin time to pretreatment levels within twenty-four hours. In Case 5 the simultaneous administration of 300 mg. of vitamin K_1 was almost completely effective in blocking the action of 400 mg. of dicoumarol.

As a further test of the action of vitamin K_1 (Case 6) 900 mg. of tromexan was given over two days. On the third day, when the prothrombin time was 40 seconds, 200 mg. of vitamin K_1 was given intravenously. The prothrombin time fell to 30 seconds in two hours, and to normal within twenty-four hours. Case 7 illustrates the effect of 300 mg. of vitamin K_1 on a persistently high prothrombin time (75 seconds) occurring in a patient who was given 300 mg. of tromexan daily for several weeks for therapeutic purposes. In spite of the administration of the usual daily dose of tromexan, vitamin K_1 produced a rapid fall in the prothrombin time to 21 seconds within six hours.

From these investigations it is evident that when 200–340 mg. of vitamin K_1 was given at the same time as a reasonable therapeutic dose of tromexan or dicoumarol the action of the anticoagulant drug on the plasma prothrombin levels was completely, or almost completely, inhibited. When the vitamin was given at any time after hypoprothrombinaemia had been induced, the prothrombin levels were restored to normal in 24 hours. Furthermore, significant reduction of the prothrombin time occurred within an even shorter period, and safe values were achieved within six to nine hours even when previously the hypoprothrombinaemia had been more severe than is usually considered necessary for therapeutic purposes.

Menaphthone and Acetomenaphthone

The average results of the intramuscular administration of menaphthone (Group 8, Table II) suggest that this substance had an incomplete inhibitory effect on mild hypoprothrombinaemia induced by tromexan. In this group the individual test results and the control results were practically identical.

Acetomenaphthone was given orally to seven patients, to five who had received tromexan, and to two who had received dicoumarol. The average figures for those given tromexan (Group 9) suggest that the response to the anticoagulant was modified slightly by the acetomenaphthone. The individual results indicated that the effect of this vitamin-K analogue was slight and inconstant. Acetomenaphthone was tested against dicoumarol in two patients (Group 10). In each the test curve and the control curve were identical. Although larger doses of menaphthone and acetomenaphthone might well have been given by mouth, it was felt that oral treatment was unsuited to this purpose and no further observations were made with acetomenaphthone. Dosage of menaphthone was limited by pain which followed the intramuscular injection.

Kapilon, Synkavit, and Water-soluble K Analogue (Boots)

Kapilon was tested against tromexan in five patients (Group 11, Table II). In no case could it be said that kapilon given intramuscularly in doses of 20 mg. daily for the first three days significantly affected the response to tromexan. Kapilon was tested against dicoumarol, which was given in doses of 300 mg. During the test period kapilon was given in doses of 20 mg. on the first and third days. In all three patients slight but significant modification of the prothrombin response occurred. In no case, however, did the prothrombin time return to normal within three days of administration of the first dose of kapilon.

Synkavit, given intravenously in doses of 100 mg., was tested against tromexan in six patients (Group 13). In five of these the control and the test curves were practically identical. In the sixth case of this group slight modification of the response occurred during the test period. Synkavit was tested against doses of dicoumarol, which produced prothrombin times of 30–40 seconds, in five patients (Group 14). Each patient was given 100 mg. of synkavit daily for the first three days of the test period, and in no case was there any demonstrable effect on the prothrombin-time curve. As an additional test of the action of synkavit, even larger doses were given (400 mg. intravenously), beginning on the day before the administration of tromexan (Group 15) and continuing for a further three days. No modification of the action of the tromexan was demonstrated: the control curve and the test curve were identical.

Water-soluble K analogue (Boots) was tested against tromexan in one patient. Given intravenously in a dose of 200 mg. it slightly modified the effect of the anticoagulant (Group 16) but failed to reduce the prothrombin time to normal within 24 hours.

The various water-soluble vitamin-K analogues have thus been shown to be relatively inactive against the hypoprothrombinaemic effect of tromexan and dicoumarol. Although in some instances—notably the tests of kapilon against dicoumarol—an effect was demonstrated, this effect was insufficient to prevent a fall in plasma prothrombin concentrations as a result of the administration of a single relatively small dose of the anticoagulant. That the lack of effect is not merely a matter of dosage of the vitamin-K analogue is indicated by the complete failure of 1,600 mg. of synkavit given over a period of four days to modify the normal therapeutic effect of a single dose of tromexan.

Discussion

Among all the vitamin-K analogues tested against dicoumarol and tromexan in this investigation the only substance which was uniformly significantly active was vitamin K_1. This material was given intravenously in doses of 200–340 mg., and it was almost invariably completely effective in blocking or in reversing the action of the anticoagulant under the circumstances of the test. The other substances tested did occasionally modify the effect of the anticoagulant, but the effect was inconstant and slight. Comparable doses were not always given, but, from the practical point of view, oral administration of vitamin K is unlikely to be satisfactory as an emergency treatment, and, given by other routes, the doses of menaphthone and synkavit were limited by local or general reactions.

In the present investigation no attempt was made to give doses of anticoagulants which would result in dangerously low prothrombin levels. It might therefore be considered that the tests do not give information directly applicable to the treatment of the hypoprothrombinaemic emergency. On the other hand, this would merely point to some doubt about the value of vitamin K_1 under more exacting conditions, and the immediate result of administering it to a patient with a prothrombin time (100% plasma) about four times normal (Case 7, Table II) without stopping the tromexan administration is good evidence of the potency of this substance even in very adverse conditions. As regards the other analogues, the relatively small dosage of the anticoagulant employed serves to emphasize the inefficiency of these vitamin-K preparations.

During the past 10 years considerable interest has been shown in the effect of vitamin-K analogues on dicoumarol-induced hypoprothrombinaemia, and numerous experiments have been carried out both in animals and in the human subject. It cannot be said, however, that there is general agreement about either the relative effects of the various vitamin-K preparations or the form of vitamin-K activity which is most suitable for the treatment of hypoprothrombinaemic bleeding occurring as the result of the administration of dicoumarol or tromexan.

This lack of agreement has probably been due to two variable factors. In some experimental trials water-soluble vitamin-K preparations were regarded as effective when the anticoagulant was given in minimum active quantities. There is good evidence that this is so (Shapiro *et al.*, 1943), but little that they are effective against therapeutic doses of dicoumarol. The second variable factor has been the expected response to administration of vitamin K. Many writers have considered adequate a response demonstrable in the course of days and have been content to advise the use of the water-soluble preparations. Our own findings on the inadequacy of these preparations and the greater reliability of vitamin K_1, together with evidence presented by others on the use of vitamin K_1 or its oxide, seem to justify the conclusion that there are only two known effective means of treating hypoprothrombinaemia induced by dicoumarol or tromexan. These are by transfusion of blood or by administration of vitamin K_1 or its oxide.

In view of the fact that transfusion, to be effective, involves the use of blood or of frozen fresh plasma from possibly more than a single donor, and that thereby delay may often occur in beginning adequate treatment, there is some justification for regarding a suitable preparation of vitamin K_1 or its oxide as an essential material in any department in which treatment by dicoumarol or tromexan is being carried out. Neither vitamin K_1 nor its oxide is available commercially, but it could doubtless be made so, and, as has been shown (Shoshkes *et al.*, 1950), a convenient, effective, and stable emulsion can be prepared for intravenous use. No reliance should be placed on the use of larger doses of the synthetic water-soluble vitamin-K analogues. The action of vitamin-K preparations against the hypoprothrombinaemic effect of dicoumarol or tromexan is not simply a matter of dosage. There is a difference in the action of water-soluble and oil-soluble preparations which has not so far been explained except that it has been related to the presence of the "phytyl" group in the molecule of vitamin K_1 (Miller *et al.*, 1950).

Summary and Conclusions

The effect of certain substances with vitamin-K activity in modifying the action of dicoumarol and tromexan has been investigated in the human subject. The vitamin-K preparations employed were vitamin K_1, menaphthone, acetomenaphthone, kapilon, synkavit, and water-soluble K analogue (Boots).

Apart from vitamin K_1, these substances have been shown to possess a minor and inconstant ability to modify the action of these anticoagulants. Vitamin K_1, on the other hand, is a reliable and efficient antidote, and is capable of completely blocking the action of therapeutic doses of dicoumarol and tromexan, and capable of restoring to safe levels within a few hours excessive hypoprothrombinaemia due to these drugs.

Since these differences between the vitamin-K preparations are not merely a question of dosage, of all the substances tested here only vitamin K_1 can be regarded as a reliable antidote for a hypoprothrombinaemic emergency.

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REFERENCES

Davidson, C. S., and MacDonald, H. (1943). *New Engl. J. Med.*, 229, 353.
Miller, R., Harvey, W. P., and Finch, C. A. (1950). Ibid., 242, 211.
Shapiro, S., Redish, M. H., and Campbell, H. A. (1943). *Proc. Soc. exp. Biol., N.Y.*, 52, 12.
Shoshkes, M., Geyer, R. P., Yee, G. S., and Stare, F. J., (1950). *J. Lab. clin. Med.*, 36, 531.

ACQUIRED SENSITIVITY TO *PARA*-AMINOSALICYLIC ACID

BY

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Since the widespread use of *para*-aminosalicylic acid (P.A.S.), either by itself or in conjunction with streptomycin, in the treatment of pulmonary tuberculosis, reactions have occurred which indicate that it is possible to distinguish two groups of cases.

First there are those patients with a natural intolerance to P.A.S. who develop gastro-intestinal symptoms during the first few days of treatment. As reported by Lehmann (1947) nausea is the symptom most frequently encountered, and may be accompanied by vomiting and diarrhoea in cases which exhibit a greater intolerance to the drug. Nagley and Logg (1949) pointed out that these effects are often due to impurities in the preparation of the drug and are seldom so severe as to cause abandonment of P.A.S. therapy.

Secondly, there are a few patients who develop an acquired allergic sensitivity to P.A.S. In these cases the onset of symptoms is characteristically sudden and usually occurs between two and four weeks after the beginning of treatment. Drug fever, with a rise of body temperature to 100–103° F. (37.8–39.4° C.), and symptoms of a marked constitutional disturbance are the usual features of this type of reaction and are commonly accompanied by a pruritic skin eruption as reported by Kierland and Carr (1949). Other toxic effects which have been recorded include renal damage (Nagley and Logg, 1949), hepatitis and enlargement of lymphatic nodes (Cuthbert, 1950), and lowering of the serum potassium (Cayley, 1950).

Case Report

The following case of an unusually severe sensitivity reaction to P.A.S. recently occurred at the Brompton Hospital.

A draughtsman aged 29 was admitted with the following history. He had developed pulmonary tuberculosis involving the right lung in 1944, for which he was treated by rest for 10 months at the Royal National Sanatorium, Ventnor. During this time a right artificial pneumothorax was induced, but this was abandoned after two months owing to the formation of an effusion. He subsequently returned to work and remained well until January, 1951, when, following a febrile coryza, he had a sudden haemoptysis of about 1 oz. (28 ml.).

Treatment consisted of rest in bed at home, and in March he began treatment with P.A.S., 18 g. daily by mouth. Three weeks later he had an evening rise of temperature, followed in two days by nausea, vomiting, and headache, and four days later by a morbilliform rash and pyrexia rising to 104° F. (40° C.). P.A.S. was discontinued, and the pyrexia and rash subsided on treatment with mepyramine hydrogen maleate ("anthisan").

One week later, while still receiving mepyramine, 100 mg. thrice daily, he was given two 3-g. doses of P.A.S., and within six hours the temperature rose to 102° F. (38.9° C.) and the rash returned. Despite discontinuation of P.A.S. the pyrexia and rash persisted, and five days later there was tender enlargement of the cervical, axillary, post-occipital, inguinal, and epitrochlear lymphatic nodes accompanied by sore throat, epigastric pain, and tenderness. The following

day he was clinically jaundiced, with a tender liver enlarged to 1 in. (2.5 cm.) below the costal margin. The rash, which became confluent on the face and neck while remaining morbilliform on the trunk, was accompanied by severe pruritus. The spleen was not palpable.

Investigations.—Urine: No albumin; excess urobilinogen and a small amount of bilirubin present. Serum bilirubin 4.5 mg. per 100 ml. Direct positive Van den Bergh reaction. Paul–Bunnell test, negative without absorption. Wassermann reaction and Kahn tests, negative. A blood count showed: Hb, 73%; red cells, 4,100,000; C.I., 0.9; white cells, 14,300 per c.mm. (polymorphs 34%, lymphocytes 48%, monocytes 2%, eosinophils 15%, basophils 1%).

Treatment was changed to diphenhydramine hydrochloride ("benadryl"), 50 mg. four times daily, and he responded with slow but steady improvement. Calamine lotion successfully relieved the pruritus. Within 10 days the temperature fell by lysis, the glands mostly subsided, clinical jaundice disappeared, and the liver became normal in size and no longer tender.

During the first week of treatment with benadryl the rash faded, pruritus ceased, and desquamation began on the face and neck, followed by desquamation on the trunk during the second week and on the arms and legs during the third week. Some glandular enlargement of the inguinal and axillary groups persisted until the desquamation on the limbs was complete.

By the end of the third week the serum bilirubin was 1.3 mg. per 100 ml., and the white blood cells numbered 16,400 per c.mm., but the lymphocytosis had subsided and the eosinophilia showed a decrease (polymorphs 60%, lymphocytes 20%, monocytes 10%, eosinophils 8%, basophils 2%).

Patch Tests.—At the conclusion of treatment, when clinically no manifestation of the sensitivity reaction remained, patch tests were performed (see Table). Two cases were selected as controls. Control 1 was a patient who had never received P.A.S. Control 2 was a patient receiving P.A.S., 18 g. daily, who had shown no manifestations of sensitivity.

Patch Tests

Test	Patient Before Desensitization	Patient After Desensitization	Control 1	Control 2
Aqueous solution of P.A.S 5% ..	++	0	0	0
Chloroform ..	0	0	0	0
Aniline	++	+	0	0
Para-aminobenzoic acid	+	0	0	0
P.A.S. 5% solution in chloroform ..	+++	0	0	0
Meta-aminophenol	++	0	0	0
Benzoic acid ..	0	0	0	0
Salicylic acid ..	+	0	0	0

For these tests P.A.S. was prepared as a 5% solution and the other reagents as equimolecular solutions in chloroform.

Desensitization.—The patient was successfully desensitized by giving graduated doses of P.A.S. by mouth. A single dose of 50 mg. was given on the first day, and this was increased by 50 mg. each day in divided doses. If pyrexia occurred the dose was halved the following day and then increased as before from the reduced level. When the daily dose of P.A.S. reached 1 g. it was increased by 0.5 g. each day until a satisfactory therapeutic dosage of 15 g. daily was obtained. After desensitization the patch tests (see Table) were repeated; they proved negative with the exception of a doubtful positive reaction to aniline.

Discussion

Patients who show intolerance to P.A.S. or associated impurities should be distinguished from those who develop an allergic sensitivity by the differences described above in the mode of onset and severity of the reaction. Early recognition is important, because P.A.S. therapy may be continued safely despite mild gastro-intestinal symptoms, but should be withdrawn immediately if an allergic sensitivity develops, as otherwise it may be practically impossible to control the reaction.

Antihistamine drugs are generally found useful in the treatment of the sensitivity reaction once P.A.S. has been withdrawn, but, as Horne (1949) observed, they are insufficient to control it if P.A.S. therapy is resumed before the patient has been desensitized. Once sensitivity has developed, even a small dose of P.A.S. is enough to provoke a severe reaction. Madigan *et al.* (1950) reported this effect after a dose as small as 0.5 g. In the case reported above two 3-g. doses of P.A.S. were given after the patient had become sensitized, and, despite an adequate dosage of an antihistamine drug being maintained, a reaction of considerable severity occurred.

In sensitized patients, skin tests usually show a positive reaction to dilutions of P.A.S. of 5% and upwards and to dilutions of *meta*-aminophenol of 1% and upwards, as observed by Climie (1950). Positive results are still obtained with patch tests even after the clinical termination of a sensitivity reaction. After desensitization, however, patch tests become negative in most cases, although Climie reported a persistent reaction to *meta*-aminophenol.

The method of performing skin tests may influence the results obtained. The technique used in the cases reported here consists in applying to the skin a measured quantity of the reagent in solution in chloroform by means of a pipette and drying it in a current of air. The area is then covered with adhesive plaster, which is removed after 24 hours, and readings are made at 48 hours. This method has been found to give accurate results, and is relatively simple to carry out.

Patients who have developed sensitivity may be desensitized by giving small quantities of P.A.S. by mouth and gradually increasing the dose. A scheme beginning with 0.1 g. of P.A.S. daily was suggested by Madigan *et al.* (1950); this will improve the tolerance of the patient by slow stages until an effective daily dosage of P.A.S. is reached. In desensitizing the case reported above it was considered advisable, in view of the severity of the reaction, to use a modified method beginning with 50 mg. daily, and to increase the dose of P.A.S. more gradually up to the required therapeutic level of 15 g. daily.

Summary

A severe case of P.A.S. sensitivity is described. The manifestations were pyrexia, sore throat, pruritus, morbilliform rash, generalized glandular enlargement, jaundice, hepatomegaly, and epigastric pain, accompanied by a marked lymphocytosis and eosinophilia.

The response to antihistamine drugs and to desensitization is recorded.

Skin tests with P.A.S. and certain related chemical compounds were positive, but became negative after successful desensitization. The technique used for these tests is described.

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REFERENCES

Cayley, F. E. de W. (1950). *Lancet*, 1, 447.
Climie, H. (1950). Ibid., 2, 308.
Cuthbert, J. (1950). Ibid., 2, 209.
Horne, N. W. (1949). Ibid., 2, 348.
Kierland, R. R., and Carr, D. T. (1949). *Proc. Mayo Clin.*, 24, 539.
Lehmann, J. (1947). *Nord. Med.*, 33, 140.
Madigan, D. G., Griffiths, L. L., Lynch, M. J. G., Bruce, R. A., Kay, S., and Brownlee, G. (1950). *Lancet*, 1, 239.
Nagley, M. M., and Logg, M. H. (1949). Ibid., 1, 913.

RELATION BETWEEN SENSITIVITY TO THIOPENTONE, SULPHONAMIDES, AND SUNLIGHT

BY

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Intravenous injection of thiopentone is a very frequent and, in experienced hands, safe procedure in both anaesthetic and narcoanalytical practice. Sensitivity reactions occur infrequently, Davidson (1943) mentioning two instances in 9,000 injections. We have administered over 15,000 injections in surgical and psychiatric practice and have encountered the three cases of sensitivity reported here. Two of these involved not the scarlatiniform rash commonly seen in these uncommon cases but angioneurotic oedema, and the other showed a less developed form of the syndrome. We wish to call attention to these uncommon reactions, which could, if unprepared for and unexpected, lead to grave difficulties, especially when encountered in the consulting-room as opposed to the operating theatre. We also wish to correlate our findings with other apparently relevant evidence concerning sensitivity to sulphonamide compounds encountered therapeutically.

Case 1

A single woman aged 26 had received 15 injections of thiopentone (0.15–0.35 g.) over a period of six months from January, 1948, in the narcoanalytical treatment of the depressively coloured anxiety state associated with very severe insomnia, from which she had suffered for five years. Response to treatment had been satisfactory. Injection of thiopentone caused sleep for three to seven minutes followed by a prolonged drowsiness, without signs of sensitivity. In April, 1950, a further narcoanalytical session was occasioned by a recurrence of symptoms, and subjective relief was obtained. In May she again presented herself for narcoanalytical treatment. The day had been very sunny, but naturally she did not mention the fact that she had exposed her face and arms for 20 minutes at 3 p.m., two hours before the injection (during which no perivenous leakage occurred) of 0.35 g. of thiopentone.

Five minutes after the end of the injection, as she was rousing from the deepest sleep, her face became brilliantly red and minor restless movements of the head and neck occurred. Restlessness increased and within three to five minutes the forearms and elbow regions were reddened, the patient clasping the lower abdomen. Marked urticaria appeared above the elbows, and colic and numbness of the lips were complained of in a hoarse voice. Her face and eyelids were swollen, and pitting oedema was present over the radius. Twelve minutes after the injection the pulse was thin and thready, the rate being 146. A diagnosis of angioneurotic oedema was made, and adrenaline, 7 min. (0.4 ml.), was given subcutaneously at the rate of 1 min. (0.06 ml.) a minute with no good effect. At this stage the eyelids were beginning to evert and the eyes were completely closed. The lips and the tongue were swollen, and tenderness and pain were felt in the throat as well as in the abdomen; but breathing was not embarrassed, and cyanosis was absent.

One tablet of mepyramine hydrogen maleate ("anthisan") was taken with difficulty. Calcium gluconate, 10 ml. of 10% solution, was injected into the vein at the rate of 1 ml. a minute. By the time that 6 ml. had been administered subjective relief was noticed and erythema was subsiding. As the distribution of the skin reaction was so reminiscent of sulphonamide sun-sensitivity, the patient was asked at this point whether she had been sitting in the sun earlier in the day. A hoarse affirmative answer was obtained. Abdominal cramps persisted for a further 10–15 minutes. The blood pressure was 136/78 at the end of the injection of calcium gluconate, the pulse having fallen steadily from 156 to 110 during the time of the injection. She then began to feel cold and started to shiver, but this passed off in about ten minutes. One and a half hours after the injection of thiopentone she had recovered, apart from feeling rather shaken, drowsy, and muddle-headed.

Case 2

A woman aged 60 suddenly developed haematuria (due to papilloma of the bladder) associated with transient oedema of the lip while on holiday in Canada. After her return to England and during the succeeding four or five years she was at intervals submitted to intravenous anaesthesia on seven occasions, for purposes of cystoscopy and diathermic cautery of the papilloma. Premedication on the first three occasions was with "omnopon," 1/3 gr. (22 mg.), and scopolamine, 1/150 gr. (0.43 mg.). Hexobarbitone ("evipan") was used for the first two operations with no untoward sequelae. Thiopentone, 0.5 g., was used on the third occasion, its initial exhibition being followed by a red papilliform rash of the thorax and neck, and erythema of the face. Post-anaesthetic itching occurred. Some months later a second injection of thiopentone was followed by a similar reaction, with, in addition, transient mild angioneurotic oedema of the lips, which subsided spontaneously. Hexobarbitone was again used uneventfully for the fifth anaesthetic, but on the sixth occasion, in the absence of hexobarbitone, a different brand of thiopentone was used. Again the cutaneous reaction, with angioneurotic oedema, was elicited, and was well controlled by antihistaminics by mouth. On the seventh and most recent occasion hexobarbitone was given and the patient recovered uneventfully.

Case 3

A married woman aged 33, suffering from obsessional neurosis with anxiety hysteria, uneventfully received thiopentone, 0.25–0.35 g., intravenously on more than 40 occasions (at weekly intervals), reacting with sleep of one to three minutes, followed by drowsiness. After an interruption of treatment for six weeks, cough and laryngeal tickling appeared during the recovery of consciousness, and were at first thought to be due to an incipient cold which was later associated with nasal catarrh. Recovery from thiopentone, however, continued to be associated with cough and laryngeal discomfort after the infection had passed, and in a few weeks there occurred a red blotchy condition of the face and neck which persisted for 20 minutes or so. Systemic disturbances and itching were absent. Substitution of a sulphur-free intravenous barbiturate ("cyclonal sodium" brand of hexobarbitone) in place of thiopentone in equivalent dosage (0.6–0.8 g.) was followed by uneventful recovery from the induced sleep.

Comment.—These three cases illustrate sensitivity to thiopentone, and Cases 2 and 3 suggest very strongly that the sulphone radical is involved. Case 1 is, we believe, the first recorded instance of photosensitivity to thiopentone. It was, in fact, this case which prompted a search of the literature for similar cases, and led to a review of sensitivity to barbiturates and photosensitivity to sulphonamides.

Literature and Discussion

Barbiturate sensitivity, though uncommon, may manifest itself somatically (when it usually takes the form of a maculo-papular rash, possibly associated with systemic disturbance and pyrexia) and/or psychically (as excitement,

delirium, or collapse). The literature on angioneurotic oedema after barbiturates is small and scattered. Hunter (1943) briefly describes urticaria after incision of a septic finger under thiopentone, and mentions angioneurotic oedema after hexobarbitone, quoting Hewer (1939) in support. We found reference in Hewer only to angioneurotic oedema after pentobarbitone, which is of interest in view of Case 2. Hunter's main case is of idiosyncratic systemic reaction to thiopentone in an R.A.F. officer who had previously reacted normally to inhalation anaesthesia. From his description, the lesions appear to be restricted to the areas exposed to the sun (cf. sulphonamide sensitivity and Case 1). In Davidson's (1943) two cases the sensitivity consisted of scarlatiniform rashes, with transient pyrexia.

Knauss (1946) describes urticaria following dental extraction under thiopentone in a man aged 41 who had, a month earlier, uneventfully undergone the same procedure but with a preliminary local injection of adrenaline. Peterkin (1946) describes the occurrence of purpuric reactions of the trunk following thiopentone anaesthesia on three occasions in a man who had previously and uneventfully received inhalation anaesthesia. Following this, Warren (1946), R. H. Moore (1946), and P. H. Moore (1946) each described a case. In all three cases urticaria developed—in one instance after hysterectomy in a tuberculous patient, and in another in a man (who had 40 times uneventfully received thiopentone with or without inhalation anaesthesia in connexion with a perineal wound) when he was given 1 g. of thiopentone. In this case a subsequent administration of 0.5 g. of thiopentone combined with inhalation anaesthesia passed off uneventfully. Apart from these six cases mentioned in the literature, Lundy (1942) makes passing mention of the occurrence of urticarial reaction in thiopentone anaesthesia.

While it is recognized that barbiturates produce skin-sensitivity reactions, photosensitivity seems much less common. Stryker (1939) describes the case of a child aged 2 who developed an exfoliative dermatitis after receiving barbiturate for six weeks. Four months later the child developed an acute dermatitis of the exposed areas after playing in the sun, and was found to be excreting barbitone and porphyrins in the urine. Stryker quotes Schulzberger as considering barbiturates capable of giving rise to photosensitivity.

A local vesicular eruption (possibly generalized and exfoliative) is the commonest form of skin-sensitivity reaction to sulphonamides, and is most readily evoked by repeated topical application. Urticarial photosensitivity was noticed in Middle East troops, and Peterkin (1945) found 72% of 500 cases of sulphonamide dermatitis to be photosensitive. Watkinson and Hillis (1947) discuss the relationship between oral sulphonamides, sunlight, and the pustulation stage of vaccinial lesions in R.A.F. personnel. They found the highest incidence of sulphonamide photosensitivity associated with the pustulation stage of the lesion. Where vaccination did not take, or was refused, photosensitivity did not occur, even though exposure to sunlight and ingestion of sulphonamides were the same in all troops. They support Erskine's theory that toxins liberated from a buried focus are causative of photosensitivity.

Park and Platts (1942) described photosensitivity in 3.4% of (mainly ambulant) men exposed to strong sun and receiving oral sulphonamides. In a case of acute tonsillitis an unusually severe skin rash developed on the first day of oral sulphonamide (as opposed to the usual 8th–10th day), the rash being concentrated in the areas exposed to the sun, even though the last exposure had been three days earlier. They regard this case as having "photo-allergy" (Epstein, 1939), although Epstein's criteria are apparently not fulfilled. (These are solar reaction without oedema preceding injection of sulphonamide, and followed in ten days by spontaneous development of oedema at the site of injection, or elsewhere, or an earlier oedematous reaction in response to solar irradiation, provided that a certain "critical" amount of sulphonamide has been injected.) Porphyrin excretion has not been fully investigated in the current literature (owing to circumstances), although the significance of coproporphyrin I as a photosensitizer is well recognized. Its presence in the excreta of patients taking sulphonamides was pointed out by Rimington and Hemmings (1938), who also mention that sulphonal may evoke photosensitivity and promote the excretion of coproporphyrin I. They compare the clinical pictures of acute porphyrinuria and sulphonamide intoxication. The present paper may indicate the connexion between sulphonamides and thiobarbiturates with regard to sensitivity reactions.

Burckhardt (1948) has shown that burning, tanning, and specific photosensitivity provocation occur independently of each other at different light wavelengths, and that photosensitive reactions occur only in the areas actually irradiated by the provocative wave-band. Local tissue damage and, in some cases, systemic effects analogous to toxic reactions are characteristic of sunburn, and are in keeping with the presence in the circulation of a substance derived from tissue damage (? histamine-like, ? porphyrin-like). Systemic reactions generally last less than three days, and pigmentation usually begins after this time. Skin repeatedly exposed to ultra-violet radiation is less likely to burn even in the absence of pigmentation.

Correlating these observations, we put forward the hypothesis that skin-sensitivity reactions here considered depend upon the interaction of the following factors. (1) Tissue damage, as septic focus, mechanical trauma, local infection, or interference with tissue metabolism—for example, by drugs. (2) The presence of the sulphone radical, either as thiobarbiturate or as sulphonamide, locally applied or given by mouth or injection. Depending on the intensity of these two factors, local or general reactions may result. (3) Sunlight may act as a form of factor 1 when the burning effect is marked, and hence may be sufficient with factor 2 to produce a non-photosensitivity reaction. The longer rays may also, acting with factor 1 and/or factor 2, trigger off a true photosensitivity reaction. These reactions occur when a critical level (Epstein) is overstepped. The double role of sunlight seems to resolve the discord mentioned by Urbach and Gotlieb (1946) concerning skin colour and sulphonamide photosensitivity, on the basis of acclimatization to the burning rays of the sun as opposed to the tanning rays.

The case (Park and Platts, 1942) of tonsillitis shows the synergism of local tissue damage and circulating products from the throat, and in this instance the rash is described as photosensitive. From Park and Platts and from Watkinson and Hillis it is clear that skin areas not submitted to solar exposure or to mechanical trauma—for example, the bathing-drawers area—are never involved in sulphonamide photosensitivity, whereas the ischial tuberosities of bedridden patients are more susceptible than those of ambulant cases. In Case 1, a patient who burned easily in the sun, recent exposure had occurred, and presumably breakdown products were circulating. This would account for the local and general symptoms, on the hypothesis advanced above. Similarly, in Case 2 the focus of tissue damage was a necrosing papilloma of the bladder.

Clark (1943) describes a case, clearly illustrative of the interaction of local and general factors, in which the sequence was as follows: first four days, successful local treatment of skin lesion with sulphonamide in strong sun; ten days later sulphathiazole by mouth precipitated an acute reaction in the areas exposed to the sun, followed by secondary infection, for which seven days later he was given sulphadiazine by mouth, provoking a generalized scarlatiniform rash; six weeks later, after recovery, local sulphathiazole provoked a local reaction, and on the following day oral sulphathiazole provoked a reaction in the sun-exposed areas; ten weeks later local application of sulphathiazole provoked a local reaction.

It is perhaps relevant to point out here that in surgical practice thiopentone is usually given if established tissue damage exists and hence tissue-breakdown factors are

circulating. This would account for the tendency to the generalized form of sensitivity reaction. All the cases from the literature cited in this paper showed significant tissue damage related to general reactions.

REFERENCES

Burckhardt, W. (1948). *Dermatologica, Basel*, 96, 280.
Clark, T. W. (1943). *J. Amer. med. Ass.*, 123, 958.
Davidson, T. C. (1943). *Curr. Res. Anesth.*, 22, 52.
Epstein, S. (1939). *J. Invest. Derm.*, 2, 43.
Hewer, C. L. (1939). *Recent Advances in Anaesthesia*. London.
Hunter, A. R. (1943). *Lancet*, 1, 46.
Knauss, A. C. (1946). *Anesthesiology*, 7, 84.
Lundy, J. S. (1942). *Clinical Anaesthesia*, p. 542. Saunders, Philadelphia.
Moore, P. H. (1946). *British Medical Journal*, 2, 340.
Moore, R. H. (1946). Ibid., 2, 209.
Park, R. G., and Platts, W. M. (1942). Ibid., 2, 308.
Peterkin, G. A. G. (1945). Ibid., 2, 1.
—— (1946). Ibid., 2, 52.
Rimington, C., and Hemmings, A. W. (1938). *Lancet*, 1, 770.
Stryker, G. V. (1939). *J. Mo. med. Ass.*, 36, 484.
Urbach and Gotlieb (1946). *Allergy*.
Warren, M. D. (1946). *British Medical Journal*, 2, 172.
Watkinson, G., and Hillis, B. R. (1947). Ibid., 2, 609.

TERRAMYCIN IN INFECTIONS IN INFANTS AND CHILDREN

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"Terramycin" is a new antibiotic obtained from *Streptomyces rimosus*, an actinomycete isolated from the soil (Finlay *et al.*, 1950). Its physical and chemical properties have been studied by Regna and Solomons (1950), and it has been shown to be a stable, amphoteric substance of high potency (Linsell and Fletcher, 1950). Preliminary experimental studies (Hobby *et al.*, 1950) have shown that it is active both *in vitro* and *in vivo* against a wide variety of pathogenic organisms. It is effective against Gram-positive and Gram-negative bacteria, spirochaetes, rickettsiae, and certain of the larger viruses, yet is distinguished by its low toxicity (Finlay *et al.*, 1950; King *et al.*, 1950; Herrell *et al.*, 1950).

Terramycin is supplied in 50, 100, and 250-mg. capsules of the crystalline hydrochloride salt, and as a yellow crystalline powder which dissolves easily in a specially prepared cherry-mint-flavoured liquid to make an elixir ("terrabon") suitable for administration to infants and children. A special solution containing 25 mg. of terramycin as the crystalline hydrochloride, made up with 62.5 mg. of sodium chloride and 25 mg. of sodium borate, dissolved in 5 ml. of distilled water, is available for ophthalmic use.

This report is based on a study of the use of terramycin in various infections of infancy and early childhood. Sixty-six children were treated with this drug, no other therapy being given during its administration. The dosage was 50 mg. per lb. (450 g.) of body weight per day, the elixir being given by mouth at six-hourly intervals for a period of seven days to each of 54 patients. It was found to be extremely palatable, and no difficulties were encountered in its administration. In fact, ward sisters preferred its use to other antibiotics because it was taken so readily by infants and children. Routine white-cell estimations during the course of treatment did not show any depressant action on the total count or on the polymorphonuclear elements. The special ophthalmic solution was used for the treatment of 12 newborn babies, and was instilled into the eyes in the following manner: one drop every minute for five minutes, followed by one drop every two minutes for ten minutes, the whole procedure being repeated three times a day.

Terramycin was used for the treatment of pneumonia (35 cases), upper respiratory tract infections (10 cases), tonsillitis (6 cases), pyuria (3 cases), and purulent conjunctivitis (12 cases).

Pneumonia

The 35 cases of pneumonia, all confirmed radiologically, showed the following age distribution:

0–5 months	6 cases	2 years	6 cases
6–11 „	7 „	3 „	5 „
1 year	11 „		

Nasopharyngeal swabs were cultured in every case, the predominating organism being shown in Table I.

TABLE I.—*Predominating Organism on Culture of Nasopharyngeal Swab*

Organism	No. of Cases
Streptococcus viridans	7
Streptococcus haemolyticus	5
Pneumococci	6
Staphylococcus pyogenes	2
Haemophilus influenzae	1
Friedländer's bacillus	1
Normal flora—no predominating organisms	13

In 23 cases the temperature fell to normal within 24 hours, in seven cases fever disappeared in 48 hours, and in one case in 72 hours. Improvement in appetite, colour, and general condition coincided with the settling of the temperature. Radiological clearing of the lungs usually took a few days longer than the disappearance of clinical signs.

One child, aged 3½ years, with a right lower lobe pneumonia, presenting characteristic clinical and radiological findings, showed no response to treatment until the dose was doubled and 100 mg. per lb. (450 g.) body weight per day was given. In this case the defervescence occurred by lysis over a period of eight days. No response to the drug was obtained in three patients (Table II), one of whom died.

TABLE II.—*Details of Three Cases Not Responding to Terramycin*

Case No.	Sex	Age	Dose	Diagnosis	Nasoph. Swab	Result
1	F	5/12	125 mg. 6-hrly for 7 days	R.L.L. pneumonia	*Staph. pyogenes*	Responded to "aureomycin"
2	F	3 yr.	250 mg. 6-hrly for 7 days	Broncho-pneumonia (coeliac disease)	Pneumococci	„ „
3	M	6/52	100 mg. 6-hrly for 7 days	Broncho-pneumonia	Friedländer's bacilli; pneumococci; *Str. haemolyticus*	Death. Necropsy showed collapse of left lower lobe, consolidation of right middle and lower lobes with abscesses. Pus: Friedländer

Upper Respiratory Tract Infections

Ten children with upper respiratory tract infections, classified as rhinopharyngitis, laryngitis, and otitis media, responded similarly to those in the pneumonia group, with an improvement in the clinical condition and a return of temperature to normal in 24 hours. In one child with otitis media, the discharge from the ear ceased within 24 hours, but the other ear then suppurated. Both ears were completely dry within five days of the onset of therapy.

Tonsillitis.—Six children with tonsillitis improved within 24 to 48 hours of treatment.

Pyuria

Three children with pyuria were treated. One, aged 8 weeks, with a staphylococcal perinephric abscess, had improved after surgical drainage and penicillin therapy. Three weeks later, however, he developed an acute febrile illness due to a *Bact. coli* pyuria. Sulphonamide therapy produced a temporary improvement, but during the subsequent five months he showed two further episodes of urinary infection, each controlled by sulphonamides and streptomycin. A further recrudescence at the age of 8 months, due to a coliform infection superimposed on a non-functioning left kidney, was treated with terramycin, and after seven days' treatment the urine showed no pus on microscopy or organisms on culture. During a follow-up period of four months he has had no recurrence of pyuria.

The second patient, aged 2 years 10 months, had suffered for two years from recurring bouts of pyuria associated with a left megalo-ureter. Sulphonamides, streptomycin, and chloramphenicol in turn had produced only temporary improvement. Terramycin therapy has so far maintained the urine bacteria-free for the longest period to date, about six months.

The third patient, aged 2 years, developed recurrent attacks of pyelitis associated with a congenital abnormality of the left kidney. The infecting organism, *Bact. coli*, responded at first to streptomycin, but became resistant after one course of therapy. Three further episodes of pyuria cleared up quickly with terramycin, but improvement was maintained for short periods only. The organism, however, is still sensitive to this antibiotic.

Conjunctivitis

Twelve newborn babies with purulent conjunctivitis were treated with terramycin. Swabs of the purulent material were cultured. In each case a coagulase-positive *Staphylococcus aureus* was grown, and its sensitivity to penicillin, streptomycin, and terramycin determined. Six out of seven cases classified as mild, three classified as moderate, and two severe cases improved within 48 hours, as shown by cessation of discharge and disappearance of injection of the conjunctivae. Although many of the mild cases of conjunctivitis will clear up without antibiotic therapy, terramycin is useful in those cases requiring antibiotics but in which the organism has become resistant to penicillin and/or streptomycin. No evidence of clinical irritation due to the drug was noted.

TABLE III.—*Cases of Conjunctivitis*

Case No.	Type	Organism	Sensitivity			Results
			Penicillin	Streptomycin	Terramycin	
1	Mild	Coag.-pos. *Staph. aureus*	Resistant	Sensitive	Sensitive	Improved
2	,,	,, ,,	Sensitive	,,	,,	,,
3	,,	,, ,,	,,	,,	,,	,,
4	,,	,, ,,	Resistant	,,	,,	,,
5	,,	,, ,,	,,	,,	,,	,,
6	,,	,, ,,	Sensitive	,,	,,	,,
7	,,	,, ,,	Resistant	,,	,,	,,
8	Moderate	,, ,,	Sensitive	,,	,,	Improved
9	,,	,, ,,	,,	,,	,,	,,
10	,,	,, ,,	Resistant	Resistant	,,	,,
11	Severe	Coag.-pos. *Staph. A.*	,,	,,	,,	,,
		Str. viridans	Sensitive	,,	,,	
12	,,	Coag.-pos. *Staph. aureus*	Resistant	,,	,,	,,

* Did not improve on terramycin. Responded to streptomycin.

Discussion

The broad antimicrobial spectrum of terramycin, combined with its low toxicity, ease of administration, and rapid absorption from the gastro-intestinal tract, suggests that this new drug is a most useful addition to chemotherapy. In contradistinction to penicillin and streptomycin, which have to be given by injection, and to aureomycin and chloramphenicol, which, although given by mouth, are distinctly unpalatable, terramycin can be given in a pleasant form by the oral route. It is therefore particularly valuable in paediatric practice. Although a large number of reports on its use have already appeared in the American literature, opportunity of using the drug in this country has so far been limited, and no account of its value against the common infections of infancy and childhood has yet appeared.

Friedländer's bacillus is highly sensitive to the action of terramycin *in vitro* (Gunnison *et al.*, 1950), but so far no report describing its clinical effects in this type of infection has come to our attention. Hobby (1950, personal communication) mentioned three of five adult patients who showed complete resolution of lung consolidation within five days of the beginning of therapy. In our series, one infant with a Friedländer bronchopneumonia died.

Wooding and Scott (1951) reported the successful use of terramycin in 10 cases of bacterial pneumonia in infants and children, while Graves and Ball (1951), comparing the action of aureomycin, chloramphenicol, and terramycin in a series of 143 children with atypical pneumonia, considered terramycin to be the drug of choice in the treatment of this disease.

Two patients developed a scarlatiniform rash mainly involving the trunk and accompanied by a slight rise of temperature on the third day after cessation of treatment. As no other drugs had been given, it is assumed that this was a drug rash due to terramycin. Vomiting, diarrhoea, glossitis, and moniliasis were not seen. The "ano-rectal syndrome" described by Willcox (1951) in male adults treated for gonorrhoea was not noted.

Summary and Conclusions

A group of 66 infants and children with various infections were treated with terramycin, using a dose of 50 mg. per lb. (450 g.) body weight per day. Thirty-four out of 35 patients with pneumonia responded rapidly to treatment, in most cases within 24 hours. One patient with a Friedländer's bacillus pneumonia died.

Ten patients with upper respiratory tract infections, six with tonsillitis, and three with pyuria also showed a rapid and dramatic response. Eleven out of 12 infants with purulent conjunctivitis responded rapidly to the drug.

There were no toxic reactions, and it is stressed that terramycin, because of its wide spectrum of antibacterial activity and, in the form of the elixir, its easy and palatable administration, is particularly valuable in paediatric practice.

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REFERENCES

Finlay, A. C., Hobby, G. L., P'an, S. Y., Regna, P. P., Routien, J. B., Seeley, D. B., Shull, G. M., Sobin, B. A., Solomons, I. A., Vinson, J. W., and Kane, J. H. (1950). *Science*, 111, 85.
Graves, F. B., and Ball, W. O. (1951). *J. Paediat.*, 39, 155.
Gunnison, J. B., Coleman, V. R., and Jawetz, E. (1950). *Proc. Soc. exp. Biol., N.Y.*, 75, 549.
Herrell, W. E., Heilman, F. R., Wellman, W. E., and Bartholomew, L. G. (1950). *Proc. Mayo Clin.*, 25, 183.
Hobby, G. L., Dougherty, N., Lenert, T. F., Hudders, E., and Kiseluk, M. (1950). *Proc. Soc. exp. Biol., N.Y.*, 73, 503.
—— Lenert, T. F., Pikula, D., Kiseluk, M., and Hudders, M. E. (1950). *Ann. N.Y. Acad. Sci.*, 53, 266.
King, E. Q., Lewis, C. N., Welch, H., Clark, E. A., Johnson, J. B., Lyons, J. B., Scott, R. B., and Cornely, P. B. (1950). *J. Amer. med. Ass.*, 143, 1.
Linsell, W. D., and Fletcher, A. P. (1950). *British Medical Journal*, 2, 1190.
Regna, P. P., and Solomons, I. A. (1950). *Ann. N.Y. Acad. Sci.*, 53, 229.
Willcox, R. R. (1951). *Lancet*, 2, 154.
Wooding, C. H., and Scott, R. B. (1951). *J. Pediat.*, 38, 423.

Medical Memoranda

Addison's Disease and Pregnancy

Pregnancy in patients with Addison's disease is unusual, and before the introduction of "eucortone" and "doca" it was almost invariably fatal (Perkins, 1932). More recently cases successfully managed through pregnancy have been described (Thorn *et al.*, 1941, 1942; Sheldon, 1945; Zwanenberg, 1945; Simpson, 1946; Knowlton *et al.*, 1949). Crises may occur in the early stages due to vomiting, but, once these have passed, the patients usually remain well until after delivery. In the first few days of the puerperium, however, crises of acute adrenal insufficiency are frequent. Hypoglycaemia may also be a serious complication, and irreversible coma may occur. Knowlton *et al.* (1949) recommend stabilization throughout the pregnancy with daily injections of intramuscular doca to allow for requirements which vary in the different stages. Little extra salt is advised, to give a wider margin of safety should vomiting occur and salt ingestion be discontinued. After delivery, intravenous glucose saline, 1 to 2 litres, and additional eucortone, 20 to 40 ml., are given daily.

CASE REPORT

A woman aged 35 was diagnosed as a case of Addison's disease in 1945. The diagnosis was based on the presence of typical pigmentation, including generalized brown discoloration of the whole skin, slaty-coloured patches in her mouth, a deep brown areola around each nipple, and pigmentation of scars. Her blood pressure at this time was 100/68 mm. Hg, and she was complaining of tiredness and of attacks of vomiting. A Kepler test was not performed, but serum sodium and potassium levels were estimated at times when she was thought to show signs of increasing adrenal insufficiency, and in 1949 these showed levels of 215 mg. and 32 mg. per 100 ml., respectively. She was maintained on implants of doca, 200 mg. being inserted every three to six months as she became deficient.

She was maintained in fairly good health until December, 1949. Then, in spite of an implant of 200 mg. on November 12, she noticed increasing weakness and vomiting. At the beginning of January, 1950, she was thought to be pregnant, because of amenorrhoea since November 4, and was admitted to hospital because of severe vomiting. In spite of her dehydration, a rapid pulse, and a blood pressure of 70/40 mm. Hg, her urine contained 14 g. of salt per litre (measured by Fantus's method). Intravenous saline was given, her daily salt intake was increased to 15 g. a day, and eucortone, 20 ml. daily, was given for three days.

After discharge from hospital in January she felt tired and unwell, and vomiting continued to be troublesome. The doca was therefore supplemented by intramuscular injections of an oily solution of doca, 5 mg. twice a week. At the 14th week of her pregnancy there was slight blood loss per vaginam, and she was thought to have a threatened miscarriage. This was treated by rest in bed, and at the same time she was stabilized on a daily maintenance dose of doca intramuscularly. This was increased to 10 mg. a day gradually, and her salt was reduced to 3 g. a day, her blood pressure remaining about 105/70. After discharge from hospital she was maintained fairly well on twice-weekly injections of 30 mg. of doca.

On June 8 she was admitted to hospital because of abdominal pains. From the size of the fundus twins had been suspected, and their presence was confirmed radiologically. On June 9 spontaneous delivery of male twins occurred. Delivery was premature at the 34th week, the infants being very underweight. One, weighing 2 lb. 12 oz. (1.2 kg.) at birth, has survived, the other died of asphyxia.

After delivery a 5% glucose saline drip was set up, 2 to 3 litres being given daily for four days. Doca intramuscularly, 10 mg. a day, was continued, and supplementary eucortone to guard against a crisis. The blood pressure, however, was well maintained at a higher level than before delivery, and on the fourth day signs of electrolyte and fluid retention occurred, with the development of a lumbar pad. Eucortone and salt were therefore discontinued and doca was stopped for 24 hours. She was re-stabilized on doca, and was found to need 5 mg. a day. On July 19 400 mg. of doca was implanted in the erector spini muscles. Lactation began after delivery, but was rapidly inhibited by oestrogen.

Since delivery the mother and the surviving infant have remained well. The patient has, however, had three mild hypoglycaemic attacks, with faintness associated with hunger; each occurred while she was working before dinner. An oral glucose-tolerance test showed a normal curve, but an intravenous glucose-tolerance test showed marked hypoglycaemia three hours after the injection. She has been taking more frequent small carbohydrate meals since this time, and has been free from attacks for three months.

Comment.—Thorn *et al.* (1940) have shown that most patients with hypoglycaemic symptoms have a normal oral glucose-tolerance curve. Many, however, react abnormally to an intravenous glucose-tolerance test in which 0.5 g. of glucose per kg. is given during half an hour; hypoglycaemia develops three to four hours later.

I wish to thank Dr. D. H. G. MacQuaide for his assistance in preparing this paper and also Mr. G. Sturtridge, who undertook the obstetric management of the patient.

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REFERENCES

Knowlton, A. I., *et al.* (1949). *J. clin. Endocrinol.*, 9, 514.
Perkins, P. A. (1932). *J. Amer. med. Ass.*, 99, 1500.
Sheldon, D. E. (1945). *Amer. J. Obstet. Gynec.*, 269, 49.
Simpson, S. L. (1946). *Proc. roy. Soc. Med.*, 39, 511.
Thorn, G. W., *et al.* (1940). *J. clin. Invest.*, 19, 813.
—— —— (1941). *J. clin. Endocrinol.*, 1, 967.
—— —— (1942). *Ann. intern. Med.*, 16, 1053.
Zwanenberg, D. van (1945). *St. Bart's Hosp. J.*, 49, 31.

A Case of Interstitial Tubal Pregnancy

Individual cases of interstitial pregnancy are of sufficient interest and rarity to deserve attention. When such a case is associated with symptoms and signs even more puzzling than usual, it serves to re-emphasize the difficulty in diagnosis; when, in addition, a study of the case reveals an almost astonishing recurrence of ectopic implantation the details would appear to merit publication.

All writers agree on the rarity of the condition. Bethel Solomons (1949) described a case, the third in his own experience, and quotes Grusetz and Polayes (1944), who collected a total of 199 cases from the literature up to the year 1943. Wynne, in 1918, collected 1,547 cases of ectopic pregnancy and found that there were 18 cases of the interstitial variety, an incidence of 1.16%. MacFarlane and Sparling (1946) found seven cases in a series of 106. MacVine and Lees (1949) stated that at least two of the more severe forms of ectopic pregnancy were interstitial in a series of 107 cases extending over a 10-year period. Thus the incidence would appear to be in the region of 1% to 2% of all ectopic pregnancies reported, and this figure is in agreement with that quoted by Keenan (1944). This figure, however, seems very high and is probably an exaggeration, for, as Johnstone (1928) has pointed out, there must be many series of tubal pregnancies numbering 100 or more but containing no example of the interstitial variety.

CASE REPORT

A 3-gravida 2-para aged 29 was admitted as an emergency case on June 13, 1949. She gave a history of three normal menses following cessation of lactation of her second child, born March 26, 1948. After her last period on March 23,

1949, there had been amenorrhoea until May 24, when a brown offensive vaginal discharge suddenly began without antecedent pain or apparent cause. Two days later there occurred a very profuse vaginal haemorrhage with the passage of many clots. After 24 hours she was able to get up and carry on her household duties, but the loss continued "like the first day of the period" until her admission to hospital three weeks later. Five days before admission she experienced her first attack of abdominal pain. It was central in distribution and a continuous ache in character, being exacerbated by sudden movement, defaecation, and micturition. There had previously been no bowel or micturition symptoms.

The patient's menstruation was normally regular, with a cycle of 30 days and loss of seven days. The menarche had occurred at 16. There had been two normal deliveries, in 1938 and 1948.

The letter from her private doctor contained an outline of the relevant past medical history, and the details were later supplemented by the previous case notes and by correspondence with the hospital concerned. In 1939 appendicectomy was performed in the Bristol General Hospital and convalescence was delayed by peritonitis and wound sepsis. In 1943 right salpingo-oophorectomy was carried out at the Radcliffe Infirmary, Oxford, for chronic salpingo-oophoritis. In November, 1946, she was again operated upon in Bristol for a right ectopic pregnancy. Unfortunately, detailed clinical notes cannot be traced, but there is definite evidence that a right ectopic pregnancy had apparently ruptured into the broad ligament and was densely adherent to the right wall of the uterus, to bowel, and to omentum. The available notes made no mention of the right salpingo-oophorectomy performed three years previously.

Examination on admission revealed a tired, flushed, ill-looking woman. Her temperature was 99° F. (37.2° C.), pulse 90, respirations 20, and blood pressure 125/80. General examination and urinalysis were negative. Her breasts showed equivocal signs of pregnancy. The haemoglobin was 92%. The abdomen was scarred by previous laparotomies. No tumour was palpable, and there was no definite tenderness. There were no signs of free fluid. On vaginal examination the vulva and vagina and their mucosal colouring were normal. The cervix was softened and the os closed; movement was painless, and there was slight bleeding. The uterus was bulky and retroverted, and there was an extremely tender pulsating mass in the pouch of Douglas.

In spite of the unusual history the examination suggested that in the main the most likely diagnosis was that of ectopic pregnancy, but the differential diagnosis was a wide one. The patient was prepared for laparotomy.

Examination under anaesthesia after catheterization confirmed the pre-operative findings. The uterus was anteverted and the pulsating mass could then no longer be felt. After dilatation of the cervix, curettage revealed exuberant endometrium and a sensation of fullness in the region of the right cornu. A large-bore needle was passed through the posterior fornix and frank blood in quantity was readily aspirated. At laparotomy there was a moderate amount of old and recent blood in the peritoneal cavity. The uterus was slightly enlarged and blood was spurting from the site of a ruptured right interstitial pregnancy. The ragged bleeding cavity measured 4 by 3 cm. The anatomy of the right round ligament was normal, but the Fallopian tube and ovary were absent on that side. The left tube was normal, and the ovary contained a corpus luteum. The affected area of the fundus was excised by a V-shaped incision and the uterus refashioned with catgut sutures. The scar was peritonized by a loop of the round ligament. It was particularly noticed that there was no communication between the gestation sac and the cavity of the uterus.

Convalescence was stormy, being interrupted by episodes of paralytic ileus on the second day, wound sepsis on the seventh day, and a discharge of watery purulent material from the vagina on the seventeenth day after operation. Vaginal examination at this time revealed no abnormality. With sulphonamide and penicillin the temperature settled and the abdominal wound healed soundly. The ileus responded to the usual treatment. The patient was finally discharged 24 days after operation.

The pathologist reported that the specimen, on section, showed a haemorrhagic cavity lined in places by pale clear cells of decidual appearance. No chorionic villi were demonstrated in the sections taken. There was deposition of calcium in the myometrium, and also evidence of myometritis and a salpingitis in the remaining portion of the interstitial segment of the tube.

COMMENT

The difficulty of diagnosing with any certainty an interstitial ectopic pregnancy before operation is well known, and this case was no exception. It is presumed that embryo death and a curiously asymptomatic intraperitoneal rupture took place about May 26—facts compatible with the size of the cavity found at operation. The fresh haemorrhage from the cavity seen on inspecting the uterus was probably occasioned by the preliminary anteversion. The microscopical appearance of a myometritis and interstitial salpingitis was an interesting feature of this case and explained the purulent discharge per vaginam, the wound sepsis, and, partly at least, the post-operative pyrexia.

But perhaps, above all, the case described is exceptional because it demonstrates clearly that on two separate occasions the fertilized ovum transmigrated across the pelvis to become ectopically implanted each time in that portion of the tube remaining after two separate salpingectomies. In Keenan's paper on interstitial pregnancy is mentioned the finding by D'errico of 23 cases of such pregnancy occurring in the stump following the removal of the extrauterine portion of the tube. Such behaviour is an eloquent testimony to the bizarre insistence and persistence of the reproductive function in woman, and it is a reminder of the pitfalls attendant on any operative procedure on the tube devised for the purpose of sterilization.

My thanks are due to Mr. H. L. Shepherd for his permission to publish this case, to Miss M. O. Dunster for her courtesy and help, and to Dr. A. L. Taylor for his pathological report.

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REFERENCES

Grusetz, M. W., and Polayes, S. H. (1944). *Amer. J. Obstet. Gynec.*, **48**, 379.
Johnstone, R. W. (1928). *J. Obstet. Gynaec. Brit. Emp.*, **35**, 732.
Keenan, J. J. (1944). *Amer. J. Surg.*, **65**, 112.
MacFarlane, K. T., and Sparling, D. W. (1946). *Amer. J. Obstet. Gynec.*, **51**, 343.
MacVine, J. S., and Lees, D. H. (1949). *British Medical Journal*, **1**, 263.
Solomons, B. (1949). *J. Obstet. Gynaec. Brit. Emp.*, **56**, 1045.
Wynne, H. M. N. (1918). *Bull. Johns Hopk. Hosp.*, **29**, 29.

The West Middlesex Hospital has for many years been helped by a considerable body of voluntary workers in a great variety of ways (*Third Annual Review*, July, 1950–October, 1951, South-west Middlesex Hospital Management Committee). To co-ordinate the work of these helpers and to give formal recognition to their services a League of Friends of West Middlesex Hospital has been formed. Activities of its members include the sewing on of buttons and tapes in wards, singing and playing to elderly patients, visiting patients without relatives or friends, and help with preparations for special occasions such as Christmas festivities. Members of the Women's Voluntary Services have continued to provide a trolley-shop service in the wards, and they also run a canteen trolley for out-patients. Help of this kind is very much appreciated both by patients and hospital staff, says the report, and the value of the work done by these voluntary workers cannot be over-emphasized. It is hoped that they will continue to give their services and enrol their friends.

Reviews

THE KIDNEY

The Kidney: Medical and Surgical Diseases. By A. C. Allen, M.D. (Pp. 584; 1,115 illustrations. $15 or £5 5s.) New York: Grune and Stratton. London: J. and A. Churchill. 1951.

This is an important book by an acknowledged authority on the pathology of the kidney. It embodies the latest and, in the opinion of the reviewer, the most successful attempt to correlate the clinical and biochemical aspects of renal disease with structural changes in the kidney. In a series of brilliant and fascinating studies, which include much original work, the author succeeds in demonstrating not only that morbid histology is an active and growing science with much yet to contribute to knowledge of renal disease, but that morphology is still the rock upon which a sound understanding of these disorders must be based. Even such contentious entities as diabetic glomerulosclerosis, haemoglobinuric, osmotic, and cholaemic nephrosis, and the renal complications of disseminated lupus erythematosus and toxaemia of pregnancy, for example, are seen to fall naturally into a logical, if for clinical usage perhaps a trifle cumbersome, system of classification based on morbid histology. The evidence is nowhere strained in order to produce an all-embracing classification, and where gaps occur they are carefully pointed out.

The book includes chapters, in addition to those on the various forms of Bright's disease, on such subjects as embryology, anatomy, normal and abnormal physiology, uraemia, malformations, infections, pyelonephritis, calculi, renal rickets, and tumours, and a useful section on histological artifacts. Each chapter is an accurately informed and balanced review of current knowledge in which the author's personal views, though never obtruded, are clearly apparent. There is a carefully selected bibliography at the end of each chapter, and an adequate subject index concludes the volume. The 1,115 illustrations have been skilfully chosen and most beautifully reproduced. No one interested in the kidney can fail to profit from reading this book, and the author and publishers are to be congratulated on a valuable addition to the literature on the kidney and its disorders.

A. A. OSMAN.

ACTION OF ANAESTHETICS

The Mode of Action of Anaesthetics. By T. A. B. Harris, M.B., B.S., D.A., F.F.A.R.C.S. (Pp. 768; 64 tables, 22 figures. £2 2s.) Edinburgh: E. and S. Livingstone. 1951.

It is immediately evident that Dr. Harris has devoted an immense amount of time and thought to the production of this book, and no experienced anaesthetist could fail to peruse its 700 pages without learning a great deal about the theoretical aspects of his specialty. Each chapter concludes with a copious list of references, while a comprehensive index of 67 pages enables any subject to be tracked down with ease and rapidity.

He discusses at great length the chemistry and biochemistry of the subject, sometimes in terms which are unfamiliar to the average anaesthetist, and the addition of a glossary might be advantageous. The theories advanced are most stimulating to thought, but the beginner should not take them all too seriously or he may become nervous of administering any anaesthetic at all. In some places the author tends to describe the action of drugs as they should be according to current theory rather than as they actually are. For example, few senior men would agree with the description of the cardiovascular effects of cyclopropane and trichlorethylene, although the described effects *may* occasionally be seen and certainly fit in very nicely with the *expected* actions from a consideration of their structural formulae and physical properties. Again, the theory that toxicity increases with the number of chlorine atoms in the molecule is not borne out by experience with isopropyl chloride and trichlorethylene, nor is the suggestion that the jactitations during administration of nitrous oxide are associated with a build-up of carbon dioxide. The idea that cauda equina lesions following spinal analgesia are due to the deposition of the analgesic base is ingenious, but it seems much less likely to be true than the accepted explanation of contamination of the injected solution by the antiseptic in which the ampoules have been kept.

These few examples are not to be regarded as destructive criticism but show how provocative of thought this volume may be. The type and general production are excellent, but shorter paragraphs and more cross-headings would make the text easier to follow.

C. LANGTON HEWER.

ENZYMES

The Enzymes. Chemistry and Mechanism of Action. Edited by James B. Sumner and Karl Myrbäck. Volume 2, Part 1. (Pp. 790. $14.80.) New York: Academic Press, Inc. 1951.

This is the third part of this work, the first volume of which (in two parts) has already been reviewed (*Journal*, June 30, 1951, p. 1493). As with the previous parts, each chapter has been prepared by an authority on the subject under discussion. This first part of Volume 2 opens with an erudite and elegant treatment of the theory of oxidation reduction, by the late Dr. Leonor Michaelis, whose classic work in this field is known to all students of enzymology. Then follow four chapters on enzymes which bring about the fission of phosphate-containing substances, the first by N. O. Kaplan on thermodynamics and mechanism of the phosphate bond, the second by Sydney P. Colowick on transphosphorylating enzymes of fermentation, the third by H. M. Kalckar on dephosphorylation of adenosine polyphosphates, and the fourth, on aldolase and isomerase, by Otto Meyerhof. These chapters bear witness to the importance which the biochemist places on "energy-rich phosphate bonds" and their role in the storage of chemical energy and in the processes whereby energy is made available for many different metabolic processes.

The remainder of the chapters cover decarboxylases, co-enzymes, flavin-containing enzymes, iron-containing enzymes, copper-containing oxidases, and enzymes concerned with the metabolism of amino-acids and amines, with the oxidation of unsaturated fats, and with sulphur compounds. The volume closes with chapters on "Anaerobic Glycolysis, Respiration and the Pasteur Effect," by Frank Dickens, and on "Yeast and Mold Fermentations," by F. F. Nord and Sidney Weiss.

It will be seen from the titles how wide is the field covered by the 790 pages of the 21 chapters of this book. Unfortunately, since this book is only the first part of Volume 2, there is no index, and until the second part of Volume 2 is published some inconvenience in the use of the present book will be met with by those who wish to utilize it for general reference. The production of the book is good and the diagrams and illustrations are clear, but it is hardly one to be read by those who wish to browse in the field of enzymology. As an instalment of an encyclopaedic work of reference in the field of enzymes it will find a worthy place on the shelf beside its predecessors.

F. G. YOUNG.

BLOOD DISEASES

Handbook of Diseases of the Blood. By A. Piney, M.D., M.R.C.P. (Pp. 213; illustrated. £1 1s.) London: Harvey and Blythe. 1951.

A patient with a blood disease may quite possibly be seen first by a physician, diagnosed by a clinical pathologist, and treated by a surgeon or a radiotherapist, and in most British hospitals the clinical pathologist holds the key position in this team. Much time and money is spent on the investiga-

tion of patients with obscure and incurable blood disorders, and some people feel that the money would be better used on fundamental research and the prevention of disease. Dr. Piney's complaint, however, is that the system has led to the neglect of bedside observation of patients with blood disorders. He has therefore written this book to supply an almost entirely clinical account of the blood diseases, laboratory aids being described only when they are essential to amplify the results of clinical observation.

Working within this frame of reference, he has produced a book which will be useful to students going up for the higher examinations in medicine. The first chapter is on the symptoms of diseases of the blood and the second on the haematological signs. The actual diseases are then discussed in sequence. The book is lucidly written and well printed. Nevertheless, to those who associate Dr. Piney's name with illustrated books on haematology it will be something of a disappointment, and one cannot help feeling he would have made a better book if he had fused together the material and illustrations in his recent *Synopsis of Blood Diseases, Sternal Puncture*, and the present volume. If the student is going to read a separate text on haematology, then he had better get a complete but not too detailed synoptic account, such as Fowler's *Hematology*. Dr. Piney, by restricting his gaze to half the picture, would seem to be in danger of widening the division he deplores.

L. J. WITTS.

HORMONE ASSAY

Hormone Assay. Edited by C. W. Emmens. (Pp. 556; illustrated. $10.00.) New York: Academic Press Inc. 1950.

The field of biological standardization has increased so rapidly in the last fifteen years that it is no longer possible to comprehend the subject within one book of reasonable size. Dr. Emmens has therefore performed a valuable service by editing a volume on hormone assay, which is a well-defined section of the field, and he has chosen his eighteen contributors with great care. It is interesting to note that eight are from the U.S.A., six are from Britain, three are from Australia, and one is from Denmark.

The reader unfamiliar with the subject will find the book formidable, for the methods are presented by many of the writers with so much statistical matter that the ordinary physiologist or biochemist would find it difficult to follow them. It seems as if the worker in biological standardization has found some statistical treatment essential, and, having mastered a little, has developed an appetite for more and has finally acquired a vocabulary which, while as clear as daylight to him, makes his speech seem like a foreign language to others. It is a pity that this should have happened, since workers in biological standardization have made a great contribution to the design of biological experiments and to assessing the value of the results. The mathematical caution with which they regard their findings could be extended widely with much benefit.

The difficulty arises from the introduction of technical terms. A scientific worker ought to be forbidden to introduce a new technical term unless he has obtained permission from a suitable tribunal, or by the majority vote of a large society, except when the term is self-explanatory. Take the words "analysis of variance." No worker in biological standardization dare admit to-day that he does not understand what it means. Yet how many physiologists understand it? If I quarrel with my neighbour I am "at variance" with him. Has "analysis of variance" anything to do with that? The work of those who are engaged in research is of value only so far as it becomes known to others and understood by them. It can be understood only if it is not shrouded in technical terms. The introduction of a new technical term is therefore not a matter of pride; it should bring a sense of failure that a further obstacle has been put in the way of common intercourse.

The contributors to Dr. Emmens's book are a distinguished group. It is difficult to single them out, but the articles by Dr. R. I. Dorfman on androgens and on adrenal cortical hormones and by Dr. R. K. Callow on the chemical assay of steroids should be specially valuable to many workers.

J. H. BURN.

CHEST OPERATIONS

Thoracic Surgery. By Richard H. Sweet, M.D. Illustrations by J. R. Arroyo, M.D. (Pp. 345; 155 figures. £2 10s.) Philadelphia and London: W. B. Saunders Company. 1950.

This book sets out nakedly and unashamedly to be what it is—a handbook of chest operations for those surgical artisans who wish to operate on or within the chest. The author gives a fine display of illustrations, designs for operations, and complete tables and summaries of procedures. As would be expected from a surgeon of Dr. Sweet's eminence and ability, he performs his task admirably.

Discussion of the surgery of the thorax, as opposed to mere operating, is scanty, but there are several remarks which are either controversial or reveal the imperfection of the purely technical presentation. The author states that the Semb apicolysis is of no use if the lung is at all rigid. It is disturbing to read that the only aftercare needed for a drained empyema is wound dressing; no mention is made of physical treatment and none of control with pleurograms. We are also informed that chronic empyema is a rare sequel. Would it were so! Also, *horribile dictu*, the Schede operation is revived and described. We are told by word and picture that the best site to divide an adhesion in a case of artificial pneumothorax is midway between its lung and chest-wall attachments. These are almost the only features that one can criticize adversely. The section on the oesophagus is excellent.

It is noteworthy that such a frankly vocational book should have come from the Harvard School of Medicine, whose primary interest is usually in the more academic principles of medicine and surgery. Perhaps Dr. Sweet will later delight us with a second volume on the pure surgery of his craft. In the meantime this volume can be highly commended and strongly recommended to those who wish for a guide to operations upon the thorax.

R. C. BROCK.

ANATOMY FOR NURSES

Applied Anatomy for Nurses. By E. J. Bocock, S.R.N., S.C.M., D.N., and R. Wheeler Haines, M.B., D.Sc., F.L.S. (Pp. 320; 231 figures. 15s.) Edinburgh: E. and S. Livingstone. 1951.

This book is in several respects unusual. The authors describe elementary anatomy and, to a certain extent, the "application" of it, though not so much as the title would lead the reader to expect. In addition they give quite a considerable amount of elementary physiology and histology in language which is clear and sometimes colloquial. Here and there one gleans some interesting and out-of-the-way information—for example, why eunuchs do not go bald, and why osteopathy is incorrect. The illustrations are mostly diagrammatic and explanatory; there are a few which might be called crude. The authors are, we hope, unfair to the surgeon in thinking that a chronic psoas abscess could be mistaken for a local boil or an abscess of the lymph nodes, for a psoas abscess is painless.

The most unusual part of the book is the appendix, which concerns the supply of bodies for dissection. The authors emphasize the urgent need for them, and "it seems fair to ask nurses both to donate their bodies for dissection and to persuade others to do so in suitable cases." This would be a noteworthy form of applied anatomy.

There is certainly much to be learnt from this book.

V. ZACHARY COPE.

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BACTERIAL RESISTANCE TO CHEMOTHERAPY

The clinical exploitation of a new antimicrobic drug passes usually through two main phases, the first being over-enthusiastic and somewhat indiscriminate, and the second more critical and restrained. One factor in this transition is often the discovery that some strains of an otherwise susceptible organism are, or are apparently becoming, resistant to the drug. This change rapidly reduced the efficacy of sulphonamides in gonorrhoea, and showed signs of threatening the usefulness of these drugs in pneumonia and in streptococcal infections before a powerful reinforcement arrived in penicillin. Of the proportion of these and other bacteria now insensitive to sulphonamides very little is known, but examination of strains of some bacteria from unsuccessfully treated urinary tract infections clearly shows their capacity to acquire resistance. Penicillin has withstood the test of time much more successfully, but it is unfortunate that the one species, *Staph. pyogenes*, which seems to be slowly escaping from its influence is that against which its action was perhaps of the greatest value. Resistance to streptomycin can be acquired so quickly by any species that it stands in a class apart, and the diminishing use of this drug for treating any condition other than tuberculosis is due in part to the increasing prevalence of resistant organisms, although the fashion for the newer antibiotics has been another influence. So far as resistance is concerned it seems that chloramphenicol, "aureomycin," and "terramycin" have a good deal in common: resistance to one—which can certainly develop, although sometimes only to a moderate degree—is accompanied by resistance to one or both of the others, the most closely related pair being aureomycin and terramycin.

In the discussion of this subject in the Section of Pathology of the Royal Society of Medicine on February 5, a report of which appears on page 434, attention was concentrated on the mechanism of the change from sensitive to resistant. There are two clear examples in the clinical field where the process has evidently been one of strain selection. Sulphonamide-resistant gonococci and penicillin-resistant staphylococci are known or believed to have existed before these drugs were used, and they have naturally gained increasing predominance as sensitive strains have been eliminated. Studies of staphylococci have fortified this belief, since in this species natural resistance and artificially produced resistance to penicillin are of different natures, one depending on penicillinase formation, the other probably on a change in internal metabolism. But when resistance appears in a bacterial population which was previously wholly sensitive, as in a single given culture, either mutation or adaptation must have occurred. Which of these processes is in fact responsible has been a matter of violent controversy. As was pointed out at this meeting, it need not necessarily be assumed that the process is the same for all noxious agents or even for all antibiotics; the evidence in favour of the mutation hypothesis is far stronger in studies of streptomycin than in those of any other drug.

Of perhaps more practical interest is the property or behaviour of the bacterial cell on which resistance depends. At the R.S.M. meeting Gale pointed out that this may be of several different kinds. It may depend on the formation of something which neutralizes or destroys the drug in the environment, the clearest example of this being penicillinase. Resistance may also depend on impenetrability of the bacterial cell wall. Finally, and most often, it can depend on the establishment of an alternative metabolic pathway to one blocked by the drug. There may certainly be more than one of these points of interference with metabolism: the stepwise acquisition of resistance to sulphathiazole by staphylococci is an example of a change appearing to involve different stages of some metabolic process or perhaps actually different processes. Mitchison[1] has made the same suggestion about streptomycin resistance in tubercle bacilli. He found three distinct degrees of this among organisms in a single culture: one explanation of this could be that different concentrations affect either one, two, or three processes which the cell can successively by-pass. A similar assumption has been made by Eagle[2] to account for the "zone phenomenon" in the action of penicillin. It is well recognized that some bacteria, including *Strep. faecalis* and many strains of *Staph. pyogenes*, are killed at a maximum rate only by an optimum concentration, which may be quite low: above this the effect is retarded. Eagle's suggestion is that the optimum concentration acts at a late stage in some metabolic process, causing

1 *J. gen. Microbiol.*, 1951, **5**, 596.
2 *J. Bact.*, 1951, **62**, 663.
3 *Ann. Med. exp. Biol. fenn.*, 1951, **29**, Suppl. 1.
4 *J. Lab. clin. Med.*, 1951, **38**, 719.
5 *Bull. Johns Hopk. Hosp.*, 1951, **89**, 81.
6 *Antibiot. and Chemother.*, 1951, **1**, 472.

the accumulation of a toxic intermediate product, while high concentrations affect an earlier stage and thus prevent this product being formed. Although a good deal is known from the work of Gale himself and others of certain metabolic gymnastics imposed on bacteria by antibiotics, it does not follow that the effects so disclosed are the only ones caused, or are in fact those which are lethal to the normally sensitive cell.

Some speakers at the R.S.M. meeting also mentioned cross-resistance, a phenomenon which, as already mentioned, may sometimes deprive the three newer antibiotics of separate and successive usefulness (fortunately susceptibility to penicillin seems independent of that to any other drug). On the other hand, this is a relationship which seems to work both ways, because according to Kaipainen[3] and Gocke and Finland[4] habituation to streptomycin or neomycin may actually result in an increase in sensitivity to all three of the newer antibiotics. Still more remarkable and perhaps of clinical importance, although this remains to be proved, is the effect of habituation to aureomycin on a penicillin-resistant staphylococcus first observed by Chandler and his colleagues[5] and confirmed for this and two other penicillinase-forming organisms of different species by Monnier and Schoenbach.[6] These workers found that under the influence of aureomycin the organisms ceased to form penicillinase and consequently became sensitive to penicillin. There is much that remains to be explained in observations of this kind, but they may help in piecing together a more coherent view of the mode of action of antibiotics generally. It also seems that, if clinical practice can receive constant and detailed help from the laboratory in individual cases, many an otherwise difficult situation can be overcome. The use of combinations of drugs to prevent the acquisition of resistance to one of them is also a well-founded procedure in specified instances, although it may have unfortunate results if this fact encourages shotgun therapy.

THE SICKLE-CELL TRAIT

The curious tendency of the erythrocytes of some persons to become sickle-shaped has four principal aspects—biochemical, genetical, clinical, and anthropological—interrelated in such a complex manner that any investigation of one of them almost inevitably involves all the others. Of all Africans living south of the Sahara Desert, 15% at a rough estimate have in their red cells a haemoglobin molecule which is physico-chemically abnormal.[1] In the oxygenated condition the molecules are in solution inside the red cell like normal oxyhaemoglobin. In the deoxygenated state, however, their solubility is greatly reduced and the haemoglobin crystallizes out and distorts the cell into a crescentic or sickle shape. This change of form is readily observed microscopically and is the basis of the routine diagnosis of the condition. The change of form appears completely reversible, but it is possible that repeated changes may lead to haemolysis.

Sickling is inherited as a mendelian dominant: that is to say, inheritance from only one parent is sufficient to give rise to the condition in the offspring, and all who carry the sickling inheritance manifest it in their red cells. Some of them also suffer from a severe chronic anaemia, and the central medical problem is to ascertain why the remainder with sickling red cells apparently stay perfectly healthy. In the superficially similar Mediterranean (Cooley's) anaemia, in which a red-cell abnormality is also inherited as a mendelian dominant, heterozygotes suffer little or no disability, while homozygotes have a severe anaemia, usually fatal in early childhood. A similar view of the pathology of sickle-cell anaemia has tended to prevail in America, where the red-cell condition is present in only about 10% of negroes, implying about 0.5% of homozygotes. The hypothesis that the latter are all affected by anaemia has recently received strong support from the genetical work of Neel,[2] by whom it was originally put forward. Pauling and his colleagues[1] have moreover shown that all of the haemoglobin is abnormal in cases of anaemia but only part of it in sickling without anaemia.

In Africa, on the other hand, the frequency of sickling is over 20% in many populations, and reaches 45% in at least one. This implies a frequency of 1–6% of homozygotes. When other coincidental causes of anaemia are discounted in sickling individuals the frequency of true sickle-cell anaemia in Africa is certainly under 1% and probably very much lower than in America. Two main hypotheses have been put forward to explain this discrepancy. One is that under African conditions homozygotes nearly all die before or soon after birth. But it is almost inconceivable that the sickling frequencies found in some African populations could be maintained in face of such mortality. The other hypothesis is that the sickling gene causes anaemia only when inherited with another gene or genes derived from a European ancestor, which is likely to be much commoner among American than among African

[1] Pauling, L., Itano, H. A., Singer, S. J., and Wells, I. C., *Science*, 1949, **110**, 543.
[2] *Blood*, 1951, **6**, 389.
[3] *Amer. J. clin. Path.*, 1951, **21**, 858.
[4] *Ann. Eugen.*, 1949, **14**, 279.
[5] *Nature, Lond.*, 1949, **164**, 494.

negroes. This problem will not be solved until further genetical studies have been carried out in Africa as well as in America. Singer,[3] in an admirable and scholarly review with a full bibliography, has recently surveyed the whole question.

The sickle-cell trait has hitherto been recognized only in Africans, in American negroes, in Yemenite Jews, in a small pocket of persons in Greece, and in a few scattered individuals of Mediterranean origin. It has thus been a reasonable assumption that sickling originated in Africa and that its occurrence elsewhere was evidence of African ancestry. In Africa its distribution has been the subject of numerous studies, but the only extensive ones which give full anthropological details are those of Beet[4] for Northern Rhodesia, and of Lehmann and Raper[5] for Uganda, and much remains to be done before the significance of this limited distribution can be seen. Two papers elsewhere in this issue report new facts about the distribution of the sickle-cell trait.

Drs. D. B. Jelliffe and J. Humphreys have examined 1,881 of the Yoruba of Nigeria. They found sickling in an overall frequency of 23.7%. In 51 infants under 2 weeks old sickling was absent, but no significant differences were found between the frequencies in the other age groups. There is thus no evidence for any differential mortality, as would be expected if the hypothesis were correct that all homozygotes suffer from sickle-cell anaemia, and that the rarity of this disease in Africa is due to the early death of affected individuals. To disprove this hypothesis completely, however, needs a statistical study of even larger numbers, or a detailed genetical study of numerous families. The absence of sickling in the youngest infants is explained by the authors as due to the persistence of the foetal type of haemoglobin to the exclusion of the sickling type. The article contains an admirable survey of the literature which, though shorter, will be more accessible than that of Singer to British readers.

The research of Dr. H. Lehmann and Miss M. Cutbush, on the other hand, was designed to test the hypothesis held by some anthropologists that the present population of most of tropical Africa contains an important component derived from Asia. This putative ancestry might be the source of one or both of the two most characteristic simple genetical characters of Africans, the sickle-cell trait and the Rh chromosome cDe, or R_o. Dr. Lehmann and Miss Cutbush have now found sickling in many members of three of the aboriginal tribes of Southern India. The overall frequency was 13%, but of the Irulas as many as 30% show the trait, a frequency higher than in most African populations so far tested. The cDe combination of Rh genes occurs in these Indian populations, however, with only a small fraction of the high frequency found throughout tropical Africa. Thus the sickle-cell trait cannot have been transmitted to Indians by a population genetically similar to modern Africans. Either it arose independently in the two areas, or, as is rather more probable on genetical grounds, it was inherited by the peoples of both areas from common non-African ancestors, with an Rh blood group composition different from that of present-day Africans though possibly like that of modern South Indians. This work thus provides results of great anthropological interest: medically it is important in adding yet another possible cause of chronic anaemia to the many known in India.

HABITUAL ABORTION

Attempts to determine the cause of habitual abortion, the condition in which consecutive abortions (usually three or more) occur without intervening pregnancies going beyond the 28th week, have so far been fruitless. Investigations on these patients in the non-pregnant intervals have brought to light little of contributory interest. Three possible groups of causes—paternal, maternal, and foetal—may exist. Some seminologists believe that seminal fluid containing many morphologically abnormal spermatozoa is likely to be responsible for abortion, but no one has shown that the husbands of women complaining of habitual abortion have characteristically abnormal semen. The possible maternal causes which have received most attention are vitamin deficiencies and hormonal inadequacies. Foetal causes include abnormalities of the ova and of the zygote not apparently due to abnormality of the maternal environment. The last two groups of causes deserve further comment.

The elegant studies of Hertig and Rock[1] on abnormal ova are very relevant to the question of foetal causes. From a series of 136 potentially pregnant women they recovered 28 early conceptuses. Twelve of these early ova were abnormal, and of these seven were certainly destined to abort. Four of the latter might not even have caused clinical signs of pregnancy because of their extreme abnormality. Yet in every case the endometrium showed normal secretory development. It was concluded that many spontaneous abortions could be attributed to foetal abnormalities, and that maternal causes were of minor importance.

The vitamin deficiencies which have been suggested as possible causes of abortion are those of C, K, and

E. Evidence on the implication of the first two of these has been presented by Javert and Stander[2] and by King.[3] Swyer[4] has pointed out that, whereas this evidence has not confirmed the existence of vitamin-C deficiency in aborting women, prothrombin deficiency was present in a significant number of cases. The literature on vitamin E is very extensive, and the value of this substance in the prevention of repeated abortion seems to have been both accepted and rejected in almost equally uncritical fashion. Some years ago Bacharach[5], reviewed the findings of Vogt-Möller[6 7 8] and of Watson and Tew[9] and compared their results with the findings of Malpas[10] on the likelihood of the successful completion of pregnancy after a series of previous abortions. Bacharach concluded that the chances of the differences between the published results of treatment in cases with two, three, and four previous abortions and the expected results with untreated cases being exceeded on the basis of random variation were 1 in 200, 1 in 10^{10}, and 1 in 10^{40}, respectively. Either the observations reported by the two groups of workers are fallacious or else there would appear to be strong evidence in favour of the therapeutic efficacy of vitamin E in habitual abortion—unless the outcome of pregnancy in untreated cases is generally more favourable than Malpas's figures suggest.

Hormonal inadequacies as maternal causes of habitual abortion have been conceived in terms of progesterone—and perhaps oestrogen—deficiency. No direct evidence of such deficiency appears to have been adduced, though a suggestion which would dispose of this objection is that a suddenly developing deficiency—such as before the placenta fully takes over the production of hormones from the corpus luteum—is the cause and not a persistently low secretion. At all events oestrogens have been claimed[11] to give 77% successful results in patients with habitual abortion, and progesterone by injection is very commonly administered to such patients, though evidence of its efficacy is lacking. The use of implants of progesterone seems to be a logical way of ensuring that the amount of hormone in the blood is kept steady, and is preferable to the erratic and evanescent effects of oily injections. In a recent paper in this *Journal* Drs. P. M. F. Bishop and N. A. Richards[12] published their further experiences with this treatment. In a combined series of 85 patients their success rate proved to be 85% in those women who had had two previous abortions and 72% in those who had had three or more. Compared with the expected success rates calculated by Malpas and of Eastman[13] these certainly represent a significant increase. It is, however, a little disturbing that vitamin E, oestrogens, and progesterone implants should all have the same success. The fact that Bevis[14] has obtained equally good results by investigation without treatment raises the question whether it is only the psychotherapeutic effect of all these various regimes that is responsible for the pregnancies going to term. Another doubtful point is that, though Malpas's and Eastman's figures may have applied to the populations they were studying, they may not, nevertheless, have universal validity. Indeed, if Eastman's calculation (shown in Table V in the paper by Bishop and Richards) is carried one step further, the spontaneous cure rate for women with four abortions should be 1%—which simply is not true. Bishop and Richards point out that the obvious way to settle the question whether a progesterone implant is endocrinologically or merely psychologically therapeutic is to treat alternate cases with implants of progesterone and an inert compound such as cholesterol. It would be even simpler to leave the alternate patients without any specific treatment, as Dr. D. C. A. Bevis implies in a letter published in this week's *Journal*, for it might then be found that the spontaneous cure rate is far higher than has generally been supposed.

1 *Amer. J. Obstet. Gynec.*, 1949, **58**, 968.
2 *Surg. Gynec. Obstet.*, 1943, **76**, 115.
3 Ibid., 1945, **80**, 139.
4 *Brit. J. Nutrit.*, 1949, **3**, 100.
5 *British Medical Journal*, 1940, **1**, 890.
6 *Lancet*, 1931, **2**, 182.
7 *Acta obstet. gynec. scand.*, 1933, **13**, 219.
8 *Klin. Wschr.*, 1936, **15**, 1883.
9 *Trans. Amer. Ass. Obstet. Gynec.*, 1935, **48**, 189.
10 *J. Obstet. Gynaec. Brit. Emp.*, 1938, **45**, 932.
11 Smith, O. W., *Amer. J. Obstet. Gynec.*, 1948, **56**, 821.
12 *British Medical Journal*, 1952, **1**, 244.
13 In J. V. Meigs and S. H. Sturgis's *Progress in Gynaecology*, 1947, p. 262, London.
14 *Lancet*, 1951, **2**, 207.

LOCATING BRAIN TUMOURS WITH ISOTOPES

In 1948 Moore and his co-workers found that the dye sodium di-iodofluorescein was substantially concentrated in brain tumours after intravenous injection.[1] After administration of this dye made with radioactive iodine a tumour in the brain could be discovered by the increased quantity of gamma radiation detected outside the intact skull. It was found possible to deduce the probable position of such a tumour within the brain by measuring the radiation at different points on the head's surface. The possible errors and pitfalls of this method of pre-operative diagnosis are many, but subsequent research by Moore, Selverstone,[2] and Ashkenazy in particular has (at least in the hands of these original workers) made the location of malignant gliomas very accurate.

Other substances which are concentrated in brain tumour tissue and have been used in large series of cases[3] are compounds of radioactive potassium (K^{42}) or phosphorus (P^{32}). Unlike radio-iodine, which emits long-range penetrating gamma rays, atoms of radioactive phosphorus give out β-particles which have a range

in the brain of only a few millimetres and are hence of value only in delineating the extent of a tumour when the cortex is exposed at operation. For this purpose a needle 2 or 3 mm. in diameter, with a Geiger–Müller counter near its tip, is used to probe the suspected area of the brain. As the needle reaches tumour tissue the counting rate of β-particles rises considerably, as judged by a rush of clicks in the headphones, so that the operator can obtain an idea of the depth and extent of the neoplasm, whereas naked-eye information may be quite inadequate. Radioactive potassium emits both gamma rays and β-particles, so that it should be possible to utilize it both before and during operation. However, there is little in the literature so far to indicate how successful this may be.

Attempts in Britain at confirming the American work on di-iodofluorescein have not met with great success. It is well to bear in mind how very exact any new method of location must be before it improves upon the well-tried techniques of ventriculography and arteriography. Loyal Davis[4] states that in his series of 340 patients investigated with di-iodofluorescein 95% accuracy was obtained, whereas "pneumography is 65% focally and 85% diffusely accurate." Many neurosurgeons and neuroradiologists in this country would, however, claim 95% accuracy by means of air-study and angiography. Radioactive potassium is unsuited to the location of tumours in the posterior fossa owing to the high counting rate obtained from the adjacent suboccipital muscles; location in this region has become extremely efficient by modern methods of encephalography and vertebral angiography.

There have, however, emerged several indisputable advantages to the patient and to the neurosurgeon. The use of these radioactive isotopes in the doses employed is without immediate harm to the patient, whereas contrast studies of the ventricles and the vascular tree may have very real dangers in subsequent complications. A patient whose condition demands investigation for the presence of a tumour even though such a diagnosis is considered unlikely can more readily and justifiably be subjected to a radio-isotope test than to a procedure having a known morbidity and mortality. The most impressive practical advance so far is the ability at operation to select a region in the brain giving a high count of β-particles after intravenous injection of radioactive potassium or phosphate ions. A biopsy can thus be obtained in the certainty that the pathologist will find a tumour within the small portion removed. Without this aid biopsy not infrequently fails owing to the difficulty at operation of distinguishing neoplastic tissue from neighbouring brain. Such an aid to diagnosis will, however, necessarily always be confined to those hospital centres which are suitably equipped and possess a physicist, since the handling of radioactive substances in bulk involves very special risks to the staff.

It is too early to assess this interesting work on radioactive isotopes in the central nervous system, yet it seems possible that, with the further development of more sensitive instruments and of substances having still greater differential affinity for neoplastic tissue in the skull, advances will be made in the treatment of brain tumours, particularly of the malignant glioma.

1 *J. Neurosurg.*, 1948, **5**, 392.
2 Selverstone, B., and White, J. C., *Ann. Surg.*, 1951, **134**, 387.
3 —— Sweet, W. H., and Ireton, R. J., *Surgical Forum*, 1951, p. 371.
4 Ibid., 1950, p. 357.

BACTERIAL PRODUCTS AGAINST CANCER

The clinical treatment of human tumours with bacterial products was introduced 75 years ago by Fehleisen, Bruns, Coley, and others. Coley used a preparation made from cultures of streptococci and of *Bacillus prodigiosus* which was called "Coley's mixed toxins." The Council on Pharmacy and Chemistry of the American Medical Association included this preparation in the list of remedies used for the treatment of cancer, although with some misgivings ("Its use in definitely inoperable cases may be quite justified, in many instances, as a desperate attempt to combat the inevitable"). This type of therapy was never widely used; for its successes were rare, and its administration was frequently followed by high temperature, nausea, and vomiting. However, interest in bacterial products as anti-cancer agents was renewed by the work of Gratia and Linz on animal tumours, and encouraged soon after by the experiments of Shear and Andervont on the separation of a polysaccharide inducing haemorrhage in tumours from broth cultures of *Bacillus coli*. The active fraction was extraordinarily potent, for 0.4 μg. of the polysaccharide induced haemorrhage in transplanted sarcomata in mice. Concentrates of the polysaccharide contained, after tryptic digestion, a small amount of firmly combined phospholipid, the removal of which destroyed the potency. Other kinds of mouse tumour reacted similarly; for example, spontaneous mammary carcinoma, the Ehrlich mouse carcinoma, and primary sarcoma induced with methylcholanthrene-choleic acid or with 3:4 benzpyrene. With filtrates from *Serratia marcescens* (*Bacillus prodigiosus*) the minimum dose required to induce haemorrhage in 50% of the tumours was found to be 0.1 μg. of the polysaccharide.

It was observed that mice bearing tumours were much more sensitive to the toxic effects of the agent than were normal mice. In one experiment a fifth of the dosage which just failed to kill normal mice was fatal for two-thirds of a series of mice bearing primary sarcomata. The changes in the tumours, haemorrhage and necrosis, appeared a few hours after injection of the polysaccharide. Complete and permanent regression of the induced tumour occasionally occurred, but usually some part of it survived and grew vigorously after most of the original growth had been destroyed. It soon became clear that the therapeutic dose was dangerously near the toxic dose, for apparently the breakdown of much tumour tissue released some highly toxic material. According to Shear,[1] "It thus appeared that the death of the tumor-bearing mice was largely ascribable not to the toxicity of the polysaccharide itself, but to some phenomenon resulting from the reaction of sensitive tumor tissue to the polysaccharide. The mice

1 Shear, M. J., *J. Nat. Cancer Inst.*, 1944, **4**, 461.
2 Brues, A. M., and Shear, M. J., ibid., 1944, **5**, 195.

with tumors exhibited symptoms resembling those of shock—namely, prostration, labored respiration, muscular atony, lowered body temperature, etc.; in tumor-bearing patients this agent produced a fall in blood pressure. . . ." Some clinical trials with the polysaccharide did not prove successful either.[2]

The chief exponent of polysaccharide therapy has thus to admit that this method is far from ideal. An immense amount of work has been devoted to chemotherapy in cancer, but of the thousands of compounds which have been tried out probably oestrogen for prostatic cancer represents to date the only success. There are now indications that this line of attack is losing some of its momentum, probably owing to a number of factors. For example, the screening of numerous compounds for tumour-inhibitory activity tends to become a collaboration between the synthetic organic chemist and the biologically trained technician, where the cancer investigator himself finds little intellectual stimulation. Secondly, the failure of so many potent tumour inhibitors to behave as practical anti-cancer drugs suggests that there is too close a similarity between neoplastic and normal cells for an agent to be able to destroy the one without seriously damaging the other.

Recent work on the role of dysgenic and environmental factors as causes of cancer suggests the possibility that the solution of at least some problems of cancer will come from quite a different direction—namely, by prevention instead of by treatment.

DIFFUSION RESPIRATION

Can respiration occur without respiratory movement? The question is again asked by Drs. Enghoff, Holmdahl, and Risholm, of Uppsala University, who describe in a recent paper[1] the establishment of "diffusion respiration" in man. This phenomenon was named by Draper and Whitehead,[2] who found from experiments on dogs that under certain conditions blood can be normally oxygenated by the lungs without respiratory movement and rhythmical changes in intrapulmonary pressure. They explain this by describing the action of the "haemoglobin-oxygen pump." During apnoea oxygen is removed from the alveolus by haemoglobin, but the normal elimination of carbon dioxide ceases. Carbon dioxide is retained in the blood and tissues, and the amount of oxygen leaving the alveolus during apnoea is therefore greater than the amount of carbon dioxide entering it. The pressure within the alveolus thus falls below that of the atmosphere, and movement inwards of the dead-space and atmospheric air occurs.

Three conditions must be fulfilled for this form of respiration to occur: the gas entering the glottis must be mostly pure oxygen, for if air is breathed nitrogen accumulates in the alveoli and quickly causes asphyxia; the airway must be perfectly free; the circulation must be adequate, as the capacity of the "pump" is proportional to the volume of reduced haemoglobin flowing through the alveolar capillaries. Diffusion respiration has been found effective in animals for 30 minutes; but after this the oxygen content of the blood falls, probably because of the Bohr effect—a consequence of the action of CO_2, with respiratory acidosis and low blood *p*H.

Enghoff and his co-workers induced apnoea in the human with an intravenous barbiturate and curare. A cuffed endotracheal tube was first passed under general anaesthesia, and the patient was allowed to breathe oxygen from an anaesthetic machine for 10 minutes. The tracheal tube was then connected to a spirometer containing oxygen, which operated without exerting measurable positive pressure. Apnoea was maintained for about 5 minutes, the maximum being 7 minutes 20 seconds. The oxygen consumption during this period was the same as during the time when respiratory movements were still taking place. At the end of the period of apnoea the blood oxygen had not fallen, but the carbon dioxide had increased; no changes were noticed in the functioning of the heart and circulation.

The mechanism of diffusion respiration must not be confused with the insufflation process which was first described by Hook[3] in 1667 and was introduced into anaesthesia by Barthelemy and Dufour[4] and Meltzer and Auer[5] in the first decade of this century. These workers kept the lungs distended by gases under pressure; in diffusion respiration no pressure is applied, and apnoea is a result of respiratory paralysis. Meltzer and Auer shortly afterwards admitted their technique to be unsatisfactory, which was generally agreed by their contemporaries. Moreover, they do not appear to have maintained distension of the lungs but interrupted the pressure intermittently, so turning their method into one of artificial respiration. Diffusion respiration is more like the phenomenon described a little earlier by Volhard[7] and Hirsch,[6] who experimented to discover if ventilation of the trachea would be sufficient to allow adequate respiration to take place. Oxygen at a low pressure was administered through one-half of a double endotracheal cannula, and the animal's respiration stopped with curare; they found that if respiratory movement was restored within an hour the animal recovered, but after longer periods it died. If the oxygen was replaced by air death occurred rapidly.

The oxygen content of the blood was maintained during Volhard's experiments, but the content of carbon dioxide was trebled and death occurred from carbon dioxide poisoning. This observation has achieved a new importance since curare has been used in the operating theatre as freely as in Volhard's laboratory, and the anaesthetist's technique of artificial or assisted respiration has as its object the efficient removal of carbon dioxide as much as the supply of oxygen. Diffusion respiration is a physiological freak which appears to have no clinical application; whether it occurs at all is questioned by Conroe and Dripps,[8] who suggest that the alveoli are not stationary but oscillated by cardiac movement.

1 *Nature, Lond.*, 1951, **168**, 830.
2 *Cur. Res. Anesth.* 1949, **28**, 307.
3 *Phil. Trans. Roy. Soc.*, 1667, **2**, 539.
4 *Pr. méd.*, 1907, **15**, 475.
5 *J. exp. Med.*, 1909, **11**, 622.
6 *Über die künstliche Atmung durch Ventilation der Trachea*, 1905, Giessen.
7 *Münch. med. Wschr.*, 1908, **55**, 209.
8 *Annu. Rev. Physiol.*, 1945, **7**, 653.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

ANAESTHESIA FOR MINOR PROCEDURES

BY

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For most minor operations the anaesthetic is also of a minor character. As such it should be characterized by a high degree of safety, simple equipment and method of administration, pleasant sensation and memories to the patient, speedy recovery, and, not least, effectiveness for the surgeon. The occasional anaesthetist, however, must not be misled into thinking that, because the proposed surgical procedure is a minor one, the anaesthetic for it will for a certainty present no difficulty or that little skill will be required. Many examples of the reverse come to mind. The patient with submaxillary cellulitis may need but a small incision, but, as is well known, he may well die before the surgeon even starts his little operation. The child who is to have a small cut sutured may regurgitate a piece of the apple he was eating when he fell down and cut himself, and die of acute respiratory obstruction therefrom. The much tattooed, burly seaman who is to have an easy dental extraction may be in the chair for only a few minutes, yet his short stay may not only leave its mark both on the dentist's furniture and on the anaesthetist's reputation, but the momentary anaesthesia required may have been obtained only at the cost of extreme and dangerous anoxia. These examples are given here, not to frighten the general practitioner, but to put him on his mettle and to forewarn him never to relax his awareness of possible, though happily rare, difficulties and dangers.

Children

Examples of common minor operations in children for which the practitioner is likely to be asked to give an anaesthetic are circumcision, tonsillectomy, the setting of a greenstick or other fracture, and the opening of an abscess. Before any such anaesthetic a hypodermic injection of atropine should always be given. Up to the age of 2 years a suitable dose is 1/200 gr. (0.32 mg.); from 2 to 5 years, 1/150 gr. (0.44 mg.); and from then onwards 1/100 gr. (0.65 mg.)—all these being given about half to one hour before the operation. In the case of children over 2 or 3 years old, ½ to 1 gr. (32 to 65 mg.) of pentobarbitone sodium by mouth two hours beforehand will make the child placid or even sleepy and fear and crying will be largely obviated.

For the anaesthetic itself many drugs and techniques are available, but for young children and infants the best method of all for the practitioner, as indeed it is for the specialist, is an induction with either ethyl chloride or vinyl ether, followed by ether dropped on to a gauze mask. The ethyl chloride should be administered cautiously, squirt by squirt, but only until the child ceases to struggle, for its purpose is not so much to produce full anaesthesia as to subdue the child and to depress its reflexes enough for it to breathe without restraint the more irritant ether vapour. The addition of ether to the mask is then started. Should insufficient ethyl chloride have been given and the child respond to the ether by breath-holding, coughing, or swallowing, a little more ethyl chloride can be given. By this means overdosage with ethyl chloride is avoided. It is rarely necessary to use gamgee between the mask and the face; certainly this should not be done in the hope of avoiding an "anaesthetic eye," for this condition, though it may possibly be caused by the anaesthetic coming in contact with the cornea, is more commonly the result of rubbing the cornea with gauze or a towel. Oil should not be put into the eye before or during an anaesthetic, because any ether in the vicinity will surely dissolve in the oil.

For children over the age of about 7 or 8 years nitrous oxide, oxygen, and a little ether may be administered from a Boyle apparatus in the manner described for adults, although even for these older children open drop-ether anaesthesia is most effective and very suitable.

After an operation lasting a few minutes recovery from ether anaesthesia of this sort is very rapid and, apart from perhaps an occasional single vomit, the child is none the worse. It may be put to sleep in its mother's arms or even sitting up on a chair or on the operating table if the anaesthetist thinks it will be kinder. As soon as the child is under, it should be placed on an operating table so that its airway may be properly controlled and the anaesthetic administered. An artificial airway is generally unnecessary in infants and children and should on the whole be avoided as more likely to be traumatic than helpful. Respiratory obstruction is more often due to the anaesthetist's fingers holding up the infant's lower jaw than to leaving it alone.

When the operation is over the child should be placed on its side and carefully watched until consciousness returns, so that respiratory obstruction or vomiting can be dealt with. A good guide in this respect is not to let the child go back to the mother until it has recovered enough to cry.

Adults

Common examples of minor procedures are incision of septic finger or abscess, the setting of a minor fracture, biopsy, and removal of an ingrowing toe-nail. As the patient is likely to be ambulant and will want to return to that state as soon as possible after the operation, premedication of any sort is best avoided. In very nervous patients this view may be relaxed somewhat, but even two or three aspirin or codeine compound tablets half an hour before the operation, or a ½-gr. (32-mg.) capsule of pentobarbitone sodium one hour before, will have the right effect without interfering very much with the patient's rapid recovery after the operation, apart from the need to refrain from driving home in a car.

The most suitable anaesthetic for these little operations is nitrous oxide and oxygen, with, if necessary, a trace of trichlorethylene added to the gases before the operation starts. The induction of anaesthesia should not be hurried; it is a common but erroneous belief that nitrous oxide anaesthesia is a quick method. The more slowly induction is carried out the smoother will the subsequent anaesthesia be. Induction is started with pure nitrous oxide and after a few breaths oxygen is added in gradually increasing amounts till, finally, a mixture of about 1.5 litres a minute of oxygen and about 7 litres a minute of nitrous oxide is being given. An average time for induction is 7 to 10 minutes. The trichlorethylene, when it is to be used, should be added cautiously to the gas mixture soon after the start, and as soon as the patient is breathing regularly it should be turned off. Poor anaesthesia is more often due to insufficient oxygen than to too much. The patient's colour should in general be a bright crimson and in any case never worse

than a slightly dull pink. Any obvious cyanosis indicates that more oxygen should be added to the mixture. It is better to use a little trichlorethylene than to cut down the oxygen.

Elderly People

With old people, and indeed with ill and feeble patients in general, particular care should be taken that at no time is the oxygen supply inadequate. The patient's ears should remain crimson the whole time. In these patients more than in any other is it preferable to add a little trichlorethylene to the gas and oxygen than to run the real risks of insufficient oxygenation.

Dental Extractions

These patients form a group in themselves. In young children ethyl chloride or vinyl ether on an open mask is suitable, while for older children nasal nitrous oxide and oxygen may be used, the anaesthetist erring on the side of too much oxygen rather than the reverse. In adults, nasal nitrous oxide and oxygen from an apparatus such as the Walton or McKesson is the routine everywhere. These machines allow slight positive pressure to be used and permit the oxygen percentage to be varied easily without upsetting the pressure. The technique of continuous nasal nitrous oxide is soon learned. The secrets for success are a proper position of the patient in the chair, in which the head is in a natural relation to the body, being neither extended nor flexed; an unhurried induction; satisfactory insertion of a gauze mouth-pack so that debris is held without the respiration being obstructed; the use of slight positive pressure; and adequate support by the anaesthetist of the patient's head and jaw during the extraction.

Thiopentone

This substance is extremely valuable for putting a patient to sleep in a pleasant manner. Its use as the sole anaesthetic, however, should be attended with the greatest of caution. Many fatalities and near fatalities have occurred because the anaesthetist has failed to realize that this drug, while having marked hypnotic properties, is a poor analgesic, and that it will not prevent reflex movement to pain until enough of the drug has been administered to practically stop breathing.

In practice a 5% solution is made up and injected through a fine needle very slowly, allowing plenty of time for the drug to circulate, until the patient is unconscious. For the average fit adult this dose will be about 0.25 g. (5 ml. of 5% solution). Great care is taken that the injection is into a vein and not into the tissues or into an artery. In the former instance the swelling outside the vein is usually obvious, while the patient complains of pain at the site of injection. In the latter the most constant symptom is severe pain of a burning character in the hand. The dire results of intra-arterial injection make it imperative to avoid any veins which lie contiguous to an artery or in a position where an aberrant artery is likely to be found.

Once the patient is asleep the injection should be stopped and the anaesthetic continued with nitrous oxide and oxygen, with or without trichlorethylene. If it is the wish of the anaesthetist to use thiopentone as the sole anaesthetic, the patient's reaction to pain should be tested as soon as he is unconscious. For example, the surgeon might prick the skin with his knife. If necessary another small amount should be given and the patient tested again. This manœuvre is repeated until no movement takes place. The habit of arbitrarily deciding on what the single dose is to be, and then injecting, is to be condemned, because in this way overdosage easily occurs. The reaction of patients to thiopentone varies widely and it is nearly impossible to judge this merely by looking at them beforehand. It is almost certain that respiration will be very depressed or even absent at the moment that the patient no longer reacts to the operation. When he is robust and the dose of thiopentone correct, respiratory activity quickly recovers spontaneously. If breathing does not start or regain its vigour within a minute or so the anaesthetist should not hesitate to resort to artificial respiration, by squeezing the chest, or better still by a squeeze of the reservoir bag, or by blowing with the lips down a facemask held on to the patient's face so that his lungs are inflated. Recovery after thiopentone is markedly slower than after nitrous oxide and a period of drunkenness may persist for some hours.

Though no more apparatus than a syringe and needle is required, the less obvious but more important ingredients for safety with thiopentone are caution and long experience. The practitioner will have less anxiety and have better success with his minor anaesthetics if his first inclination is towards inhalation anaesthesia rather than intravenous for any but the most minor of minor procedures.

Difficulties

Respiratory Obstruction—The practitioner should beware of anaesthetizing patients with marked respiratory obstruction. These patients may die very quickly as soon as they are made unconscious and unable to use the accessory muscles of respiration on which perhaps their life was depending. These cases, though the surgery may be small in extent, call for the greatest skill and experience on the part of the anaesthetist. Little more will be said about them here, except that the essence of safety is to relieve the respiratory obstruction before the patient is made unconscious.

Vomiting.—If the patient is known to have had food within three hours of the anaesthetic it is better to postpone the operation rather than to risk the very grave dangers of regurgitation and inhalation of vomit. Many patients die each year from this cause, although they were having a simple anaesthetic for a minor operation. In cases of emergency it is justifiable to empty the stomach by passing a large stomach tube just before the anaesthetic is begun. The gravity and danger of inhaling vomit cannot be overemphasized, as also the fact that this may occur with the most trivial procedures. In these instances the tragedy is all the greater.

Resistance to Anaesthesia.—The practitioner may find that patients who are excitable, in great pain, addicted to alcohol, or generally robust may be difficult to subdue enough to remain immobile during the operation. When this occurs he should not hesitate to add trichlorethylene to the nitrous oxide and oxygen and allow plenty of time for this drug to take effect. If this difficulty is anticipated, because of reports of previous anaesthetics from colleagues or the patient himself, premedication such as that mentioned above should be ordered; when this is impracticable an intravenous injection of 10 to 15 mg. of pethidine may be given just before the anaesthetic is started.

Fire and Explosion

The practitioner should bear in mind that both ether and ethyl chloride are highly inflammable substances. They should never be administered in the presence of an open flame of any sort or of any other obvious source of ignition. Smoking in particular should never be allowed in the vicinity of an anaesthetic. The addition of oxygen to either of these substances makes them highly explosive, and if such a mixture is ignited a violent detonation may occur, with grave injury to the patient and perhaps structural damage to the room. Whenever a diathermy is to be used or the anaesthetic is to be administered in the presence of an open flame, nitrous oxide alone or with some trichlorethylene, or thiopentone, should be the anaesthetic selected. Chloroform cannot easily be justified except in unusual circumstances for a minor operation, in view of the availability of the alternatives mentioned and of the known dangers of cardiac arrest, of overdosage, and of late poisoning, the incidence and occurrence of all of which are now established beyond reasonable doubt.

Post-operative Care

The patient should be allowed to recover from his short anaesthetic in his own time and no attempt made to waken him by slapping his face or other manœuvre. Even after consciousness has returned, enough time should be allowed for him to feel really recovered before he gets to his feet. On no account should a patient be allowed to drive a car after an anaesthetic, or even to go out into the street unless accompanied by another adult. Although apparently normal, a period of post-operative mild drunkenness and disordered judgment may persist for some hours, particularly if more than the smallest amounts of trichlorethylene or thiopentone have been used.

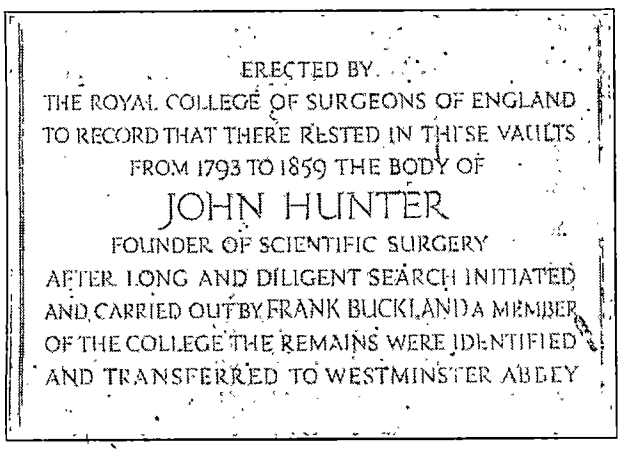
"THE FOUNDER OF SCIENTIFIC SURGERY"

HUNTER MEMORIAL AT ST. MARTIN'S

The President and members of Council of the Royal College of Surgeons, with members of the Hunterian Society and others, attended at St. Martin-in-the-Fields on February 14 when a tablet in the crypt was unveiled and dedicated recording the fact that the body of John Hunter had rested in the vaults of that church from 1793 to 1859, when it was removed to Westminster Abbey. After the General Thanksgiving and prayers the President of the College (Sir Cecil Wakeley) read a lesson from the Wisdom of Solomon:

"For God himself gave me an unerring knowledge of the things that are, to know the constitution of the world, and the operation of the elements . . . the natures of living creatures and the ragings of wild beasts, the violences of spirits and the thoughts of men, the diversities of plants and the virtues of roots: all things that are either secret or manifest I learned, for she that is the artificer of all things taught me, even wisdom."

The clergy and a part of the congregation then proceeded to the crypt, where Sir Henry Dale unveiled the tablet, which was dedicated by the Dean of Westminster. When they



had returned to the church a commemorative address was given by Sir Gordon Gordon-Taylor, who narrated briefly the circumstances attending the discovery and identification of John Hunter's remains.

Identification of Hunter's Coffin

At a Hunterian dinner in 1847 Dean Buckland of Westminster, father of Frank Buckland, expressed regret that the medical profession had erected no monument to Hunter, and mentioned that he had himself suggested the propriety of such a monument in Westminster Abbey. Eleven years later Frank Buckland, then an assistant surgeon in the Second Life Guards, read an Order in Council requiring the vaults of St. Martin's to be cleared of their coffins, and, having confirmed the fact of Hunter's burial there, he set himself the macabre task of finding Hunter's coffin among more than 3,000 in the charnel house. It was the last but one exposed to view, and a few weeks later, in a gathering of more than 600 persons, the remains were reinterred in the Abbey between the graves of Ben Jonson and Charles Lyell. Words written by J. F. South, then Junior Vice-President of the Royal College, and contained in the ornamental brass which covered Hunter's remains in the Abbey, doubtless mirrored the views of surgeons nearly 70 years after his death:

"A gifted interpreter of the divine power and wisdom at work in the laws of organic life . . . the founder of scientific surgery."

To this day they saluted one "who was great through mortal days and died of fame unshorn."

After this homage to the great shade of Hunter, Sir Gordon Gordon-Taylor proceeded to speak of Frank Buckland, whom the tablet also commemorated, describing him as a somewhat erratic surgeon-anatomist, a great investigator in natural history, with a bias for turning to practical use the facts he ascertained, and, like Hunter, a great collector. He formed a fish collection which he left to the Science Museum, South Kensington, and his work was continued by the Buckland Research Foundation in gathering together and summarizing knowledge, especially recently acquired knowledge relating to important food fish.

A third name, he added, inevitably stole into the thoughts of some of them, for it was owing to the zeal and enthusiasm of the late George Grey Turner that the project to place the plaque in the church had come to fruition. With many a difference between them, Hunter, Buckland, and Grey Turner were all great collectors and fervent believers in the value of the museum; all three were incessantly industrious, and all died immersed in the work they loved. Their name and life and work would endure long after any memorial in stone had perished. In the great words which Thucydides put in the lips of Pericles in his famous funeral oration over the Athenian dead: "The whole earth is the tomb of great men. Neither is their name graven only on stone which covers their clay, but abideth everywhere without visible symbol, wrought in the stuff of other men's lives."

Nova et Vetera

AN ANCIENT MEDICAL COMPENDIUM

Caelius Aurelianus: On Acute Diseases and on Chronic Diseases. Edited and translated by I. E. Drabkin. (Pp. 1,019. £5 12s. 6d.) Chicago: University of Chicago Press. London: Cambridge University Press. 1951.

One of the most versatile of the ancient Greek physicians was Soranus of Ephesus, who flourished about 100 A.D. He wrote on almost every aspect of medical theory and practice, as well as on philosophical and other subjects. Most of his works have disappeared. His gynaecology, however, survives in some very peculiar, very early, and very famous illustrated manuscripts, the influence of which persisted for fifteen hundred years and may still be traced. Of his other writings by far the largest and most complete, though lost in the original Greek, has come down to us in a Latin version prepared in the fifth century by one Caelius Aurelianus of Numidia, the modern Morocco. This work is an immense treatise in two parts, one on acute and the other on chronic diseases. The manuscripts of this Latin translation have also been lost, so that the modern editor must rely on editions of the sixteenth century, making such emendations as his skill in scientific literary criticism will permit. Such an edition has hardly been attempted since 1709, so that Professor Drabkin has, in effect, been working in a new field, hitherto almost untouched by modern scholarship. An edition of Caelius Aurelianus has long been regarded as a special need of Latin scholarship, for it has points of linguistic as well as of medical interest.

In the later pre-Christian and the earlier Christian centuries medical thought developed into various sects or "schools" founded on different philosophic principles. The most prominent, and for long the most influential, of these was the so-called "Methodist," to which Soranus and his

translator adhered. The origin and development of this school is briefly treated by Dr. Drabkin. We could wish that he had given far more space to a general discussion of these schools. The dominant philosophical element of the Methodist school was scepticism, but this attitude was sufficiently moderate to permit the formulation of certain principles, based on observation of individual cases. The doctrine of the Methodists was basically atomic. They held that the atoms moved about freely in "pores" in the bodily fabric. Disease was supposed by them to consist in changes in the pores, which were either abnormally stringent and narrow or, on the other hand, excessively relaxed. The Methodists repudiated the doctrine of the "Dogmatic" school that perversion or misplacement of the humours was the cause of disease—a doctrine which survived almost intact into the nineteenth century, had some place even in quite modern medicine, and has left its impress on current medical nomenclature. The work before us is the main source of our knowledge of the opposing Methodist school. Hence its historical importance.

The enormous text of Caelius Aurelianus, together with the excellent English translation that confronts it, occupies no fewer than a thousand pages of Dr. Drabkin's impressive volume. It would be impossible here even to sketch the contents. As knowledge is at present distributed, it must be regarded as an undertaking made for the sake of the small band of medico-historical specialists, but for them it is indispensable. It must suffice here to say that the presentation and scholarship displayed are all that could be desired. The work will become a *locus classicus* for all interested in ancient medicine, who will find it specially useful in tracing the origin and descent of medical terms. Professor Drabkin is to be both congratulated and thanked for his disinterested labours in adding an important reference book to the scholar's library. Only great foundations for learning, such as the Carnegie, the Guggenheim, or the Bollingen Foundation, who have supported this work, could have met the expense necessary for its beautiful production. Those responsible for these funds will have the satisfaction of having subsidized a permanent addition to learning, for which the writer of this review is himself personally grateful.

CHARLES SINGER.

Reports of Societies

DRUG RESISTANCE

A meeting of the Pathology Section of the Royal Society of Medicine was held at 1, Wimpole Street on February 5, when "The Drug Resistance of Micro-organisms" was the subject for discussion.

Professor L. P. GARROD opened the discussion with a survey of the subject. Resistance to drugs, first observed in trypanosomes, and now a most important problem in connexion with bacteria, was not confined to micro-organisms; it could be observed in populations of insects to agents such as dichlor-diphenyl-trichlorethane (D.D.T.) or even in human beings to narcotics. Such resistance was most commonly developed to drugs having a highly selective and subtle type of action, but some degree of resistance could be developed against even general protoplasmic poisons such as phenol. Penicillin resistance was seldom a problem except with staphylococci. Sulphonamide resistance was very often observed. Streptomycin resistance was very frequent and rapid in its development; it could reach a point where organisms were dependent on the drug for their continued growth. Cross-resistance occurred occasionally, particularly to the antibiotics most recently extracted from streptomyces; strains of bacteria that had developed resistance to "aureomycin" were usually also resistant to "terramycin" and vice versa, and they were sometimes slightly resistant to chloramphenicol. Gram-negative bacilli were the worst offenders: the pyogenic cocci had much less capacity to become resistant to the newer antibiotics. There was some evidence that when penicillinase-forming species acquired resistance to aureomycin they became more sensitive to penicillin, and in other cases "neomycin" treatment could in some way decrease resistance to aureomycin and terramycin.

Mechanism of Resistance

It was interesting to speculate on the possible mechanisms by which resistance could be acquired. There was evidence that organisms having innate drug resistance could become prevalent by strain selection: variations in sulphonamide sensitivity existed among strains of gonococci isolated before 1937 that could never have come into contact with the drug. In most instances the change occurred in a bacterial population which had previously been wholly sensitive. Whether such change in resistance was the result of cell adaptation or of mutation was a subject on which there had been much argument, and the issue had not been made clearer by the introduction of genetical dogma which was probably irrelevant when one was considering cells dividing by binary fission, since the daughter cells might be expected to have all the parental characteristics, whether hereditary or acquired.

Dr. E. F. GALE continued the discussion from the experimental point of view. The usual technique by which resistant organisms were produced and studied was by growing them in serial dilutions of the drug and selecting for further culture organisms that just survived the highest concentration. Usually resistance appeared in a series of jumps or steps, but occasionally complete resistance appeared in one step. Two such instances had been investigated: in the first, organisms had acquired complete resistance to penicillin in one step by developing an enzyme, penicillinase, which destroyed the drug before it ever came into contact with the organism; in the second, W. W. Umbreit had demonstrated a mechanism in bacteria whereby addition of oxaloacetic acid increased the ability of the organism to oxidize pyruvic acid; he ascribed this to a condensation reaction between the two, forming a cycle resembling the Krebs citric-acid cycle. Streptomycin prevented this condensation, but full resistance to streptomycin could be produced in one step presumably by by-passing this mechanism, which although essential to the normal strain was absent when it became resistant to streptomycin. Staphylococci usually became resistant to sulphonamides in four or five jumps; the largest jump was always associated with an increase in the production of *para*-aminobenzoic acid; another jump was associated with loss of ability to synthesize methionine. Similar jumps occurred in penicillin resistance, and in one of these groups the normal passage of amino-acids into the cell ceased. He himself had previously shown that one of the actions of penicillin on normal bacteria was to inhibit the uptake of amino-acids, and it was reasonable to infer that in acquiring resistance the organism became able to synthesize these substances for itself.

In reply to Professor Garrod, who asked how long the interruption of a metabolic process would take to kill a bacterial cell, Dr. Gale replied that studies with isotopes showed that ammonia nitrogen could become incorporated in the cell in as little as three minutes; if a process such as this were interrupted cell death would probably occur in a matter of minutes.

Effect of Bacterial Environment on Development of Resistance

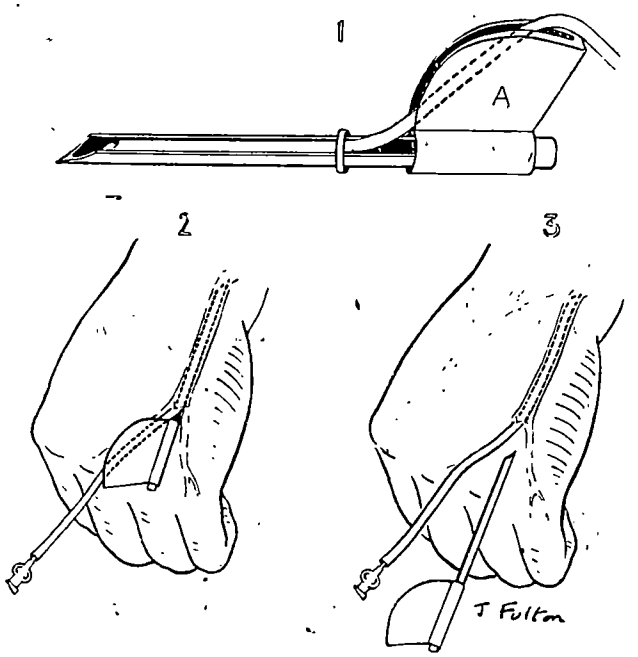
Professor R. KNOX emphasized that in considering the resistance of micro-organisms to drugs or antibiotics it was necessary to distinguish clearly between enzyme adaptation and natural selection. He suggested that often a resistant mutant in a bacterial population might be selected out only if growth conditions were such that it could adaptively produce an essential enzyme. As an example, he quoted some work he and Dr. P. Collard were doing with a penicillinase-producing strain of *B. cereus*. In the absence of penicillin, the organism grew well in broth at 37° and 42° C. When grown at 37° C. in the presence of penicillin,

the organism appeared to be highly resistant. This resistance depended on its power to produce penicillinase. At 42° C. the organism was 10–100 times more sensitive, presumably because it could not adaptively produce penicillinase at that temperature. This example also showed the need for standardizing the conditions of growth in assessing the sensitivity of micro-organisms.

Preparations and Appliances

AN INTRODUCER FOR PLASTIC CANNULAE

Dr. J. V. MITCHELL, of the Nuffield Department of Anaesthetics, Oxford, writes: The advantage of using fine plastic tubing as an intravenous cannula is often lost through the difficulty experienced in its insertion. The introducer described here, however, allows tubing to be inserted as easily and as aseptically as an intravenous needle of a size similar to the selected tubing. It is prepared from the smallest aspirating needle which will admit the tubing into its lumen. For two-thirds of its length part of the wall is removed by grinding, leaving a U-shaped section bearing the point (Fig. 1). The needle mount is removed, being replaced by a holder (Fig. 1, A), which helps to control the shaft during introduction.



The holder is slotted to prevent contamination of the tubing by the fingers. The end of the tubing is bevelled in the same plane as the point of the needle, near which it lies in the groove. A minute rubber ring holds the tubing in place during steril zation. An intravenous drip can be attached to the other end of the tubing, or a Gordh diaphragm on a needle, if intermittent injections are intended.

The bore of the tubing is increased to such a slight degree by the introducer that a vein on the dorsum of the hand is generally found convenient for the smallest size of tubing. The wrist is constricted and the vein further dilated by a flick of the finger. The skin is sterilized, and the shaft with the tubing in place is inserted into the vein (Fig. 2); the constriction is released and the tubing advanced into the vein. The introducer is then withdrawn (Fig. 3). A small dressing with strapping is applied to fix the tube in place. The largest polythene tubing has been inserted with equal ease into a suitable vein in the forearm.

My thanks are due to Mr. Richard Salt, of the Nuffield Department of Anaesthetics, who made the introducer for me.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

What Doctors Prescribe

SIR,—I have read with great interest the article by Professor D. M. Dunlop and colleagues on a survey of some prescriptions issued on Form E.C.10 during 1949 (February 9, p. 292) and also recent correspondence on prescribing habits and on changes in doctor–patient relationship. The following summary of a pilot investigation made last year seems to me to indicate the sort of information which is required in order to answer some of the questions which are being asked. I suggest that an extension of such studies is required and might well be organized on a wide scale.

The practice selected was a mixed industrial and country one in South Wales, worked by one man, the period five weeks in summer. A note was made after surgery of every relevant detail, copied from the N.H.S. record cards and supplemented while memory was fresh. Analysis of such records (my part of the task) can give only a glimpse of one part of one man's practice, but several interesting points emerge. From a list of approximately 2,800 patients no fewer than 640 (23%) consulted him during this "quiet" tenth of the year, making 976 visits to the surgery (average number of visits 1.72, duration six minutes) and being seen in their homes 129 times (average number of visits 1.8). Of these 976 consultations no fewer than 119 (12%) were made by proxy, and 34 in all (3.5%) were, after cool consideration, noted as unsatisfactory in that the patient had a contempt for the doctor rather than a desire for his help. The age and sex distribution of the patients was a close reflection of the local population distributions. Of the 640 patients 423 (66%) were considered to have something the matter with them physically and 68 (13.5%) mentally. Only 41 (6.4%) were sent to bed, 44 (6.9%) to out-patient departments, and 81 (12.6%) given treatment in the surgery. A partial or complete examination was made on 365 patients (64% of those visiting the surgery) and on all bed patients.

The pattern, therefore, is of steady, careful, time-consuming work additionally burdened by record-keeping, telephone, etc., and relieved by the daily round of visits. In winter the burden must be severe.

As to the prescriptions, 570 of these were issued (89% of patients), of which 489 (86%) were from the *N.F.*, 77 (13.4%) were proprietaries, and only four (0.7%) were "classical" scripts written by the doctor. This figure casts doubt, not on the capability of the physician to write a prescription, but on the need to devote much time to teaching the medical student how to write prescriptions. The number of proprietaries ordered would have been much less if the 1952 addendum to the *B.P.* 1948 had been official at that time (antihistamines). No fewer than 441 (78%) were for "bottles"—stomachics, cough mixtures, tonics, and liniments. Analysis of the scripts on the same lines as those in the article quoted gives the following results: tablets 33%, mixtures 30%, skin 10.6%, dressings 8.9%, liniments 5%, powders 3.9%, guttae and E.N.T. prescriptions 3.8%, and injections 2%. The greater proportion of powders recorded here than in the wider survey indicates the preference of the individual for pulv. trisilicas co. whenever possible, in face of some consumer resistance. The number of liniments (mostly terebinthinae) is indicative of local climate, housing, and employment (fibrositis and bruises). Of all *drugs* prescribed the frequency distribution of the main items was as follows: cough (mainly linctus codeinae) 18.8%, stomachic 13.2%, hypnotic (almost all barbiturate, a few chloral and bromide) 13%, antipyretic analgesics 6.6%, antihistaminics (half topical) 6.2%, tonics (nux vomica) 4.4%. spasmolytic, etc. (ephedrine) 3.4%, sulphonamide (half gutt. sulphacetamid. mit.) 3%, penicillin (half topical) 2.4%, cardiac 2.4% (no tincture of digitalis), analgesics 2.2%, iron, laxatives, and hormones (stilboestrol) 2% each, urinary 1.6%, amphetamine (slimming) and vitamins (C and D) 1.4% each.

Several points are worthy of comment. The high percentage of cough mixtures and of spasmolytics (ephedrine and isoprenaline for asthma) is indicative of mining practice. Isoprenaline inhalation is much preferred to adrenaline by injection and is often as effective. Tonics were still needed

in summer and were often demanded. Antihistaminics are being prescribed with great frequency for skin diseases. This phase will pass. Pethidine was preferred to morphine for many cases: amidone was not so successful. The relative infrequency of prescribing penicillin was partly due to lack of clear indications for the need of parenteral treatment in patients not sent to hospital and partly due to the technical trouble of such administrations. The infrequency of prescribing iron was due to the lack of clear indications for its use in the absence of a haemoglobinometer. How many practitioners use their haemoglobinometer regularly?—I am, etc.,

Department of Pharmacology,
Welsh National School of Medicine,
Cardiff.

J. D. P. GRAHAM.

SIR,—An F.R.C.P. from a department of therapeutics writing about general practice is rather like a naval gunnery expert from Hayling Island giving directions about the trawling of herrings: he knows a vast amount about nautical affairs, but perhaps has no actual experience of the matter in hand. And, although he is able to make many shrewd observations, his article must be salted with salt—a grain of salt will hardly suffice.

When I prescribe a proprietary drug it is usually because I cannot remember its pharmacopoeial equivalent—for example, "dexedrine" and "fersolate." Some proprietary drugs I consider better than their equivalent—for example, "salyrgan" than mersalyl. In my surgery I usually look up the equivalent, but cannot do so when visiting.

In practice, mixtures do give more satisfaction than tablets. Only to-day I visited a lady who had scalded her face and has now got a pain in her back; she told me aspirin does not agree with her but that I had given her some medicine three years ago which acted like a charm. I could not remember it, but on looking up my notes I see that the "magic" draught was mist. acid. acetylsalicyl. Would the department of therapeutics advise me to disclose my petty deception?

The same thing applies to powders; I find that a dose of alkali totally inadequate to neutralize the acid in the stomach, as Professor Maclean taught me, does in fact relieve symptoms (especially if belladonna and bromide be added) better than an adequate dose of powder. Am I to believe the patient or Maclean?

The reason for 12% of prescriptions being skin preparations is that something like 7% of one's patients come on account of skin complaints. I am often astonished at the amount of ointment people manage to consume on quite small areas.

I frankly admit that tonics are placebos. I always drink the samples sent me through the post and have never yet noticed any effect at all; if I am despondent, I am despondent still; if disagreeable, I am disagreeable still. One day I was shocked to see my small daughter drinking her medicine out of the bottle; it seemed lese-majesty. "Oh, but you always do, Daddy," she said—a fact that I had never noticed, expressing, I suppose, my subconscious opinions.

I agree that most of my cough medicines display "therapeutic confusion." Mist. morph. et ipecac. is my favourite (and my patients'). I can only plead that I didn't invent it, and had nothing to do with compiling the *National Formulary*. The British people spend £778m. per year on tobacco to give themselves coughs and peptic ulcers, but to tell patients that is like whistling to the wind. They don't come for advice; they come for medicine. "May one be pardoned and retain the offence?" That is their demand, and advice which even suggests using the will is always resented. All the same, being directly descended from Don Quixote, I never can refrain from giving it—plus medicine as well, of course, or I shouldn't have a practice at all.

When consultants write about colds in the head and the inadequacy of anticatarrhal vaccines I always wonder what experience they have and how they get it. The common cold has few objective signs except a pocket handkerchief completely soaked by 10 a.m. Most people, and it would seem all consultants, are relatively immune, and it would not be worth while giving monthly injections to people who only have a couple of colds lasting three or four days each winter. But when you get a person who has a continuous series from September to April lasting two or three weeks each, with only a few days clear in between, you are called upon to make some effort at prevention. I was such a person, and in the wet autumn of 1917, when under canvas in France (ideal conditions for health, as we were being fattened up for Passchendaele), I had had about four colds by December. The same sort of thing happened in my student days and when I was first qualified, till I began inoculating myself with a well-known anti-catarrhal vaccine in 1921, which immediately cut my colds down to two per winter—real soakers still, lasting three weeks. I continued with monthly injections from September to April year after year, till in 1949 I thought I might have acquired immunity, not having had a bad cold for about 10 years: that winter I escaped, but in 1950–1 I began my three-week soakers again. So now I am back on the vaccine, so far with complete success.

My policy with patients is to recommend vaccine to those who catch "one cold on the top of another," but not to people who have less than four per winter. In adults one may hope to cut down the number of colds in perhaps 50% of cases so selected—and in a much higher proportion in children, but injections are not popular with them.

When punching cards it might be well to remember that family doctors do see an undue proportion of feeble and timid folk: people who would consider as heartless or cruel any suggestion that courage, patience, or fortitude should be used as secondary armaments for combating disease. And I think that does account for, if it does not justify, the alarming number of hypnotics, sedatives, stomachics, and tonics prescribed.

The department of therapeutics must not forget that by cutting off G.P.s from the fellowship of the hospitals at an early age they do reduce the quality of their diagnosis. Hospitals have two functions: treating the sick and training students and keeping graduates up to date. The last of these is not seriously tackled at all. G.P.s don't need to be lectured at: they need to be an integral part of the hospital in the place where they live, with the day-to-day contacts that would give rise to.—I am, etc.,

Norwich.

FREWEN MOOR.

SIR,—I have read the Edinburgh prescription survey with considerable interest, and I feel that Professor D. M. Dunlop's searching paper into the prescription habits of medical men (February 9, p. 292) will appeal not only to teachers in medical schools but will prove of considerable value to all students of therapeutics and pharmacy and to any person interested in the historical development of modern medicine. Similar studies were conducted at frequent intervals by the American colleges of pharmacy, and it is hoped to inaugurate prescription studies on a similar basis in this country.

The practical value of individually conducted surveys would be greatly increased and misunderstandings avoided if all investigators were to establish a certain measure of uniformity in their methods of classification. Professor Dunlop and his associates state that the proportion of proprietaries in their sample was about 21%. Considering that the estimate published by the Ministry of Health for prescriptions dispensed during 1949 states that figure to be 16%, this difference is of statistical significance. Either the sample used by the Edinburgh survey is not representative of medical prescribing habits, or the term proprietary is defined differently in both studies. A comparison of Professor Dunlop's figures with those of the Ministry seems to suggest that the Edinburgh survey classifies the various brands of insulin and penicillin preparations as proprietaries, while these products were excluded from the definition of proprietary preparations in the official estimate.

I was told only a few days ago by a person with a strong political bias that the medical profession was trying to undermine the Health Service by recklessly prescribing proprietaries. In support of this argument official statistics were quoted: the proportion of proprietaries prescribed had increased from 16 to nearly 40% during the last two years. Intentionally or unintentionally my informant failed to stress that the latter figure relates to the total cost and not to the total number of N.H.S. prescriptions. I always feel that if people are discussing highly controversial matters they may just as well know what they are talking about.—I am, etc.,

Pinner. H. W. TOMSKI.

SIR,—Professor D. M. Dunlop and his associates (February 9, p. 292) complain that iron is prescribed less frequently than vitamins. Surely there is good authority for prescribing vitamin C whenever iron is given, so that one would expect the total prescribing of the vitamins generally to be greater than iron, and not less as they suggest.

Also many people who have tried a simple iron preparasuch as Blaud's pill and an iron pill combined with folic acid notice that the latter group seem to respond more rapidly. As for "enormous quantities of wool and lint," surely hospitals sending patients with, say, a colostomy home before they have been fitted with a colostomy belt bear some responsibility. And the G.P. might reply to the, what seems to me, irrelevant plaint, that candidates for "*a higher examination*" did not know how to combine cascara and belladonna in a pill, by pointing out that the public seems to buy more of the pills which contain phenolphthalein, which does not need an antispasmodic of the belladonna group to be added, and cascara is "old fashioned."

Finally, the vasodilators, which are rarely used in September, are more popular in winter.—I am, etc.,

Manchester. S. SHUBSACHS.

Coal and Cortisone

SIR,—Dr. Ffrangcon Roberts starts his article (February 9, p. 321) with a preamble concerned to justify cuts in the Health Service. His arguments in this preamble are completely invalid, and I hope the medical profession will decisively reject the ridiculous conclusion that we cannot afford good health.

The figures quoted by Dr. Roberts show that with an ageing population the number of dependants per worker is increasing at a rate of a little over ½% per annum. On these grounds alone we are told it will be necessary to put proportionately more and more workers into industry to produce the necessities of life, and consequently proportionately less and less workers into medicine (and presumably all other social and cultural activity not directly concerned with industrial production).

If Dr. Roberts had cared to quote the Government Index he could equally well have shown that in recent years the productivity of each worker increased by about 7% per annum. There is no reason to doubt that technical improvement could continue such increases indefinitely. Hence if those who control our economic destiny were so minded they could gear our resources to ever-improving social services without worrying over-much about the ageing population.

Dr. Roberts has, I hope unwittingly, attempted to present as economically inevitable what is in fact a deliberate choice: "Guns before Butter."—I am, etc.,

Brighton. R. S. SAXTON.

A Forgotten Tourniquet

SIR,—With reference to the letters of Drs. C. F. Hadfield and John Ives (February 9, p. 328), please allow a mere physician to pose a question: Has it ceased to be the invariable rule for the tourniquet to be removed before the wound is closed, in order that complete haemostasis may be secured ?—I am, etc.,

Downton, Wilts. J. C. MATTHEWS.

Paying for the Health Service

SIR,—I am indebted to Mr. H. A. Marquand (February 2, p. 272) for drawing attention to an error in my article (January 19, p. 129) and for emphasizing the fact that only one-twelfth of the money spent on the National Health Service came as a grant from the Insurance Fund. May I be permitted to point out that I did mention taxation as a means of financing the Service ? Indeed, in common with my colleagues, I am unlikely to underestimate the importance of taxation in this respect. My object in writing, however, is to repudiate any suggestion that, indirectly or otherwise, I countenance extravagant use of the Health Service.

My only reason for mentioning the finance of the Service was to emphasize that, as the cost of it is now borne at a national level, there is no longer any reason for regional inequalities in the provision of hospital facilities, and that the policy of "fair shares for all" should operate within the Health Service as much as in any other field of social welfare. I think that the bed/population ratios cited in Table II of my article make it apparent that, at any rate in the Birmingham Region, there are considerable differences in available hospital facilities in the various localities. There is, I believe, reason to suppose that such differences exist also in other regions. My contention is, therefore, that it behoves the Ministry of Health to concentrate first on the provision of adequate hospital facilities in those areas in which at present these are deficient.—I am, etc.,

London, S.E.5. VERA NORRIS.

Sexual Disorders in Women

SIR,—I am sure that Dr. P. R. Boucher is correct in his observation (February 2, p. 273) that some women have their erotic sensation limited to the cervix. They seem, however, to be in only a small minority, and I would question his explanation for any inabilities they experience in attaining orgasm. Personally, I think that incomplete penetration is far more likely to be a cause, for this is a factor very commonly present in unsatisfactory coitus and is particularly distressing to women of this sort.

The extended posture, so commonly adopted for coitus, causes the cervix to be quite inaccessible in some women. It also exaggerates any tendency to introital spasm, thus increasing cervical inaccessibility still more. In all quadrupeds the female accepts coitus with her knees to her flanks, and in this position the vagina not only relaxes, but it shortens so that the cervix is properly contacted for insemination.

I agree with Dr. Boucher that a woman with erotic sensation restricted to the cervix may have her orgasm ability lessened by the presence of an occlusive cap: but fortunately the condition is uncommon and presents no serious problem in contraceptive work. More often it is the urethral area—i.e., the anterior and lower third—of the vagina which is the site of a purely limited eroticism. Although these conditions are rare, they should be borne in mind when advising women about sexual difficulties.—I am, etc.,

London, N.W.1. JOAN MALLESON.

Antistin in Habitual Abortion

SIR,—In view of the successful prophylaxis of habitual abortion by means of progesterone implants reported by Dr. P. M. F. Bishop and Dr. N. A. Richards (February 2, p. 244), it is interesting that L. Hirszfeld (*Méd. et Hyg.*, 1950, **8**, 299; *Schweiz. Z. allg. Path.*, 1951, **2**, 133) has had encouraging results from the use of antistin, both in abortion (habitual and other) and hyperemesis gravidarum. Hirszfeld's allergic interpretation of these conditions is based on his finding, in abortion, of a significant excess of the matings of Rh-negative husband x Rh-positive wife and Rh-positive husband x Rh-negative wife, without any anti-Hr or anti-Rh agglutinins in the maternal circulation.—I am, etc.,

Aberdeen. T. M. ALLAN.

Intra-partum Uterine Rupture

SIR,—I read with interest the medical memorandum by Mr. Robert Hodkinson (February 9, p. 308), but I was very disturbed by his opening paragraph stating that rupture in the lower segment was more dangerous than in the upper segment. It is true that at first I had misinterpreted what Mr. Hodkinson meant, for I thought he was comparing upper with lower segment rupture of a previous caesarean scar. Moreover, his summary of Dugger's work confirmed the misapprehension (actually only the 34 cases in that series were following a previous caesarean section, and the paper does not say that they were classical operations—although they probably were—the remaining 71 were all traumatic or spontaneous). Actually I have since learnt by personal communication with Mr. Hodkinson that he does not think there is much to choose between a lower segment rupture following a caesarean section or that occurring as a spontaneous or traumatic event. It is over this that I wish to take up the cudgels. I agree with him entirely over the danger of the spontaneous or traumatic tear going out into the parametrium and involving the uterine vessels. I have seen two such cases, and very ill they were. But the rupture of the lower segment scar, a rare event, is usually a far less dangerous matter. For evidence to support this statement, I would refer Mr. Hodkinson to a paper read by Dr. Dewhurst and Dr. Rowley before the North of England Obstetrical and Gynaecological Society in January, 1951 (*J. Obstet. Gynaec. Brit. Emp.*, 1951, **58**, 630). Two cases of "silent" rupture of the lower segment scar are described. I have seen a third: a live mother and a live baby were obtained in each case. These cases present like an over-distended bladder due to the unruptured membranes bulging through the uterine defect, and at operation little bleeding is found from the fibrotic margins of the tear. From their own cases and from a study of 66 cases in the literature, Drs. Dewhurst and Rowley conclude that "more time is probably available for diagnosis and treatment whilst the general condition of the mother is still good and the child is alive" than is the case with rupture of a classical caesarean section scar. It is true that some cases were mentioned where damage to the bladder occurred following rupture after the lower segment operation, but I feel that the evidence is sufficient to justify regarding rupture of the lower segment following a previous caesarean section as likely to be a far less dangerous matter than a spontaneous or traumatic tear, and, of course, less dangerous than rupture of a previous classical caesarean section scar. No doubt there will be exceptions, and it would be instructive to hear of them.—I am, etc.,

Bristol. T. F. REDMAN.

Ferrous Sulphate Poisoning in Children

SIR,—Having in the last few days had the supervision of a case of ferrous sulphate poisoning, I am disposed to comment upon Dr. I. O. B. Spencer's excellent paper (November 10, 1951, p. 1112). In it the emphasis was laid on the damage to the central nervous system which is said to occur, in contradiction to the older view that liver damage is the most important feature of these cases. After seeing one fatal case in which the extent of damage to the liver was almost comparable with acute yellow atrophy, I am convinced of the need to protect the liver so far as possible. Since the severe gastritis makes oral feeding not only inadvisable but impracticable for the first 24 hours or more, there would seem to be theoretical advantages in giving intravenous glucose and amino-acids from the start. Vitamin-B complex for intravenous use can be added to the infusion. In the case which is summarized below it was noted that the liver enlarged considerably after 24 hours and became very tender, returning to its normal size after two days.

A boy aged 4 years was admitted at 3.30 p.m. on January 4 with haematemesis and diarrhoea. He was known to have swallowed at least 20 ferrous sulphate tablets some four hours previously. On admission he was mildly shocked, with pallor, coldness of extremities, and a rapid pulse. His state varied from drowsiness to extreme irritability. There were frequent small vomits streaked with blood during the first hour after admission, and he passed three large watery stools. Clinically, there was no dehydration, and there were no abnormal signs in the central nervous system. An intravenous infusion was commenced using casein hydrolysate in 5% dextrose to which an ampoule of B complex for intravenous use (Roche) had been added. He was given two pints (1.2 l.) of this solution in 24 hours. The following day his general condition was improved, but it was found that his liver was enlarged to two fingerbreadths below the costal margin and was very tender. Diarrhoea with tarry motions continued. By the third day he was greatly improved and able to tolerate his diet. The liver had now returned to its normal size. Liver-function tests showed no gross abnormality and he was discharged well on the seventh day.

In a boy of 4 years it is reasonable to suppose that 20 tablets of ferrous sulphate would not prove fatal. However, it seemed to be our duty to try to protect the liver. We should have done better, perhaps, to have fortified the casein hydrolysate with methionine.

One other point: many of the early symptoms of ferrous sulphate poisoning, such as tachycardia, drowsiness, shallow respirations, and mental confusion, are reminiscent of alkalosis, a state which could result from the excessive vomiting. It might be a wise precaution, therefore, to estimate the CO_2-combining power, since we are advised to wash out the stomach with sodium bicarbonate, leaving 10 oz. (285 ml.) of the solution in the stomach, and then follow with bismuth carbonate, 3 gr. four-hourly.—I am, etc.,

Cardiff. R. J. K. BROWN.

Splenins A and B in Rheumatoid Arthritis

SIR,—With reference to Dr. Raymond Greene's paper on rheumatoid arthritis and bleeding time (January 5, p. 17), we have carried out a number of tests of this type at the Royal National Hospital for Rheumatic Diseases. Our mean bleeding time for normal guinea-pigs was 97 seconds (S.D. ± 26 seconds, n = 95). When "splenin A" and "splenin B" extracts from 11 cases of rheumatoid arthritis were injected into guinea-pigs, 80 bleeding-time values for A gave a mean of 124 seconds ± 17, and for B 201 ± 58. Similarly prepared extracts from normal sera gave an A-time of 114 and a B-time of 80 seconds. These figures do not invalidate the claim that an acetone-soluble substance (splenin B) increasing the bleeding time of guinea-pigs can be obtained from the blood of rheumatoid-arthritis cases.

One case of rheumatoid arthritis was investigated in this way before and after splenectomy. Guinea-pigs injected with extracts of the patient's serum before splenectomy gave an average A-time of 119 (S.D. ± 30, n = 24) and B-time of 125 (S.D. ± 39, n = 24). After splenectomy 19 such experiments with the patient's serum resulted in a mean A-time of 99 ± 20 and B-time of 77 ± 23—presumably indicating an absence of B factor, as might be expected from Ungar's theories.

We feel that the guinea-pig bleeding method is so fraught with fallacies that these results should not be taken too seriously, although they support to some extent Ungar's figures. Other methods of investigating this problem are under consideration.—We are, etc.,

G. D. KERSLEY.
D. WATSON.
Bath. L. MANDEL.

Thumping the Chest

SIR,—Two patients encountered recently interrupted their swallow of a thick barium mixture to thump their upper chests with impressive vigour. Both patients suffered from achalasia of the cardia. The disease was at an early stage and only moderate dilatation of the oesophagus was present. The notable feature was a depression of normal peristaltic activity, and barium aggregates formed along the walls of

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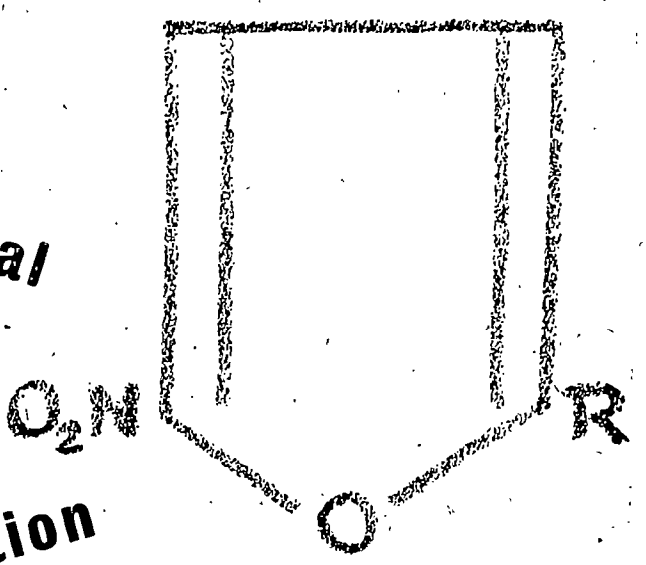

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the upper oesophagus and persisted at these positions for periods varying from one to three minutes. The manœuvre of thumping the sternum was immediately effective in dislodging these clumps and in causing the barium to fall to the lower oesophagus. In one case pain accompanied the barium swallow, and this was promptly relieved by the thumping. The other patient felt occasional pain on swallowing, and at one time when this was severe he had obtained relief by asking his wife to thump his back. The explanation would appear to be that the food or barium causes direct mechanical irritation of sensitive areas of the oesophagus which are the site of hyperaemia or superficial ulceration.

Barium aggregates along the oesophageal walls are not common in conditions other than achalasia, and this may explain why thumping is so effective and has been met with in this condition alone. Patients thump their chests for a variety of reasons, and these range from a feeling of well-being to the first-aid treatment of food that has gone the wrong way, and such a symptom will be difficult to interpret. In combination with dysphagia, however, a history of thumping of the sternum during swallowing may suggest the diagnosis of achalasia of the cardia. It would be useful to know if the manœuvre has been encountered by others and in conditions other than achalasia.—I am, etc.,

Cardiff. BRYAN WILLIAMS.

Infective Gangrene of the Mouth

SIR,—At the Royal Society of Tropical Medicine on December 13, 1951, Dr. D. B. Jelliffe spoke of a form of infective gangrene of the mouth which differs from cancrum oris since it infects the bones (January 26, p. 198). The condition described by Dr. Jelliffe resembles malignant granuloma of the nose, described by R. Woods (*British Medical Journal*, 1921, **2**, 65) and again by S. W. G. Hargrove, J. H. Fodden, and A. J. Rhodes (*Lancet*, 1946, **2**, 596), who stated that about a dozen cases had been described. Hargrove *et al.* treated their patient with penicillin, which improved the local lesion, but the patient died. Most authors state that the cause of malignant granuloma is unknown. I think the cause may be linked up with cutaneous gangrene (*Lancet*, 1945, **1**, 739, and 1946, **2**, 769). Bony changes associated with tropical ulcer were described by J. A. Brocklebank (*Brit. J. Radiol.*, 1943, **16**, 221). There is an account, from the Mayo Clinic, of spreading osteomyelitis of the cranial bones (*Proc. Mayo Clin.*, 1944, **19**, 480). The Mayo Clinic work was based on a paper by H. L. Williams and F. R. Heilman (*Arch. Otolaryng., Chicago*, 1937, **25**, 196) that a micro-aerophilic short-chained streptococcus is responsible for the malignant type of osteomyelitis. The Mayo Clinic workers found this organism sensitive to penicillin. Meleney recommended a special active preparation of zinc peroxide; I have found powdered potassium permanganate effective.—I am, etc.,

Epping. FRANK MARSH.

Incontinentia Pigmenti

SIR,—The article by Dr. A. White Franklin on this subject (January 12, p. 75) prompts me to record a further case recently shown, together with her sister, by Dr. C. D. Calnan at the Dermatological Section of the Royal Society of Medicine (December 15, 1951).

A woman, aged 36 years, and pregnant for the sixth time, was delivered normally of a live female infant weighing 7 lb. 6 oz. (3.3 kg.) on July 30. On the second day of life "several small spots" were noticed and the following day the infant was thought to be suffering from pemphigus neonatorum and was isolated and treated with oral penicillin.

On August 3 the rash was described as a generalized herpetiform eruption, avoiding the palms and soles and confluent on the trunk. There were patches of erythema on the scalp and parts of the back, and the individual lesion was a small vesicle containing golden-yellow material. Culture of the latter was sterile on 48 hours' incubation. By August 5 the rash was clearing off the face and trunk but was confluent and shotty on the lower limbs, while on August 7 the lesions were noticed to be coalescing on the lower limbs and trunk to form subcutaneous plaques. No marked pigmentation was noticed, and throughout the temperature remained normal and the baby's general condition was excellent. Owing to family problems, the mother took her own and her baby's discharge on August 8 and was advised to attend the Hospital for Sick Children, where the diagnosis of incontinentia pigmenti was made.

In 1947 she had been delivered of a female infant, weighing 8 lb. 8 oz. (3.9 kg.), and this baby, too, had developed a skin rash in the neonatal period. Inquiry revealed that this child had incontinentia pigmenti. It is interesting to note that the mother of these two children had been blind in her left eye since childhood, but this was caused by a post-traumatic cataract.

Both these infants were female; neither was premature.

My thanks are due to Mr. R. M. Millen for permission to publish this case and for his helpful criticism, and to Dr. Calnan for his kind help and advice.

—I am, etc.,

Clapton, E.5. F. TAYLOR.

Unsuitable Advice

SIR,—I should be glad if you could find space to publish the following communication addressed to the Secretary of State, War Office, in the interests of the medical and dental practitioners who are serving with the Forces of the Crown. It is strongly urged that medical and dental officers should not terminate their membership of their defence bodies when by doing so they would deprive themselves of an independent medico-legal service which is essential for their individual protection.

"Sir,

"Our attention has been drawn to a Memorandum issuing from the War Office dated January 4, 1952, reference 24/GEN/3172 (AMD.1), denying the need for medical officers of the R.A.M.C. and dental officers of the R.A.D.C. to be members of a defence body.

"We are surprised by the definitive statement of the Director-General in that document that 'it is not considered necessary for R.A.M.C. medical officers or R.A.D.C. dental officers to join a medical or dental protection society in connexion with any treatment, etc., given in the course of their military duties.' This *ipse dixit* is linked to an assurance by a significant proviso—viz., 'If a medical or dental officer is sued as a result of his professional services whilst acting in the performance of his military duties the War Department will stand behind him *provided* that he signs a form of retainer appointing the Treasury Solicitor to act for him. The cost of any resultant settlement of the claim would then be met from Army funds and no financial liability in connexion with the settlement of the claim would fall upon the medical or dental officer concerned.'

"It is, however, more than surprising that the above advice was tendered to officers of the medical and dental services without giving the defence bodies, of which there are three in the United Kingdom, an opportunity of learning in advance the views of the Director-General and of contributing any constructive criticism they might desire to submit on the subject-matter of the Memorandum. To disregard these long-established professional organizations with a total membership of doctors and dentists amounting to 69,500 is to act discourteously.

"Without fear of contradiction, it can be said that the Treasury Solicitor and the Army funds at his disposal will not resolve satisfactorily a diversity of medico-legal situations by which an officer may be confronted and on which the document is peculiarly silent.

"We respectfully submit the following for consideration:

"1. There are occasions we could postulate from our long experience of medico-legal matters when the views that we might entertain for the protection of a medical or dental officer, or for the maintenance of an important principle affecting the profession as a whole, would be diametrically opposed to those held by the solicitor acting for the employing authority of the officer concerned. The interests of a doctor or a dentist do not always run parallel with those of his employer—often they are in conflict. The Treasury Solicitor, for example, may advise settlement of a case out of court when we feel that it should be fought through the courts to support the interests of the officer concerned. The Treasury Solicitor may think that an officer has been negligent in the conduct of his professional work when we think otherwise.

"Medical defence bodies are primarily concerned with defending practitioners whenever it is practicable to do so and of settling cases when the defence is unlikely to succeed. The Treasury Solicitor may have other interests to consider than those of the officer concerned.

"2. A medical or dental officer may require assistance with respect to court-martial proceedings. He may appear at these proceedings in several capacities; as one accused, as prisoner's friend, or as a medical witness; he may stand gravely in need of legal advice or legal representation for his own protection, and this may be of a costly order. (In a recent case £15,000 was spent in the defence of a medical officer.) Surely in the foregoing circumstances the Treasury Solicitor would be unwilling or indeed unable to furnish advice or provide representation.

"3. A medical or dental officer may find himself in acute disagreement with his employing authority with regard to his care and treatment of a military or civil patient, or with regard to the terms and conditions of his service, affecting rank, remuneration, or pension. He may be accused of libel or slander, or of some other civil or criminal offence arising out of or associated with the pursuit of his professional work. He may be called upon to appear at a military inquiry, a civil court, or the General Medical Council, and would need expert assistance to examine, prepare, and proffer a defence or a plea in mitigation and to avoid, if possible, detriment to his future in the Service.

"These situations demonstrate the necessity for the officer concerned to be able to resort to an independent defence body for appropriate personal help when necessary, and to assert, as is done in the Memorandum, that he could disregard the need for membership of a medical defence organization in the circumstances described therein is but to induce a sense of false security in the mind of an officer reading that document and to give advice that is incomplete and misleading.

"Though it is regrettable to disagree in public with the Director-General on a matter affecting medical and dental officers, it is clearly my bounden duty, as secretary of the body I serve, to warn these practitioners of the inadequate nature of the protection proffered in the Memorandum quoted above and of the continued need for them to maintain throughout their professional careers their membership of a defence organization to secure the availability of independent advice, legal representation, and financial indemnification when required.

"In view of the action already taken and about to be taken I have no alternative but to arrange for the early publication of this letter in the professional press."

—I am, etc.,

The Medical Defence Union, London, W.C.1. ROBERT FORBES, Secretary.

Action of Different Insulins

SIR,—The search for a type of insulin which will give a more constant control of blood sugar levels in diabetes continues, and Dr. F. Gerritzen's interesting article (February 2, p. 249) gives examples of the duration of action in 10 different types of insulin used on normal persons. Those who are interested in the treatment of diabetes are glad to have any information on new varieties of insulin even if some of them are, for commercial reasons, not in general use in this country.

With regard to the insulins which are available here, I suggest it might be unwise to assume that a similar action to that described in the article mentioned necessarily applies in diabetes owing to a greater fluctuation in the levels of blood sugar and to the greater variation in sensitivity in diabetics as compared with normal persons.

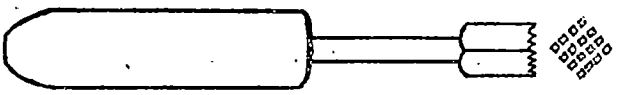
As many diabetics are more afraid of hypoglycaemic attacks than of diabetes itself, the assumption that the action of protamine zinc insulin begins to wane after eight hours and is complete by 16 hours might lead to more nocturnal attacks, due to falling blood sugar, than are already encountered. It would also be useful to know whether the mixed insulins were given in the standard English way or in the American fashion—that is, a complete mixing giving rise to a fixed amount of soluble remaining in the mixture.—I am, etc.,

Warrington. R. GUEST GORNALL.

Polycentron

SIR,—Recently I published a paper (Chrysanthis, 1948) on the comparative value of the two classical methods of vaccination, the multiple-pressure method and the standard scratch one, expressing myself in favour of a combined method of vaccination. But many authors, as Dunley and May (1932), Parish (1944), Mole (1947), and Lovett (1947), find the multiple-pressure method more ideal. However, when applying the multiple-pressure technique I observed that it is rather more tiresome than the scratch one, especially when vaccinating a great number of people. In order to lessen this disadvantage of multiple-pressure technique of vaccination I invented an instrument, the "polycentron."

This (see Fig.) consists of two parts: a wooden handle of 5 cm. length, and a hard steel stalk of 3.5 cm. length, which fits into a block 1 cm. long and diameter 0.7 × 0.7 cm. The



lower surface of the block has 16 spikes, each of them protruding 0.15 cm. The vaccinator, after cleaning the skin, places a drop of calf lymph on the skin and presses the polycentron on it once or twice. So the vaccinator makes only one or two pressures, instead of 30–40 pressures with a needle as is required by the standard multiple-pressure technique of vaccination. The shortening in required time is obvious. This is more important when vaccinating a great number of people, as in schools and in the Army.—I am, etc.,

London, W.2. KYPROS CHRYSANTHIS.

REFERENCES

Chrysanthis, K. (1948a). *Cyprus med. J.*, 1, (No. 9) 3.
—— (1948a). *Acta med. orient., Tel-Aviv*, 7, 46.
Dunley, S. F., and May, P. M. (1932). *J. Hyg., Camb.*, 32, 25.
Lovett, W. C. D. (1947). *Lancet*, 1, 847.
Mole, R. H. (1947). Ibid., 1, 597.
Parish, H. J. (1944). *British Medical Journal*, 2, 781.

Habitual Abortion

SIR,—I read with great interest the article by Drs. P. M. F. Bishop and N. A. Richards on habitual abortion (February 2, p. 244) and appreciate their remarks about my own series of cases. From my own results two interpretations are possible: that the usually accepted spontaneous cure rate after three or more abortions is wrong; or that the treatment these patients received was sufficient to alter the foetal survival rate. I am reluctant to accept the first hypothesis, but am sure that the medicinal treatment patients received was insufficient materially to affect their chances.

I am not a great believer in the effect of psychology on organic disease, but am prepared to accept the fact that the emotions such as fear and anxiety can alter menstruation, presumably by action on the pituitary. The logical thing to do is to give these patients no treatment whatever, and this is being done by one of my colleagues.

I await with great interest the results of a series of patients treated by Drs. Bishop and Richards with the implantation of inert tablets.—I am, etc.,

Manchester. D. C. A. BEVIS.

Thank You

SIR,—I am writing this short letter to thank those members of the medical profession who subscribe so generously to the funds of the Royal Medical Benevolent Society, thus enabling that organization to distribute regular pensions and welcome Christmas cheques to doctors who have to contend with ill-health and subsequent poverty. This short note is brief indeed, but it expresses the maximum of gratitude.—I am, etc.,

RECIPIENT.

POINTS FROM LETTERS

Succinylcholine Chloride

Dr. R. BLAIR GOULD (London, W.1) writes: In the literature accompanying this product occurs the following statement: "In the dose recommended . . . it produces a paralysis which lasts for about three minutes. Spontaneous respiration then returns. . ." Since apnoea lasting 20–40 minutes is not uncommon after this drug, it would appear that the statement should be accepted with considerable caution.

Obituary

H. D. DAKIN, D.Sc., F.R.S.

Dr. Henry Drysdale Dakin, whose name is perpetuated by the hypochlorite solution he brought into use during the first world war, died at Scarborough-on-Hudson, New York, on February 10. He was born in London on March 12, 1880, the son of a Leeds iron and steel merchant. From the Leeds Modern School he went on, after a period of apprenticeship with the Leeds city analyst, to the Yorkshire College (now Leeds University), where he won an 1851 Exhibition Scholarship. It was about this time that he decided to take up the study of biochemistry, and from Leeds University, where he took the degree of D.Sc. in 1909, he moved on first to the Lister Institute and then to Heidelberg. In 1905 he went to the Herter Laboratory in New York, and thus began his long and distinguished career as a medical research worker in the U.S.A. Many honours came his way. He was elected a Fellow of the Royal Society in 1917, and the universities of Heidelberg, Leeds, and Yale conferred on him honorary degrees. In 1941 he received the Davy Medal of the Royal Society for his pioneer work in biochemical research, and for his contribution to the study of intermediary metabolism.

We are indebted to Sir Charles Harington for the following appreciation of Dakin's contribution to medical science: By the death at the age of 71 of Dr. H. D. Dakin, following closely on that of the late Professor H. S. Raper, biochemistry has lost another of the remarkable group of men trained under the late J. B. Cohen, of Leeds, who have done so much for the development of the subject in many different directions.

Dakin's early interest in biochemistry was aroused by a period of work with Kossel, during which the enzyme arginase was discovered. At the Lister Institute, where he worked for a few years, he made another important contribution in being the first to demonstrate the stereochemical specificity of enzymes in his study of the action of esterases on the esters of the active mandelic acids. During his time at the Lister Institute Dakin also published a synthesis of adrenaline.

In the early years of the present century Dakin went to New York to work in the laboratory of the late Christian A. Herter (whose widow he subsequently married). Here he soon became deeply involved in the researches for which he will always be best known—namely, the study of the intermediary metabolism of amino-acids and fatty acids. In this field, at that time practically unexplored, he made great contributions, on which much modern knowledge rests. His attack on the problem of fatty acid oxidation was made in parallel with that of Knoop in Germany; the result of the two investigations was to establish the nature of the process (β-oxidation) by which fatty acids are utilized in the animal body, and Dakin made the important observation that this process, as well as other biological oxidations, could be imitated *in vitro* by the use of hydrogen peroxide. Later, also in Herter's laboratory, Dakin returned to work on enzymes, and, in collaboration with the late H. W. Dudley, discovered and studied the properties of the enzyme glyoxalase.

During the 1914–1918 war Dakin worked on this side of the Atlantic, both in this country and in France. His main contribution was the development of the buffered hypochlorite solution which became known by his name, and which found important application in the irrigation of infected wounds.

Apart from his work on enzymes and biological oxidations, Dakin's main scientific interest was in the chemistry of proteins and amino-acids, and it was to this subject that he devoted himself when he established his private laboratory at Scarborough-on-Hudson on his return to the United States after the war. His discovery of the racemizing effect of alkali on proteins enabled him to expose features of protein structure which at that time could not be revealed by other means. He also introduced new methods of separating amino-acids which made possible the more accurate determination of the composition of proteins. Although Dakin's methods have been rendered obsolete by the great advances in this field in recent years, his were pioneering studies in a subject that has proved to be of the greatest importance for biology.

Having much of the artist in his temperament, Dakin was essentially a lone worker. During the whole of his career he had few collaborators and he trained no pupils. Indeed, his only sustained collaboration was with H. W. Dudley, and this was based on close personal friendship as well as on community of scientific interest. Nevertheless any assessment of Dakin's contribution must take account not only of his personal scientific achievements, great as these were, but also of the very considerable influence that he exercised, in ways that did not appear on the surface, through his friendships with scientific colleagues. This influence and his own work combine to give him an outstanding place among those responsible for the development of modern biochemistry.

E. BRIGHT VEDDER, M.D., D.Sc.

Colonel Edward Bright Vedder, a distinguished United States Army medical officer, died in the Walter Reed Memorial Hospital, Washington, on January 30, at the age of 73.

He was born in New York and received his medical education at the University of Pennsylvania medical school, where he graduated M.D. in 1902. For a short time after this he collaborated with Simon Flexner, who was then studying the aetiology of bacillary dysentery. Vedder was commissioned in the Army in 1903, and participated in early typhoid immunization experiments. During later service in the Philippines he studied beriberi and found it to be associated with the eating of polished rice. It was as a result of this observation that he introduced the successful measure of substituting half-polished rice to supply the dietary deficiency, later found to be vitamin B_1. His monograph on beriberi (1913) won for him the Cartwright Prize of the College of Physicians and Surgeons of Columbia University. His work on clinical scurvy also led the way to further discoveries. In 1932 he was awarded the Wellcome Prize for his *Study of the Antiscorbutic Vitamin*. He also made important contributions to the knowledge on sprue, leprosy, and syphilis. In 1911 his demonstration of the amoebicidal action of emetine led to its general adoption in the treatment of amoebic dysentery. From 1922 to 1925 Vedder was chief of the medical research division at Edgewood Arsenal, and senior member of the U.S. Army Board of Research from 1925 to 1928. In 1930 he was appointed director of the Army Medical

School at Edgewood. He retired from the Army in 1933 and spent the next ten years as professor of pathology and experimental medicine at George Washington University.

Dr. WILLIAM DONALD MACKINNON, district medical officer at Portree, Isle of Skye, died suddenly on January 12, aged 59. He was a son of the late Reverend D. Mackinnon, who was at one time minister at Wanlochead, Dumfries. From Herriots School he went on to Edinburgh University, where he had a distinguished career as a student. He gained a first-class certificate for almost every class and no less than eight medals. After graduating M.B., Ch.B. with distinction in 1917, he joined the R.A.M.C. and saw service in France. After demobilization he held a number of hospital posts, including that of senior assistant and deputy superintendent of the Southern General Hospital, Glasgow. He there met his future wife, Dr. Mary MacDonald, who was his colleague on the staff. In 1922 he was appointed medical officer to the parish of Strath, in Skye. Strath was the traditional home of the Mackinnons, and that for him was one of the attractions of the post. In what now appear to be far-off days he almost always wore a kilt of his clan tartan. While in Strath he was superintendent of the Mackinnon Memorial Cottage Hospital, and he did some emergency surgery there. Two years later he went to the neighbouring parish of Portree, where he also had charge of the Skye District Infectious Diseases Hospital. In the British Medical Association he held office as secretary of the Islands Division from 1926 to 1939, and he was president of the Northern Counties of Scotland Branch from 1937 to 1938. He also served for many years on the Inverness county panel committee. A keen freemason, he was a member of several Chapters, including the Inverness Sovereign Chapter and Past Master of two lodges.

A. L. writes: Although his health had not been good for a number of years, the sudden death of Dr. W. D. Mackinnon came as a sad shock to his many friends. It was almost as if it required his death to make them realize how deep was their affection for him. Those who knew him only during the last few years can have had little idea of the liveliness of his intelligence or the catholicity of his mind in days gone by. It is possible that if he had followed hospital rather than general practice he would have more fully fulfilled his youthful academic promise. He could with ease have passed any examination he set his mind to, but he was entirely devoid of vulgar ambition. During the last few years he was dogged by illness, but, like other difficulties, he took it in his stride and made light of it. It was never an excuse not to see a patient nor to attend a meeting. He was devastatingly frank and honest and assumed the same qualities in all with whom he had dealings. There might not always be universal agreement with him, but no one doubted his sincerity. His home, for which much credit must go to his wife, was a centre of hospitality for many people, both medical and lay. Much sympathy goes out to Dr. Mary Mackinnon, who did what she could, so far as he would permit, to lighten his work recently, and to their son and daughter.

Dr. PRESTON RICHARD WALLIS died on January 26 in Jersey, Channel Islands, where he had lived and worked for more than 30 years. The grandson, son, and brother of medical men, he qualified at University College Hospital in 1896. He practised in London for a time, and became honorary anaesthetist at the East Ham Hospital. In Jersey also he built up a reputation as an efficient and careful anaesthetist. A colleague has sent us the following account of two incidents in which Dr. Wallis figured during the German occupation of the Channel Islands. One bitterly cold night Dr. Wallis was called to see a sick child of a humble family. He found there the remnants of the last inner door smouldering in the fire, while some members of the family were busy smashing up the only remaining table in the house in order to provide fuel. After attending to the child, Dr. Wallis said he would return presently. He went to his home and by candlelight scraped together the last bits of coal left in the coal cellar and filled a sack, carried it back to the cottage of his patient, and left it at the door. His only words, almost in apology, were, "You see, in my house the heat of those coals would now have chilled me, so you are welcome to them." Another example of his heroism, until now unrecorded, occurred when he was called to see a woman patient who was married to a helpless invalid. The woman, a Jewess, was under orders to report in two hours for transportation to the Belsen extermination camp. She pleaded that he should humanely destroy her. Instead the doctor bundled her into a sack and placed her in the back of his car, under the very nose of the Gestapo, who had her under constant observation. Dr. Wallis knew full well that if caught in this act he would have been shot without a trial, or, at best, would have been transported with the woman. He managed to drive her to the home of some good patients, where she was concealed in the attic and kept and cared for until the liberation. Many people in Jersey and elsewhere will know from their own personal experiences how much they owe to Dr. Wallis, both as physician and as friend.

Dr. CHARLES SEFTON O'NEILL, whose death occurred after a short illness on February 2, spent most of his life in the vicinity of Manchester. He graduated M.B., Ch.B. at the Victoria University in 1903, having won the prize in clinical medicine at the Royal Infirmary. He took the D.P.H. in 1904, and proceeded M.D. with commendation in 1907. After no fewer than three hospital residencies—which fitted him for a busy and successful life in general practice—he went into practice at Hale, Cheshire. There was a break of three years in the first world war when he was able to develop his special interest in radiology in a mobile unit in France, where later he became director of radiology for the Third Army. He was mentioned in dispatches, and later appointed O.B.E. In 1919 he went back into practice—or what was left of it—and he busied himself in what became one of his happiest pursuits, the founding and running of a local medical club. Apart from the B.M.A.—of which O'Neill was a most active member, being chairman of the Mid-Cheshire Division from 1922 to 1924—there was nothing to promote friendship and professional gatherings in the locality, and he felt keenly the need for it. The club which he founded thrived under his unstinting care, and has been a blessing and rallying point for its many members ever since. A few days before his death he announced with quiet satisfaction that he had missed only one meeting of the club in over 30 years. He was originator, treasurer, secretary, and—in the best sense—dictator of it: in these multiple capacities he was constantly in touch with a large local medical circle and also with most of the specialists of the Manchester area. In addition he was an ideal host both to the profession and a large group of friends. Possessors of an "all-the-year-round" flower garden, and keen connoisseurs of a well-stocked vegetable garden, Charles O'Neill and his wife kept the happiest of homes, ever open to welcome friends, consultants, and fellow practitioners alike. A gracious and hospitable atmosphere, alert with interest in the arts and literature, but never overburdened with it, produced its inevitable meed of pleasure and satisfaction in both hosts and guests. In addition to running a big practice, Dr. O'Neill continued from 1919 until two years ago as honorary radiologist to the Altrincham General Hospital, a task which became increasingly onerous and heavy. He many times made himself "royal beggar" for the department, much valuable plant being installed as a result of his unfailing ability in unearthing contributory sources in North Cheshire. Remembering the lean days of 1919, he worked constantly for the protection of practices in the second world war: many returning practitioners to his district had cause to

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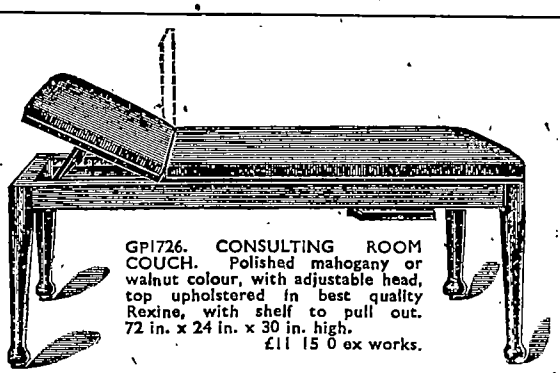

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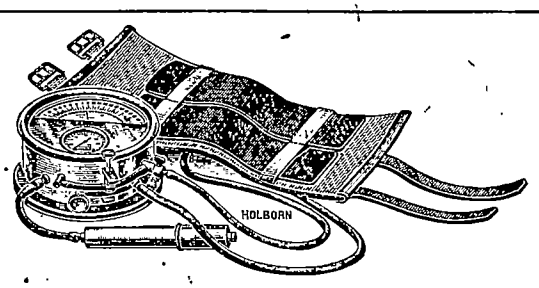

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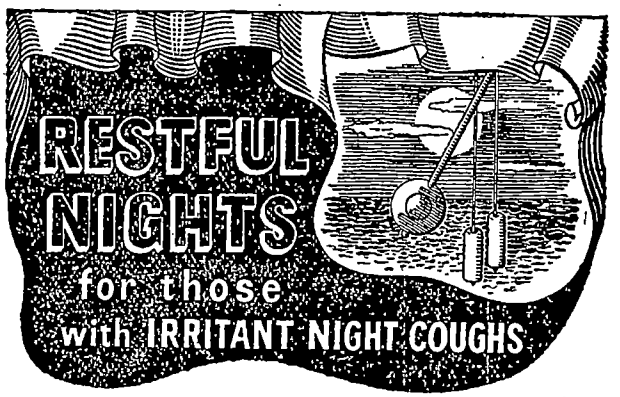

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be grateful to him for his work. He was not wholly opposed to the National Health Service—but firmly opposed to a 100% Service and to the unlimited powers vested in the Ministry of Health. The cares, responsibilities, and privileges of practising medicine were to him very vital, and he had the vision to see and dread the possible degeneration of a tradition when these responsibilities are removed from the control of those who have been trained to accept them. An individualist rock-set in a gathering sea of conformity, O'Neill's passing will be noted by a vast circle of friends and medical brethren with profound regret.—P. H. M.

Medico-Legal

TUBERCULOSIS CONTRACTED BY NURSE

APPEAL SUCCEEDS

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

An Industrial Injuries Tribunal has allowed the appeal[1] of a Dundee nurse against a decision of an insurance officer that she was not entitled to industrial injury benefit in respect of tuberculosis which she said was contracted by nursing tuberculous patients.

The nurse, who is now 20 years old, started work as a student nurse in 1947. Before she started she had a medical examination including chest radiography. The result was negative. She worked in several wards as a resident nurse, including a whooping-cough ward. She said that some of the cases she nursed at that time had tuberculous complications, as she knew from entries on the patient's charts, and one at least was later transferred to a tuberculosis ward.

In January, 1948, as a result of a routine *x*-ray examination which turned out positive she was admitted to a chest hospital. By January, 1949, after a further *x*-ray examination she was told she was fit to resume work on light duties at first.

She returned to work in a hospital in that month, doing ambulance work and no ward work for the first few months. During that time she dealt with all types of cases that came to the hospital, including cases of "open" tuberculosis. In November, 1949, she was again found to be suffering from tuberculosis, and was again admitted to hospital, where she remained until discharged in April, 1951.

The insurance officer had rejected her claim on the ground that there was no record by the hospital that any of the patients whom she had nursed before January, 1948, were suffering from tuberculous complications. Pulmonary tuberculosis had been diagnosed in January, 1948, before she had come into close and frequent contact with the "open" cases of tuberculosis in the course of her ambulance work, and therefore he did not find that the disease from which she was suffering was due to the nature of her employment. This view was supported in a specialist's report.

In allowing the appeal the chairman of the tribunal said that the nurse was entitled to rely on the presumption in the regulations that the disease was due to the nature of her employment unless the contrary was proved. The tribunal was not satisfied beyond reasonable doubt that the disease was contracted otherwise than as a result of her employment. No satisfactory evidence to that effect had been forthcoming, and the tribunal found in the terms of the regulations that the contrary had not been proved. The nurse will receive 19s. per week extra benefit accordingly.

[1] *The Scotsman*, September 14, 1951.

Universities and Colleges

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At a meeting of the Council of the College, held on February 14, with the President, Sir Cecil Wakeley, in the chair, Loyal Addresses of Condolence to Her Majesty the Queen and to Her Majesty Queen Elizabeth the Queen Mother were adopted.

The Hallett Prize was awarded to J. C. N. Wakeley (King's College Hospital) and a Moynihan Lectureship to Dr. L. Mayer (New York). The award of Prophit Research Studentships to F. Masina and T. R. Munro was reported.

Mr. L. E. C. Norbury and Mr. A. Dickson Wright were nominated as members of the Council of the Imperial Cancer Research Fund.

The Council gratefully received gifts of silver from the Faculty of Medicine of the University of Ceylon.

Diplomas of Membership were granted to D. W. Ebrahim and B. G. Jackson and to the recipients of the Licence of the Royal College of Physicians of London, whose names were printed in the report of the meeting of the Royal College of Physicians of London in the *Journal* of February 9 (p. 335).

Diplomas were awarded, jointly with the Royal College of Physicians of London, to the following successful candidates:

DIPLOMA IN PUBLIC HEALTH.—J. P. Agrawal, Frances C. Myatt, T. A. Pace, A. C. B. Singleton, W. J. Smither, E. D. H. Williams.

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.—M. Lwin.

The following hospitals were recognized in respect of surgical posts required of candidates for the Final Fellowship examination: Bury General Hospital (re-designation of posts), registrar; registrar (orthopaedic); senior house-surgeon; senior house-surgeon (orthopaedic); and two house officers, all for six months. Memorial Hospital, Darlington, two surgical registrars, each for one year; surgical house officer (house-surgeon), for six months. Nelson Hospital, Merton, senior house-surgeon, for six months. St. Mary's Hospital, Portsmouth, temporary recognition to be extended for one year. Queen Alexandra Hospital (Army), senior house officer (ophthalmology); senior house officer (otolaryngology) to be recognized for six months for general surgery. Kent and Sussex Hospital, Tunbridge Wells, re-designation of registrar post, already recognized to that of senior house officer (ear, nose, and throat). Tindal Hospital, Aylesbury, additional recognition, house-surgeon, for six months. St. James's Hospital, Leeds, additional recognition, deputy resident surgical officer, one year; first house-surgeon and second house-surgeon, both for six months.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

At a meeting of the Council of the College, held on January 26, with the President, Dame Hilda Lloyd, in the chair, the following were elected to the Fellowship: Y. N. Ajinkya, A. W. Andison, A. Josephine M. T. Barnes, C. W. F. Burnett, W. D. A. Callam, G. P. Charlewood, S. Davidson, R. de Soldenhoff, A. B. Evans, D. B. Fraser, H. F. P. Grafton, G. G. Lennon, W. A. Liston, R. Lyons, H. McLaren, R. F. Matters, B. E. Meek, H. K. Porter, P. G. Preston, D. C. Racker, G. W. Robson, J. W. Schabort, G. G. L. Stening, S. L. Townsend, J. C. Whyte, R. J. Wotherspoon. N. McA. Gregg was also elected to the Fellowship in recognition of his work on rubella in pregnancy.

Lydia Colaco was admitted to the Membership of the College.

The following were elected to the Membership: E. McL. Barbour, Caroline D. Baugh, R. M. C. G. Beard, D. C. G. Bracken, A. D. H. Browne, K. McL. Crocker, V. Drosso, M. P. Durham, J. Elstub, B. Eton, M. R. Fell, H. Ferguson, W. T. Fullerton, R. L. Gadd, F. G. Geldenhuys, A. I. I. Klopper, J. B. Lawson, Sarah Lehane, R. D. Macbeth, A. D. McIntosh, D. Magner, D. J. Meagher, A. P. B. Mitchell, N. Moss, T. R. Nelson, E. P. D. O'Neill, C. B. Oxner, J. Price, Monica M. A. Reford, W. H. D. Scotland, H. I. Schmilg, R. S. L. Stafford, Joan E. Storey, E. Sussman, J. S. Tomkinson, F. L. A. Vernon, J. Ward, P. P. Wium.

The Sims-Black Travelling Professor, Mr. G. F. Gibberd, left for South Africa on January 31, on the first stage of his tour.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **February 2** (No. 5) and corresponding week 1951.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 160 great towns in England and Wales (London included), London administrative county, the 17 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	24	2	14	0	0	51	5	20	3	4
Dysentery	490	56	78	3		967	62	189	7	1
Encephalitis, acute	5	0	0	0		3	0	1	0	1
Enteric fever:										
Typhoid	5	0	1	1	1	3	0	1	0	1
Paratyphoid	6	0	0	0		3	0	0	0	
Food-poisoning	94	6		0		139	43		0	
Infective enteritis or diarrhoea under 2 years				7	29				13	9
Measles*	3,386	50	319	160	43	16,321	2368	161	28	100
Meningococcal infection	31	1	17	2	2	73	6	18	4	3
Ophthalmia neonatorum	30	2	9	0	1	36	0	8	0	
Pneumonia†	1,005	55	308	11	1	3,513	167	466	104	132
Poliomyelitis, acute:										
Paralytic	17	3	1	1	2	21	0	3	0	1
Non-paralytic	8	1				11	2			
Puerperal fever§	257	46	8	1	2	87	8	9	2	
Scarlet fever	1,320	109	241	16	31	875	65	149	35	39
Tuberculosis:										
Respiratory			157	35				200	23	
Non-respiratory			25	4				30	5	
Whooping-cough	2,652	83	345	120	53	4,916	428	685	22	90

DEATHS in Great Towns	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	1	0		0	0	*0*	0	*0*	0	0
Dysentery	2	1		0			0		0	
Encephalitis, acute		0			0		0			0
Enteric fever	0	0		0		*0*	0	*0*	0	
Infective enteritis or diarrhoea under 2 years	18		1	0	2	*11*		*0*	1	2
Influenza	47	9		3	0	*1,269*	142	*54*	19	73
Measles		0		0	0		0	*0*	0	0
Meningococcal infection		0					0	*0*		
Pneumonia	341	59		18	9	*830*	116		32	29
Poliomyelitis, acute	4	0			0	*2*	0			0
Scarlet fever		0		0	0		0	*0*	0	0
Tuberculosis:										
Respiratory	170	20	21	4	6	*246*	36	*32*	2	14
Non-respiratory		1	0	1	3		3	*5*	0	1
Whooping-cough	4	0		0	0	*9*	1	*3*	0	2
Deaths 0–1 year	275	25	38	10	17	*270*	33	*35*	8	20
Deaths (excluding stillbirths)	6,938	1008	837	168	216	*10,141*	1568	*926*	185	444
LIVE BIRTHS	7,457	1117	857	208	329	*6,892*	1095	*919*	253	384
STILLBIRTHS	185	22	26			*177*	22	*27*		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.

Vital Statistics

Smallpox in Lancashire

There is laboratory confirmation of the diagnosis of variola in a cotton worker resident in Milnrow, Lancs. The woman was unvaccinated. The rash appeared on February 1, fever and constitutional disturbance having started on January 29.

The patient was removed to a smallpox hospital on February 8. Her husband sickened on February 14 and developed a rash on February 17; her daughter sickened on February 16; both were removed to hospital on February 17.

Temperatures of 102° F. (38.9° C.) were recorded during the prodromal stage; thereafter the disease was mild. The rash was discrete and sparse, but the distribution typical of variola minor.

It now seems probable that similar cases exist in the adjacent town of Rochdale, and the matter is being investigated.

Mysterious Rash at Cheltenham

A small outbreak of a puzzling dermatological affection at Cheltenham is reported by the M.O.H., Dr. Donald E. Morley. The first wave of cases began early in January. It was not of long duration, and by the third week in January very few cases were occurring. A second wave appeared in the first few days of February, and the outbreak continues. As the condition is not notifiable and has no serious effects its exact incidence is unknown. But it is estimated that at least 200 cases have occurred, and possibly many more.

The eruption is follicular and of a discrete papular type, with localized irritation; normally there are no general symptoms except occasionally some malaise or vomiting. In a very few bad cases in young children there have been a moderate adenopathy and mild pyrexia. The face, including the retro-auricular region, is most commonly affected. Next in frequency are the back, forearms, abdomen, and legs. After a day or two the rash becomes less prominent, but horny plugs appear in the follicles, and the skin feels like a nutmeg-grater. The eruption disappears in 4–10 days.

The incidence is highest in women and young children, and evidence is still inconclusive about the infectivity or not of the condition.

Investigations into the aetiology and epidemiology of the disease are in progress. Outbreaks may be occurring elsewhere in the country, which, owing to the mildness of the infection, are escaping any significant attention. It is hoped that doctors seeing this condition will inform the M.O.H.s. concerned and that the latter will send the relevant facts to the Ministry of Health (S.M.O., Med. 3), Savile Row, W.1.

Infectious Diseases

In England and Wales during the week ending February 2 an increase was recorded in the number of notifications of measles 549, acute pneumonia 169, and whooping-cough 79, and a decrease of 57 for dysentery.

The notifications of scarlet fever were 27 more than in the preceding week, and only small changes occurred in the general distribution of the cases. A small rise in scarlet fever was recorded in London and each of the south-eastern counties, and the number of notifications for the combined area was 69 more than in the preceding week. The largest rises in the notifications of measles were Norfolk 81, Cheshire 79, Lancashire 67, and Middlesex 75. The notifications of diphtheria were 3 fewer than in the previous week. The chief feature of the returns for diphtheria was the reappearance of diphtheria in the city of Birmingham, where five cases were notified during the week. The largest variations in the trends of whooping-cough were a rise of 48 in Warwickshire and a fall of 63 in Yorkshire.

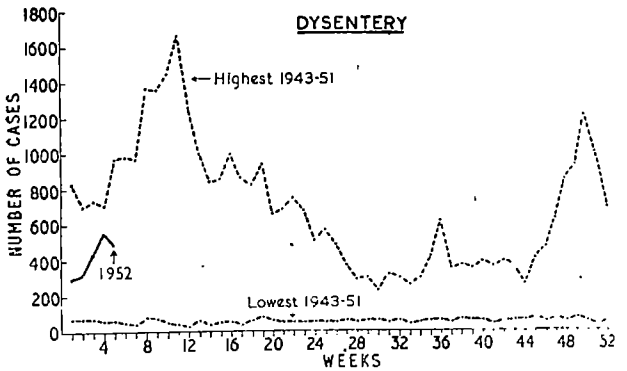
West Riding. The rise in the incidence of acute pneumonia was most pronounced in London and the south-east counties, where 72 more cases were notified than in the previous week.

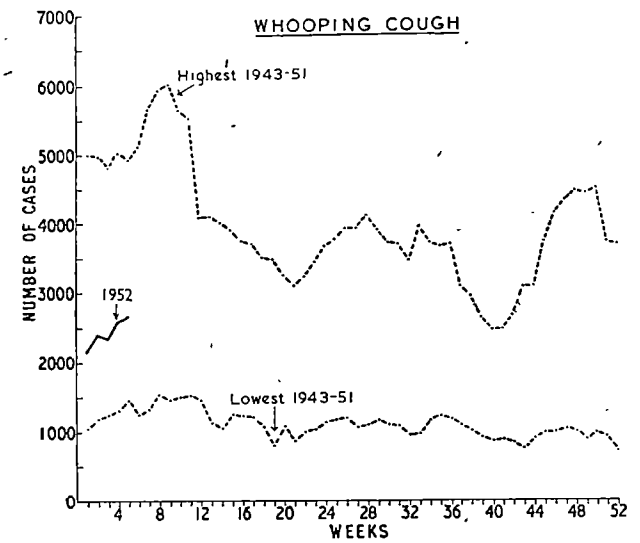
The number of notifications of acute poliomyelitis was one fewer than in the preceding week for both the paralytic and non-paralytic cases. The largest return during the week was 4 in London.

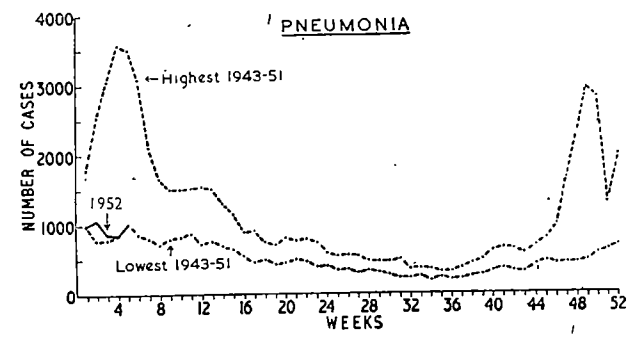
The chief centres of dysentery were Norfolk 73 (Norwich C.B. 61); Middlesex 72 (Willesden M.B. 33, Ealing M.B. 10); London 56 (Islington 16, Camberwell 10); Lancashire 54; Yorkshire West Riding 50 (Bradford C.B. 23, Leeds C.B. 10); Warwickshire 22 (Birmingham C.B. 15); Devonshire 21.

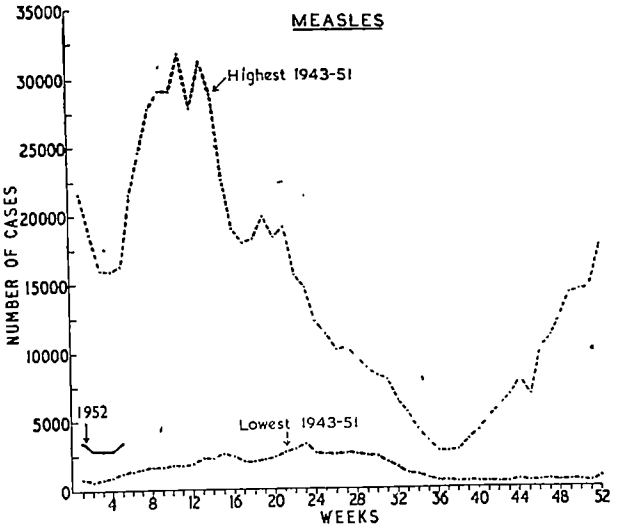
Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1943–51 are shown thus --------, the figures for 1952 thus ————. Except for the curves showing notifications in 1952, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.









Week Ending February 9

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,416, whooping-cough 2,686, diphtheria 34, measles 4,425, acute pneumonia 1,105, acute poliomyelitis 17, dysentery 592, paratyphoid fever 6, and typhoid fever 2.

Medical News

Birthday of the Week.—The British Association of Physical Medicine, founded in 1943, has decided to publish its own quarterly journal, and the first issue of *Annals of Physical Medicine* is out this week, published by Headley Brothers, Ltd., 109, Kingsway, London, W.C.2, at 6s. a copy or a guinea a year. It contains two papers—one an experimental study of the biological effects of micro-waves (centimetric radio waves), the other an account of the ambulant treatment of the complications of varicose veins in over 500 patients. In addition there are book reviews, news, and a useful abstracting section from the *International Review of Physical Medicine and Rehabilitation*. The new journal is very neat in format, and contains an excellent photograph of Lord Horder by way of frontispiece.

Whole-time Specialists.—The first annual dinner of the Association of Whole-time Salaried Specialists was held at the Royal College of Surgeons of England on January 25 and was attended by approximately 60 members. The guests included Sir Max Page, representing the Royal College of Surgeons, Mr. R. E. Jowett, president of the Regional Hospitals' Consultants and Specialists Association, and Mr. J. M. Milloy, of the Medical Superintendents' Society.

Medical Research Council Fellowships.—The Medical Research Council invites applications for the following Travelling Fellowships for the academic year 1952–3:

Rockefeller Travelling Fellowships in Medicine.—These Fellowships are provided from a fund with which the Council has been entrusted by the Rockefeller Foundation of New York. They are intended for graduates resident in this country who have had some training in research work in clinical medicine or surgery, or in some other branch of medical science, and who are likely to profit by a period of work at a centre in the United States or elsewhere abroad, before taking up positions for higher teaching or research in the United Kingdom. The stipend of Fellowships tenable in the United States will ordinarily be at the rate of $2,600 per annum for a single Fellow, and of $3,600 per annum for a married Fellow. Travelling expenses and some other allowances will be paid in addition.

Eli Lilly Travelling Fellowships in Medicine.—These Fellowships, tenable in the United States, will be provided from a special fund placed at the disposal of the Council by Eli Lilly and Company, U.S.A. Four Fellowships will be available for the

academic year 1952–3, and the awards will in general be made on terms and conditions similar to those attaching to the Rockefeller Travelling Fellowships in Medicine.

Dorothy Temple Cross Research Fellowships in Tuberculosis.—These Fellowships are awarded by the Council from a special endowment of which it is trustee. The object of the Fellowships, as defined in the Trust Deed, is to give special opportunities for study or research to suitably qualified British subjects of either sex "intending to devote themselves to the advancement by teaching or research of curative or preventive treatment of tuberculosis in all or any of its forms." The Fellowships will, as a rule, be awarded to candidates who wish to make their studies or inquiries elsewhere than in the United Kingdom. The Fellowships provide for the payment of stipend, together with an allowance for travelling and incidental expenses. The stipend will ordinarily be at the rate of £650 per annum for a single Fellow, and of £900 per annum for a married Fellow, subject to appropriate adjustment in the case of Fellowships tenable at centres outside the sterling area.

Further particulars and forms of application may be obtained from the secretary, Medical Research Council, 38, Old Queen Street, Westminster, S.W.1, with whom applications must be lodged not later than March 15, 1952.

London's New Medical Officer.—The impending retirement of Sir Allen Daley, Medical Officer of Health and School Medical Officer of the London County Council, was announced in the *Journal* of December 8, 1951 (p. 1393). As we go to press we learn that at a meeting of the L.C.C. on February 19 Sir Allen Daley's deputy, Dr. John Alexander Scott, has been appointed in his stead. Dr. Scott, who was born in 1901, became deputy in 1948.

Biological Warfare.—Over 200 scientists wanting to coordinate their efforts for peace met in London in January, 1951, and elected a provisional committee to draw up proposals which could be submitted to a national conference of scientists. Such a conference was held in London last month, attended by about 180 eminent scientists; the resolution passed at the International Congress of Microbiology at Copenhagen in 1947 condemning all forms of bacteriological warfare was warmly approved. The conference called upon the Government "to enter into negotiations with other Governments with a view to a general formal repudiation of any use of biological warfare and to work out practical measures to ensure that this repudiation is effective." It further asked that secrecy should not be imposed on workers engaged in research connected with biological warfare, that inspection of their laboratories should be allowed, and also the publication of results.

Emergency Bed Service: Applications and Admissions.—During the seven days ending February 18 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,195, of whom 87.53% were admitted.

COMING EVENTS

Nursing Conference.—The Royal College of Nursing is holding a conference on the mental health services from February 27 to 29 at the College (Cavendish Square, W.1). The fee for the conference is £2 2s., and details may be obtained from the secretary, Royal College of Nursing.

Sub-fertility Conference.—The Family Planning Association is organizing a conference at the Bonnington Hotel, Southampton Row, W.C.1, on February 29 and March 1. Full details from the secretary, Miss I. M. James, 64, Sloane Street, S.W.1.

Service M.O.H.s' Dinner.—The annual dinner of the Services Group of the Society of Medical Officers of Health will be held on March 14 at Simpson's Restaurant, 100, Strand, London, W.C.2, at 7 for 7.30 p.m. The cost per head will be 25s. (exclusive of wines), members may invite guests, and any serving officer will be welcome. Details may be obtained from Dr. G. M. Frizelle, London School of Hygiene and Tropical Medicine, W.C.1, who would like to be informed as soon as possible who will be present.

Royal Sanitary Institute Congress.—The annual health congress will be held this year at Margate from April 22 to 25. The fee will be £2 2s., but fellows, members, and associates of the Institute will be supplied with tickets free on application to the secretary, from whom full details may be obtained at 90, Buckingham Palace Road, S.W.1.

Study of Fertility.—The annual meeting of the Society for the Study of Fertility will be held in the meeting-house of the Zoological Society of London on June 27 and 28. Further information may be obtained from Dr. G. I. M. Swyer, Obstetric Hospital, University College Hospital, Huntley Street, London, W.C.1.

Association of Surgeons.—The annual meeting of the Association of Surgeons of Great Britain and Ireland will be held in Cardiff from April 17 to 19 inclusive. The full programme will be circulated in March, and all inquiries should be addressed to the honorary secretary, 45, Lincoln's Inn Fields, London, W.C.2.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Friday

FACULTY OF RADIOLOGISTS.—We very much regret that an error was made in our announcement (February 16, p. 394) of the meeting of the Radiodiagnosis Section on February 22. There will be no meeting on this date.

Sunday

LONDON JEWISH HOSPITAL MEDICAL SOCIETY.—At Adolph Tuck Hall, Woburn House, Upper Woburn Place, London, W.C., February 24, 3 p.m., "*Chemotherapy of Tuberculosis,*" by Professor J. M. Robson.

Monday

EDINBURGH UNIVERSITY: FACULTY OF MEDICINE.—At Anatomy Lecture Theatre, University New Buildings, Teviot Place, Edinburgh, February 25, 5 p.m., "*Steroid Hormones and Behaviour: Experimental and Clinical Aspects,*" by Professor Marc Klein (Strasbourg)

HUNTERIAN SOCIETY.—At Mansion House, London, E.C., February 25, 8.30 p.m., "*P.P.S.,*" Hunterian Oration by Dr. George Day.

INSTITUTE OF PSYCHIATRY, Maudsley Hospital, Denmark Hill, London, S.E.—February 25, 5.30 p.m., lecture-demonstration for postgraduates by Dr. E. Stengel.

LONDON UNIVERSITY.—At University College, Physiology Theatre, Gower Street, W.C., February 25, 5 p.m., "*Antidiuretic Effects of Blood and Urine in Relation to Neurohypophysial Secretion,*" special university lecture in pharmacology by Professor H. B. van Dyke (Columbia University).

MANCHESTER MEDICAL SOCIETY.—February 25, (1) At Lecture Room, Manchester Dental Hospital, meeting of Section of Odontology, 5 p.m., "*The Price of Medical Progress,*" by Dr. A. Morgan Jones; (2) At Physiology Theatre, Medical School, Manchester University, meeting of Section of General Practice, 9 p.m., "*Tuberculosis and the General Practitioner,*" by Dr. Marc Daniels.

Tuesday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 26, 5.30 p.m., "*Research on Ageing,*" by Professor E. C. Dodds, F.R.S.

EDINBURGH UNIVERSITY.—At Anatomy Lecture Theatre, University New Buildings, Teviot Place, Edinburgh, February 26, 5 p.m., "*The Chemistry of the Adrenal Cortical Hormones,*" Cameron Prize Lecture by Professor Tadeus Reichstein (Basle).

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 26, 5.30 p.m., "*Leprosy,*" by Dr. R. G. Cochrane.

LONDON UNIVERSITY.—At Westminster Medical School, Horseferry Road, Westminster, London, S.W., February 26, 5.30 p.m., "*The Pathology and Treatment of Portal Hypertension,*" special university lecture by Professor Milnes Walker.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—February 26, 5 p.m., "*Partial Nephrectomy in the Treatment of Renal Calculi,*" Hunterian Lecture by Professor H. H. Stewart.

WEST END HOSPITAL FOR NERVOUS DISEASES, 40, Marylebone Lane, London, W.—February 26, 5.30 p.m., neurological demonstration by Dr. C. Worster-Drought.

Wednesday

CAMBRIDGE UNIVERSITY.—At Department of Physical Chemistry, Free School Lane, Cambridge, February 27, 12 noon, "*Some Aspects of the Physical Chemistry of Amino-acids, Peptides, and Proteins,*" by Professor John T. Edsall (Harvard University).

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 27, 5.30 p.m., "*Histopathology of Leprosy,*" by Dr. R. G. Cochrane.

INSTITUTE OF UROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., February 27, 4.30 for 5 p.m., "*Differential Diagnosis of Frequency of Micturition,*" by Mr. Harland Rees.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—February 27, 8:30 p.m., "*The Surgery of the Heart and Great Vessels,*" Second Lettsomian Lecture by Mr. R. C. Brock.

●ROYAL SOCIETY OF ARTS, John Adam Street, Adelphi, London, W.C.—February 27, 2.30 p.m., "*The Work of the National Research Development Corporation,*" by the Right Hon. the Earl of Halsbury, F.R.I.C., F.Inst.P.

Thursday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 28, 5.30 p.m., "*Lability of Blood Pressure,*" by Professor M. L. Rosenheim.

CENTRAL MIDDLESEX HOSPITAL, Acton Lane, Park Royal, London, N.W.—February 28, 10.15 a.m., clinical meeting open to all consultant physicians in area of North-west Metropolitan Regional Hospital Board. Details from Regional Adviser in Postgraduate Medical Education, 2, Gordon Square, London, W.C.1.

GLASGOW UNIVERSITY MEDICO-CHIRURGICAL SOCIETY, The Union, University Avenue, Glasgow.—February 28, 7.30 p.m., address by Sir Geoffrey Jefferson.

●INSTITUTE OF CHILD HEALTH, Hospital for Sick Children, Great Ormond Street, London, W.C.—February 28, 5 p.m., "*Plastic Surgery,*" by Mr. D. N. Matthews.

INSTITUTE OF PHYSICS: MIDLAND BRANCH.—At The University, Edgbaston, Birmingham, February 28, 5 p.m., "*Some Applications of Physics to Medicine,*" by Professor F. W. Spiers.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—February 28, 4.30 p.m., lecture-demonstration in psychiatry by Dr. D. Curran.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY, Lisle Street, Leicester Square, London, W.C.—February 28, 4.15 p.m., demonstration and discussion of clinical cases; 5 p.m., "*Leprosy,*" talk by Dr. R. G. Cochrane.

UNIVERSITY COLLEGE, Physiology Theatre, Gower Street, London, W.C.—February 28, 4.45 p.m., "*Mitochondria and Biological Oxidations and Phosphorylations,*" by Dr. A. L. Lehninger (Chicago).

Friday

CHURCHES' COUNCIL OF HEALING.—At Alliance Hall, Palmer Street, Westminster, London, S.W., February 29, 7 p.m., "*The Vision of the Future,*" by Dr. E. E. Claxton (Assistant Secretary, B.M.A.).

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—February 29, 5.30 p.m., "*Leprosy,*" clinical demonstration by Dr. R. G. Cochrane.

●INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., February 29, 5.30 p.m., "*Surgical Aspects of Patent Ductus Arteriosus and Coarctation,*" by Sir Clement Price Thomas.

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES, 11, Chandos Street, London, W.—February 29, 7.30 p.m., general meeting. "*What is the Value of the G.F.T.?*" by Dr. F. R. Curtis. A discussion will follow.

OXFORD UNIVERSITY.—At Magdalen College, Oxford, February 29, 5 p.m., "*The Neurophysiological Basis of Mind,*" Waynflete Lecture by Professor J. C. Eccles, F.R.S.

ROYAL INSTITUTION, 21, Albemarle Street, London, W.—February 29, 9 p.m., "*The Brain as a Machine,*" by Sir Henry Cohen.

UNIVERSITY COLLEGE, Physiology Theatre, Gower Street, London, W.C.—February 29, 5.30 p.m., "*Cell Physiology and Pharmacology—Some Cytochemical and Cytological Aspects of Drug Action,*" by Professor J. F. Danielli, D.Sc.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Du Heaume.—On February 7, 1952, at the Windsmill Nursing Home, Enfield, to May (formerly Giffin), wife of Brian Du Heaume, M.B., B.S., 21, Bycullah Road, Enfield, Middlesex, a son—Alan.

Levy.—On February 13, 1952, to Enid (formerly Glyn), wife of Dr. Basil Levy, of Liverpool, a son—Peter.

MARRIAGES

Campbell—Stewart.—On February 9, 1952, in Manchester, Ross Campbell, A.M.I.C.E., of Warrington, to Diana Stewart, M.B., Ch.B., of Lancaster.

Heumann—Howells.—On February 9, 1952; at St. James's Church, Muswell Hill, London, N., Paul Clifford Heumann, B.A., to Désirale Howells, M.R.C.S., L.R.C.P.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Choose Your Analyst

Q.—*A patient has been recommended psycho-analysis. Relatives are anxious that he should have an Adlerian rather than a Freudian analysis. What, briefly, are the main differences? What other forms of analytical treatment are available?*

A.—The main practical difference between an Adlerian and a Freudian analysis is in the time involved, a Freudian analysis commonly taking two years or more, an Adlerian analysis seldom requiring more than a year. There are very wide differences between Adlerian and Freudian theories, and in the sort of interpretations which will be made by analysts of the two kinds to the patient. Adlerian theory is simpler and easier to understand, and relates most psychiatric symptoms to repressed feelings of inferiority, often associated with some particular part of the body. It is, as a rule, much more important to choose the right psychotherapist than to bother about the school he belongs to; the general practitioner should try to find a therapist who has plenty of common sense and will try to get practical results, rather than one who is hidebound in theory. Apart from Adlerian and Freudian analysis, there is also Jungian analysis; and there are psychotherapists who are eclectic, who make use of elements from all three types of theory, or who rely on explanation, persuasion, suggestion, and other methods which are the specific property of no dogmatic theory.

Judo Neck-strangle

Q.—*What is the mechanism of the Judo neck-strangle? This is sometimes used as a "hypnotic trick," and death can occur through vagal inhibition. I understand that Judo experts have some method for reviving those rendered unconscious by this strangle, such as striking a thoracic vertebra sharply with the knee.*

A.—The neck-strangle used in Judo is considered to act by compressing the common carotid arteries, so temporarily depriving the brain of its blood supply. Whether it ever acts by stimulation of normal or over-sensitive carotid bodies is not known: as the function of the carotid bodies has only recently become known to the medical profession and is not yet clearly and completely understood, further research would be needed to decide whether the unconsciousness produced by the neck-strangle is partly or entirely or occasionally due to stimulation of this kind. The time taken to produce unconsciousness would suggest that it may occasionally be so. No fatal case seems to have been reported over many years in Japan or elsewhere, and the process of being strangled in this way is not in any way painful. It often occurs when one is resisting a strangle, apparently successfully, and one may find oneself powerless to tap (recognized signal of defeat) by the time one realizes that the strangle has been effective.

In practice the Judo hold is simple enough but easier to demonstrate than to explain on paper; generally the supinated forearms are crossed, the fingers (not thumbs) inserted deeply behind the collar of the jacket as far back as possible, the thumbs on the outside of the collar or lapel helping to keep the collar secure: a scissors action of the forearms brings the radial edges against the neck just below the mandible, and increasing pressure compresses the arteries: there are, of course, variants of the technique.

In ordinary practice one taps when the pressure is correctly applied in the first instance; strangulation is rarely produced and, if so, is usually involuntary, as described above.

"Kuatsu," or the resuscitation of unconscious people, has many techniques, and these are taught only to instructors who have achieved the level of Black Belt: "striking a thoracic vertebra sharply with the knee" could be a rather crude description of one of the techniques that may be used. These techniques have not been put on paper because inexperienced and irresponsible people might indeed resort to striking a thoracic vertebra with the knee to the grave risk of the sporting population. Generally, they are sharp—but carefully graduated—taps on the spine, epigastrium, or one or two other points whose effects have been investigated empirically over a long period. They seem to produce reflex stimulation which may stimulate an individual who is unconscious in the way that—and under the conditions where—any counter-shock may do so. Whether they have any other virtues or efficacy, or can revive those who do not react to Western methods of resuscitation by injection, etc., I cannot say. So far as I know the matter has never been investigated scientifically.

Notification of Pemphigus Neonatorum

Q.—*Is pemphigus neonatorum a notifiable disease? I understand a midwife in domiciliary practice has to notify it to the supervising authority. What is the duty of the doctor in these cases? Also, what is the duty in this respect of an obstetrician in charge of a maternity hospital (a) in England, and (b) in Scotland?*

A.—Pemphigus neonatorum is not a statutorily notifiable disease like diphtheria or scarlet fever. Under the rules of the Central Midwives Board, however, and possibly also on instructions issued by the local supervisory authority, it is incumbent on the midwife who recognizes any abnormality, including pemphigus, in an infant under her care (*a*) to summon medical aid, after which the doctor called in attendance becomes responsible for the treatment of the case, and (*b*) to notify the local supervisory authority, which then takes the responsibility for investigating the circumstances of the case and dealing with the midwife. When a case or cases occur in a maternity unit the medical officer in charge is ordinarily responsible for control measures, but he will usually find it expedient to notify the medical officer of health of the local sanitary authority and get his co-operation.

As pemphigus neonatorum is not notifiable in either England or Scotland the same procedure should be adopted in both countries.

Proprietaries for Asthma

Q.—*Is it justifiable to prescribe on E.C.10 proprietary remedies for asthma which are substantially the same as the National Formulary neb. adrenal. et atrop. co.? Some of my asthmatic patients find the proprietary products more helpful.*

A.—There are minor differences in composition between proprietary preparations and the *National Formulary* neb. adrenal. et atrop. co. It is a common experience for patients to state that the *National Formulary* preparation is less effective than one or other of the proprietary preparations. Although it is difficult to exclude with certainty the suggestion that psychological factors play a part, in the writer's experience this is improbable, because in many cases patients have thought they were receiving an identical product. It is easy to recognize the difference between these preparations when given "blind" to patients. On the whole, therefore, I consider that it is justifiable to prescribe the proprietary remedies on E.C.10 when a patient states that they are definitely more effective than the *National Formulary* preparations in his case.

Brimstone and Cancer

Q.—*What are the medical causes of a taste and smell of sulphur? This was a leading symptom in a woman with cancer of the breast. The symptom disappeared about three weeks after radical mastectomy, but has now recurred; so far there is no evidence of recurrence of the growth. Is there any possible association between the cancer and the taste of sulphur?*

A.—There appear to be no references in the literature to an association of cancer with a taste of sulphur. L. S. P. Davidson (*Lancet*, 1949, **2**, 197) refers to the odour of mercaptan in the breath of patients with severe liver disease. H. G. Crabtree (*Cancer Res.*, 1946, **6**, 553) refers to evidence of a direct association between sulphur compounds in the cells and carcinogenic substances during the early stages of carcinogenesis; this association may be related to the normal process of detoxication, and may play a part in carcinogenesis.

Geographical Tongue

Q.—*What are the causes and treatment of geographical tongue?*

A.—Geographical tongue is a description applied to the appearance of bald patches on the tongue due to exfoliation of the surface horny layer. The patches may coalesce in a discoid pattern resembling alopecia areata of the scalp, and like this condition are functional in origin. Geographical tongue may occur alone or in association with functional dermatoses, especially of the exudative type such as urticaria, eczema, and seborrhoeic dermatoses. The condition is of no significance, it is usually symptomless, and like the accompanying dermatological ills is not responsive to any line of treatment; it may wax and wane or clear up completely.

NOTES AND COMMENTS

Seasickness.—Dr. GILBERT DALLEY (London) writes: I must take issue with your correspondent writing on seasickness ("Any Questions?" January 5, p. 57) who maintained that antihistamine-like drugs were less effective than hyoscine. I am not a sufferer myself, but from experience in small boats I can assure your readers that, if they wish to have a comfortable sea trip with all their faculties unimpaired, drugs such as "dramamine" or better still "avomine" are far preferable to hyoscine, and those who are sufferers from *mal de mer* will be able to enjoy going to sea.

OUR EXPERT writes: Dramamine is the 8-chlorotheophyllinate and "benadryl" the hydrochloride of diphenhydramine; the pharmacological action of dramamine and benadryl is the same (M. Nickerson, *Science*, 1950, **111**, 312). Equally the pharmacological action of avomine (promethazine-8-chlorotheophyllinate) and "phenergan" (promethazine hydrochloride) is the same. Experiments performed in small boats and designed to exclude personal prejudice (E. M. Glaser and G. R. Hervey, *Lancet*, 1951, **2**, 749) have shown that hyoscine is a better seasickness remedy and no more toxic than either benadryl or phenergan. The patients in these experiments took each drug in turn but did not know what drugs were used, and they preferred hyoscine.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499. TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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SUPPLEMENT TO THE

BRITISH MEDICAL JOURNAL

LONDON SATURDAY FEBRUARY 23 1952

CONTENTS

Central Consultants and Specialists Committee - - 65
Hospital Medical Staffs Defence Trust - - - 67
Caribbean Council of the B.M.A. - - - - 67
Entry into General Practice - - - - - 68
Inflation of Lists - - - - - - - 68
Public Health Service - - - - - - 68
Colonial Medical Service - - - - - - 68
Malta Branch - - - - - - - - 69
Scottish News - - - - - - - - 69
Heard at Headquarters - - - - - - 69
Questions Answered - - - - - - - 69
Correspondence - - - - - - - 70
Prizes for Nurses - - - - - - - 72
Diary of Central Meetings - - - - - - 72
Branch and Division Meetings to be Held - - - 72
Meetings of Branches and Divisions - - - - 72

CENTRAL CONSULTANTS AND SPECIALISTS COMMITTEE

REGISTRARS AND REDUNDANCY

An all-day meeting of the Committee was held at B.M.A. House on February 7, Dr. T. ROWLAND HILL presiding. The members stood in silence as a tribute to the late King.

The position of registrars and senior registrars whose contracts had been terminated as a result of the reduction in registrar establishments was the subject of a long discussion. The CHAIRMAN said that there was one particular aspect of the registrar problem which the Joint Committee would raise again with the Ministry of Health—namely, the problem of the transferred officer who was wrongly graded at the outset of the National Health Service as a registrar or senior registrar, and was now, although a permanent officer, in danger of losing his appointment.

The Joint Committee had had difficulty in reaching agreement with the Ministry on this point, but it would be pressed again that such officers should have their gradings rectified so that they became, for example, S.H.M.O.s, where that was really the appropriate grading. He was told that the people particularly affected were transferred officers—that is, men who had a permanent job in the local authority hospitals prior to 1948 and could not be graded as consultants and so were graded inappropriately as senior registrars, the precise function of the S.H.M.O. grade, and even of the S.H.M.O., being in doubt then, so much so that grading committees often avoided the grade. There were a considerable number of these, and there was no machinery whereby the mistake of three years ago could be corrected and the men be graded S.H.M.O.s.

Another problem concerned the hardship to men who had been senior registrars for a number of years and were likely to find themselves very shortly in difficulties concerning employment. The Joint Committee urged the taking of some short-term compassionate action.

A spokesman of the Registrars Group Committee said that within a measurable time the number of senior registrars was to be cut to 960; at the moment it was considerably more than this, and many were coming to the end of their extended term of office. In some cases they had had a raw deal. They had been taken in on the post-war tide of expansion and their prospects were too rosily painted. The simple fact was that there were more highly trained people than could be absorbed immediately. One line of Ministerial policy, if it could be followed, might help the registrar situation. Within the near future about 270 consultants over the retiring age would have their position reviewed, and if something near this number of vacancies were created over and above the normal expectation a corresponding number of registrars could be absorbed. It was felt that at this particular moment for registrars to have their contracts terminated abruptly when during the next 18 months or so a number of them might be absorbed was a mistake which would have unfortunate reactions, not only on the registrars themselves but on the service.

Alternative Employment for Registrars

Mr. C. E. KINDERSLEY said that this was really a two-fold problem—the problem of existing registrars and that of the registrars of the future. So far as the latter were concerned, the Joint Committee had done a great deal to ensure that they would not be "led up the garden path," and that their appointments would be more or less in accordance with vacancies. But at present there were a large number of senior registrars concerning whom the Government had a real responsibility. Everything possible should be done to make the Government realize its obligation towards these young men. Many were likely to come under notice and would find it extremely difficult to get employment at all. The original grading was never very satisfactory so far as registrars and S.H.M.O.s were concerned; some who were created senior registrars were graded wrongly. Some were graded in the expectation that they would receive consultant posts, but they had not done so, not through any demerit of their own, but because it was thought that someone who had worked in a teaching hospital was necessarily better than one who had done most of his work in a non-teaching hospital. Some of the senior registrars who were likely to be dismissed within the next few months were approaching the age of 40. There were the transferred officers, who were finding themselves in an awkward position. There were those who had returned from the Services and accepted registrar posts on the understanding that the country was very short of consultants. The Government had suggested the Colonial Medical Service as alternative employment, but at the age of 35 to 40 this did not offer very much, especially with a retiring age at 55, when the men would be back in this

country with less opportunity than ever of getting a job. For the younger people there were opportunities in general practice, though from what he had heard the ex-registrar was not greatly welcomed in that field. An appeal might be made to the General Medical Services Committee to see that the former registrar had priority in general practice over the newly qualified man just leaving the medical school. The CHAIRMAN said that the problem of the entry of ex-registrars into general practice had already been discussed with general practitioners' representatives and raised with the Ministry of Health.

It was agreed that the Joint Committee should be asked to use all its efforts to remind the Ministry of its grave responsibility towards these men, and also that the G.M.S. Committee be reminded of the general practice aspect. A resolution from the Registrars Group Council calling for more flexibility in the terms of office of registrars and senior registrars was also referred to the Joint Committee.

The CHAIRMAN said that a suitable way to deal with the problem would be to make the term of the senior registrar more flexible. A general resolution such as that just passed that the attention of the Government be drawn imperatively to the position of these men was the best course at the moment.

The registrars' representative thanked the Committee for its interest in their affairs. Asked whether there would be "toughness" on this matter, the CHAIRMAN said that the view of the Committee would be put forward that a strong, outspoken, and determined attitude must be taken up to deal with this short-term position. The solution was clear enough; the difficulty was to bring enough persuasion or pressure upon the officers of the Ministry.

It was agreed that a further request should go forward to the G.M.S. Committee for help in placing registrars in general practice and for its advice and suggestions in this matter.

Appointment of Consultants and Registrars

A request was received from the Amending Acts Committee of the Association for the views of the Committee concerning the procedure for the appointment of consultants and registrars.

The CHAIRMAN said that a long time ago the Joint Committee asked for certain alterations to be made in the way in which consultants were appointed. A report on the matter went through the B.M.A. machinery and was adopted by the Annual Representative Meeting. The Joint Committee was now in negotiation with the Government. The negotiations were necessarily delicate and difficult, and he hoped that the Amending Acts Committee would leave the matter at that. The moment there was anything to report it would come to the B.M.A. Council. The Council had passed a resolution strongly supporting the common front maintained between the Colleges and themselves. The common front meant that matters at the planning stage must be brought before the constituent bodies, for joint planning together at the earliest possible moment.

Dr. E. C. WARNER said that the Amending Acts Committee was most anxious to co-operate in the presentation of a common front, and he agreed that the common front meant joint planning and joint negotiation from the earliest moment.

Pay-beds

On the subject of pay-bed regulations the CHAIRMAN reported that the detailed schedule of fees for surgical operations in private wards was being discussed with the Ministry and Government policy in regard to amenity beds and maintenance changes for private beds was being considered by the Joint Committee with a view to its full discussion later with the Minister. It was agreed to await a further report and to bear in mind that the profession might have to accept some sort of appeals machinery for doctor or patient in the event of dispute with regard to fees.

Inquiry into Consultant Services

It was reported that discussions had taken place with the Ministry on the action of the South-west Metropolitan Regional Board in reviewing the contracts of individual consultants, and that the Ministry had undertaken to inquire into the position. In the meantime the following broad principles had been accepted: that once a permanent contract had been entered into it should not be disturbed unless it could be clearly shown that altered circumstances justified a variation, in which event due notice should be given and any modification made after a full examination and in agreement with the consultant concerned; and, in the second place, that where a consultant had given up other commitments in order to assume responsibilities offered by a hospital board the board should be under some obligation to maintain the contract for a reasonable time, provided the consultant played his part.

Mr. NICHOLSON-LAILEY said that under a contract the sessions should be based on average speed of work with an average consultant and the average type of patient. There was a tendency to alter such conditions.

It was agreed that the question so far as it had been taken should be referred to the Joint Committee especially in view of the fact that previously the Ministry had agreed that it had a "moral obligation" to do "all in its power" to safeguard the part-time consultants' security of sessions.

Patients' Consent to Operation

Dr. ROBERT FORBES attended by invitation to explain the legal position concerning model forms of consent to operation which had been approved by the Medical Defence Union, and had previously been the subject of some questions in the Committee. Dr. Forbes said that these forms had been prepared after long discussions with counsel and were in operation in most hospitals throughout the country. In practice it was believed that they were advantageous both to the consultant and to any legal bodies which might be called upon to assist him if his conduct was challenged.

Strictly speaking, it was illegal to do anything to anybody without consent, and a practitioner could be charged in the criminal courts with assault, or in other courts he might be found guilty of trespass for which damages could be awarded. Consent could be either implied or written, and many operations were undoubtedly carried out under conditions of implied consent. Lawyers said that a written form of consent was of no use unless it described what was proposed to be done, and some surgeons attached themselves to the view that it was undesirable to disclose this, and that in many cases it was not really known what extent of operation would be necessary. But he thought it was not beyond the wit of surgeons to find a suitable term to cover such cases. "An abdominal exploratory operation" might serve as long as the ensuing part had been faithfully observed—that is, "the effect and nature of which has been explained to me." He did not think it very important what surgical term was used. But it was because it had happened that people had given consent and had subsequently claimed that the authority they gave had been exceeded that it was desired in the form to give as close a description as possible of what it was proposed to do.

The CHAIRMAN said that he hoped these supplementary explanations might be of use and further the acceptance of the model form.

The question of complaints machinery was brought up by Dr. COCHRANE SHANKS. Recommendations had already been made concerning the procedure to be followed by hospital authorities when an incident occurred which might give rise to subsequent complaint or legal action against the hospital or members of the medical staff or both, or again when a complaint was made regarding the personal conduct of a member of the medical staff. The two defence societies, however, which had examined the report and recommendations took different views at certain points, and

therefore he proposed, and it was agreed, that the problem be referred to a joint co-ordinating committee of the defence societies.

A number of resolutions from regional committees and other reports and correspondence were considered.

HOSPITAL MEDICAL STAFFS DEFENCE TRUST

A meeting of the Hospital Medical Staffs Defence Trust was held on February 7 under the chairmanship of Dr. ROWLAND HILL. It was reported that a further letter of appeal for contributions to the Trust Fund was being sent to all members of hospital medical staffs above the grade of house-officer. In the course of discussion it was suggested that the best way to raise funds was by deduction at source in the same way as the National Insurance Defence Trust money had been raised, and it was agreed that a clear and informative statement on the subject should be published in the *Supplement*.

A member of the Trust made the suggestion that consultants should submit to an annual levy—say half a guinea—to meet the expenses of the committee. Another suggestion was that a sum of 1s. for every £100 remuneration should be deducted at source. The Executive Committee of the Trust was asked to look into the matter. The CHAIRMAN thought that an offer might well be made to cover the actual cost of the meetings of the Central Committee during the year. It was mentioned that each meeting of the Committee involved railway expenses to the amount of about £200. It was agreed immediately that, pending further examination by the executive committee, a loan be made from the consultants' defence fund to assist in meeting some of their costs during the next year.

CARIBBEAN COUNCIL OF THE B.M.A.

FIRST MEETING IN JAMAICA

Following the visit a year ago of Dr. Guy Dain to the West Indian Branches, a Caribbean Council of the British Medical Association has been formed. Its first meeting was held in Jamaica from December 4 to 7, 1951, under the chairmanship of Dr. W. E. MCCULLOCH, past president of the Jamaica Branch, and was attended by delegates from all the Branches in the Caribbean area. Three official observers were also present—namely, Dr. J. W. Harkness, medical adviser to the Comptroller for Colonial Development and Welfare, Professor E. Cruickshank, Dean of the Medical Faculty, University College of the West Indies, and Dr. P. F. DeCaires, Caribbean representative of the World Health Organization. The last-named said that it was intended to extend the small office of the W.H.O. in Jamaica so that it would become the head office for the Caribbean. He hoped for the establishment of liaison between the W.H.O. and the B.M.A.

The Conference was formally opened by the Hon. DONALD SANGSTER, Minister for Social Services, Jamaica, who described the Council as another link in the closer association which was rapidly coming about between the British islands of the West Indies. A welcome was also given by Dr. L. W. FITZMAURICE on behalf of the Jamaican Government medical services, which he claimed to be one of the best of the Colonial units. A reply on behalf of the visiting delegates was made by Dr. P. V. SOLOMON, of Trinidad.

At the business session it was decided that the Council should be called "The Caribbean Council of the Branches of the British Medical Association," and consist of seven members, being one each from Jamaica, Trinidad, Barbados, British Honduras, British Guiana, Windward Islands, and Leeward Islands; that its objects should be to represent the regional interests of the British Medical Association, to place at the disposal of the authorities the advice and co-operation of the medical profession, and to be the sole advisory and negotiating body for the entire profession in the British Caribbean on regional matters and on subjects submitted by any of the Branches. The meetings are to take place at intervals of not longer than one year (the next is to be at Barbados in December, 1952). Dr. W. J. S. Wilson, of the Jamaican Government Medical Service, was appointed the secretary.

Unification of the Service

Each of the delegates gave the views of his Branch on the question of unification of Caribbean medical services. The only opponent of unification was the Barbados delegate (Dr. A. P. MUIR), who feared that such a course would react to the detriment of the smaller Colonies. Some of the other delegates, while agreeing to unification in principle, had no particular suggestions to offer, and the CHAIRMAN commented on the unsatisfactory nature of the reports. It was agreed, however, that the Branches should get into touch with their respective Governments and ascertain their reactions to the proposal.

The question of standardization and improvement in salary scales and conditions in the Government medical services was also discussed. The accounts given by delegates showed great variations in Government provision and in the emoluments of the profession.

In view of these variations the secretary was instructed to prepare a report on the subject for the next conference. The CHAIRMAN said that the only solution was a central pool for salaries and a system whereby patients who could do so would be required to pay for treatment in Government institutions. It was the view of the Conference that if there was a more rigid system for collection of hospital payments it would be possible to improve the salaries of medical officers.

Hospital Facilities for Private Practitioners

Another matter which engaged the attention of the Conference was the provision of hospital facilities for private practitioners. The CHAIRMAN urged the establishment of hospital boards which would have, among other duties, the appointment of suitable practitioners to part-time posts in hospitals. The Trinidad delegate, Dr. P. V. SOLOMON, said that it was the general feeling in his colony that the only way in which general practitioners could associate themselves with the work of the hospital was through out-patient clinics. The British Honduras delegate, Dr. PEREZ-SCHOLFIELD, said that there the official attitude was not to allow private practitioners to attend patients in hospital. Dr. HILTON HO said that in British Guiana private practitioners had recently approached the Government with the offer to run some out-patient clinics and also to take under their care any patients from the clinics whom it was desired to admit to a bed.

Incidents between magistrates and members of the medical profession in murder cases and cases of sudden death were reported, when medical officers not versed in pathology had failed to give clear evidence of cause of death. The Conference therefore resolved to ask the Branches to urge their respective Governments to provide at least one practitioner trained in medico-legal work.

The question of over-population in the Caribbean found the delegates in disagreement on the rightness or expediency of birth control, but a resolution was carried that the problem of population pressing on limited economic resources should be examined by the Branches and that the Governments should be urged to use every method open to them to increase production and improve social conditions.

It was also decided to take steps to bring to the attention of the authorities the urgent necessity for establishing a centre, preferably in Jamaica, but to serve the other islands, for radiotherapy, and to ask for the services of visiting specialists in oto-rhino-laryngology and in orthopaedics in the Windward and Leeward Islands.

B.M.A. Branches and Governments

From Trinidad it was reported that the Government recognized the British Medical Association as a body to be consulted about impending legislation, but the Association's recommendations were often not accepted. From Barbados it was reported that the D.M.S. did not accept the B.M.A. as a recognized negotiating body, and preferred to negotiate through the Civil Services Association, but the Government was now willing to consult with the Branch on certain matters.

The Conference agreed to continue to press for the recognition of the Association as the sole bargaining body for the medical profession in the British Caribbean.

One event of the meeting was a conference with representatives of the Press, who were informed of a Press Relations Committee inaugurated by the Jamaica Branch. The spokesman of the Press promised that there would be no breach of confidence on the part of West Indian journalists.

In closing the Conference after a four-days sitting Dr. McCulloch from the chair thanked the parent Association in London for the part it had played in the development of medical organization in the Caribbean.

A number of social functions accompanied the Conference, including a dinner at which the Governor, the Principal of the University College of the West Indies, and other personages were guests.

ENTRY INTO GENERAL PRACTICE

ELUSIVE PARTNERSHIPS

Vacancies for prospective partners have declined steadily since the peak period in the second quarter of 1950, according to the 1951 Annual Report of the B.M.A.'s Medical Practices Advisory Bureau. The following Table from it compares the number of assistantships with view and without view to partnership arranged by the Bureau.

	1949	1950	1951
Assistants with view	235	276	211
Assistants without view	217	422	435

During the second quarter of 1950, 80 prospective partners were introduced, whereas in the corresponding quarter of 1951 the number was 44; in the third quarter of 1951 it was down to 40. In the last quarter of 1951 the figure reached 62, but it is too early yet to say whether this rise will continue.

Experience gained by the Medical Director, Dr. L. Potter, B.M.A. Assistant Secretary, shows that established general practitioners are increasingly reluctant to take partners. In his opinion this is due mainly to two factors—apart from the rising cost of living, which affects all alike. First, the long uncertainty about general practitioners' remuneration makes a doctor loath to commit himself until he can plan ahead more surely. Secondly, there is no capital sum to offset the initial loss of income when a share is transferred.

Heart-breaking Experience

Starting a new practice in London is nothing short of heart-breaking in most cases, according to London Executive Council's evidence to the Central Health Services Council's Committee on General Practice.

According to this evidence, partnerships are sometimes entered into with conditions which make the position of the new partner very little different from that of a hired servant. A vacancy with a reasonable list and residence and surgery often draws some 70–80 applications. In too many cases, says the report, a doctor other than the one approved by the Medical Practices Committee gets round the regulations by obtaining the premises of the out-going doctor.

INFLATION OF LISTS

AGREEMENT WITH G.M.S. COMMITTEE

The Ministry agrees that doctors should not make personal calls to trace patients. This is one of the points included in a circular (E.C.L.4/52) issued to executive councils by the Ministry of Health after agreement with the General Medical Services Committee.

The circular gives instructions on how to trace patients by means of the local electoral register, the local housing authority, by letter, and if necessary by a personal visit from a member of the executive council's staff. If a person is not traced after six months from the date of the original notification on form E/D, he is to be removed from the doctor's list. If he goes to the doctor within six months of the date when his name was removed, back credits will be made to the doctor, provided there is reason to believe he was at risk to treat the patient during this time.

PUBLIC HEALTH SERVICE

MORE AUTHORITIES IMPLEMENT AWARDS

More local authorities continue to fall into line and implement the awards made by the Industrial Court. By February 14, 78% of all authorities and 87% of local health authorities in England, Scotland, and Wales were implementing both awards. These figures have increased by about 5% to their present size in three weeks. The following figures show how local health authorities are acting in this matter.

	1st Award	*2nd Award*
Counties	93%	91%
County boroughs	75%	80%
Counties of cities	75%	100%

The position continues to improve daily.

COLONIAL MEDICAL SERVICE

SALARIES IN THE FAR EAST

The Association's negotiations with the Colonial Office continue to bear fruit. The following improved salaries in the Colonial Medical Service can now be announced:

Hong Kong

Director of Medical Services	£2,585
Deputy Director of Medical and Health Services	£2,210
Senior Specialists	£2,210
Deputy Director of Medical Services	£2,135
Deputy Director of Health Services ..	£2,135
Senior Medical and Health Officers ..	£1,998
Specialists	£1,998
Medical and Health Officers	£1,148 to £1,911

Special Grade Medical Officers: Medical Officers holding certain higher qualifications enter the Medical Officer scale two increments above the minimum.

NOTE.—The above figures include expatriation pay.

Malaya and Singapore

	Without Expat. Pay	*With Expat. Pay*
Administrative Medical Officers—Grade A	£1,680	£1,988
Specialists—Grade A	£1,680	£1,988
Administrative Medical Officers—Grade B	£1,470	£1,750
Specialists—Grade B	£1,470	£1,750

Special Grade Medical Officers: Medical Officers possessing certain higher qualifications enter the Medical Officer scale four increments above the minimum.

Western Pacific

Senior Medical Officer—British Solomon Islands	£F1,550 to £F1,650
Senior Medical Officer—Gilbert and Ellice Islands	£F1,600
Medical Officers	£F840 to £F1,550

NOTE.—£F111=£100 sterling.

MALTA BRANCH

INVITATION TO SERVICE MEMBERS

The Malta Branch of the B.M.A. is the only active medical society on the Island, and during 1951 its membership rose. Six scientific and clinical meetings were held, at which the material presented for discussion was interesting and varied. The Branch Council met on five occasions. The Branch now has its own premises in the form of a room at the British Institute, kindly made available by the British Council. The Branch Library is housed here.

Service members stationed in Malta are invited to participate in the activities of the Branch.

Scottish News

N.H.S. COSTS RISE

Hospital Services

Compared with 1949–50, the year 1950–1 showed an increase of about £2.7m. in the gross expenditure on hospital running costs in Scotland. Of this, about £570,000 for maintenance of patients is attributable to a 2% increase in the average number of patients and to a rise in commodity prices. The average bed-day cost rose from 18s. 4d. to 19s. 8d.; the average out-patient rate from 4s. 3d. to 4s. 8d. per attendance. A rise of £415,000 in the specialist services was mainly for arrears in consultants' distinction awards. Administrative costs rose by about £80,000 because of increases in salaries and wages due to the filling of authorized staff vacancies.

General Medical Services

Executive council costs fell slightly from £17.266m. to £17.253m. owing to a reduction in the cost of dental services. Against this there were increases of about £90,000 for medical services and £275,000 for pharmaceutical services. The medical services' £90,000 is made up mainly of an increase of £66,000 for training grants for assistants and of £22,000 for superannuation contributions met by executive councils.

Prescribing Check

Payments to chemists rose from £3.8m. to £4.1m. The number of prescriptions dispensed rose from 18,000,000 to 20,200,000, and the average cost from 46.4d. to 50.0d. In March, 1951, the Department of Health notified executive councils that it proposed to take more effective steps to detect and deal with extravagant prescribing. By December about 120,000 prescriptions had been investigated and a number of them selected for reference through executive councils to the local medical committees.—Report of the Comptroller and Auditor General (N.H.S. (Scotland) Act, 1947. Accounts, 1950–1. H.M.S.O. 1s.).

STARTING SALARY OF CONSULTANT

SUCCESSFUL APPEAL

The B.M.A. has recently won another appeal for a consultant through the regional Whitley appeals machinery.

A Scottish chest physician who had held hospital appointments with full clinical charge before the war took up a public health appointment in 1938 as deputy medical officer of health. But he continued certain clinical consultant duties in infectious diseases, including tuberculosis. In 1940 he took over part of the work of the tuberculosis officer for his county, and in the latter part of 1944 was appointed physician superintendent of a tuberculosis sanatorium in addition to his duties as tuberculosis officer.

In fixing his starting salary as from July 5, 1948, the hospital board disregarded all the clinical consultant service prior to 1944, when the officer took up his present sanatorium appointment.

The regional appeals committee decided that the consultant in question had held a hospital staff appointment with full clinical responsibility since February, 1940 (when he resumed clinical work after the break occasioned by his administrative appointment). He was accordingly entitled to full seniority, and his starting salary was fixed at the maximum point in the scale as from July, 1948.

Heard at Headquarters

Night Calls

The assembly of a number of rural and semi-urban practitioners in Essex at the opening of the Harlow health centre afforded an opportunity for inquiring how frequently the general practitioner was disturbed by a night call. It all depends on what is meant by a night call. If the regulation hours, 8 p.m. to 8 a.m., are taken, a different picture will be obtained, but if night calls are those which actually bring the doctor out of bed, say from midnight to breakfast time, one practitioner said that he had on the average one a week, another that he had one in ten nights; and that seemed to be about the level. The peak hour for calls was said to be the early evening, largely determined by the fact that the father comes home from work and finds the mother anxious about a child who had been ailing all day but hesitant about sending for the doctor on her own responsibility. Maternity cases, of course, alter the picture, and it was said that in this part of Essex about half the mothers are still confined at home.

Nagging Note

According to press reports, families may be given some housing priority at Newcastle-upon-Tyne if a doctor's note is produced showing that mother has nerve trouble because of constant nagging. But the domestic trouble has to be serious. According to a councillor, it will be no good just saying, "I've had a row with my in-laws. I want a house." A doctor, anticipating a prodigious demand, writes in to ask for some suitable certificate forms.

Questions Answered

Income Tax on Compensation

Q.—*In Northern Ireland the Ministry of Health has made a payment of interest as at January 21, 1951, on compensation for loss of goodwill of medical practices. Income tax has been deducted at 9s. 6d. in the £, being the standard rate ruling at the date of payment, although the interest has been earned to some extent during a period when the standard rate of income tax was 9s. in the £. Can any adjustment be claimed in respect of this over-deduction of 6d. in the £?*

A.—Retrospective payments must rank for tax at the current rate (Section 39 (1) of the Finance Act, 1927). The date on which the interest on compensation will become due will presumably be the date on which the Minister of Health declares it to be due, and tax on the whole of the arrears will accordingly be deducted at the standard rate in force on that date.

Called Up

Q.—*I have been warned that I shall be called for 14 days' military training this summer. Am I entitled to make any claim to the War Office for the cost of a locum to do my work while I am away?*

A.—No. Neither the War Office nor the Ministry of Health undertakes the payment of the locum's fees in these circumstances.

Correspondence

Health Service Charges

SIR,—In your leading article on the Health Service charges (*Journal*, February 9, p. 312) you rightly refer to the difficulties of dispensing doctors, who will now become tax collectors. Quite apart from the natural distaste we will feel for the job, the greatly increased paper work, and the barrier between our patients and ourselves, many of us will be substantially out of pocket. I estimate that, in spite of notices and warnings, fully 20% of patients will come to the surgery without the necessary cash, and unless we institute a system of bookkeeping and accounts it will come out of our own pockets. In many cases this will involve the doctor in a loss of £30 to £50 per annum.

An anomalous position arises in the different methods of collection in the cases of doctors dispensing by tariff and those dispensing by capitation. The patients of the former pay their shillings, while those of the latter get their medicines free, or most of them. Where two doctors, using different systems, practise in the same area, as in my own case, the bewilderment of the patients may be imagined.

Apart from these considerations, in my opinion by far the most important aspect is the degrading and lowering effect it will have on the status of dispensing doctors. Most of us dispense for our patients because of our isolated situations, not because we want to. If we now have to collect a shilling at each consultation, find change, rattle cash-boxes and haggle over payment, each time becomes a sordid commercial transaction. I hope the B.M.A. will energetically resist this imposition in accordance with the resolution passed by the Annual Conference of Local Medical Committees.—I am, etc.,

Rolvenden, Kent. B. W. WYLLIE.

SIR,—A very large number of doctors are behind the Government in the 1s. charge per prescription. It is most unfortunate, therefore, that the papers and the B.B.C. announced on February 13 that the B.M.A. or one of its Committees opposes it, without stating that their views are not those of the mass of the profession.—I am, etc.,

London, S.E.27. F. H. HUNNARD.

SIR,—Your leading article in the *Journal* of February 9 (p. 312) is valuable in setting out the pros and cons of the proposed charge of 1s. for prescriptions under the N.H.S. The present excessive cost of medicines ought surely to be dealt with. Any pharmacist can show how medicines are still being ordered on E.C.10 which are expensive and could be either done without or replaced by less costly ingredients.

The increase in the number of proprietary preparations since July, 1948, is significant, and the authorities are not yet curtailing the prescribing of them as would be reasonable and essential. It would not matter so much if the profit from prescribing of proprietary medicines went into State funds, but it does not. The Minister of Health's words are, "The cost of medicines has risen enormously." The waste in prescriptions requires urgent attention.—I am, etc.,

London, N.W.11. L. S. WOOLF.

SIR,—As one of the forgotten men of the medical profession, the dispensing doctor, I wish to make a strong protest against the new order requiring us to collect levies for the Government in order that a service which in its present form I have always been very much opposed to, but which, by the threat of what seemed to me to be very near to blackmail, I was forced to take part in, may be financially bolstered up and saved from utter collapse.

I am quite certain that my work will be greatly increased, as it was when we were told (not asked) to sort our own prescriptions owing to the "overworked condition of the pricing office." I can visualize the numerous arguments with an already belligerent public—for example, the woman who has left her purse at home; the child whose mother will send up the shilling to-morrow; the person who does not think he should pay, as he already pays his stamp contribution; and so on. Do we refuse the medicine in these cases and risk the headlines in the Sunday scare sheets? Or are we expected to lose the shilling? Let the Government give a definite ruling on this and let us have printed posters which we can exhibit in our waiting-rooms.

What about the numerous patients living long distances away, with perhaps only one or two buses a day, which arrive at the surgery at times other than surgery hours? Now these medicines are put out for them during surgery hours and they collect them at times suitable to themselves. Perhaps they will now have to come in surgery hours and greatly swell the already overcrowded surgeries.

I note we are asked by the Ministry not to increase quantities on prescriptions and also not to put more than two items on one form. Do they think patients will pay 2s. for, say, three or four items because they are written on two forms? Let us have a directive, printed on an official poster, so that patients need not waste our time arguing with us and widening still further the growing chasm between patient and family doctor.

So far as I can see this is yet another order which has been rushed through without settling the details of the scheme, and again it is left to the doctor to sort things out and take all the extra work plus the kicks.—I am, etc.,

Dover. E. T. MANLEY.

SIR,—You seem to be extraordinarily indifferent in your leading article (*Journal*, February 9, p. 312) to the way in which dispensing doctors have been made tax collectors overnight in spite of the declared opinion of the Annual Conference of Local Medical Committees. Does it not rouse you to anger? How long will it be before we all have to collect 6d. before giving advice? What urgent action is the B.M.A. taking in this matter? It is impossible to imagine a more clumsy piece of administration.—I am, etc.,

Amble, Northumberland. R. P. ROBERTSON.

SIR,—With regard to the proposed tax of 1s. on every prescription, I see it has been suggested that the doctors should be made responsible for the collection of this charge.

It seems to me that it would be simpler to let every patient get 1s. Health postage stamps from a post office and affix one on the back of the prescription form. When the chemist has dispensed the prescription he could sign across the stamp.

All those who would be exempt from the charge could have their prescriptions on Form E.C.10 of a special colour. Perhaps these suggestions would simplify the collection of the tax and at the same time ease the doctors' work.—I am, etc.,

Guildford, Surrey. GEORGE H. PEAKE.

SIR,—As to the B.M.A. statement on charges on prescriptions (*Supplement*, February 16, p. 61), I cannot imagine that the view expressed in any way represents the majority opinion of practitioners except so far as collection is concerned. "Financial barrier between doctors and those who need their services" forsooth, when the real barrier between the patients and adequate treatment is the abuse of the Service which this charge in the opinion of many would alleviate.

One hopes that no recommendation will be made to the profession without consulting the profession.—I am, etc.,

London, N.6. W. L. TEMPLETON.

SIR,—I was amazed to see the objection raised by the B.M.A. to the shilling prescription charge (*Supplement*, February 16, p. 61). Surely a fee like this is the one thing which may keep down the insatiable demand for the useless "bottle of medicine" and the accompanying inevitable family consultation. Rather than a hardship, a shilling for a worthwhile prescription is a very good bargain indeed.

As for the collection of the fee, does not the request for a shilling or two for a certificate come in the same category? Yet the majority of doctors make this charge.

As it seems most unlikely under the present economic conditions that an increased capitation fee will be granted, it would appear the height of folly for the doctor's representatives to oppose a measure which will help to alleviate the burden on the busy practitioner and on the taxpayer simultaneously.— I am, etc.,

London, S.E.23. IAN S. MACLEOD.

Supplementary Ophthalmic Service

SIR,—In answer to Dr. S. Chaplin's letter (*Supplement*, May 26, 1951, p. 216) in which he advocates legal action against the Minister of Health for the manner in which he reduced the Supplementary Ophthalmic Scheme fee from 25s. to 20s. last year, and has subsequently refused to pay the retrospective fee balance promised: I feel that it should be more generally known that the way the Minister got out of this difficulty was by including in the new fee of 20s. a moiety calculated against his legal obligation for retrospective payment, which he had promised before the inquiry on the time taken for refraction was set afoot.

I secured this information from a member of the Ophthalmic Group Committee only some two weeks ago when I discussed this same matter with him, and it seemed to me to preclude any such legal procedure. It is a pity that neither the Faculty of Ophthalmologists nor the Ophthalmic Group Committee troubles to provide a regular service of information to their members on such points of general ophthalmo-political interest. This perhaps explains the general apathy evinced by ophthalmologists towards such matters when they are asked to do anything concrete about them from time to time. This is underlined by the appeal in the *Supplement* of February 9 (p. 51) to ophthalmologists to nominate representatives to sit on the ophthalmic services committees and in the past by appeals for nominations to the Council of the Faculty of Ophthalmologists. Perhaps we do not care any longer whether we die from the head downwards or the feet upwards.—I am, etc.,

London, W.1. L. M. GREEN.

G.P.s' Access to X-ray Department

SIR,—There have been several articles in the *Supplement* recently on direct access by general practitioners to *x*-ray facilities—with some difference of opinion.

Free access to the *x*-ray department of Lewisham Hospital has been available to general practitioners and all surrounding clinics for over a year. This was tried out initially for a period of three months, and as it proved successful it was continued. The prime aim of this free access was to reduce the patient's waiting-time in the hospital. Previously cases referred by general practitioners for *x*-ray examination had to be seen by a medical officer in the receiving room, then referred to the *x*-ray department, and then back to the receiving room. Special request forms for use by clinics and general practitioners were carefully designed and printed in conjunction with the local Branch of the B.M.A. and distributed on request.

The upper part is for use by the general practitioner. The space for his address is of a size to accommodate a rubber stamp. He can also express a wish for his case to be referred or not to the appropriate department if considered necessary. All fracture cases are referred direct from the *x*-ray to the casualty department unless stated otherwise, and so also are all those traumatic cases whose wet films cannot be immediately seen by the radiologist. This ensures that fracture cases do not leave the hospital without being seen by a medical officer. Cases *x*-rayed in the forenoon usually have their report sent to the general practitioner on the same day.

Review of one year's "direct access" to the *x*-ray department shows that:

(1) Most local practitioners, clinics, and some dentists take full advantage of the direct access.

(2) About one-half of the practitioners make fuller use of the service than do the others.

(3) The practitioners usually give very good clinical information.

(4) Waiting-time spent in hospital by patients referred by general practitioners for *x*-ray examination has been very greatly reduced.

(5) This service does not appear to have increased the radiological work of the department during the year reviewed. General practitioners' cases amount approximately to 12% of the total work—that is, to about 12 cases a day. It is considered that most of these cases would have been referred to the hospital casualty or out-patient departments if there had been no direct service and would eventually have found their way to the *x*-ray department.

(6) Most of the ordinary *x*-ray examinations are carried out, including barium-meal examinations. Barium-enema examinations, however, are carried out after reference to out-patient departments to facilitate the necessary preparation.

(7) The waiting-list for barium examinations is shorter than that for medical or surgical out-patient departments. Cases referred for gastric and intestinal conditions may thus have the barium or other investigation completed before being seen by the consultant in the out-patient department. This is carried out in cases that will obviously require *x*-ray examination, and in this way some early cases of carcinoma of the stomach have been found without delay and immediate admission arranged.

(8) Practically no extra clerical work is incurred provided that practitioners utilize the forms supplied. A few practitioners cannot be so persuaded by request, and cause much extra clerical work.

(9) No abuse of the service apart from this has been noticed.

(10) The service is considered satisfactory by the local B.M.A. and by all practitioners who have been contacted from time to time.

(11) As mentioned in an article in the *Supplement* of February 9 (p. 50), it has brought about many useful and friendly relationships between radiologist and practitioner.

(12) The present acute shortage of *x*-ray films has restricted the radiological examination to a minimum and at times has caused postponement of all cases except absolute emergencies. Practitioners responded to our request to forward only really necessary cases, and but for this the total number received would probably have been much greater. —I am, etc.,

London, S.E.13. MICHAEL WOOD.

POINTS FROM LETTERS

Employ Professionals

Mr. DONALD M. O'CONNOR (Launceston, Cornwall) writes: Your leading article, "Preparing the Case" (*Journal*, February 2, p. 263) pinpoints the cause of our present troubles and difficulties in a way which perhaps you did not intend. You wrote of "the negotiators—all busy men in medical practice." Does anyone seriously contend that the negotiations upon which depend the livelihood of twenty thousand practitioners and their families should be carried on as a spare-time hobby by men who are really busy in medical practice? Enthusiastic amateurism has finally muddled along to a position in which we must employ professionals who will, as you point out, be opposed by the best professional brains which can be mustered against us. One can only deplore the fact that the need to employ professionals was forced upon us and not recognized, as it should have been, and acted upon five years ago. . . . Your article makes much of the need for skilled preparation of a case designed to secure our rights to the tenth of a penny, and the point is indisputable, but, as I wrote in an earlier letter, we want help *now*. We need some sort of interim settlement which is based on the obvious and manifest fact that the figures which were foisted upon us in 1948 are inadequate in view of the increase in cost of living since that time. An increase of 20% in our net incomes would bring us into line with the wage-earners and would make life a vastly easier matter for many of us.

Association Notices

PRIZES FOR NURSES

The Council of the British Medical Association is prepared to consider the award in 1952 of prizes of the value of 20 guineas for the best essay, and 10 guineas for the second best essay, submitted in open competition by each of the following categories of nurses: (1) student nurses; (2) State-registered nurses working in a hospital; (3) State-registered nurses not working in a hospital (i.e., district nurses, private nurses, etc.); (4) State-enrolled assistant nurses.

The subjects of the essays for 1952 are:

Category 1.—"Why did you decide to take up nursing? Why do you think some nurses give it up?"

Category 2.—"What can be done to make the most efficient use of trained nursing staff in hospitals, with special reference to the avoidance of wastage?"

Category 3.—"Discuss the risks of conveying infection in the course of your work and the steps you would take to prevent it."

Category 4.—"The nursing care of the incontinent patient."

The purpose of these prizes is the promotion of systematic observation among nurses. In awarding the prizes *due regard will be given to evidence of personal observation.* No essay that has previously appeared in the medical press or elsewhere will be considered eligible for a prize.

Nurses who are undergoing a course of training at a hospital are eligible to compete under Category 1; nurses registered by the General Nursing Council are eligible to compete under Categories 2, 3, or 4, whichever is appropriate.

If any question arises in reference to the eligibility of a candidate or the admissibility of his or her essay, the decision of the Council of the British Medical Association shall be final. Should the Council decide that no essay entered is of sufficient merit, no award shall be made.

The essay should be typewritten if possible, but a legibly written manuscript will receive equal consideration. It must be written in the English language, unsigned, and have attached to it a note containing the name and address of the candidate and the category into which he or she falls. Essays, which it is suggested should consist of 2,000 to 5,000 words, must be forwarded so as to reach the Secretary of the British Medical Association not later than March 31, 1952.

Preliminary notice of entry for this competition is required, and a special form for this purpose is obtainable from the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1.

Diary of Central Meetings

FEBRUARY

27	Wed.	Compensation and Superannuation Committee, 11 a.m.
27	Wed.	Committee on the Association of the General Practitioner with Hospital Work, 2 p.m. (*Date changed from February 20.*)
27	Wed.	Private Practice Committee, 2 p.m.
28	Thurs.	Committee on Control of Medical Manpower in War, 2 p.m.
28	Thurs.	Trainee Assistants Subcommittee, General Medical Services Committee, 2 p.m.
28	Thurs.	Welsh Committee, special meeting (at Raven Hotel, Shrewsbury), 2.15 p.m.
29	Fri.	Library Subcommittee, 12 noon.
29	Fri.	Ophthalmic Group Committee, 2 p.m.
29	Fri.	Science Committee, 2 p.m.

MARCH

3	Mon.	Armed Forces Committee, 2 p.m.
4	Tues.	Organization Committee, 2 p.m.
5	Wed.	General Practice Review Committee, 11 a.m.
5	Wed.	Public Relations Committee, 2 p.m.
6	Thurs.	Journal Committee, 2 p.m.
6	Thurs.	Subcommittee on Constitution and Procedure of Medical Service Committees, General Medical Services Committee, 2 p.m.
7	Fri.	Tuberculosis and Diseases of the Chest Group Committee, 12 noon.
7	Fri.	Public Health Committee, 2 p.m.
10	Mon.	Conference between the B.M.A., Ministry of Health, and associations of local authorities on Dual Appointments (at 1, Richmond Terrace, Whitehall, London, S.W.1), 3.30 p.m.
11	Tues.	Central Ethical Committee, special meeting, 12 noon (*date and time changed from February 26*).
13	Thurs.	General Practice Review Committee, 11 a.m.
19	Wed.	Joint Meeting of B.M.A. and T.U.C. Committees, 11 a.m. (Preliminary meeting of B.M.A. Representatives, 10.15 a.m.)
19	Wed.	Occupational Health Committee, 2 p.m.
21	Fri.	Colonies and Dependencies Committee, 2 p.m.
26	Wed.	**Council, 10 a.m.**
27	Thurs.	**Council.**

APRIL

2	Wed.	General Practice Review Committee, 11 a.m.
16	Wed.	General Practice Review Committee, 11 a.m.

Branch and Division Meetings to be Held

BRIGHTON DIVISION.—(1) At Sussex Eye Hospital, Brighton, Wednesday, February 27, 3 p.m., clinical meeting. (2) At Hotel Metropole, Brighton, Saturday, March 1, 7.30 for 8 p.m., annual dinner. Principal guest, Dr. Charles Hill, M.P.

BURNLEY DIVISION.—At Sparrow Hawk Hotel, Burnley, Friday, February 29, 8.30 p.m., annual general meeting.

CITY DIVISION.—At Finsbury Health Centre, Pine Street, London, E.C., Tuesday, February 26, 8.30 p.m., Dr. Raymond Greene: "Endocrinological Treatment in Gynaecology."

COVENTRY DIVISION.—At Orthopaedic Clinic, 55, Holyhead Road, Coventry, Tuesday, February 26, 8.30 p.m., demonstration and discussion by Mr. J. H. Penrose: "Some Common Orthopaedic Conditions of Childhood."

FURNESS DIVISION.—At Orthopaedic Out-patient Department, North Lonsdale Hospital, Tuesday, February 26, 8 p.m., meeting of Barrow and Furness Clinical Society. Three films will be shown illustrating some aspects of accessible cancers. A discussion will follow.

HARROW DIVISION.—At Clay Pigeon Hotel, Eastcote, Wednesday, February 27, 8.30 p.m., general meeting. Discussion by Dr. E. Idris Jones and Mr. W. E. Springford: "Peptic Ulcer."

ISLE OF WIGHT DIVISION.—At Spencers Inn, Ryde, Saturday, March 1, 8 for 8.30 p.m., annual dinner. Annual B.M.A. Lecture by Sir Arthur Porritt.

LAMBETH AND SOUTHWARK DIVISION.—At Lambeth Hospital, Brook Drive, London, S.E., Sunday, March 2, 11 a.m., clinical meeting.

SALISBURY DIVISION.—At General Infirmary, Salisbury, Friday, February 29, 11.15 a.m., demonstration by Dr. J. G. Bourne: "Use of Cyclopropane instead of Nitrous Oxide for Dental Extractions."

SOUTH LANCASHIRE AND EAST CHESHIRE BRANCH.—Wednesday, February 27, 2.30 p.m., visit to Dobson's Dairies Ltd., Lloyd Road, Levenshulme, Manchester.

SUTTON COLDFIELD DIVISION.—At Sutton Coldfield Hospital, Friday, February 29, 9.15 p.m., ordinary meeting. Lecture by Professor Hugh C. McLaren: "The Cervix in Pregnancy."

TOWER HAMLETS DIVISION.—At St. Andrews Hospital, Devons Road, Bow, London, E., Friday, February 29, 3 p.m., clinical meeting.

WEMBLEY DIVISION.—At Wembley Hospital, Tuesday, February 26, 9 p.m., discussion to be opened by Dr. E. Grundy: "Recent Welfare Provisions."

Meetings of Branches and Divisions

SOUTH-EASTERN COUNTIES DIVISION

A meeting of the Division was held at St. Boswells on December 3, 1951. Present were Dr. A. Simpson (chairman), and Drs. McGregor, Weatherhead, Haddon, J. Henderson, F. Henderson, Glover, Anthony, Adam, McCracken, Martin, Yellowlees, Davidson, Clark, Smith, McLay, Rigby Lynn, Balfour, Grieve, and Duff.

Dr. Haddon gave the meeting an excellent report on the recent activities of the local medical committee. After that Dr. Weatherhead and Dr. Glover opened a discussion on the First Interim Report of Council on the Reform of the National Health Service. The former ably summarized the salient points of the report, especially as it affected this area, and the latter stressed the importance of the first five recommendations. Subsequent speakers gave their views (usually at length) on various other matters in the Report. On the whole the Division was in agreement with most of the report and its Representative received adequate direction on most points; for the rest, as a guide to his conduct, he was recommended to his discretion and his conscience.

GN.146

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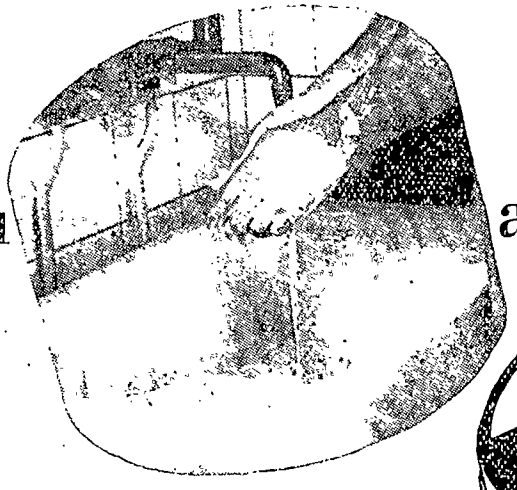

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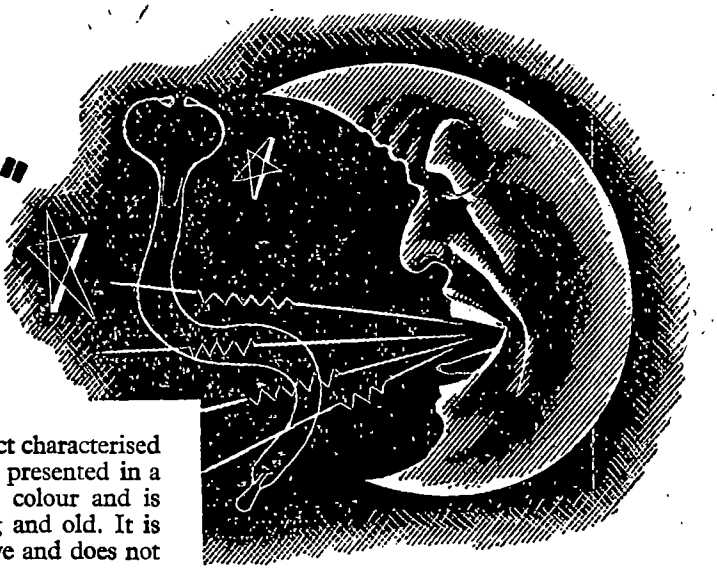

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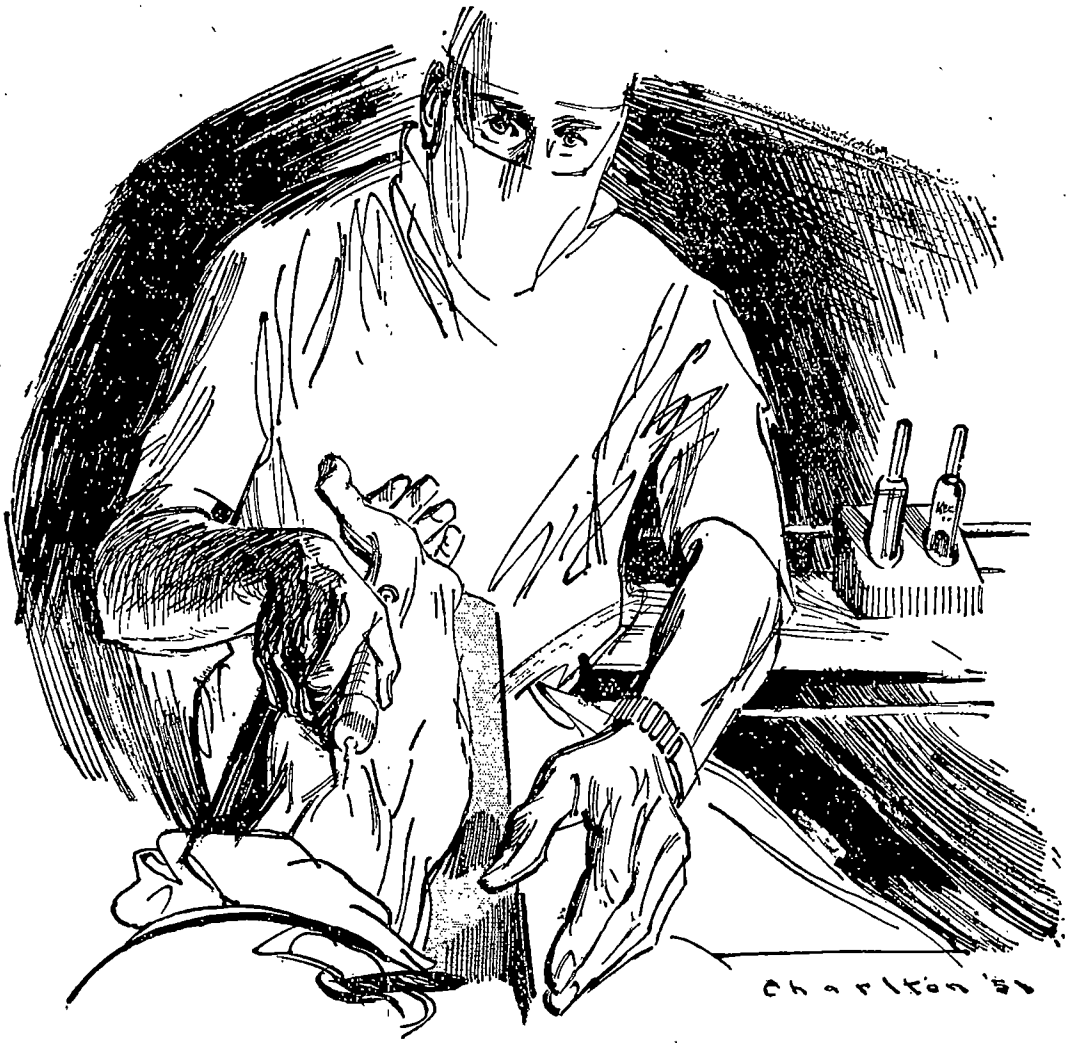

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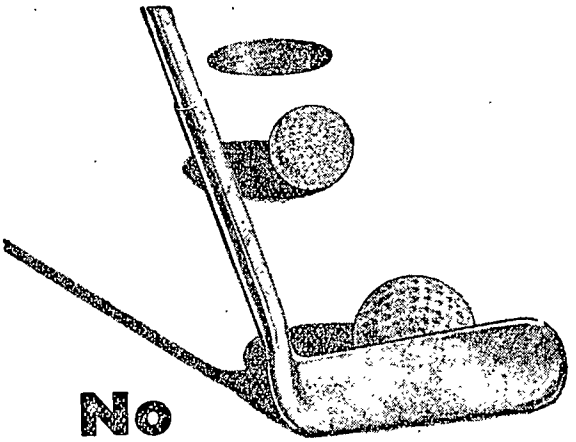

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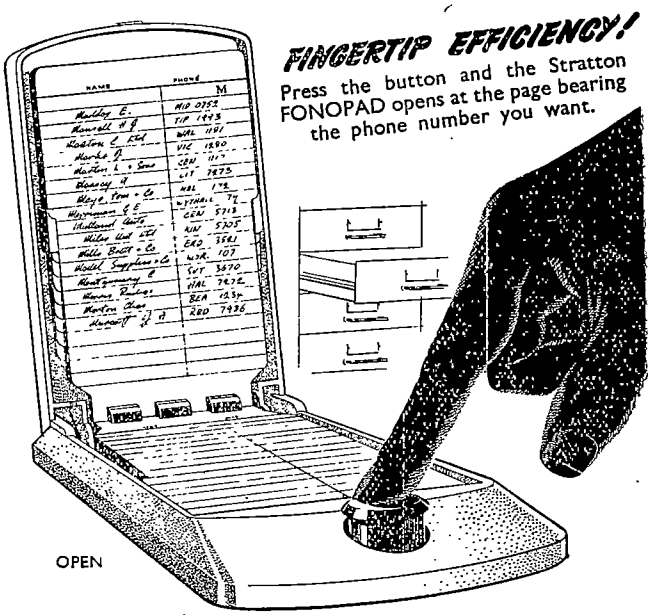

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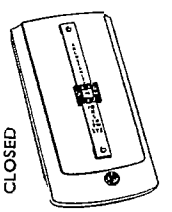

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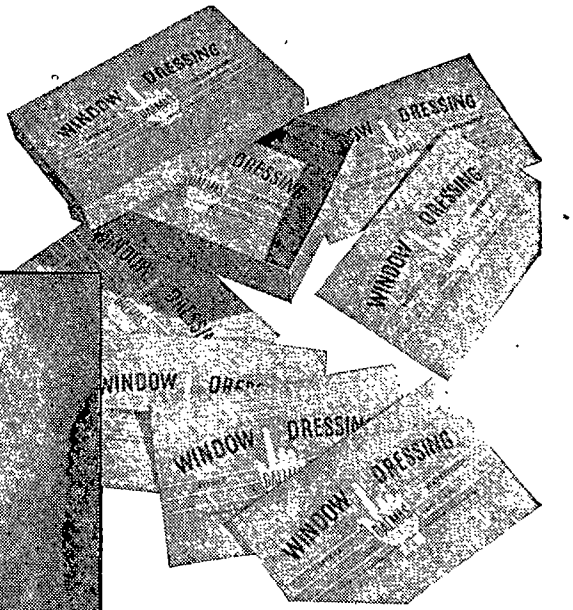

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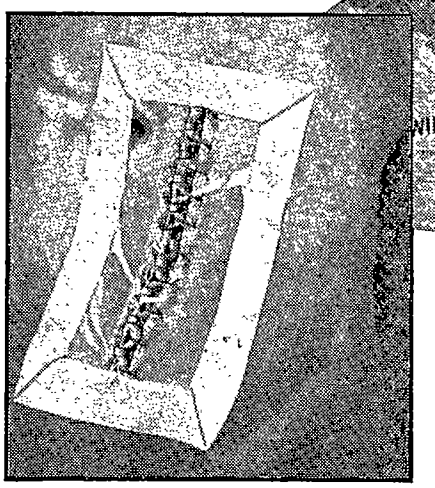

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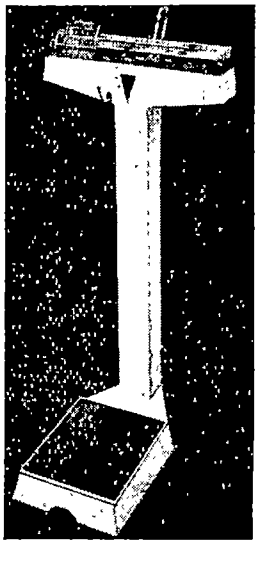

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Applicants should state name, address, age, nationality, qualifications, and enclose 3 copies (unless otherwise specified) of recent★ testimonials with short statement of experience and appointments held.

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★*SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

Deferment of call-up for "R" practitioners (i.e., practitioners liable for call-up under the National Service Acts) is granted at the discretion of the Central Medical War Committee and (in Scotland) the Scottish Central Medical War Committee. The Committees normally allow an "R" practitioner to hold a First House Officer post (N.H.S. salary £350 per annum) provided that he obtains it without delay. *Under present arrangements* the Committees also normally allow an "R" practitioner to hold a Second House Officer post (£400) and a Senior House Officer post (£670), provided in each case that the higher appointment is secured before the termination of the practitioner's current appointment.

"R" practitioners may not accept Third House Officer posts (£450 per annum) unless they have obtained the special permission of the C.M.W.C. or (in Scotland) the Scottish C.M.W.C.

SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

Registrar Grades, Whole-time

(*a*) *REGISTRAR:* Posts obtained normally not less than two years after registration as a medical or dental practitioner and held normally for two years: £775 per annum in the first year; £890 per annum in the second and any subsequent years.

(*b*) *SENIOR REGISTRAR:* Posts obtained normally not less than four years after registration as a medical or dental practitioner and held normally for three years: £1,000 per annum in the first year; £1,100 per annum in the second year; £1,200 per annum in the third year; £1,300 per annum in any subsequent years.

Other Grades, Whole-time

(*a*) *HOUSE OFFICER:* £350 per annum for the first post held; £400 per annum for the second post held; £450 per annum for the third and any subsequent post held; with, in each case, a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Each post shall be tenable for six months.

The Minister will be prepared to authorize, in exceptional circumstances, salaries up to £50 per annum higher than the standard rates specified above where a post cannot be filled otherwise.

(*b*) *SENIOR HOUSE OFFICER:* Posts obtained normally not less than one year after registration as a medical or dental practitioner and normally held for one year only: £670 per annum.

(*c*) *JUNIOR HOSPITAL MEDICAL OFFICER:* Officers who have held house appointments but who are not Registrars and who have less responsibility than other hospital officers of non-consultant status: £700 (for an officer appointed not less than two years after registration as a medical practitioner) by £50 to £1,000 per annum.

ALL NATIONAL HEALTH SERVICE HOSPITAL APPOINTMENTS ARE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SERVICE OF HOSPITAL MEDICAL STAFF

Those intending to apply for resident appointments in the Registrar grades are recommended to make inquiries with regard to the deductions proposed for board and lodging at the time of submitting their applications, where this is not stated in the advertisement.

19/12/51

CLASSIFICATION

and order of appearance

Practices **Assistantships**
Partnerships **Locums**
Situations (Medical)

HOSPITAL APPOINTMENTS

CONSULTANTS
S.H.M.O.s
REGISTRARS
J.H.M.O.s
SENIOR HOUSE OFFICERS
HOUSE OFFICERS
CLINICAL ASSISTANTS

under appropriate specialty headings, e.g.:—

Anaesthetics	Ophthalmology
Blood Transfusion	Orthopaedics
Cardiology	Paediatrics
Chest and Tb.	Pathology
Dental	Plastic Surgery
Dermatology	Psychiatry
E.N.T.	Radiology
Geriatrics	Radiotherapy
Infectious Diseases	Rheumatology
Neurology	Urology
Neurosurgery	Medicine
Obstetrics and Gynaecology	Surgery
	Casualty

PUBLIC HEALTH
in alphabetical order of names of employing authorities

Administrative	Consulting Rooms, etc.
Eire	Hotels
Industrial	Cruises
Overseas	Tours
University	Motor Cars, Hire, etc.
Notices	Miscellaneous
Educational	Nursing Homes
Situations(Non-med.)	Homes
Pharmacists, etc.	Agents
Receptionists, etc.	

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

BENTLEY, near Doncaster

Applications are invited for vacancy, chiefly urban. List at present approximately 700. Apply, on E.C.16A, to the undersigned not later than March 7, 1952. Further details may be obtained on request.—C. H. Stabler, Clerk of the West Riding of Yorkshire Executive Council, 5, St. John's North, Wakefield.

HIGH BICKINGTON, Umberleigh, N. Devon

Applications are invited for vacancy which has arisen owing to death. List approximately 1,300 (all dispensing patients). Residence and surgery available. Applications, on E.C.16A (obtainable from address below), should reach the undersigned by March 10, 1952.—H. Bell, Clerk, Devon and Exeter Executive Council, 46, Queen St., Exeter.

PONTYPRIDD, TREHAFOD and PORTH, Glam.

A vacancy arises by reason of death in a large industrial practice with a list at present approximately 6,600 units. Practice at present being carried on from four separate surgery premises. Applications are invited (a) from two practitioners jointly to succeed to the whole practice or (b) from individual practitioners to succeed to a portion of the practice. Apply, on E.C.16A (obtainable from the address given below) before March 3, 1952, to undersigned.—W. Brynmor Samuel, Clerk of the Glamorgan Executive Council, 47, Park Place, Cardiff.

ROPLEY, Hampshire

Applications invited for vacancy (rural) due to death. List at present approximately 2,500. Residence and surgery not available. Apply, on E.C.16A, before March 4, 1952, to the undersigned. —F. Steed, Clerk of the Hampshire Executive Council, 37, Southgate Street, Winchester.

PRACTICES (Exchange)

CHESHIRE. N.H.S. 2,519. INCOME £2,400 per annum. House (five bedrooms) available. Wanted: Minimum income £2,000. London, 30 mile radius. Apply, Medical Practices Advisory Bureau, B.M.A. House, Tavistock Square, W.C.1.

N. LONDON SUBURB. N.H.S. 2,801. INCOME £2,600 per annum. Professional and residential accommodation available. Wanted: Central London. Minimum income £2,750. Apply, Medical Practices Advisory Bureau, B.M.A. House, Tavistock Square, W.C.1.

PRACTICES (Wanted)

EXPERIENCED PRACTITIONER DESIRES Partnership or Succession, London area. Capital for house purchase.—Box P720, B.M.J.

PARTNERSHIPS (Offered)

Assistantship with View, good prospects, 4,000 units, London area. House and surgery available for purchase.—Box P709, B.M.J.

Partnership offered after short Assistantship for young graduate with hospital experience, North-West country town. Partnership of three.—Box P729, B.M.J.

PARTNERSHIPS (Wanted)

Experienced practitioner requires Partnership, Succession or Assistantship. Active family man, aged 36.—Box P730, B.M.J.

Experienced practitioner, on obstetrical list. House and car owner. Burnley and districts.—Box P748, B.M.J.

M.B., D.R.C.O.G. seeks Succession, Partnership, Assistantship with view. Capital available house purchase London or near.—Box P536 B.M.J.

M.B., D.R.C.O.G., seeks Succession, Partnership, Assistantship with View. Capital available for property.—Box P710, B.M.J.

Partnership, Succession, or Assistantship with definite View required. Englishman, 35, married, with family, C. of E., keen, still retains sense of humour. Experienced G.P. (six years) and midwifery (D.R.C.O.G.). Capital for house purchase. Available immediately if necessary.—Box P722, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, May 1, Assistant for partnership, West County town. Pleasant work. Ample time off. Salary by arrangement.—Box 731, B.M.J.

Wanted, Assistant with View. Car owner. Salary £1,000, including car allowance. Surgery, flat, rent free. Birmingham.—Box 723, B.M.J.

Wanted, Outdoor Male Assistant, West London. Rota.—Box 702, B.M.J.

Assistant required, June to December, North-West Coast. Study time. Car owner preferred.—Box 732, B.M.J.

Male Assistant with view, London area, Protes-tant, own car, midwifery. Good opening for congenial and willing worker.—Box 701, B.M.J.

N.W. England. Christian doctor wishes to en-gage Christian Assistant in busy general practice. Good prospects. Comfortable furnished rooms provided.—Box 711, B.M.J.

Trainee Assistant, unmarried, indoor, for April 28. Semi-rural. Preferably own car.—Longford, 174, High Street, Rainham, Kent.

Trainee Assistant (woman) wanted, Manchester, for April. Married or single.—Box 610, B.M.J.

ASSISTANTS AVAILABLE

Wanted, Assistantship, view preferred, North-East England. Hospital and G.P. experience, 28, married. Car owner. Free immediately.—Box 734, B.M.J.

Assistantship wanted, Indian doctor, G.P., hospital experience. Car owner.—Box 713, B.M.J.

Assistantship, preferably with View, wanted by Guy's man. M.R.C.S., single, English, age 35. Hospital, Army, and 1¾ years' G.P. experience. Own car and equipment.—Box 724, B.M.J.

Assistants Available—contd.

Assistantship, preferably with view, by M.B., Ch.B., married, aged 26. Car owner. Hospital, R.A.F., and obstetric experience. Accommodation required. Available now.—Box 735, B.M.J.

Assistantship, South or East England, married graduate with hospital and G.P. experience. Car owner. Capital for house purchase.—Box 733, B.M.J.

Assistantship, early view to partnership or succession wanted by experienced woman doctor.—Box 539, B.M.J.

Doctor available evening surgeries twice weekly and Saturday mornings, M.B.Cantab., anywhere Metropolitan area.—Box 704, B.M.J.

Experienced practitioner available surgeries and occasional locums. S.E. London.—GRE 1641.

Keen practitioner, hospital and G.P. experience desires Assistantship where satisfactory work might lead to partnership. Single, own car.—Box 721, B.M.J.

London graduate, woman aged 25, hospital experience, seeks Assistantship in Reading neighbourhood.—Box 703, B.M.J.

London Hospital man, M.B., age 32, married, own car. Hospital and G.P. experience, requires Assistantship with View. Capital available for house purchase.—Box 714, B.M.J.

LOCUMS (Vacant)

Wanted, Part-time Assistant for occasional surgeries and calls; East London. Live in or out. Salary by arrangement.—Box 717, B.M.J.

Energetic Locum with own car for busy Blackpool practice, June 6 to 29 inclusive.—Box 631, B.M.J.

Energetic Locum required June 8 to 29, twelve miles outside Birmingham. Car owner preferred. General practice and midwifery experience essential. Prospects for Assistantship.—Box 738, B.M.J.

Locum required, Surbiton, June 9 to 14 inclusive. Car essential.—Box 737, B.M.J.

Locum required, with car, for occasional week-ends or short periods, by woman doctor in rural practice, Wiltshire.—Box 715, B.M.J.

Locum required for several weeks from May 31 in a partnership practice in Leicester. Usual fee. —Write to Dr. Angus, 160, Dominion Road, Glenfield, near Leicester.

Radiologist requires locum July 12 to 26, small general practice. No midwifery.—Box 736, B.M.J.

Acton Hospital, Gunnersbury Lane, W.3.—Locum Senior House Officer (resident) required as **Casualty Officer,** March 7 to 23, inclusive. Salary £670 per annum, less £100 for residence. Apply to Assistant Secretary immediately. (8413)

Lambeth Hospital, Brook Drive, S.E.11.—Locum Tenens Anaesthetic Registrar required for three months in the first instance. Apply, stating experience and the names of two referees, to the Secretary, Lambeth Group Hospital Management Committee, Renfrew Road, S.E.11. (8395)

St. James' Hospital, Ouseley Road, Balham, S.W.12. Wandsworth Hospital Group.—Locum Registrar (Anaesthetics). Applications, stating age, qualifications, experience and the names of two referees, to be sent to the Secretary, 14, Atkins Road, Balham, S.W.12, by March 1, 1952. (8492)

Wanstead Hospital, Wanstead, E.11 (192 beds). —Full time Registrar (non-resident) required as Locum for three months from April 1, 1952, for obstetric and gynaecological department. Applications, giving full particulars and names of two referees, to be sent immediately to the Secretary, Forest Group H.M.C., Langthorne Rd., E.11. (8383)

Westminster Hospital, St. John's Gardens, S.W.1. —Applications are invited for the post of **Locum Tenens Medical Senior Registrar** for duty from March 10 to June 1. Candidates must be members of the Royal College of Physicians of London. Applications (three copies), with the names of two referees, should be sent to me by February 29, 1952.—Charles M. Power, House Governor and Secretary. (8493)

Barnsley, St. Helen Hospital. Sheffield Regional Hospital Board.—Whole-time Locum Obstetrician required for the above hospital, to commence duty on March 24, 1952, for a period of three to six months. Remuneration at the rate of 31½ guineas per week. Applications, with the names of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. (8366)

Birkenhead Hospital Management Committee. Children's Hospital, Birkenhead (75 beds).—Locum House Officer for one month from March 1, 1952. Salary £450, less £100 for full residential emoluments. Apply immediately, stating age, qualifications, experience, with copy of at least one testimonial, to J. Dawber, Secretary to the above Committee, St. James Hospital, Birkenhead. (8494)

Bristol Eye Hospital (United Bristol Hospitals).—Locum Ophthalmic House Surgeon wanted for six weeks from March 19, 1952, to April 30, 1952. Salary £450 per annum, less residential emoluments of £100 per annum if resident. Applications, stating age, qualifications and experience, together with names of two referees or copies of two recent testimonials, to be addressed to the Secretary, Bristol Eye Hospital, Lower Maudlin Street, Bristol, 1. (8447)

Bodmin, Cornwall, St. Lawrence's (Mental) Hospital.—Locum Tenens Medical Officer required for a period of six weeks commencing from April 1, 1952. The salary is at the rate of £900 per annum, less deductions for board, etc. Applications to be addressed to the Medical Superintendent. (8514)

Croydon General Hospital (200 beds).—Locum (Senior Surgical Registrar), resident (Fellowship Degree), from March 3 to 17 inclusive. Apply, giving particulars of age, qualifications, and experience, to George A. Paines, Secretary, Croydon Group Hospital Management Committee, General Hospital, Croydon. (8394)

Hull (A) Group Hospital Management Committee. Hull Royal Infirmary. — Locum required **(Senior House Officer grade)** for Casualty Department. Applications to Administrative Officer. (8592)

Mansfield and District General Hospital.—Locum Casualty Officer required immediately. Salary £670 per annum. Application to the Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (7967)

Sutton-in-Ashfield, Notts, King's Mill Hospital.—Locum Assistant Anaesthetist required for period of six to eight weeks. Salary £670 per annum, with a deduction of £135 in respect of residential emoluments. Applications to the Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (7968)

LOCUMS (Available)

Experienced doctor requires Locum engagements. Excellent testimonials, English. Own car if required.—Box 739, B.M.J.

Ex-Registrar, G.P. experience, desires Locum 2-4 weeks anywhere March.—Box 718, B.M.J.

Jewish doctor available for Night Calls in North and North-East London.—Box 725, B.M.J.

M.B., B.Chir., 27, varied hospital including obstetric and G.P. experience, requires Locums Southern England, April, May and June.—Box 705, B.M.J.

Woman doctor requires Locums or Assistantship. Experienced. Car.—Box 740, B.M.J.

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SITUATIONS (Vacant)

David Lewis Epileptic Colony, Alderley Edge, near Manchester.—A Medical man or woman is required to assist the Medical Director of this Colony. The post should be combined with reading or research. Salary £475 a year, plus full emoluments. Please communicate with the Director at the Colony. (8211)

Young doctor required very shortly to fill post of resident physician in psychiatric nursing homes, previous experience desirable, but not essential. Commencing salary £500 per annum. Furnished flat on premises. Apply, with details and testimonials, to Medical Superintendent, Arthington, Barton Road, Torquay.

SITUATIONS (Wanted)

F.R.C.S., 33, British, married, wide experience general surgery all branches, including tropical experience, seeks post Overseas, preferably entirely surgical but would consider part G.P. Schooling facilities for children must be available. Any country considered.—Box 728, B.M.J.

APPOINTMENTS

ANAESTHETICS

ST. JAMES' HOSPITAL
Ouseley Road, Balham, S.W.12
South-West Metropolitan Regional Hospital Board
Wandsworth Hospital Group
REGISTRAR (Anaesthetics)

Application forms (send stamped addressed foolscap envelope) for the above vacancy obtainable from the Secretary of the Group, 14, Atkins Road, Balham, S.W.12, to be completed and returned by March 5, 1952. (8495)

GRIMSBY AND DISTRICT GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the resident whole-time post of **REGISTRAR (Anaesthetics)** to the above hospital, which is recognized for training for the D.A. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 4, 1952. (7978)

BARNET GENERAL HOSPITAL, Barnet, Herts
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)

Required for one year from February 25. Post recognized for D.A. examination. Applications, stating age, qualifications, nationality, experience and names of two referees, to be sent to the Medical Director. (7766)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL
(900 beds)
Birmingham (Dudley Road) Group of Hospitals
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)

Applications are invited for the above post, which becomes vacant on April 1, 1952. The person appointed will be based at Dudley Road Hospital, but duties within the Group may occur. This hospital is recognized for training for the Diploma in Anaesthetics. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of three recent testimonials, should be sent within seven days to the Secretary, Hospital Management Committee, Dudley Road Hospital, Birmingham, 18. (8127)

BOLTON, ROYAL INFIRMARY (237 beds)
Bolton and District Hospital Management Committee
RESIDENT ANAESTHETIST
(Senior House Officer Grade)

Post vacant immediately and tenable for twelve months. Preference will be given to candidates holding the D.A., but the post is recognized for this examination. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (8384)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR HOUSE OFFICER (Anaesthetics)

Vacant now. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8448)

BURY ST. EDMUND'S, WEST SUFFOLK GENERAL HOSPITAL (289 beds)
West Suffolk Hospital Management Committee
SENIOR HOUSE OFFICER (Anaesthetist)

Vacancy occurs early May. Post, tenable for one year, is recognized for the D.A. examination. Salary £670 per annum, less appropriate emoluments, in accordance with National Health Service terms and conditions. Applications, including the names of three referees, to the Secretary, 36, Mill Road, Bury St. Edmund's. (8352)

CHESTER AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of
RESIDENT HOUSE OFFICER (Anaesthetist)
The post is recognized for the D.A. The successful applicant will be required to carry out duties in conjunction with the present Resident Anaesthetist at Chester Royal Infirmary and Chester City Hospital and will require to reside at the Chester Royal Infirmary. Salary £670 per annum, less a deduction of £150 per annum in respect of board and lodging, etc. Applications, giving details of age, experience and qualifications, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, Chester. (8166)

LEICESTER GENERAL HOSPITAL (445 beds)

Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
commencing April 1, 1952. Recognized for the D.A. Applications, stating age, experience, and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8321)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
commencing April 1, 1952. Applications, stating age, experience, and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8322)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer Grade)
(Recognized for D.A.)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (8449)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 18

Anaesthetics—contd.

MEDWAY AND GRAVESEND HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the appointment of
RESIDENT ANAESTHETIST
(Senior House Officer grade)
Salary £670 per annum, in accordance with the national terms and conditions of service. The appointment is for twelve months, and preference will be given to those holding the Diploma in Anaesthetics. Residential accommodation will be available at All Saints' Hospital, Chatham. Applications, giving full particulars of age, nationality, qualifications, and experience, together with copies of recent testimonials, to be sent to the undersigned.—T. Rhodes, Secretary, Medway and Gravesend Hospital Management Committee, St. William's Hospital, Rochester. (8524)

WARRINGTON GENERAL HOSPITAL (372 beds) and WARRINGTON INFIRMARY (172 beds)
Warrington and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
for Anaesthetic work
Required for duties at the above hospitals. The person appointed will be resident at the General Hospital. The commencing salary is £670 per annum, less £130 for full residential emoluments. Applications, stating age, experience and qualifications, should be sent immediately to H. L. Boot, Secretary to the Committee, c/o General Hospital, Warrington, Lancs. (7087)

ROYAL NATIONAL THROAT, NOSE AND EAR HOSPITAL
Gray's Inn Road, London, W.C.1, and Golden Square, W.1
There will be a vacancy for a
HOUSE ANAESTHETIST (Resident)
to enter on duty on April 1, 1952. The appointment will be for a period of six months, with salary at the rates for House Officers in the National Health Service. Candidates must have had some preliminary training in anaesthesia, and should preferably be working for the D.A. Applications, giving full particulars of age, qualifications, and experience, and the names of two referees, should be sent to the undersigned on or before March 7, 1952.—John H. Young, House Governor and Secretary. (8420)

GREENOCK AND DISTRICT HOSPITALS, BOARD OF MANAGEMENT FOR HOUSE-SURGEON ANAESTHETIST
Required for six-month period commencing February 1, 1952. Applications to the Secretary and Treasurer, 47, Eldon Street, Greenock, not later than Friday, February 29, 1952. (8421)

HALIFAX GENERAL HOSPITAL
RESIDENT ANAESTHETIST
(House Officer grade)
Hospital providing large surgical turnover. Facilities available for practical experience under guidance of consultant staff. Ample opportunities for studying for D.A. Applications, stating age, sex, qualifications and experience, with copies of three recent testimonials, to the Secretary, Halifax Area Hospitals Management Committee, Royal Halifax Infirmary, Halifax. (8593)

LIVERPOOL, 9, WALTON HOSPITAL (1,351 beds)
North Liverpool Hospital Management Committee
Applications are invited for the following medical appointment at this hospital:
HOUSE OFFICER in Anaesthetics
The post is resident, and vacant from April 1, 1952. Salary and conditions of service in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, on forms obtainable from the undersigned, should be submitted to the Medical Superintendent as soon as possible.—F. J. Watkins, Secretary to the Committee. (8542)

MANCHESTER, 8, CRUMPSALL HOSPITAL (Adult General—1,225 beds)
Applications are invited for the appointment of
HOUSE OFFICER (Anaesthetics)
vacant from the beginning of April. The hospital is recognized for the purpose of the D.A. Applications, stating age, nationality, present appointment (with date), and previous appointments (with dates), along with names and addresses of two referees, to be sent to the undersigned immediately.—A. T. Sampson, Secretary to the Committee, Crumpsall Hospital, Manchester, 8. (8353)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
RESIDENT ANAESTHETIST
vacant March 17, 1952, second or third post. Salary and conditions of service in accordance with the National Health Service terms, with residential emoluments. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (8109)

SOUTHEND-ON-SEA, GENERAL HOSPITAL
Applications are invited for the post of
RESIDENT ANAESTHETIST
vacant on April 1, 1952. Appointment for six months at the General Hospital, Southend, at House Officer grade salary according to experience, followed by six months at the General Hospital, Rochford; and six months at hospitals in the Group generally as a Senior House Officer. Salary £670 per annum; salaries being subject to the appropriate deductions, for board. This combined appointment has been recognized as fulfilling the conditions of the D.A. Applications, etc., should reach the undersigned at the hospital by March 5, 1952.—J. C. Field, Secretary. (8077)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
HOUSE OFFICER (Anaesthetics)
Vacant April 2. Hospital is recognized for the D.A. Applications, with copies of two testimonials to Secretary. (8441)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee Group No. 16, Birmingham Region
HOUSE OFFICER (Junior Anaesthetist)
(Recognized for Diploma in Anaesthetics)
Applications with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (8535)

BLOOD TRANSFUSION

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications invited for appointment of
TWO WHOLE-TIME REGISTRARS
to the Birmingham Regional Blood Transfusion Centre, duties mainly in B.T.S. laboratory. Knowledge of haemato-serology, haematology, and bacteriology an advantage; appointment offers full training facilities in these subjects. Opportunity for research and clinical experience. Successful candidate required to assist at blood donor sessions. Appointments subject to N.H.S. (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 10, 1952. Candidates may visit laboratory. (8414)

NEW BARNET, HERTS, NORTH LONDON BLOOD TRANSFUSION CENTRE
There are vacancies for two additional
JUNIOR HOSPITAL MEDICAL OFFICERS
for full-time duty to work with the mobile teams at donor sessions. Opportunity for training in clinical pathology exists. Applications, stating age, qualifications and experience, together with the names of two referees, to the Group Secretary, Hendon Group Hospital Management Committee, Edgware General Hospital, Edgware, Middlesex, not later than March 8, 1952. (8543)

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
Whole-time ASSISTANT MEDICAL OFFICER (J.H.M.O. Grade) at the Regional Blood Transfusion Centre, Northfield Road, Sheffield
Applicants should have had previous clinical experience. The appointment affords scope in all aspects of blood transfusion work and serology, including research. Applications, stating present appointment, date of birth, qualifications and experience, and the names of three referees, should be sent to the Secretary, Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, not later than March 15, 1952. Applicants may visit the Blood Transfusion Centre by arrangement with the Director. (8031)

CARDIOLOGY

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest
Applications are invited for the post of
PART-TIME MEDICAL REGISTRAR
to the Cardiac Department
Appointment for one year in first instance, and attendance is required on Tuesday mornings and Friday afternoons. Grading: Registrar. Applications, stating age and qualifications (with dates), and accompanied by copies of three testimonials, should be sent at once to the undersigned.—Thomas Brown, House Governor, London Chest Hospital, E.2. (8422)

CHEST AND TUBERCULOSIS

HOSPITALS FOR DISEASES OF THE CHEST
Applications are invited for the whole-time appointment of
ASSISTANT TUBERCULOSIS OFFICER
(Senior Hospital Medical Officer scale)
to the Dispensary Clinic at the London Chest Hospital, E.2. Experience in diagnosis and treatment of tuberculosis essential. Applications, stating date of birth, qualifications, and experience, with names of three referees, to be sent to the undersigned by March 31, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (8423)

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the whole-time appointment of
ASSISTANT CHEST PHYSICIAN
(S.H.M.O. scale)
to serve the Brecon and Radnorshire Area. He will be based in Brecon but will be expected to do clinical duties at Highland Moors Sanatorium (60 beds) and also at the Adelina Patti Hospital, near Swansea (130 beds). The candidate should have had a wide experience in chest diseases and tuberculosis in particular, and will work under the direction of the Consultant to the area. Salary in accordance with the terms and conditions of service of hospital medical staff. Fourteen copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (8496)

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the whole-time appointment of
ASSISTANT CHEST PHYSICIAN
(S.H.M.O. grade)
to serve the Newport and East Monmouthshire Hospital Management Committee Group. He will be based on Newport. The main Chest Clinic is situated in the grounds of a general hospital (400 beds, 24 for tuberculosis) and, therefore, there is an opportunity for close association with all the other medical services. The Group served has a population of 270,000. There will be an apportionment of time spent between the Regional Board and the Local Authorities, but the salary will be in accordance with the terms and conditions of service of hospital medical and dental staffs. Fourteen copies of application, stating date of birth, nationality, qualifications, experience, and present appointment, with the names of three referees, should be sent within twenty-one days from date of publication of this advertisement to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (8577)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest
Applications are invited for the post of
REGISTRAR (Whole-time)
to the Tuberculosis Dispensary Clinic at the hospital. Experience in diagnosis and treatment of tuberculosis essential. Appointment for one year in the first instance. Applications, stating age, qualifications, with dates, previous appointments held, with copies of three testimonials, should be sent to the undersigned by March 7, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (8424)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest
Vacancies occur for
TWO PART-TIME SENIOR MEDICAL REGISTRARS
each to attend five notional half-days a week, including one refill clinic. The appointment is for one year from April 1, 1952, and renewable. The present holders of Registrar posts at the hospital are eligible to apply. Applications, stating age, qualifications (with dates), and previous appointments held, and accompanied by copies of three testimonials, should reach the undersigned not later than March 8, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (8425)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
WHOLE-TIME REGISTRAR
Required for one year in first instance at Islington Chest Clinic, Royal Northern Hospital, London, N.7, with which is associated a T.B. Unit of 47 beds. Clinic may be visited by direct appointment with Physician-in-Charge. Application forms obtainable from, and returnable to, Secretary, Northern Group Hospital Management Committee, Royal Northern Hospital, London, N.7, by March 4, 1952. (8451)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
WHOLE-TIME REGISTRAR
Required for one year in first instance to work half-time at Islington Chest Clinic, Royal Northern Hospital, London, N.7, and half-time at T.B. Unit (47 beds), Highgate Wing, Whittington Hospital, N.19. Clinic may be visited by direct appointment with Physician-in-Charge. Application forms obtainable from, and returnable to, Secretary, Northern Group Hospital Management Committee, Royal Northern Hospital, London, N.7, by March 4, 1952. (8450)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
WHOLE-TIME REGISTRAR
Required for one year in first instance, to work half-time at St. Pancras Chest Clinic, 26, Margaret Street, W.1, and half-time at T.B. Unit (47 beds), Highgate Wing, Whittington Hospital, N.19. Clinic may be visited by arrangement with Physician-in-Charge. Application forms obtainable from, and returnable to, Secretary, Archway Group H.M.C., 46, Cholmeley Park, N.6, by March 4, 1952. (8367)

Chest and Tuberculosis—contd.

EPSOM GROUP HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME RESIDENT REGISTRAR
in Chest Medicine
The successful applicant will work under the general supervision of the Consultant Chest Physician. Duties include T.B. Unit (24 beds). Clinic and A.P. sessions at Epsom and Dorking Chest Clinics. Applicants may visit units on request to Secretary. Forms of application (send stamped addressed foolscap envelope) may be obtained from and should be completed and returned by March 7, 1952, to Secretary, Epsom District Hospital, Dorking Road, Epsom, Surrey. (8385)

HAREFIELD HOSPITAL
Harefield, Middlesex
North-West Metropolitan Regional Hospital Board
WHOLE-TIME SENIOR SURGICAL REGISTRAR
Required for one year in first instance, Thoracic Surgical Unit. Unit is a Regional Thoracic Surgical Centre for the North-West Metropolitan Region. Candidates should possess a higher surgical qualification and have had good general surgical experience with special experience of thoracic surgery. Application forms obtainable from, and returnable to, Secretary, Harefield and Northwood Group H.M.C., Mount Vernon Hospital, Northwood, Middlesex, by March 4, 1952. The hospital may be visited by direct appointment. (8452)

IPSWICH SANATORIUM (120 beds)
East Anglian Regional Hospital Board
MEDICAL REGISTRAR
Duties will include work in the thoracic surgical unit and in the Ipswich Chest Clinic. A flat is available. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 3, 1952. Candidates are invited to visit the sanatorium by direct arrangement with the Physician Superintendent.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8032)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
WHOLE-TIME REGISTRAR
Required for one year in first instance, Windsor Chest Clinic. Duties will include care of in-patients at Canadian Red Cross Memorial Hospital, Taplow, Bucks. Clinic may be visited by direct appointment. Application forms obtainable from, and returnable to, the Secretary, Windsor Group Hospital Management Committee, Kipling Memorial Building, Alma Road, Windsor, by March 3. (8368)

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the resident whole-time post of
REGISTRAR (Chest Diseases)
for duties at Oakwood Hall Sanatorium (100 beds) and the Chest Clinic, Chatham Villas, Chatham Street, Rotherham. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 6, 1952. (8033)

WINDSOR CHEST CLINIC
North-West Metropolitan Regional Hospital Board
WHOLE-TIME SENIOR REGISTRAR
Required for one year in first instance. Good general medical experience, with special experience in chest diseases, and higher qualification desirable. Clinic may be visited by direct appointment. Application forms obtainable from, and returnable to, the Secretary, Windsor Group Hospital Management Committee, Kipling Memorial Building, Alma Road, Windsor, by March 3, 1952. (8369)

VENTNOR, ROYAL NATIONAL HOSPITAL FOR DISEASES OF THE CHEST, Isle of Wight
(249 beds)
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident)
Unmarried. Hospital has all facilities for major thoracic surgery. Applications, with names of two referees, should be sent to Physician-Supt. (8223)

HOSPITALS FOR DISEASES OF THE CHEST
Applications are invited for the following whole-time appointment from registered medical practitioners, male and female. The appointment is for six months commencing May 1, 1952.
ASSISTANT RESIDENT MEDICAL OFFICER
at Brompton Hospital, S.W.3
Experience in artificial pneumothorax essential, and in ear, nose and throat work desirable. Salary at Senior House Officer rate. Applications, stating age, qualifications (with dates), nationality and previous appointments held, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, March 8, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (8515)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1, or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

LANCASHIRE COUNTY COUNCIL
(Assistant Divisional Medical Officers)

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE
(Assistant School Medical Officer)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,
A. MACRAE,
February 19, 1952. Secretary.

GODALMING, SURREY, KING GEORGE V HOSPITAL FOR DISEASES OF THE CHEST
(232 beds)
Godalming, Milford and Liphook Group Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Medical)
at the above hospital. The appointment is residential. Salary and deduction for board, lodging, etc., in accordance with the national scales (£670). All modern forms of treatment are carried out at the hospital, including major thoracic surgery, a proportion of the beds being set aside for non-tuberculous thoracic surgery. Applications, giving full details, together with the names of three referees, to be sent as soon as possible to the Physician Superintendent, King George V Hospital for Diseases of the Chest, Godalming, Surrey. (8354)

HULL (B) GROUP HOSPITAL MANAGEMENT COMMITTEE
SENIOR HOUSE OFFICER for Raywell Sanatorium (48 beds) and
HOUSE OFFICER for Castle Hill (221 beds)
to work under supervision of Consultant Chest Physician. Sanatoria part of group with major thoracic surgery and mass radiography units and laboratory facilities. Application forms from Secretary, Hull (B) Group, De la Pole Hospital, Willerby, E. Yorks. (8303)

IPSWICH SANATORIUM
Ipswich Group Hospital Management Committee
SENIOR HOUSE OFFICER
Required for this modern Sanatorium of 100 beds, which has recently been re-equipped for all modern forms of treatment of pulmonary tuberculosis and for all methods of investigation of chest diseases. Major surgery is about to be undertaken. Apply, with full particulars and names of two referees, to the undersigned.—John Williams, Secretary, at East Suffolk and Ipswich Hosp. (8544)

NOTTINGHAM CITY HOSPITAL (833 beds)
SENIOR HOUSE OFFICER
to the Department of Thoracic Surgery
Post vacant April 1, 1952. Salary £670 per annum, less £130 per annum for residential emoluments. The appointment will be for one year. Applications, stating age, nationality, qualifications, and experience, together with copies of not more than three testimonials, to be submitted immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (8224)

ILKLEY (near), THE HOSPITAL, Middleton-in-Wharfedale (510 beds)
Applications are invited for appointment as
SENIOR HOUSE OFFICER
at the above hospital for tuberculosis. Salary £670 per annum, in accordance with the terms and conditions for hospital medical and dental staffs (England and Wales). If resident, a deduction of £130 per annum will be made in respect of board, laundry and other services provided. Applications, stating age, qualifications and experience, together with names of two referees, to be addressed to the Secretary, at the Hospital, Middleton-in-Wharfedale, Ilkley, Yorkshire. (8498)

MANCHESTER, BAGULEY HOSPITAL
Wythenshawe
South Manchester Hospital Management Committee
Applications are invited from medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER
on the Surgical Unit
The hospital is the main Regional Centre for thoracic surgery in the treatment of pulmonary tuberculosis. The successful candidate will be attached to the Thoracic Surgical team. Applications, stating age, nationality, qualifications, experience, and names of two referees, to be forwarded to the undersigned not later than March 3, 1952.—A. H. Keates, Secretary to the Committee, Christie Hospital and Holt Radium Institute, Manchester, 20. (8453)

HOSPITALS FOR DISEASES OF THE CHEST
Applications are invited for the following whole-time appointments from registered medical practitioners, male and female. The appointments are for six months, commencing May 1, 1952.
RESIDENT HOUSE PHYSICIANS
at Brompton Hospital, S.W.3
for which there are three vacancies. The duties include work in the out-patient department as well as in the wards. Salary £400 or £450 a year, according to experience. Applications, stating age, qualifications (with dates), nationality and previous appointments held, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, March 8, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (8516)

HOSPITALS FOR DISEASES OF THE CHEST
Applications are invited from registered medical practitioners, male and female, for appointment of
RESIDENT HOUSE PHYSICIAN
at Brompton Hospital Sanatorium, Frimley, Surrey
The appointment is whole-time, for six months, commencing May 1, 1952. Salary £400 or £450 a year, according to experience. Applications, stating age, qualifications (with dates), nationality and previous appointments held, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, March 8, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (8517)

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
Applications invited for the appointment of
HOUSE PHYSICIAN
to the Chest Unit at the above hospital, possibly with duties at two other chest hospitals in the Group. Vacant mid-March. Applications, stating age, qualifications, and experience, with a copy of two testimonials and the name of one referee, should be sent immediately to Group Secretary, St. Helier Hospital, Carshalton, Surrey. (8396)

CHICHESTER (near), ALDINGBOURNE HOUSE SANATORIUM (71 beds) and Bognor Regis Annexe (31 beds)
HOUSE PHYSICIAN (Male or female)
Required immediately, liaison with thoracic unit, Chichester. Resident at Bognor Regis. Apply to Physician Superintendent, Aldingbourne House Sanatorium, near Chichester. (7983)

STOURBRIDGE (near), PRESTWOOD SANATORIUM
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE OFFICER
at the above Sanatorium. Post vacant immediately. The Sanatorium consists of 200 beds at Prestwood, 35 beds at Edge View, and 60 beds at The Limes, and is for pulmonary tuberculosis. The salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Preference will be given to candidates with some previous experience in the treatment of pulmonary tuberculosis. The post is for six months in the first instance. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (9028)

DENTAL

ANTRIM COUNTY HEALTH COMMITTEE
Northern Ireland

Applications are invited from registered dental surgeons for the whole-time appointment of

COUNTY DENTAL OFFICER

The person appointed will work under the direction of the County Medical Officer and will be responsible for the supervision of the work of Assistant Dental Officers. He must be prepared to undertake such work in dental centres and clinics as may be required of him in addition to his administrative duties. Applicants must have had experience in dentistry over a period of not less than five years. Experience in a public health service and the administration thereof will be considered an additional qualification. It is the Committee's policy to give special consideration to applicants who have served in H.M. Forces. Salary, as approved by the Ministry of Health and Local Government Northern Ireland, on the scale recommended by the Dental Whitley Council (Local Authorities), £1,250 per annum, rising by annual increments of £50 to £1,400 per annum. The post is subject to the Local Government (Superannuation) Act (N.I.), 1950. Regulations are expected to provide for the transfer of superannuation rights in Local Government and Health Service Funds in England. Application forms, which, together with particulars of appointment, may be obtained from the Secretary at Rosstulla, Jordanstown, County Antrim, must be lodged with the Secretary on or before March 6.—S. Pennington, Secretary. (8454)

EAST HAM, COUNTY BOROUGH OF
ASSISTANT DENTAL OFFICER

Applications are invited from registered dental surgeons for the above appointment at a salary of £800 per annum, rising by annual increments of £50 to £1,250 per annum. A commencing salary above the minimum may be paid according to experience and length of service. Further particulars of the duties, terms and conditions of appointment and form of application (which must be returned by March 1, 1952), may be obtained from the undersigned. Canvassing will disqualify.—H. A. Edwards, Town Clerk, Town Hall, East Ham, E.6. (8483)

ROYAL MASONIC HOSPITAL
Ravenscourt Park, London, W.6

Applications are invited from registered dental surgeons for the appointment of

DENTAL SURGEON

at the above hospital as from July 1, 1952, or some convenient date within three months thereafter. The candidate appointed will be required to attend on two half-days per week. Applications, giving detailed information and the names and addresses of three referees, should reach the undersigned (from whom further information may be obtained) on or before March 31, 1952.—R. E. Lawson, Secretary and House Governor. (8455)

DERMATOLOGY

SCOTLAND, NORTH-EASTERN REGIONAL HOSPITAL BOARD

Applications are invited for the post of

SENIOR REGISTRAR IN DERMATOLOGY

Duties are mainly in hospitals under the Board of Management for the Aberdeen General Hospitals, but the officer appointed may be required to visit other hospitals in the Region. Candidates should have considerable experience in their specialty, and preferably hold an appropriate higher qualification. Applications, giving two names for reference, should be submitted by March 15, 1952, to the Secretary, 1, Albyn Place, Aberdeen, from whom further particulars may be obtained. (8426)

EAR, NOSE, AND THROAT, etc.

WEST HAM GROUP HOSPITAL
MANAGEMENT COMMITTEE
Stratford, London, E.15

Applications are invited from registered medical practitioners for the appointment of a

TEMPORARY SENIOR EAR, NOSE AND THROAT REGISTRAR

to the Group, for a period of six months commencing as soon as possible. The duties will include attending the Hearing-aid Diagnostic Clinics at Queen Mary's Hospital for the East End, and undertaking tonsils and adenoids operations at several hospitals in the Group. Candidates should hold the qualifications of F.R.C.S. or D.L.O. Applications, stating age, experience, and qualifications, together with copies of recent testimonials, should be sent to the Secretary by March 1. (8427)

BIRMINGHAM, 16, CHILDREN'S HOSPITAL
Ladywood Road
United Birmingham Hospitals

Applications are invited for the appointment of

AURAL REGISTRAR (Non-resident)

in the grade of Registrar, vacant July 1, 1952, for one year. Preference will be given to candidates who are Fellows of the Royal College of Surgeons and/or hold the diploma in Child Health. Forms of application may be obtained from the undersigned and should be returned not later than March 8, 1952.—N. R. Winwood, House Governor. (8225)

BIRMINGHAM (DUDLEY ROAD) GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of

WHOLE-TIME REGISTRAR IN E.N.T. SURGERY

Duties mainly at Birmingham and Midland Ear and Throat Hospital (124 beds). Resident appointment. Experience in specialty essential. Higher qualification an advantage. Appointment subject to N.H.S. (Superannuation) Regulations. Ten copies of application, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 10, 1952. Candidates may visit hospital concerned. (8415)

LLANELLY HOSPITAL (164 beds)
Glantawe Hospital Management Committee

Applications are invited from medical practitioners for the non-resident appointment of

JUNIOR HOSPITAL MEDICAL OFFICER

at the above hospital, for work mainly in the E.N.T. Department. Applications, stating age, experience and qualifications, with the names of three referees, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (8253)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds) and SOUTHAMPTON GENERAL HOSPITAL (453 beds)
SENIOR HOUSE OFFICER (E.N.T.)

Applications are invited for this whole-time post, becoming vacant March 27. The post is recognized for the F.R.C.S. (Eng.) and D.L.O. examinations, providing experience in all branches of E.N.T. work, including audiometry. The Group includes a diagnostic and distributing hearing aid centre. Occasional work at other hospitals may be required. Applications, with copies of three recent testimonials, should be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8226)

ROYAL NATIONAL THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, London, W.C.1, and Golden Square, W.1

There will be a vacancy for a

HOUSE SURGEON (Resident)

on March 1, 1952. Appointment for six months, with salary as laid down for House Officer grades in the terms and conditions of service under the National Health Service. Applications, stating age, qualifications, full details of previous experience (particularly in this specialty), with copies of one to three recent testimonials, should be sent not later than February 26, 1952.—John H. Young, House Governor and Secretary. (8428)

BRADFORD ROYAL EYE AND EAR HOSPITAL
HOUSE SURGEON (E.N.T.)

Vacant April 1. Hospital recognized for D.L.O. and F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8456)

EDINBURGH, ROYAL INFIRMARY OF

There will be a vacancy for a

RESIDENT HOUSE OFFICER (Male or female)
in the Ear, Nose and Throat Department

with effect from April 1, 1952, for a period of six months. Salary, etc., in accordance with the National Health Service rules. Applications should be made in person, or by letter, to the Surgeon-in-Charge, Wards 37/38, Royal Infirmary, Edin. (8594)

LIVERPOOL EAR, NOSE AND THROAT INFIRMARY
United Liverpool Hospitals

Applications are invited from registered medical practitioners for appointments as

RESIDENT HOUSE SURGEONS (E.N.T.)

for the period of six months from April 1 to September 30, 1952. The appointments are in accordance with the agreed terms and conditions of service (House Officers). Applications, on forms from the undersigned, to be returned as soon as possible.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (8526)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Ear, Nose and Throat)

Applications are invited from registered medical practitioners for the above post, which is now vacant. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience, £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8075)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)

Applications are invited for the post of

HOUSE SURGEON (E.N.T. Department)

Vacant March 1, 1952. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (E.N.T. Department)

Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (8536)

YORK, COUNTY HOSPITAL (General hospital of 269 beds with full consultant staff).
CITY HOSPITAL, York (Modern general hospital of 265 beds with full consultant staff)
E.N.T. HOUSE SURGEON

The E.N.T. Department (which is mainly at the County Hospital) has approximately 30 beds, is recognized for the D.L.O. and offers excellent opportunities for learning the specialty. Appointment for six months initially and is vacant immediately. Previous experience preferable but not essential. Residence available at the County Hospital. Salary £400 for second post, £450 for third post, less £100 for residence. Applications, giving age, nationality, experience and qualifications, and names of two referees, to be forwarded immediately to undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (8545)

GERIATRICS

ST. MATTHEW'S HOSPITAL
Shepherdess Walk, London, N.1
(Chronic Sick, 320 beds)
Central Group Hospital Management Committee

Applications are invited from male or female registered medical practitioners for the appointment which commences on March 1, 1952, of

GERIATRIC HOUSE PHYSICIAN

Appointment is for six months only in the first instance. Salary at the rate of £350, £400 or £450 per annum, depending upon the number of posts held, less £100 per annum for full board and lodging. Applications, stating age, qualifications, experience, etc., together with copies of two testimonials or names of two referees, should be addressed to the Medical Superintendent without delay. (8429)

SUNDERLAND, GENERAL HOSPITAL
HOUSE PHYSICIAN
for Geriatric Department (264 beds)

Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (8491)

INFECTIOUS DISEASES

PRESTON INFECTIOUS DISEASES HOSPITAL
Preston and Chorley Hospital Management Committee
HOUSE OFFICER

Required at the end of March at the above hospital, pleasantly situated on bus route on Northern fringe of Preston. The post includes visiting duties at a nearby Chest Sanatorium (30 beds). Altogether there are 125 beds—61 fevers (mostly in cubicle wards) and 64 chest. The post offers excellent facilities for experience in these specialties. Residence in lodge, suitable for married couple. Applications, stating full particulars, with copy testimonials, to be forwarded as soon as possible, to the Secretary, Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Sec. (8457)

NEUROLOGY

SWANSEA, MORRISTON HOSPITAL (450 beds)
Glantawe Hospital Management Committee

Applications are invited from registered medical practitioners for the resident appointment of

SENIOR HOUSE OFFICER
in the Neurological and Neuro-surgical Department

Salary and conditions of service will be according to the National Health Service scale. Applications, stating age, qualifications, and experience, should be addressed to Medical Superintendent, Morriston Hospital, Swansea.—O. C. Howells, Sec. (8227)

NEUROSURGERY

LIVERPOOL, 9, WALTON HOSPITAL
(1,351 beds)
North Liverpool Hospital Management Committee

Applications are invited for the following medical appointment at this hospital:

SENIOR HOUSE OFFICER in Neurosurgery

The post is resident, and vacant from April 1, 1952. Salary and conditions of service in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, on forms obtainable from the undersigned, should be submitted to the Medical Superintendent as soon as possible.—F. J. Watkins, Secretary to the Committee. (8546)

Neurosurgery—contd.

LIVERPOOL, 9, WALTON HOSPITAL (1,351 beds)
North Liverpool Hospital Management Committee
Applications are invited for the following medical appointment at this hospital:
HOUSE OFFICER in Neurosurgery
The post is resident, and vacant from April 1, 1952. Salary and conditions of service in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, on forms obtainable from the undersigned, should be submitted to the Medical Superintendent as soon as possible.—F. J. Watkins, Secretary to the Committee. (8547)

OBSTETRICS AND GYNAECOLOGY

WELSH REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
CONSULTANT OBSTETRICIAN AND GYNAECOLOGIST
to serve the Clwyd and Deeside Hospital Management Committee Area. He will have charge of beds at St. Asaph's Hospital and will be responsible for visits to other hospitals in the Group. Candidates should be members of the Royal College of Obstetricians and Gynaecologists and preferably Fellows of a Royal College of Surgeons. Candidates are asked to state whether they wish to be considered for a whole-time or maximum part-time appointment. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (8548)

BETHNAL GREEN HOSPITAL
Cambridge Heath Road, London, E.2 (313 beds)
Central Group Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
TEMPORARY GYNAECOLOGICAL REGISTRAR to the Gynaecological and Obstetric Department
for a period of six months in the first instance. Salary £775 to £890 per annum, depending upon experience and service, less charge of £140 for full residence (if desired). Applications, giving details of age, nationality, qualifications and experience, together with copies of three testimonials, should reach the Group Secretary, 213, Kingsland Road, London, E.2, by March 15, 1952. (8499)

BISHOP AUCKLAND GENERAL HOSPITAL
Newcastle Regional Hospital Board
South-West Durham Hospital Management Committee Group
WHOLE-TIME REGISTRAR in Obstetrics and Gynaecology
Required temporarily in first instance, up to August 31, 1952. Salary £775 per annum. Accommodation for a married man will be available. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (8555)

DERBY CITY HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
REGISTRAR (Obstetrics and Gynaecology)
to the above hospital, which is a recognized training hospital for the D.(Obst.)R.C.O.G. and M.R.C.O.G. The appointment is for one year in the first instance and may be renewed for a further year. The appointed person to commence duty on March 21, 1952. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 4, 1952. (8370)

NORWICH, UNITED, HOSPITALS
East Anglian Regional Hospital Board
SENIOR REGISTRAR in Obstetrics and Gynaecology
Candidates must possess the M.R.C.O.G. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 3, 1952. Candidates are invited to visit the hospitals by direct arrangement with the H.M.C. Secretary at the Norfolk and Norwich Hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8036)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid-Herts Group Hospital Management Committee
JUNIOR HOSPITAL MEDICAL OFFICER
Required April 1, 1952, for duties mainly at Osterhills Unit for gynaecological and obstetric work. Hospital recognized for the D.Obst.R.C.O.G. Applications, giving full particulars of age, qualifications and experience, to be forwarded to the Sec., Osterhills, Normandy Rd., St. Albans. (8037)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for post, vacant now, of
RESIDENT SENIOR GYNAECOLOGICAL HOUSE SURGEON (Male or female)
for duties at the above hospital and Scarthoe Road, Infirmary, Grimsby. Apply to Administrative Officer, Grimsby General Hospital. (7020)

HALIFAX GENERAL HOSPITAL (425 beds)
SENIOR HOUSE OFFICER in Obstetrics and Gynaecology (Male or female)
Required at above hospital, which has 86 maternity and 30 gynaecological beds with 1,800 deliveries annually and is recognized for the M.R.C.O.G. Applications, together with copies of three recent testimonials, to be forwarded to the Secretary at the Royal Halifax Infirmary. (8458)

MIDDLESBROUGH MATERNITY HOSPITAL (57 beds)
Tees-side Hospital Management Committee
SENIOR RESIDENT MEDICAL OFFICER (Senior House Officer Grade)
Applications are invited for the above appointment, which is now vacant. Good obstetrical experience is afforded and the appointment is recognized for the M.R.C.O.G. examination. Salary and conditions in accordance with National Health Service scales and terms of appointment. Applications, giving details of qualifications and experience, together with copies of three recent testimonials, should be sent as soon as possible to the Administrative Officer, Middlesbrough Maternity Hospital, Park Road North, Middlesbrough. (7451)

NORTHALLERTON HOSPITAL MANAGEMENT COMMITTEE
Friarage and Maternity Hospitals, Northallerton
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER in Obstetrics and Gynaecology
for the above hospitals. Previous experience in obstetrics is essential. The post will be vacant about mid-March, will be tenable for six months and is subject to the terms and conditions of service for hospital medical staff. Applications, with copies of testimonials or the names of two referees, should be addressed to the Secretary at the Friarage Hospital. (8131)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Department of Obstetrics and Gynaecology
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for appointment of
RESIDENT OBSTETRICAL OFFICER of Senior House Officer Grade
vacant April 1, 1952. There will be additional duties at the Flete Maternity Home and the Alexandra Maternity Home, which are parts of the department. Candidates should have had considerable experience in a department of obstetrics and gynaecology. The appointment will be for a period of twelve months and is renewable. Salary £670 per annum. Terms and conditions are in accordance with the National Health Service terms. The post is recognized by the Royal College of Obstetricians and Gynaecologists for the membership examination of the College. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent to the undersigned Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (8110)

PRESTON ROYAL INFIRMARY
The following post will become vacant on May 1, 1952:
SENIOR HOUSE OFFICER to the Gynaecological Department, 30 beds, with Consultant Out-patient Clinics
(Post recognized for M.R.C.O.G. examinations)
Applications, stating age, qualifications and previous posts, with copy testimonials, should be forwarded to the Secretary, H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8459)

HACKNEY HOSPITAL, E.9 (797 beds)
Applications are invited from registered medical practitioners for six months' appointment of
OBSTETRIC AND GYNAECOLOGICAL HOUSE SURGEON (Post recognized for M.R.C.O.G.)
Vacancy occurs on April 1, 1952. Preference will be given to applicants who have held resident surgical and medical posts in a General Hospital, and who have held an obstetric appointment. Applications should be submitted not later than March 12, 1952, to the Secretary, Hospital Management Committee, Hackney Hospital, E.9. (8460)

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60, Grove End Road, N.W.8
Applications are invited from registered medical practitioners (male) for the appointment of
HOUSE SURGEON
to the Midwifery and Gynaecology Departments
and to be responsible for the Casualty Department, to become vacant on Monday, March 31, 1952. Appointment will be for a period of six months. Salary is at the rate of £350 per annum. Applications should reach the Secretary on or before Tuesday, March 4, 1952, together with copies of three recent testimonials. (8096)

WHITTINGTON HOSPITAL, N.19
Applications are invited for the post of
OBSTETRIC HOUSE SURGEON
vacant April 1, 1952. Post recognized for D.R.C.O.G. Applications, stating age, qualifications, and previous experience, together with copies of two recent testimonials and name of one referee, to the Medical Superintendent, Whittington Hospital, Highgate Hill, N.19, by March 5. (8325)

AYLESBURY, BUCKS, STOKE MANDEVILLE HOSPITAL
HOUSE SURGEON for Gynaecological Department (First or second post)
Applications, with two testimonials, to the Administrative Officer. (8386)

BIRMINGHAM, 19, HEATHFIELD ROAD MATERNITY HOSPITAL
134, Heathfield Road, Handsworth
Birmingham (Dudley Road) Group of Hospitals
OBSTETRIC HOUSE SURGEON
Required for a period of six months on April 1, 1952. This is a third post, salary in accordance with the recognized scales. This hospital is a 50-bed maternity unit, with a 15-cot premature baby unit attached. There is a large antenatal department, and the appointment is recognized for the D.(Obst.)R.C.O.G. Applications, together with copies of three recent testimonials, should be forwarded to the undersigned within seven days.—J. Preston, Secretary, H.M.C., Dudley Road Hospital, Birmingham, 18. (8173)

BIRMINGHAM MATERNITY HOSPITAL
United Birmingham Hospitals
HOUSE SURGEON
Salary £400 or £450 per annum, according to experience. The appointment is for a period of six months and is recognized for the D.R.C.O.G. Duties commence May 1, 1952. Application forms can be obtained from the undersigned, and should be returned not later than March 1, 1952.—H. N. Lamb, House Governor, The United Birmingham Hospitals, Birmingham and Midland Hospitals for Women, Showell Green Lane, Sparkhill, Birmingham, 11. (8130)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
GYNAECOLOGICAL HOUSE SURGEON
Required at Highland Court annexe, which is a new unit of 30 gynaecological beds situated three miles from the above hospital, with all ancillary services available. Six months' appointment. National Health Service conditions and salary. Applications to be addressed to the Chief Administrative Officer at the hospital. (8132)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
OBSTETRIC HOUSE SURGEON
Applications are invited from registered medical practitioners for this post, vacant March 1, which is recognized for the D.R.C.O.G. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Surgeon Superintendent. (8521)

CHELTENHAM, SUNNYSIDE MATERNITY HOSPITAL
Cheltenham Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT OBSTETRIC OFFICER
The hospital, which is recognized for the purpose of training for the D.R.C.O.G., has 63 beds and deals with the majority of abnormal midwifery cases in North Gloucestershire. The appointment is for a period of six months and the salary will be £400 or £450 per annum, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, and accompanied by copies of three recent testimonials, should be sent to the Secretary, Cheltenham Group H.M.C., General Hospital, Cheltenham. (8255)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE SURGEON to the Gynaecological Department
commencing May 18, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings. (8174)

HALIFAX, ROYAL INFIRMARY (301 beds—44 maternity)
OBSTETRICAL HOUSE SURGEON (Male)
Salary according to experience. The post is recognized for the D.R.C.O.G. and is vacant March 1, 1952. Applications, stating age, qualifications and experience, together with three recent testimonials, to be forwarded to the Sec. (8500)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 18

Obstetrics and Gynaecology—contd.

DUNFERMLINE MATERNITY HOSPITAL
(52 beds)
TWO OBSTETRICAL HOUSE SURGEONS
(Resident)

Required at the above hospital. The hospital is recognized for the D.Obst.R.C.O.G. Applications, giving age, nationality, qualifications and experience, with copies of three testimonials, should be sent to the Medical Superintendent, Maternity Hospital, St. Leonards, Dunfermline, within fourteen days of the date of appearance of this advertisement. The successful applicants will be required to take up duty, the first on April 1, and the second on May 8, 1952. (8595)

EAST FIFE HOSPITALS BOARD OF MANAGEMENT
Craigtoun Maternity Hospital, St. Andrews, and Netherlea Maternity Hospital, Newport

Applications are invited for the appointment of **RESIDENT HOUSE OFFICER (Preferably female)** The post will become vacant on March 15, 1952, and the tenure will be for six months. The successful applicant will be required to spend three months at Craigtoun Maternity Hospital (40 beds) and three months at Netherlea Maternity Hospital (17 beds). Salary in accordance with national scale, i.e., £350 per annum, less emoluments, for a first appointment. Apply, with references, to the Medical Superintendent, East Fife Hospitals Board of Management, 243A, High Street, Kirkcaldy. (8549)

HASTINGS, ST. HELEN'S HOSPITAL (452 beds)
Hastings Group Hospital Management Committee
RESIDENT HOUSE OFFICER (Obstetrics)
(Male or female)

Post vacant March 10, 1952, is recognized for D.(Obst.)R.C.O.G. National scales of salary. Applications to Administrator at the hospital. (8372)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE SURGEON
to the Gynaecological and Abnormal Maternity Department

Required to commence duties on April 1, 1952. Salary in accordance with terms and conditions of service for hospital medical and dental staff, with full residential emoluments. Applications, together with copies of three recent testimonials, to be addressed to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (8082)

LIVERPOOL STANLEY HOSPITAL
United Liverpool Hospitals

Applications are invited from registered medical practitioners for appointment as **RESIDENT HOUSE SURGEON (Gynaecological)** for the period of six months from April 1 to September 30, 1952. The appointment is in accordance with the agreed terms and conditions of service (House Officers). Applications, on forms from the undersigned, to be returned as soon as possible.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (8527)

MACCLESFIELD HOSPITAL (West Park Branch)
Macclesfield and District Hospital Management Committee

Applications are invited for the post of **RESIDENT OBSTETRIC/GYNAECOLOGICAL HOUSE OFFICER** to become vacant April 1, 1952. The post is recognized for the purpose of training for the D.R.C.O.G. There are 28 obstetric and 30 gynaecological beds in the unit. Applications, stating age, nationality, qualifications and experience, with copies of three recent testimonials, to be forwarded as soon as possible to the Secretary, Willerby House, Cumberland Street, Macclesfield. (8373)

MANCHESTER, 8, CRUMPSALL HOSPITAL
(Adult General—1,225 beds)

Applications are invited for the appointment of **HOUSE OFFICER (Obstetrics and Gynaecology)** vacant towards the end of March. The hospital is recognized for the purpose of the M.R.C.O.G. Applications, stating age, nationality, present and previous appointments (with dates), along with names and addresses of two referees, to be sent to the undersigned immediately.—A. T. Sampson, Secretary to the Committee, Crumpsall Hospital, Manchester, 8. (8356)

MIDDLESBROUGH MATERNITY HOSPITAL
Tees-side Hospital Management Committee

There will be a vacancy for a **JUNIOR RESIDENT MEDICAL OFFICER (House Officer grade)** immediately. The post affords good obstetrical experience and is recognized for the D.Obst. R.C.O.G. examination. The appointment is for six months in the first place. The person appointed may be given the opportunity of proceeding to the Senior Resident Medical Officer's appointment, which is recognized for the M.R.C.O.G. examination. Applications, together with copies of testimonials, should be sent as soon as possible to the Administrative Officer, Middlesbrough Maternity Hospital, Middlesbrough. (7395)

PRESTON ROYAL INFIRMARY

The following post will become vacant on May 1, 1952.:
HOUSE OFFICER to Obstetric Department (50 beds) with antenatal and postnatal clinics (Post recognized for D.R.C.O.G. examinations)
Applications, stating age, qualifications and previous posts, with copy testimonials, should be forwarded to the Secretary, H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8461)

READING AREA DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

Applications are invited from registered medical practitioners for the post of **HOUSE SURGEON** vacant April 1, for a period of six months. Salary £400 or £450 (less £100 board, residence, etc.). Applications, stating age, nationality, qualifications (with dates), present post, together with copies of recent testimonials, to Administrative Officer, Royal Berkshire Hospital. (8256)

ROMFORD, ESSEX, RUSH GREEN HOSPITAL
(247 beds)

Applications are invited from registered medical practitioners for the post of **RESIDENT HOUSE SURGEON (Woman)** for duties in the Gynaecological Unit comprising 25 gynaecological and 6 maternity beds at the above hospital. Previous experience not necessary. Post tenable for six months. Applications, stating (in order) age, qualifications (with dates), present appointment and details of experience, accompanied by copies of two recent testimonials or names of referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. Applicants may see the hospital by arrangement with the Medical Supt. Telephone: Romford 7711. (5620)

WINDSOR, BERKS, KING EDWARD VII HOSPITAL
OBSTETRICAL AND GYNAECOLOGICAL HOUSE SURGEON

Required for post vacant April 1. Salary on national scale. The successful candidate will be resident at the Old Windsor Unit of the hospital. Applications, stating age, nationality, qualifications (with dates), together with copies of recent testimonials or the names of three referees, should be sent to the Administrative Officer. (7990)

KIDDERMINSTER, BLAKEBROOK HOSPITAL
Mid-Worcestershire Hospital Management Committee

Applications are invited from registered medical practitioners, who must be on the Executive Council's Obstetric list, for the post of **GENERAL PRACTITIONER OBSTETRICIAN** for one session per week. The appointment is initially for a period of twelve months, but, subject to a review of the scheme, the holder will be eligible for re-election. The appointment is subject to the terms and conditions of hospital medical and dental staff and remuneration is at the rate of £175 per session per annum. Further particulars can be obtained from the undersigned, to whom applications, giving details of age, qualifications and experience, should be addressed not later than Monday, March 10, 1952.—C. M. Smith, Secretary, Mid-Worcestershire H.M.C., Birmingham Road, Bromsgrove, Worcs. (8410)

OPHTHALMOLOGY

STOKE-ON-TRENT GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of **SENIOR REGISTRAR IN OPHTHALMOLOGY** Duties at North Staffs Royal Infirmary (475 beds). Candidates must possess higher qualification, and have had considerable experience in specialty. Appointment subject to N.H.S. (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 10, 1952. Candidates may visit the hospital. (8416)

BRISTOL EYE HOSPITAL (84 beds)
United Bristol Hospitals

Applications are invited for the following posts, vacant on May 1, 1952, and tenable for six months:
SENIOR OPHTHALMIC HOUSE SURGEON
(Senior House Officer Grade)
OPHTHALMIC HOUSE SURGEON
JUNIOR OPHTHALMIC HOUSE SURGEON
The present holders of the second and third posts may be applicants for the first and second posts respectively. Applications, stating age, qualifications, nationality and experience, together with the names of two referees, should be sent by March 7, 1952, to the Secretary, United Bristol Hospitals, Bristol Royal Infirmary, Bristol, 2. (8462)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee

Applications are invited for the appointment of **SENIOR HOUSE OFFICER** in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952. Salary £670 a year, less £150 a year for residential emoluments. Applications should be forwarded as soon as possible to the Administrative Officer, Kent County Ophthalmic and Aural Hospital, Church Street, Maidstone. (5359)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee

Applications are invited for the post of **OPHTHALMIC HOUSE SURGEON** for duties at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. (Recognized for D.O.M.S.) Vacant now. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer, Hull Royal Infirmary. (8396)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds, general)
HOUSE SURGEON

For Ophthalmic and E.N.T. Departments, tenure of post six months. Salary dependent on the number of posts previously held and in accordance with the terms and conditions of service for hospital medical staff. Apply as soon as possible to the Hospital Secretary. (8326)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Ophthalmic)

Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8463)

ORTHOPAEDICS

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL

Applications are invited for the appointment of **ORTHOPAEDIC REGISTRAR (Full-time)**
(Non-resident)
Duties to commence March 31, 1952, or as soon after as possible. Preference will be given to candidates with a higher surgical qualification. Applications, stating age, qualifications, and details of previous appointments, with names of three referees, to be addressed to the House Governor at 234, Great Portland Street, London, W.1. (8430)

LEICESTER GENERAL HOSPITAL AND ROYAL INFIRMARY
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the whole-time post of **REGISTRAR (Orthopaedics)** to the above hospitals, which are recognized for the F.R.C.S. Accommodation can be provided if required. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 6, 1952. (8039)

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL
234, Great Portland Street, London, W.1

Applications are invited for the appointment of **CLINICAL ASSISTANT (Whole-time)**. The post is graded as Senior House Officer status, and will include assisting in out-patient and in-patient work. Appointment to commence May 1. Post is tenable for one year. Applications, together with copies of three testimonials, to be addressed to the House Governor by March 3. (8083)

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL
234, Great Portland Street, London, W.1

Applications are invited for the appointment of **RESIDENT SENIOR HOUSE OFFICER** for period of six months, duties to commence April 15, 1952. Applications, with copies of three testimonials, to be addressed to the House Governor by March 3, 1952. (8084)

BRADFORD ROYAL INFIRMARY
SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Recognized for F.R.C.S. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary.

ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (8177)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Recognized for F.R.C.S. Salary £670, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary.

ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8178)

Orthopaedics—contd.

BRISTOL (near), WINFORD ORTHOPAEDIC HOSPITAL (235 beds)
SENIOR HOUSE OFFICERS
Applications are invited from registered medical practitioners to fill two vacancies which will occur in April and May, 1952. Positions are tenable for twelve months. Salary £670 per annum. Apply, stating age, qualifications and experience, with copies of testimonials, to the undersigned as soon as possible.—E. N. Roper, Sec.-Admin. (8133)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
SENIOR ORTHOPAEDIC HOUSE SURGEON
Applications are invited for the above appointment, which is tenable for one year. Salary £670 per annum and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (5468)

CHERTSEY, SURREY, ST. PETER'S HOSPITAL (Late Botley Park War Hospital) (430 beds)
SENIOR HOUSE OFFICER
Orthopaedic Department
Previous orthopaedic experience not essential. Appointment very suitable for candidate reading for a higher qualification and is recognized by the Royal College of Surgeons for the F.R.C.S. Salary in accordance with terms and conditions of National Health Service. Applications, together with names and addresses of referees, to Physician Superintendent as soon as possible. (7993)

DONCASTER ROYAL INFIRMARY
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners with the necessary experience for the appointment of
ORTHOPAEDIC HOUSE SURGEON
(in the grade of Senior House Officer)
Salary at the rate of £670 per annum, from which a deduction of £130 per annum will be made for board, residence, etc. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with copies of three testimonials, should be forwarded to the undersigned by March 1, 1952.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (7994)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds, 5 Residents)
Applications are invited for the vacancy of
RESIDENT SENIOR HOUSE SURGEON
to the Traumatic and Orthopaedic Department
vacant March 1. Duties include charge of Casualty Department under Consultant staff, care of in-patient beds and supervision of other residents. The hospital is a peripheral centre of the Oxford Regional Orthopaedic Service based on the Wingfield Morris Orthopaedic Hospital. Salary £670 per annum, with deduction for residence. Post recognized for F.R.C.S. Applications, with reference, to the Secretary, St. Mary's Cottage, High Wycombe, Bucks. (8387)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)
Applications are invited from registered medical practitioners for the posts of
RESIDENT SENIOR HOUSE SURGEONS
The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
TWO SENIOR HOUSE OFFICERS
Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out-patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible. (6671)

MARGATE, ROYAL SEA BATHING HOSPITAL (200 beds)
SENIOR HOUSE OFFICER
Applications for the above post are invited from registered medical practitioners. The post affords special opportunities for the study of surgical tuberculosis. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, and qualifications, together with copies of three recent testimonials, should be sent as soon as possible to the Medical Superintendent, Royal Sea Bathing Hospital, Margate. (7307)

NUNEATON, MANOR HOSPITAL (139 beds)
SENIOR HOUSE SURGEON
to Fracture and Orthopaedic Department (40 beds)
Salary £670 per annum. The hospital treats all accident and orthopaedic cases for an area with a population of 100,000 and is well equipped with ancillary services. Applications to the Assistant Secretary. (8238)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
TWO SENIOR HOUSE OFFICERS (Orthopaedic)/CASUALTY OFFICERS
required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (7795)

STANMORE, MIDDLESEX, ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Brockley Hill
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE OFFICER
for a period of six months, duties to commence April 22, 1952. Applications, with copies of three testimonials, to be addressed to the House Governor, at 234, Great Portland Street, London, W.1, by March 3, 1952. (8085)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
The post is recognized for the F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8397)

TAUNTON AND SOMERSET HOSPITAL (Musgrove Park Branch and East Reach Branch) (12 Residents)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
SENIOR HOUSE OFFICER
(Orthopaedic and Traumatic Surgery)
Salary is in accordance with the National Health Service scale. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (6986)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
SENIOR HOUSE OFFICER
in Orthopaedic Department
Appointment will be for six months in first instance and resident salary £670 per annum, less £150 for board residence. Apply Secretary. (8443)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee Group No. 16, Birmingham Region
SENIOR HOUSE OFFICER
(Fracture and Orthopaedic Department)
HOUSE OFFICER
(Fracture and Orthopaedic Department)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (8537)

AMERSHAM GENERAL HOSPITAL, Bucks (124 acute beds)
RESIDENT HOUSE OFFICER
Orthopaedic and Accident Department
Applications are invited. Duties include charge of casualty department under visiting consultant staff and care of in-patient beds. Hospital is a peripheral centre of Oxford Regional Orthopaedic Service based on Wingfield Morris Orthopaedic Hospital. Applications, with copies of three recent testimonials, to Secretary, Management Committee, Amersham General Hospital. (8388)

BEVERLEY, YORKS, WESTWOOD HOSPITAL
JUNIOR HOUSE PHYSICIAN
(First or second post)
With care of orthopaedic beds, required immediately. Salary in accordance with N.H.S. scale. Applications to the Secretary. (8327)

BRIGHTON GENERAL HOSPITAL (721 beds)
Brighton and Lewes Hospital Management Committee
HOUSE SURGEON IN ORTHOPAEDICS
Applications are invited for the above appointment, which is tenable for a period of six months, vacant now. Salary according to national scales. Applications, stating age, qualifications, and experience, together with copies of recent testimonials, should be forwarded to the Physician-Superintendent, Brighton General Hospital, Elm Grove, Brighton. (8431)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
ORTHOPAEDIC HOUSE SURGEON
Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (5801)

DARTFORD, SOUTHERN HOSPITAL
HOUSE SURGEON (Specialty Orthopaedics)
Salary in accordance with the terms and conditions of service of hospital, medical and dental staff. Applications, stating age, qualifications, and experience, together with the names of two persons to whom reference may be made for testimonials, should be sent to the Medical Supt., The Southern Hospital, Dartford, Kent, immediately. (8374)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
Applications are invited for the following post:
HOUSE SURGEON
in the Fracture and Orthopaedic Department
Salary £350 to £450, less £100 for residence. Applications, with full particulars, to the Secretary, Hospital Management Committee. (8533)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the post of
HOUSE SURGEON (Orthopaedic)
commencing April 1, 1952. Applications, stating age, experience, and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8328)

LIVERPOOL, UNITED, HOSPITALS
David Lewis Northern Hospital
Royal Southern Hospital
Royal Liverpool Children's Hospital (Heswall)
Applications are invited from registered medical practitioners for appointments as
RESIDENT HOUSE SURGEONS
to the Orthopaedic Departments
for the period of six months from April 1 to September 30, 1952. Applicants appointed to House Surgeon and Orthopaedic House Surgeon posts at the David Lewis Northern Hospital will be required to undertake some casualty work as part of their normal duties. The appointments are in accordance with the agreed terms and conditions of service (House Officers). Applications, on forms from the undersigned, should be returned as soon as possible.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (8528)

MANCHESTER, 8, CRUMPSALL HOSPITAL (General Hospital—1,225 beds)
Applications are invited for the appointment of
HOUSE OFFICER (Orthopaedics)
vacant towards the end of March. Applications, stating age, nationality, present and previous appointments (with dates), along with names and addresses of two referees, to be sent to the undersigned immediately.—A. T. Sampson, Sec. to the Committee, Crumpsall Hosp., Manchester, 8. (8357)

NORTHAMPTON GENERAL HOSPITAL (487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
FRACTURE AND ORTHOPAEDIC HOUSE SURGEON
vacant on April 1, 1952. Recognized for the F.R.C.S. N.H.S. salary scale and conditions of service for House Officers. Six months' appointment. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Superintendent. (8329)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE HOUSE SURGEON
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

PORTSMOUTH, ROYAL HOSPITAL (68 orthopaedic beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the following appointment:
ORTHOPAEDIC HOUSE SURGEON
Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (8066)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 18

Orthopaedics—contd.

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8464)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant March 1. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Administrative Officer. (8151)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)
Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6675)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(12 Residents)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Orthopaedic and Casualty)
Salary in accordance with the National Health Service scale. The post is recognized by the Royal College of Surgeons as qualifying appointment for the Final Fellowship examination. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton H.M.C., Musgrove Park Hospital, Taunton, Somerset. (7025)

WHISTON, COUNTY HOSPITAL (882 beds)
St. Helens and District Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Applications are invited for the above appointment now vacant. The main duties will be in the orthopaedic and casualty departments. The successful candidate will in addition be expected to carry out routine duties in the adjoining E.N.T. ward. Six months' appointment. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, nationality, past experience and present employment, along with the names of two referees, should be forwarded to the undersigned.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (8550)

PAEDIATRICS

BANGOR, COUNTY HOSPITAL
(Specialist Hospital for Women and Children)
Caernarvon and Anglesey Hospital Management Committee
Applications are invited for the post of
RESIDENT PAEDIATRIC OFFICER
(Senior House Officer Grade)
duties to commence on May 1, 1952. Preference will be given to candidates with previous experience in neonatal and premature infant care. The paediatric unit is recognized for the D.C.H. Salary according to scale. Applications, stating age, qualifications, details of previous hospital appointments and names and addresses of two referees, to be forwarded to the undersigned as soon as possible.—Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, N. Wales. (8551)

MANCHESTER, 20, WITHINGTON HOSPITAL
South Manchester Hospital Management Committee
Applications are invited from registered medical practitioners for the resident post of
SENIOR HOUSE OFFICER (Paediatrics)
at the above hospital. Applications, stating age, qualifications, experience and names of two referees, to be forwarded to the undersigned not later than March 10, 1952.—A. H. Keates, Secretary to the Committee, Christie Hospital and Holt Radium Institute, Manchester, 20. (8501)

WHITTINGTON HOSPITAL, N.19
Applications are invited for the post of
HOUSE PHYSICIAN (Paediatric)
vacant April 1, 1952. Post recognized for the D.C.H. The unit includes 20 beds for the treatment of tuberculous meningitis and has access to 64 neonatal cots. Applications, stating age, qualifications and previous experience, together with copies of two recent testimonials and name of one referee, to the Medical Superintendent, Whittington Hosp., Highgate Hill, N.19, by March 5. (8330)

ST. STEPHEN'S HOSPITAL
Fulham Road, Chelsea, S.W.10
RESIDENT HOUSE OFFICER
to Paediatric Department
Vacancy April 1, 1952. Applications, naming two referees, to the Medical Superintendent immediately. (8502)

WHIPPS CROSS HOSPITAL
Leytonstone, E.11
Leytonstone Hospital Management Committee
Applications are invited for the post of
PAEDIATRIC HOUSE PHYSICIAN
(Second or third post)
which is recognized for the D.C.H. and falls due on March 16, 1952. Application forms from the Medical Supt., to be returned by March 3. (8553)

BIRMINGHAM (near), CANWELL HALL BABIES' HOSPITAL
(60 beds for babies and children up to the age of twelve years—two House Physicians)
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN (Male or female)
vacant April 1, 1952. This post includes attendance at out-patient clinics and neonatal departments in Birmingham Hospitals and a child welfare centre. Recognized for D.C.H. Applications to the Paediatrician, Sorrento Maternity Hospital, Wake Green Road, Birmingham, 13, not later than February 27, 1952. (8181)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
HOUSE OFFICER (Surgical)
Required for six months, to commence duty on May 1, 1952. The duties will be mainly general surgery, but the officer will have, in addition, the opportunity of undertaking a certain amount of special surgery. Forms of application may be obtained from the undersigned and should be returned not later than February 29, 1952.—N. R. Winwood, House Governor. (8103)

DERBYSHIRE HOSPITAL FOR SICK CHILDREN, Derby (84 beds)
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
vacant April 1, 1952. Post recognized for D.C.H. Applications, stating age, qualifications, and experience, with copies of two testimonials, should be forwarded immediately to the Secretary, No. 1 Hospital Management Committee, Babington Lane, Derby. (8398)

HULL, VICTORIA HOSPITAL FOR SICK CHILDREN, Park Street (143 beds)
Hull (A Group) Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
now vacant. The post is for a term of six months and counts towards qualification D.C.H. Salary in accordance with terms of service issued by the Ministry of Health. Applications, together with testimonials, to be sent to the Administrative Officer at the above address. (7776)

LIVERPOOL, 12, ALDER HEY CHILDREN'S HOSPITAL, West Derby
Liverpool Region Children's Hospital Management Committee
Applications are invited for rotating internship
HOUSE OFFICER
vacant on April 1, 1952. The appointment is recognized for the D.C.H. and during the twelve months' term of office, which will consist of six months as House Physician and periods of three months in each of two specialties. Applications, stating age, nationality, liability to national service, qualifications (with dates), experience and details of present and previous appointments, together with copies of three recent testimonials, should be forwarded to reach the undersigned immediately.—H. R. Mason, Secretary to the Committee. (8097)

MANCHESTER, SAINT MARY'S HOSPITALS
United Manchester Hospitals
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
in the Neonatal Unit of Saint Mary's Hospitals (attached to the University Department of Child Health), for a period of six months, commencing April 17, 1952. Previous paediatric experience essential. Duties include the care of the newborn in the maternity department, the care of infants in the infants' ward, and work in the clinics under the charge of the department of child health. Salary in accordance with national scales. Application forms may be obtained from the undersigned and returned duly completed before March 7, 1952.—A. R. Wise, General Supt., Saint Mary's Hospitals, Whitworth Park, Manchester, 13. (8257)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
Applications are invited for the post of
HOUSE SURGEON
with duties in the Paediatric Department. Salary £350 to £450, according to previous posts held, with deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications, and experience, together with names of two referees, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible.—A. Ashworth, Secretary to the Committee. (4813)

MIDDLESBROUGH GENERAL HOSPITAL
Tees-side Hospital Management Committee
PAEDIATRIC HOUSE PHYSICIAN
Applications are invited for the above post, vacant April 1, 1952. This is an active unit of 60 beds and cots for acute cases, with a busy out-patients' department. Applications, stating age, qualifications, and accompanied by copies of three testimonials, to be sent to the Secretary Superintendent, Middlesbrough General Hospital, Ayresome Green Lane, Middlesbrough. (7738)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
PAEDIATRICS HOUSE OFFICER
vacant on April 1, 1952. Post recognized for the D.C.H. The person appointed will be required to reside, in conjunction with another paediatric House Officer, alternately for three months at the Northampton General and at the Harborough Road Hospitals, Northampton, and whilst at the latter hospital, to be responsible to the consultants for the supervision of all the beds, allocated as follows: sub-acute paediatric 16, dermatological 6, general medical 22, infectious diseases 41 (mostly children but including polio). National Health Service salary scale and conditions of service for House Officers. Six months' appointment. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible addressed to S. G. Hill, Secretary to the Management Committee. (8331)

PENDLEBURY, ROYAL MANCHESTER CHILDREN'S HOSPITAL
Salford Hospital Management Committee
Applications are invited from medical practitioners, male and female, for the post of
RESIDENT HOUSE SURGEON
(House Officer status)
falling vacant on March 12, 1952. The appointment is for a period of six months. Applications, stating age, qualifications (with dates) and nationality, accompanied by copies of three recent testimonials, to be sent to the Superintendent at the hospital to be received not later than February 29, 1952. (8597)

PONTYPRIDD (near), EAST GLAMORGAN HOSPITAL, Church Village
(316 beds—Committee's Base Hospital serving population of 177,000 and recognized for D.C.H.)
Applications are invited for the post of
HOUSE OFFICER (Paediatrics)
(First or second post)
which becomes vacant in March. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary, Pontypridd and Rhondda Hospital Management Committee, Courthouse Street, Pontypridd. (8432)

SHEFFIELD, UNITED, HOSPITALS
The Children's Hospital
Applications are invited from registered practitioners for the post of
HOUSE PHYSICIAN
to the Professorial Unit, to commence April 16. Salary in accordance with National Health Service scale. Applications within ten days of the first appearance of this advertisement, to the Superintendent, The Children's Hospital, Western Bank, Sheffield, 10. (8552)

SOUTHAMPTON CHILDREN'S HOSPITAL
(Recognized by Conjoint Board for D.C.H.)
HOUSE OFFICER
Post vacant April 4, 1952. Salary, etc., as nationally advocated. Preference given to candidates intending to specialize in paediatrics. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group H.M.C., Bullar Street, Southampton. (8503)

WREXHAM, MAELOR GENERAL HOSPITAL
(Paediatric Unit)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the appointment of
PAEDIATRIC HOUSE PHYSICIAN
for a period of six months commencing March 1, 1952. The department is comprised of a small neonatal and premature unit, together with newly cubicled general paediatric wards for 45 children. The successful candidate will work under supervision of the Consultant Paediatrician and the post offers ideal opportunity for gaining experience in all branches of children's diseases. Applications, giving full particulars, together with copies of two recent testimonials, should be sent to William Jones Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (7969)

PATHOLOGY

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time, non-resident post of

CONSULTANT GROUP PATHOLOGIST

to the Macclesfield and District Hospitals and Parkside Mental Hospital, near Macclesfield. Candidates must be of high professional standing with good training and experience in all branches of hospital pathology. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than March 17, 1952. (8598)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time, non-resident post of

CONSULTANT GROUP PATHOLOGIST

to the Rochdale and District Hospital Centre (laboratories at Birch Hill Hospital, Rochdale, and Rochdale Infirmary). The post is now vacant. Candidates must be of high professional standing, with good training and experience in all branches of hospital pathology. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than March 10, 1952. (8240)

NEWCASTLE REGIONAL HOSPITAL BOARD
Tees-side Hospital Management Committee Group
ASSISTANT CONSULTANT PATHOLOGIST
(Whole-time)

Required for the above area. The main laboratory is at Middlesbrough General Hospital. Salary scale £1,700 to £2,750. The person appointed will be required to reside in Middlesbrough. Canvassing will disqualify, but candidates are invited to see the laboratories by arrangement with the Consultant Pathologist, General Hospital, Middlesbrough. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within twenty-eight days. (8400A)

ROCHDALE AND DISTRICT HOSPITAL CENTRE
Manchester Regional Hospital Board

Applications are invited for the vacant whole-time, non-resident post of

ASSISTANT PATHOLOGIST

Candidates should have had previous experience in all branches of hospital pathology. Salary £1,300 by £50 to £1,750. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than March 10, 1952. (8088)

CENTRAL MIDDLESEX HOSPITAL, N.W.10
North-West Metropolitan Regional Hospital Board
WHOLE-TIME RESIDENT PATHOLOGICAL REGISTRAR

Required for one year in first instance to act as Transfusion Officer, assist the Consultant Haematologist, and take part in 24-hour pathology service. Vacant April 24. Application forms obtainable from, and returnable to, Secretary, Central Middlesex Group H.M.C., Acton Lane, N.W.10, by March 5. Hospital may be visited by direct appointment. (8554)

COVENTRY GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of

WHOLE-TIME REGISTRAR IN PATHOLOGY

Duties at Group Laboratory at Coventry and Warwickshire Hospital. Applicants must have some experience in pathology, and an interest in haematology is desirable. Appointment subject to N.H.S. (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 10, 1952. Candidates may visit the hospital concerned. (8417)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for two posts of

REGISTRAR in Clinical Pathology

one for the Stockport Group of Hospitals, with main duties at Stepping Hill Hospital, and one for the Preston and Chorley Group of Hospitals, with main duties at Preston Royal Infirmary. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 3, 1952. (8465)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
TWO SENIOR HOUSE OFFICERS
for Pathological Laboratory

Previous clinical experience essential, but pathological experience not essential. National Health Service salary and terms of service. Posts vacant April 1, 1952. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by March 8, 1952. (8555)

MANCHESTER, 20, WITHINGTON HOSPITAL
South Manchester Hospital Management Committee

Applications are invited for the post of

RESIDENT CLINICAL PATHOLOGIST
(Senior House Officer grade)

which will become vacant on May 1, 1952. Previous experience in pathology not essential, the post affording opportunities for gaining experience in all branches of clinical pathology. Applications, stating age, qualifications, present post, experience and names of two referees, to be forwarded to the undersigned not later than March 10, 1952.—A. H. Keates, Sec. to the Committee, Christie Hospital and Holt Radium Institute, Manchester, 20. (8504)

READING AREA HOSPITALS

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER (Pathology)

vacant near future. Deduction if resident £100. Previous experience in pathology desirable but not essential. Apply, stating age, qualifications (with dates), nationality, present post, together with copies of recent testimonials, to Chief Administrative Officer, 3, Craven Road, Reading, Berks. (8098)

SHEFFIELD, UNITED, HOSPITALS
Children's Hospital Unit

Applications are invited from registered practitioners for the post of

RESIDENT PATHOLOGIST
(Senior House Officer status)

to commence on April 17. Salary according to scale. Applications, in writing, with copies of three testimonials, to reach the Superintendent, The Children's Hospital, Western Bank, Sheffield, 10, by March 1. (8277)

ROYAL FREE HOSPITAL
Gray's Inn Road, W.C.1

Applications are invited from men and women practitioners for the appointment of

RESIDENT ASSISTANT PATHOLOGIST

at the above hospital. Salary in accordance with National Health Service scales for House Officers. Applicants should have held at least one Junior House appointment. The appointment is for six months in the first instance, duties commencing on May 1, 1952. Application forms may be obtained from the Secretary to the Board of Governors, to whom they should be returned not later than March 15. (8135)

PLASTIC SURGERY

HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London, W.C.1

There will be a vacancy in mid-April for a

PART-TIME SENIOR REGISTRAR
to the Department of Plastic Surgery

Full particulars, with form of application, which must be returned not later than Monday, March 10, 1952, are obtainable from the undersigned.—H. F. Rutherford, House Governor and Sec. (8556)

BASINGSTOKE, HANTS, ROOKSDOWN HOUSE PLASTIC AND JAW UNIT

Applications are invited from registered medical practitioners, male or female, for appointment of

HOUSE SURGEON

Salary according to national scales. Interesting work, which includes plastic surgery of all varieties, war injuries, congenital abnormalities and burns at all stages. Applications should be sent to the Medical Superintendent, Rooksdown House, Basingstoke, Hants, as soon as possible. (8433)

PSYCHIATRY

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time appointment of

CONSULTANT PSYCHIATRIST

for duties mainly at Scalebor Park Hospital (289 beds), near Ilkley. The successful candidate will be given clinical charge of beds and may be required to undertake extra-mural clinical duties within the Bingley, Keighley, Skipton and Settle Hospital Management Committee area or at Leeds. The hospital, which has private amenity and free beds, has a high admission rate. All modern forms of treatment are undertaken. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than March 15, 1952. (8067)

NORTH GLOUCESTERSHIRE CLINICAL AREA
South-Western Regional Hospital Board
CONSULTANT PSYCHIATRIST
in the North Gloucestershire Clinical Area, and
DEPUTY MEDICAL SUPERINTENDENT
to Horton Road and Coney Hill Hospitals, Gloucester

Applications are invited from registered medical practitioners for the whole-time appointment of Consultant Psychiatrist in the North Gloucestershire Clinical Area, which comprises Gloucester, Cheltenham, Stroud, Forest of Dean and adjoining districts. Applicants should have had wide experience in psychiatry, and must possess the Diploma in Psychological Medicine. Experience in child guidance would be an advantage. The successful applicant will have charge of beds at Horton Road and Coney Hill Hospitals, Gloucester, and will act as Deputy Medical Superintendent of these hospitals; in addition, he will be required to visit other hospitals in the clinical area as may be determined by the Regional Board from time to time. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than March 7, 1952. (8599)

PERTHSHIRE MENTAL HOSPITALS
Eastern Regional Hospital Board (Scotland)

Applications are invited for the whole-time post of

DEPUTY PHYSICIAN SUPERINTENDENT
(Consultant)

to the Perthshire Mental Hospitals, which are being brought under a unified medical administration. Candidates must have a wide experience in all branches of psychiatry. The possession of a specialist qualification in psychiatry is essential, and special consideration will be given to applicants holding a higher general medical qualification in addition. The successful applicant will be required to live at Murthly, where a suitable house is available but he will have clinical duties at Murray Royal, and in out-patient clinics at Perth Royal Infirmary and Bridge of Earn Hospital, Perthshire. Salary and conditions of service in accordance with national agreement. Application forms and further particulars from the Secretary to the Board, Braeknowe, 430, Blackness Road, Dundee, with whom applications must be lodged not later than March 16, 1952. (8243)

ARLESEY, BEDS, THREE COUNTIES (MENTAL) HOSPITAL
North-West Metropolitan Regional Hospital Board
WHOLE-TIME PSYCHIATRIC REGISTRAR
(Resident or non-resident)

Required for one year in first instance. Hospital may be visited by direct appointment. Application forms obtainable from, and returnable to, the Medical Superintendent, Three Counties Hospital, Arlesey, Beds, by March 5, 1952. (8466)

BIRMINGHAM (MENTAL B) GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of

SENIOR REGISTRAR IN PSYCHIATRY

duties at Hollymoor Hospital, Birmingham (630 beds). Resident appointment. Candidates should possess higher qualification and have had experience in specialty. Appointment subject to N.H.S. (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham 15, before March 10, 1952. Candidates may visit the hospital. (8418)

CARLISLE, GARLANDS MENTAL HOSPITAL
(approximately 900 beds)
Newcastle Regional Hospital Board
Newcastle Hospital Management Committee Group
WHOLE-TIME REGISTRAR PSYCHIATRIST

Required temporarily in first instance, up to August 31, 1952. The appointment will be resident and an unfurnished house or furnished flat is available. Salary £775 per annum. Arrangements can be made for the person appointed to take the necessary course of study for the Durham Diploma in Psychological Medicine. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be sent to the Regional Psychiatrist, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (8358)

LEICESTER (near), CARLTON HAYES HOSPITAL, Narborough
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the whole-time post of

REGISTRAR (Psychiatry)

to the above hospital, which is a recognized training hospital for the D.P.M. A house is available. The appointment is for one year in the first instance, and may be renewed for a further year, and will become vacant on April 21, 1952. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 10, 1952. (8375)

Psychiatry—contd.

SHEFFIELD, MIDDLEWOOD HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the whole-time post of

REGISTRAR (Psychiatry)

to the above hospital, which is a recognized training hospital for the D.P.M. Residential accommodation is available. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 10, 1952. (8376)

BURY, FAIRFIELD GENERAL HOSPITAL
(Comprising 175 Mental, 203 Chronic and 133 Obstetric and Gynaecological beds)
Bury and Rossendale Hospital Management Committee

Applications are invited for the post of

JUNIOR HOSPITAL MEDICAL OFFICER

at the above hospital. This post is mainly for the mental and chronic sick beds, and the successful applicant will be required to work in the main under the direction of the Consultant Psychiatrist. Salary will be at the rate of £700 per annum, rising by annual increments to £1,000 per annum. Conditions of service in accordance with national recommendations. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (8434)

PRESTWICH HOSPITAL
Prestwich, Manchester (Psychiatric—3,008 beds)

Applications are invited from registered medical practitioners, male or female, for appointment of

JUNIOR HOSPITAL MEDICAL OFFICER
(Resident or non-resident)

No accommodation is at present available for a married man. All modern treatments are practised and facilities will be given for studies for higher qualifications. Opportunities for experience at out-patient clinics. Applications, giving full details of age, training and experience, together with the names and addresses of at least two referees, should be sent to the Medical Superintendent not later than Saturday, March 1, 1952. (8505)

LIVERPOOL (near), RAINHILL HOSPITAL
Rainhill
Rainhill Mental Hospital Management Committee
SENIOR HOUSE OFFICER

Applications are invited from registered medical practitioners, male or female, for the above post. This mental hospital of 2,800 beds provides excellent opportunities for postgraduate experience in all branches of psychiatry. All forms of modern treatment are given. Salary £670 per annum, less £150 for residential emoluments. Applications, with copies of testimonials, or names of two referees, to be sent to the Medical Superintendent as soon as possible. (8435)

OXFORD, WARNEFORD AND PARK HOSPITALS
Oxford Regional Hospital Board

Applications are invited for an appointment as

SENIOR HOUSE OFFICER

at the above hospitals. The Warneford Hospital (140 beds) is in process of development as an acute psychiatric unit, with special emphasis on postgraduate training and facilities for research. It is closely associated with the adjacent Park Hospital (a neurosis centre of 30 beds, with daily out-patient clinics) at which the successful candidate will have ample opportunities for working. Experience can thus be gained in all branches of psychiatry, including child psychiatry. The appointment, now vacant, is specially suitable for a young graduate beginning the study of psychiatry with a view to specialist training and higher qualification, and every facility will be granted for these purposes, including opportunities for attendance at other appropriate hospitals in Oxford. The clinical work and postgraduate training in the hospitals is conducted on the system of two medical firms each headed by a consultant, and the House Officer will have experience with both. Accommodation is available for an unmarried candidate, but permission to live out of the hospital, subject to the usual turns of duty, may be granted if married. Salary and conditions of service in accordance with national scales. Applications, together with copies of recent testimonials, should be sent to the Medical Superintendent, Warneford Hospital, Oxford, within fourteen days of the appearance of this advertisement. (8258)

WINTERTON HOSPITAL MANAGEMENT COMMITTEE

THREE SENIOR HOUSE OFFICERS

Required at the above Mental Hospital. Applications, in writing, should state full name, age and qualifications, to be addressed to the Medical Superintendent, Winterton Hospital, Sedgefield, Stockton-on-Tees, within fourteen days of the appearance of this advertisement.—C. W. Gill, Secretary to the Hospital Management Committee. (8600)

RADIOLOGY

NOTTINGHAM GENERAL HOSPITAL (441 beds)
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners possessing the D.M.R.(D.) for the post of

WHOLE-TIME ASSISTANT RADIOLOGIST

The successful candidate will work under the direction of the Consultant in charge of the department, and will be required to undertake occasional sessions at other hospitals in the Nottingham area. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 22, 1952. (8389)

SCOTLAND, SOUTH-EASTERN REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified medical practitioners for the post of

ASSISTANT RADIOLOGIST in Fife

The duties are mainly in hospitals in Kirkcaldy and Dunfermline, under the direction of a Senior Radiologist. The salary of the post is on the scale £1,300 by £50 to £1,750. The post is superannuable, and conditions of service are in accordance with the regulations. Applications, giving details of age, qualifications and previous experience, together with the names of three referees, should reach the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, within thirty days. (8601)

KING'S COLLEGE HOSPITAL
Denmark Hill, S.E.5

Applications are invited for the post of

REGISTRAR to the Diagnostic X-ray Department

Candidates should hold or intend to work for a Diploma in Radiology. The post will be in the grade of Registrar or Senior Registrar, according to the qualifications and experience of the candidate selected. Applications, stating age, qualifications and experience, together with the names of three referees, should be addressed to the undersigned to arrive within four weeks of the appearance of this advertisement.—S. W. Barnes, House Governor. (8436)

LAMBETH HOSPITAL, Brook Drive, S.E.11
South-West Metropolitan Regional Hospital Board

Applications are invited for the post of

SENIOR REGISTRAR
in the X-ray Diagnostic Department

D.M.R. essential. The hospital is recognized as a training school for radiographers. Canvassing will disqualify, but candidates are not precluded from visiting the hospital (by arrangement) if they so desire. For form of application apply (enclosing stamped addressed envelope) to the Secretary, Lambeth Group Hospital Management Committee, Renfrew Road, S.E.11, to whom the completed applications should be returned by March 1. (8332)

BRISTOL, UNITED HOSPITALS
(Joint appointment with the South-Western Regional Hospital Board)

Applications are invited by the above Boards from registered medical practitioners for the joint appointment of

REGISTRAR in Radiology (Diagnostic)

The appointment will be subject to the terms and conditions of service of hospital medical and dental staff negotiated between the Minister and the profession. The successful applicant will be appointed to work in the first instance for one year in the United Bristol Hospitals, the teaching hospital for Bristol University. Applications, stating age, qualifications, experience and giving the names of two referees, should be sent not later than March 10, 1952, to Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (8467)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the post of

SENIOR REGISTRAR (in Diagnostic Radiology)
to the Withington, Wythenshawe and Baguley Hospitals, Manchester

D.M.R.D. essential. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names of three referees, to be received by March 10, 1952. (8437)

RADIOTHERAPY

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL
East Anglian Regional Hospital Board
Whole-time ASSISTANT RADIOTHERAPIST

Candidates must have a wide experience in the specialty and possess the D.M.R.(T.) Salary scale £1,300 to £1,750. Eight copies of application, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 3, 1952. Applicants are invited to visit the hospital by direct arrangement with the H.M.C. Secretary at the hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8043)

ROYAL CANCER HOSPITAL
Fulham Road, London, S.W.3

Applications are invited for the post of

FULL-TIME SENIOR REGISTRAR
in the Radiotherapy Department

to commence duty as soon as possible. Candidates must hold a Diploma in Medical Radiology. Forms of application are obtainable from the House Governor, to whom applications, together with copies of three recent testimonials, should be sent not later than March 26. (8468)

MANCHESTER, 20, CHRISTIE HOSPITAL and HOLT RADIUM INSTITUTE
South Manchester Hospital Management Committee

Applications are invited from registered practitioners for the post of

HOUSE OFFICER or SENIOR HOUSE OFFICER

The post will give successful candidate the opportunity of experience in modern radiotherapy and admission to the Diploma Course in Radiotherapy. Applications, stating age, experience and qualifications, to be forwarded to the undersigned not later than March 3, 1952.—A. H. Keates, Secretary to the Committee. (8469)

RHEUMATOLOGY

MAIDENHEAD (near), BERKS, CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow
HOUSE PHYSICIAN to the Special Unit for Research in Juvenile Rheumatism

The post offers scope for those interested in research, paediatrics, rheumatology or cardiology, and previous experience in one of these is desirable. Salary on national scale. Applications, stating age, qualifications (with dates) and experience, together with copies of two testimonials, should be sent to the Administrative Officer. (8002)

UROLOGY

LEEDS, UNITED, HOSPITALS

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER
to the Department of Urology

The appointment will be resident and candidates should have held at least one previous house appointment, not necessarily in this specialty. Applications, stating age, sex, nationality, qualifications and experience, to be addressed to the undersigned as soon as possible.—S. Clayton Fryers, Secretary to the Board, the General Infirmary at Leeds. (8506)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Urological)

Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8470)

MEDICINE

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—Main line railway from Liverpool Street)

Applications are invited from registered medical practitioners for the appointment of a temporary

WHOLE-TIME REGISTRAR (Medical)

at the above hospital, which includes duties in connexion with an active T.B. unit. Salary at the rate of £775 to £890 per annum, less £130 per annum for residential emoluments. Appointment for a period up to one year. Applications, stating age, nationality, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Administrative Officer. (8099)

BISHOPTON, RENFREWSHIRE, PRINCESS LOUISE SCOTTISH HOSPITAL FOR LIMBLESS SAILORS AND SOLDIERS, Erskine

Applications are invited for the post of

SENIOR RESIDENT MEDICAL OFFICER

Salary commensurate with age and experience (minimum £1,000), together with free house, fuel and light (to scale). Applications, stating age, qualifications and experience, together with copies of three recent testimonials, and stating when available to take up the post, should be submitted to the Secretary, 201, West George Street, Glasgow, C.2. (8438)

BRISTOL, UNITED, HOSPITALS
(Joint appointment with the South-Western Regional Hospital Board

Applications are invited by the above Boards from registered medical practitioners for the joint appointment of

MEDICAL REGISTRAR

The appointment will be subject to the terms and conditions of service of hospital medical and dental staff negotiated between the Minister and the profession. The successful applicant will be appointed to work in the first instance for one year in the professorial unit in the Bristol Royal Hospital. Normally the holder of this post is appointed Tutor in the Department of Medicine in the University of Bristol. Applications, stating age, qualifications, experience and giving the names of two referees, should be sent not later than March 10, 1952, to Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (8471)

Medicine—contd.

BOURNEMOUTH AND EAST DORSET HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
MEDICAL REGISTRAR
for duties at Christchurch Hospital (298 beds) where residence will be provided, and at the Royal Victoria Hospital (485 beds). The post is tenable for one year in the first instance. Forms of application, obtainable from the Secretary, H.M.C. Office, Royal Victoria Hospital, Bournemouth, should be returned to him, duly completed, within fourteen days of the appearance of this advertisement. (8359)

MANCHESTER, UNITED, HOSPITALS
Manchester Royal Infirmary, Manchester, 13
REGISTRAR to a General Medical Unit
Required to commence as soon as possible. Whole-time appointment, for twelve months, renewable. Applicants must possess higher qualifications. Applications to be made on forms obtainable from the undersigned and to be returned not later than March 12, 1952.—F. J. Cable, Secretary to the Board of Governors. (8557)

NORWICH—EAST ANGLIAN REGIONAL HOSPITAL BOARD
MEDICAL REGISTRAR
at the United Norwich Hospitals
Ward duties at the West Norwich Hospital and out-patient clinics at the Norfolk and Norwich Hospital. Appointment for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 3, 1952. Candidates are invited to visit the hospitals by direct arrangement with the H.M.C. Secretary at the Norfolk and Norwich Hospital, Norwich.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8003)

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for vacancies as
REGISTRARS in General Medicine
at hospitals in the Western Region. Successful applicants will be offered appointments for one year in the first instance at a salary of £775 per annum. Applications should be submitted not later than March 8, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, and should give details of age, experience, qualifications and present appointment, together with the names of three referees. These appointments will be subject to the N.H.S. (Scotland) (Superannuation) Regulations, 1950. (8531)

LINCOLN, ST. GEORGE'S HOSPITAL (126 beds)
Lincoln No. 1 Hospital Management Committee
Applications are invited for the post of
RESIDENT MEDICAL OFFICER
within the J.H.M.O. Grade, at the above hospital. Salary and conditions of service in accordance with the terms for hospital medical staff. Salary is at the rate of £700 by £50 to £1,000 per annum. Applications, stating age, qualifications, and experience, together with copies of recent testimonials, should be forwarded to the undersigned as soon as possible.—R. W. Howick, Secretary, County Hospital, Lincoln. (7659)

ST. LEONARD'S HOSPITAL
Nuttall Street, London, N.1 (General—176 beds)
Central Group Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
SENIOR (MEDICAL) HOUSE OFFICER
which falls vacant on March 8, and is tenable for one year. Salary £670 per annum, less £130 for full board and lodging. Applications, stating age, qualifications, experience, etc., together with copies of three testimonials, should be addressed to the Assistant Secretary without delay. (8439)

BEVERLEY, YORKS, BROADGATE HOSPITAL
(600 Mental beds)
RESIDENT SENIOR HOUSE PHYSICIAN
Salary £670 per annum.
RESIDENT HOUSE PHYSICIAN
Salary £350 to £450, according to previous posts held.
Applications to the Secretary, Westwood Hospital, Beverley, Yorks. (8333)

BEVERLEY, E. YORKS, WESTWOOD HOSPITAL
SENIOR HOUSE PHYSICIAN
Post vacant end of March. Salary £670. Charge of £140 for board and lodging. Applications to the Secretary. (8362)

BURNLEY GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
SENIOR HOUSE OFFICER (Medical)
(Resident or non-resident)
The post offers good all-round experience under Consultant staff. Salary £670 per annum. Conditions of service in accordance with the National Health Service terms. The post is tenable for one year. Applications, giving the names of three referees, should be sent to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (8507)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
Applications are invited from registered medical practitioners for the following post, which is vacant on March 31, 1952:
SENIOR HOUSE OFFICER (General Medicine)
The appointment will be for twelve months at a salary of £670 per annum, less £130 per annum for residential accommodation and services. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8472)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
SENIOR HOUSE OFFICER
to the Medical Professorial Unit
Now vacant. Whole-time non-resident post. Appointment for six months, renewable for a second and possibly a third six months. Salary £670 per annum. Applications to be made on forms obtainable from the undersigned and to be returned not later than March 12, 1952.—F. J. Cable, General Superintendent. (8259)

SOUTHEND-ON-SEA, GENERAL HOSPITAL
Applications are invited for the position of
RESIDENT SENIOR (MEDICAL) HOUSE OFFICER
for one year from April 1, 1952, for duties in a modern general hospital with a large out-patients department. Applications, etc., should reach the undersigned not later than March 5, 1952.—J. C. Field, Secretary. (8445)

WEST HARTLEPOOL GENERAL HOSPITAL
Applications are invited for the appointment as
SENIOR HOUSE OFFICER (Medical)
at the above hospital, vacant March 15, 1952. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (8260)

YORK, COUNTY HOSPITAL
(General Hospital of 269 beds)
CITY HOSPITAL, York
(General Hospital of 265 beds)
YEARSLEY BRIDGE HOSPITAL, York
(Infectious Diseases Hospital of 86 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER
in Paediatrics and Infectious Diseases
to spend approximately half time in connexion with paediatric duties at the County Hospital (22 paediatric beds), City Hospital (32 paediatric beds) and other hospitals of the Group, and approximately half-time at Yearsley Bridge Hospital. Candidates should have had previous experience of paediatrics and infectious diseases. Preference given to holders of D.C.H. Post vacant from April 1, 1952, for one year in first instance. Salary £670 per annum, less £170 for residence at Yearsley Bridge Hospital. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to the undersigned.—F. A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (8558)

BOLINGBROKE HOSPITAL
Wandsworth Common, S.W.11
RESIDENT HOUSE PHYSICIAN
Required for six months from March 23. Apply, enclosing copies of three recent testimonials, to Administrative Officer, by March 8. (8518)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
RESIDENT HOUSE OFFICER
Required in General Medical and Cardiological Department. Appointment for six months from March 15, 1952. Applications to Medical Director by March 1, 1952. (8578)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE PHYSICIAN (H.O. 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Post vacant March 17, 1952. Application forms obtainable from, and returnable to, the Medical Superintendent. (8100)

WHITTINGTON HOSPITAL, N.19
Applications are invited for two posts of
HOUSE PHYSICIAN (General Medicine)
vacant April 1, 1952. Posts recognized for M.D. (London). Applications, stating age, qualifications and previous experience, together with copies of two recent testimonials and name of one referee, to the Medical Superintendent, Whittington Hospital, Highgate Hill, N.19, by March 5. (8334)

WHITTINGTON HOSPITAL, N.19
Applications are invited for the post of
HOUSE PHYSICIAN (General Medicine)
(Third post held)
vacant April 1, 1952. Post recognized for M.D. (London). Applications, stating age, qualifications and previous experience, together with copies of two recent testimonials and name of one referee, to the Medical Superintendent, Whittington Hospital, Highgate Hill, N.19, by March 5. (8335)

WHITTINGTON HOSPITAL, N.19
Applications are invited for the post of
HOUSE PHYSICIAN (Third post, General Medicine and Neurology)
vacant April 1, 1952. Post recognized for M.D. (London). Special interest or previous training in neurology desirable. Applications, stating age, qualifications and previous experience, together with copies of two recent testimonials, and name of one referee, to the Medical Superintendent, Whittington Hospital, Highgate Hill, N.19, by March 5. (8336)

AMERSHAM GENERAL HOSPITAL, Bucks
HOUSE PHYSICIAN (First or second post)
Required to take up appointment on March 1. Applications, stating age, nationality and qualifications (with dates), together with two recent testimonials, should be sent to the Secretary, Hospital Management Committee, Amersham General Hospital, as soon as possible. (8390)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
HOUSE PHYSICIAN
to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9 89)

COSHAM, QUEEN ALEXANDRA HOSPITAL
(62 medical and 124 surgical beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the following appointment:
HOUSE PHYSICIAN
Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (8070)

DARLINGTON MEMORIAL HOSPITAL
(210 beds)
Darlington District Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN (J.H.O.—Resident)
Salary in accordance with national scale. Apply, giving age and references, to the undersigned at once.—G. W. Beckwith, Secretary. (7237)

DEWSBURY, GENERAL HOSPITAL
Moorlands Road, Dewsbury (119 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
vacant March 1, 1952. This is a modern general hospital with a large out-patient department. Excellent experience available. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (8047)

DRIFFIELD, YORKS, EAST RIDING GENERAL HOSPITAL
HOUSE PHYSICIAN
Post vacant end February. Duties to include medical wards, out-patients and some anaesthetics. Salary £350 to £450 per annum. Applications to Sec., Westwood Hospital, Beverley, Yorks. (8337)

DUNFERMLINE, NORTHERN HOSPITAL
West Fife Hospitals Board of Management
HOUSE PHYSICIAN
Required April 1. Salary £350 to £450, less £100 for board, lodging, etc. The Northern Hospital is being developed as a medical unit of approximately 120 beds and will provide ample clinical material and a varied experience. Applications, stating age, nationality, qualifications, and experience, with copies of three testimonials, should be forwarded to the Medical Superintendent, The Northern Hosp., Leys Park Rd., Dunfermline (7833)

GRIMSBY GENERAL HOSPITAL (200 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
The post will fall vacant in February, and is tenable for six months. Applications, together with the names of two referees, should be sent to the Admin. Officer, Grimsby General Hospital. (6688)

GUILDFORD, ST. LUKE'S HOSPITAL
Guildford Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE PHYSICIAN
for duties in Medical Unit with acute and chronic beds. Post vacant March 19, 1952. Applications, with copies of three testimonials, should be forwarded to the Physician Superintendent as soon as possible. (8399)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 18

Medicine—contd.

HALIFAX GENERAL HOSPITAL (425 beds)
HOUSE PHYSICIAN
Salary according to experience. Applications, stating age, sex, nationality, qualifications, experience and enclosing copies of three testimonials, to be forwarded to the Secretary at the Royal Halifax Infirmary. (8473)

HALIFAX, ROYAL INFIRMARY (301 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
at the above busy acute general hospital. Salary according to experience. Applications, stating age, nationality, qualifications and experience, together with copies of three testimonials, to be forwarded to the Secretary. (8508)

HILLINGDON HOSPITAL, near Uxbridge Middlesex
RESIDENT HOUSE PHYSICIAN (Male)
Appointment recognized for M.D.(Lond.). Applications, not later than March 3, stating age, qualifications, nationality and experience, with copies of not more than three recent testimonials, to Medical Director. (8360)

HUDDERSFIELD ROYAL INFIRMARY (321 beds)
Huddersfield Hospital Management Committee
HOUSE PHYSICIAN
Required to commence duty on March 4. Salary in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, together with copies of three recent testimonials, should be addressed to the undersigned.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (7471)

HUNTINGDON COUNTY HOSPITAL
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (Medical)
to the above hospital. The selected candidate will be required to look after medical and paediatric cases under the direction of the consultants concerned, and may be required to give emergency anaesthetics. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket (8191)

IPSWICH, ST. HELEN'S HOSPITAL
(100 beds for infectious diseases, pulmonary tuberculosis and long-stay orthopaedics. The Area Chest Clinic is in the hospital)
Ipswich Group Hospital Management Committee
HOUSE OFFICER
Accommodation available for married man. The person appointed will be required to undertake certain duties in the children's ward at the Borough General Hospital in addition to duties at St. Helen's Hospital. Applications, with full particulars, to John Williams, Secretary, at East Suffolk and Ipswich Hospital, Ipswich. (8559)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds, General)
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
Post vacant on March 17, 1952. Salary £350 to £450, dependent upon experience, less £100 per annum for residential emoluments. Applications, together with two recent testimonials, should be sent to the hospital Sec. as soon as possible. (8338)

LIVERPOOL, 5, CITY HOSPITAL NORTH
North Liverpool Hospital Management Committee
Applications are invited for the vacancy of
HOUSE OFFICER
The work is mainly general, including E.N.T. There is also opportunity for undertaking postgraduate study. Salary £350 to £450 per annum, according to experience, less £100 for full residential emoluments in accordance with National Health Service terms and conditions. The post is vacant from April 1, 1952. Applications, on forms obtainable from the undersigned, should be made immediately.—F. J. Watkins, Secretary to the Committee, Walton Hospital, Liverpool. (8561)

LIVERPOOL, 22, WATERLOO AND DISTRICT GENERAL HOSPITAL
North Liverpool Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
vacant as from April 1, 1952. Salary £350 to £450 per annum, according to experience, less £100 for full residential emoluments in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, on forms obtainable from the undersigned, should be submitted as soon as possible.—F. J. Watkins, Secretary to the Committee, Walton Hospital, Liverpool. (8562)

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
commencing April 1, 1952. Applications, stating age, experience and qualifications, with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (8339)

LOUTH, LINCS, COUNTY INFIRMARY (240 beds)
Grimsby Hospitals Management Committee
HOUSE OFFICER (Medical)
Applications are invited for the above post, vacant March 1, at this busy general hospital. Salary £350 to £450 per annum. Applications, giving details of age, experience, nationality, together with names of two referees, to be addressed to the Administrative Officer at the hospital. (8050)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Applications are invited for the post of
HOUSE PHYSICIAN
vacant March 11, 1952. The appointment will be for six months in the first instance. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (8361)

MANSFIELD AND DISTRICT GENERAL HOSPITAL
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
(First, second or third appointment)
Applications, stating age, qualifications, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts (8391)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)
For the care of both medical and surgical cases. Appointment for six months. Duties to commence immediately. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NEWPORT, MON, ST. WOOLOS HOSPITAL (379 beds)
Applications are invited for the post of
HOUSE OFFICER (Medical)
who will work under the directions of the Consultant Physician and the Paediatrician, and will also attend the Out-patient Department of another hospital with the Consultants. Post vacant April 1. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, 17, Cardiff Road, Newport, Mon. (8400)

NORTHALLERTON, FRIARAGE (GENERAL) HOSPITAL (300 beds)
Northallerton Hospital Management Committee
HOUSE PHYSICIAN
Required for April 1, 1952. Conditions of service six months. Salary in accordance with national scale. Applications, together with the names of two referees, to be sent to the Secretary, Friarage Hospital, Northallerton, Yorks. (8474)

NUNEATON, MANOR HOSPITAL (139 beds)
Applications are invited for the post of
HOUSE PHYSICIAN (32 general medical beds)
Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (8112)

OTLEY, YORKS, GENERAL HOSPITAL
(260 beds, with full consultant staff who are members of the teaching staff of Leeds University)
Ilkley and Otley Hospital Management Committee
HOUSE PHYSICIAN
Required immediately at above hospital. £350 a year if first post held, £400 second, and £450 if third or subsequent post. Deduction of £100 a year for residential emoluments. Applications, stating particulars of previous hospital appointments, to the undersigned as soon as possible.—E. W. Best, Sec., General Hospital, Otley, Yorks. (8440)

PRESTON ROYAL INFIRMARY (400 acute beds)
HOUSE PHYSICIAN (J.H.O. Grade)
(Medical Department)
The successful candidate will be required to work in the medical out-patient clinics and will have charge of 40 acute medical beds under one of the two Consulting Physicians. Apply, stating experience and qualifications, together with copies of recent testimonials, to J. Gibson, Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston. (8475)

ROCHDALE INFIRMARY
Rochdale and District Hospital Management Committee
HOUSE PHYSICIAN
Apply to the Secretary, Central Offices, Birch Hill Hospital, Rochdale, Lancs. (8192)

ROMFORD, ESSEX, VICTORIA HOSPITAL (91 beds)
RESIDENT HOUSE PHYSICIAN
Applications are invited from registered medical practitioners (male) for the above post, vacant now. Six months' appointment. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (8051)

RUGBY, HOSPITAL OF ST. CROSS
HOUSE PHYSICIAN
Required March 25, 1952, for adult medical unit and children's ward. Applications, stating age, qualifications and experience, with copy testimonials to Assistant Secretary. (8579)

ST. ALBANS CITY HOSPITAL, St. Albans
HOUSE PHYSICIAN
Required to one of the medical teams, for duties mainly in the acute medical wards, but the successful candidate would also have some work with the Consultant Physician in the tuberculosis wards. Post vacant middle of March, 1952. Applications, giving age, qualifications and experience, to be forwarded to the Secretary, Osterhills, Normandy Road, St. Albans, as soon as possible. (8052)

SHREWSBURY (near), CROSS HOUSES HOSPITAL (183 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT MEDICAL OFFICER
Vacant immediately. Preference will be given to those applicants with previous obstetrical experience. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (6063)

SOLIHULL HOSPITAL
Lode Lane, Solihull, near Birmingham
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Vacancy immediately available for
HOUSE PHYSICIAN
This is a General Hospital and offers good experience. Five other Resident Medical Officers. Applications, giving qualifications, age and experience, with copies of two recent testimonials or names of two referees, to the Medical Superintendent. (8563)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL (96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Medical)
Post vacant mid-March. Apply, with copy testimonials, stating age, nationality, and full details of previous appointments, to the undersigned at Head Office, Princes' Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8401)

SUNDERLAND (near), RYHOPE GENERAL HOSPITAL (208 beds)
HOUSE PHYSICIAN (Male or female)
Post vacant March 24, 1952. Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (8390)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the above hospital. Resident. The appointment will be for six months in the first instance and the post becomes vacant on February 29, 1952. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Sec., Thurrock Hospital, Grays, Essex. (7963)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey (6770)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)
HOUSE OFFICER (Medical) (First or second post)
Post vacant middle March. Salary, terms and conditions as issued by the Ministry of Health. Applications, with at least two testimonials, should be sent to the undersigned immediately.—Cyril Hopkinson, Administrator. (7781)

WATFORD, SHRODELLS HOSPITAL
(General Hospital, 440 beds)
Applications are invited for the post of
HOUSE PHYSICIAN (First, second or third post)
Salary on the national scales. Post would suit candidates for the M.R.C.P. as the hospital is within reach of the London teaching classes. Applications, together with not more than three copies of testimonials, should reach the Medical Officer-in-Charge as soon as possible. (8580)

Medicine—contd.

WHISTON, COUNTY HOSPITAL (882 beds)
St. Helens and District Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE PHYSICIAN
Six months' appointment. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, and experience, and giving two names for reference, should be forwarded to the undersigned as soon as possible.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (8093)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY
Wigan and Leigh Hospital Management Committee
HOUSE PHYSICIAN
Required at the above hospital. Resident House Officer grade post. Applications, stating age, qualifications, and details of previous hospital appointments, should be forwarded to the undersigned as soon as possible, together with the names of two referees.—T. W. Hurst, Secretary, Knowsley House, Wigan. (8476)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
HOUSE PHYSICIAN
Medicine and Dermatology
Vacant April 6. Apply Secretary, with copies of two testimonials. (8444)

WOKING, VICTORIA HOSPITAL (74 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
Salary and conditions of service as published by Ministry of Health. Apply to Assistant Secretary, Victoria Hospital, Woking, Surrey. (6977)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee Group No. 16, Birmingham Region
HOUSE OFFICER (General Medicine)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (8538)

KIDDERMINSTER, BLAKEBROOK HOSPITAL
Mid-Worcestershire Hospital Management Committee
Applications are invited from registered medical practitioners for the posts of
TWO MEDICAL OFFICERS
for one session each per week. The successful candidates will have the care of all chronic sick in the hospital (220 beds) and will undertake weekend responsibility on a rota basis. The appointments are initially for a period of twelve months, but, subject to a review of the scheme, the holders will be eligible for re-election. The appointments are subject to the terms and conditions of hospital medical and dental staff and remuneration is at the rate of £175 per session per annum. Further particulars can be obtained from the undersigned, to whom applications, giving details of age, qualifications and experience, should be addressed not later than Monday, March 10, 1952.—C. M. Smith, Secretary, Mid-Worcestershire H.M.C., Birmingham Road, Bromsgrove, Worcs. (8411)

SURGERY

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of
WHOLE-TIME SENIOR HOSPITAL MEDICAL OFFICER (Traumatic Surgeon) to serve the Cardiff Hospital Management Committee
He will be based at St. David's Hospital, Cardiff, and will work under the direction of the Consultant in charge. Candidates must have experience of the practice of traumatic surgery. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (8497)

ST. GEORGE'S HOSPITAL, S.W.1
Applications are invited for the post of
SURGICAL FIRST ASSISTANT
Candidates should hold the Diploma of the F.R.C.S. (England). The appointment will be for one year in the first instance. The successful candidate will be graded as Senior Registrar or Registrar, according to experience and seniority. The appointment commences on or about April 1, 1952. Applications, together with the names of two referees, should be sent to the undersigned not later than March 8, 1952.—P. H. Constable, House Governor. (8509)

ST. MARY'S HOSPITAL, W.2
Applications are invited for the post of
WHOLE-TIME CANCER REGISTRAR
(Graded Registrar)
The successful candidate will be responsible for the compiling of cancer records, and will be expected to undertake certain clinical duties at a constituent hospital within the St. Mary's Group. Applications, stating nationality, date of birth, permanent address, qualifications (with dates), and details of previous and present appointments, together with the names and addresses of three referees, should reach the undersigned by March 1, 1952.—Alan Powditch, House Governor. (8477)

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications invited for following whole-time appointments:
SURGICAL REGISTRAR (R.S.O.)
to the Dudley and Stourbridge Group; duties at Corbett Hospital, Stourbridge (106 beds).
SURGICAL REGISTRAR (R.S.O.)
to the Dudley and Stourbridge Group; duties at Guest Hospital, Dudley (154 beds).
SURGICAL REGISTRAR
to the Mid-Worcestershire Group; duties at Kidderminster General Hospital. Resident appointment.
Experience in general surgery essential, and higher qualification an advantage. Appointments subject to N.H.S. (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 10, 1952. Candidates for more than one appointment should forward seven copies of applications in respect of each vacancy. Candidates may visit the hospitals concerned. (8419)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL
East Anglian Regional Hospital Board
RESIDENT SURGICAL OFFICER
(Registrar Grade)
The appointment will be for one year, renewable for second year. Applications, stating age, qualifications, and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 10, 1952. Candidates are invited to visit the hospital by arrangement with the H.M.C. Secretary at the hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8377)

LEEDS, BOARD OF GOVERNORS OF THE UNITED LEEDS HOSPITALS and the LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the joint appointment of
REGISTRAR in Genito-Urinary Surgery
The out patient and diagnostic department is at the Leeds General Infirmary and the ward unit is in St. James's Hospital, Leeds. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than Feb. 29. (7970)

NEWCASTLE REGIONAL HOSPITAL BOARD
Gateshead Hospital Management Committee Group
SURGICAL REGISTRAR (Whole-time)
Required, temporarily in first instance, up to August 31. Salary £775 per annum. Accommodation is available for a single person. Applications, together with names and addresses of one to three referees and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (8402)

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for vacancies as
REGISTRARS in General Surgery
at hospitals in the Western Region. Successful applicants will be offered appointments for one year in the first instance at a salary of £775 per per annum. Applications should be submitted not later than March 8, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2, and should give details of age, experience, qualifications and present appointment, together with the names of three referees. These appointments will be subject to the N.H.S. (Scotland) (Superannuation) Regulations, 1950. (8532)

STORNOWAY, LEWIS HOSPITAL
Northern Regional Hospital Board (Scotland)
The Northern Regional Hospital Board (Scotland) invites applications for the post of
SURGICAL REGISTRAR
Applicants should have previous experience in general surgery, and a higher qualification would be an advantage. Schedules of application and further particulars are obtainable from the undersigned, with whom applications should be lodged by Saturday, March 8, 1952.—A. M. Fraser, M.D., Secretary and Administrative Medical Officer, Office of the Northern Regional Hospital Board, Raigmore, Inverness. (8261)

WISBECH, NORTH CAMBRIDGESHIRE HOSPITAL
East Anglian Regional Hospital Board
Resident SURGICAL OFFICER (Registrar grade)
The appointment will be for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 3, 1952. Candidates are invited to visit the hospital by arrangement with the H.M.C. Secretary, Peterborough Memorial Hospital, Peterborough.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8054)

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of
REGISTRAR in General Surgery
to hospitals of the Mid-Glamorgan Hospital Management Committee. Applicants should have held the post of House Surgeon, preferably in a teaching hospital. The successful candidate will be based on Bridgend General Hospital (364 beds). The post may be resident or non-resident and will be subject to review at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (8510)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge. Main Line Railway from Liverpool Street)
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER (Surgical)
Salary £670 per annum, less £130 per annum in respect of residential emoluments. The appointment is due to commence April 1 for a period of one year. Applications, stating nationality, age, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Secretary, Hertford Group H.M.C. Hertford County Hospital, Hertford, Herts. (8564)

CHICHESTER, ROYAL WEST SUSSEX HOSPITAL (General Acute, 202 beds—6 Residents)
RESIDENT SENIOR HOUSE SURGEON
Post vacant April 1, 1952. Six months' appointment, renewable for further six months. Salary £670 per annum, less deduction for resident emoluments. Post includes surgical work under R.S.O., casualty duties, and acting as Deputy R.S.O. Applications, stating age, and experience, with copies of up to three recent testimonials, to be sent to Senior Admin. Officer as soon as possible. (8478)

COSHAM, QUEEN ALEXANDRA HOSPITAL
(62 medical and 124 surgical beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the following appointment:
SENIOR HOUSE SURGEON
Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (8071)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
Redhill Group Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
(Surgical)
Vacant end February, 1952. The post affords good experience in general surgery and casualty work. Apply to the Medical Superintendent. (8378)

GREENOCK ROYAL INFIRMARY
Board of Management for Greenock and District Hospitals
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (General Surgery)
(Replacing Junior Registrar Grade)
Appointment will be for one year in the first instance and will be subject to the National Health Service (Scotland) (Superannuation) Regulations. Applications, stating age, qualifications, and present appointment, and giving the names of three referees to the Secretary, Board of Management for Greenock and District Hospitals, 47, Eldon Street, Greenock, not later than Friday, Feb. 29. (8581)

LEIGH INFIRMARY, Leigh, Lancs
Wigan and Leigh Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE SURGEON
at the above hospital, which is a busy general hospital of 102 beds. The person appointed will be attached to the surgical and orthopaedic wards and will be required to undertake some duties in the casualty department along with other members of the resident staff. Applications, stating age, nationality, qualifications, and previous hospital appointments, together with the names of two referees, should reach the undersigned as soon as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (8479)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence early in March. Salary £670 per annum and conditions of service in accordance with the conditions published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (6969)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 18

Surgery—contd.

HOVE GENERAL HOSPITAL, Sussex
(75 beds, 3 Resident Medical Officers)
Brighton and Lewes Hospital Management Committee

Applications are invited for the following resident posts, vacant mid-March, 1952:

SENIOR HOUSE SURGEON

(preference will be given to candidates with previous experience). Duties chiefly ward and theatre work.

HOUSE SURGEON

for casualty and with charge of surgical beds.

Salaries and conditions of service in accordance with national scale (£350 to £450, less £100 per annum for residential emoluments). Applications, with full details of experience, etc., and enclosing names and addresses of two referees, should be sent to the Administrative Officer at the hospital within ten days of the appearance of this advertisement. (7782)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of

SENIOR HOUSE OFFICER
(Genito-Urinary Surgery)

at the above hospital. The person appointed will attend the Cystoscopic Clinic at the above hospital and the Out-patient Clinic at the Teaching Hospital. The appointment will be for a period of one year and the salary will be in accordance with the agreed terms and conditions of service of hospital medical and dental staff, namely, £670 per annum, with an appropriate deduction in respect of board, lodging and other services provided. Forms of application, available from the undersigned, should be completed and returned as soon as possible.—J. Folkard, Secretary to the Committee, Administrative Offices, St. James's Hospital, Leeds, 9. (8363)

REDRUTH, CAMBORNE-REDRUTH HOSPITAL
(159 beds, 4 residents)
West Cornwall Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)

Required for the above hospital. Duties to commence on March 1, 1952. Salary £670 per annum, less £100 per annum for residential emoluments. Applications stating age, experience and nationality, together with names of two persons to whom reference can be made, should be submitted to the Administrative Assistant. (8011)

SCUNTHORPE, WAR MEMORIAL HOSPITAL
(269 beds)
Scunthorpe Hospital Management Committee

Vacancy in March for

HOUSE SURGEON
(Senior House Officer Grade)

with duties in general surgery, gynaecology and some radiotherapy. Applications, with full details of qualifications, experience, and naming two referees, to Secretary, War Memorial Hospital, Scunthorpe, Lincs. (8364)

STOCKPORT INFIRMARY, Stockport
Stockport and Buxton Hospital Management Committee
SENIOR HOUSE OFFICER (R.S.O.).

Applications are invited for the above immediate vacancy. Salary £670 per annum, less a charge at the rate of £155 per annum for board, residence and laundry. Applications, stating age, qualifications and experience, together with copies of two testimonials, or the names of two referees, to be forwarded to the undersigned.—H. G. Price, Secretary, 59B, Shaw Heath, Stockport. (8603)

STOCKPORT, STEPPING HILL HOSPITAL
Stockport and Buxton Hospital Management Committee
SENIOR HOUSE OFFICER (A.R.S.O.)

Applications are invited for the above immediate vacancy. Salary £670 per annum, less a charge at the rate of £155 per annum for board, residence and laundry. Applications, stating age, qualifications and experience, together with copies of two testimonials, or the names of two referees, to be forwarded to the undersigned.—H. G. Price, Secretary, 59B, Shaw Heath, Stockport. (8602)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
(96 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (Surgical)

Post vacant now. Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8403)

STOKE-ON-TRENT, LONGTON HOSPITAL
(55 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (Surgical)

Post vacant now. Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8404)

STOURBRIDGE, CORBETT HOSPITAL (106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER (Resident, Surgical)

Post now vacant. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (9745)

STOURBRIDGE (near), WORDSLEY HOSPITAL
(450 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

RESIDENT SENIOR HOUSE OFFICER (Surgical)

Post vacant March 15. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (7192)

TORQUAY, TORBAY HOSPITAL
(166 General beds)

RESIDENT SENIOR SURGICAL HOUSE OFFICER (Male or female)

Required immediately. Appointment for one year. Salary £670 per annum, less £100 in respect of accommodation and services. Applications, stating qualifications, nationality, and age, with copies of testimonials, to be sent to the Secretary, Torquay District Hospital Management Committee, 62/64, East Street, Newton Abbot, S. Devon (8263)

WOKING, VICTORIA HOSPITAL
Woking, Surrey (74 beds)

SENIOR HOUSE OFFICER
(Surgical and Medical duties)

Resident preferred. Non-resident considered. Salary and conditions of service as published by Ministry of Health, viz., £670 per annum, less emoluments. Applications, with testimonials, to Assistant Secretary, Victoria Hospital, Woking, Surrey (7289)

BOLINGBROKE HOSPITAL
Wandsworth Common, S.W.11

RESIDENT HOUSE SURGEON

Required for six months from March 16. Apply, enclosing copies of three recent testimonials, to Administrative Officer, by March 8. (8519)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1

Applications are invited from registered women medical practitioners for the post of

HOUSE SURGEON/CASUALTY OFFICER

with charge of general surgical ward. Post recognized for F.R.C.S. examination. Appointment for six months. Salary according to National Health Service scales for House Officers. Duties to commence April 1, 1952. Applications, with copies of three recent testimonials, should be sent to the Secretary as soon as possible. (8565)

GERMAN HOSPITAL, Dalston, London, E.8

Applications are invited for the post of

HOUSE SURGEON (First, second or third post)

vacant on February 29, 1952, for a period of six months. Applications, with copies of recent testimonials, should reach the Group Secretary, Hospital Management Committee, Hackney Hospital, E.9, within six days of the appearance of this advertisement, quoting the reference GH/HS. (8604)

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60, Grove End Road, N.W.8

Applications are invited from registered medical practitioners (male) for the appointment of

HOUSE SURGEON

to become vacant on Monday, March 3, 1952. Appointment will be for a period of six months. Salary is at the rate of £350 per annum. Applications should reach the Secretary on or before Tuesday, February 26, 1952, together with copies of three recent testimonials. (7836)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1

Applications are invited for the post of

HOUSE SURGEON (House Officer, 1, 2 or 3)

Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

WHITTINGTON HOSPITAL, N.19

Applications are invited for the post of

HOUSE SURGEON (General Surgery)

vacant April 1, 1952. Post recognized for F.R.C.S. (England). Applications, stating age, qualifications and previous experience, together with copies of two recent testimonials, and name of one referee, to the Medical Superintendent, Whittington Hospital, Highgate Hill, N.19, by March 5. (8340)

ABERYSTWYTH GENERAL HOSPITAL
Mid-Wales Hospital Management Committee

Applications are invited from registered medical practitioners (male or female) for the post of

RESIDENT HOUSE SURGEON
(First, second, or third post)

Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned. Salary in accordance with terms and conditions of service in accordance with Ministry of Health.—J. P. Thomas, Secretary, Mid-Wales H.M.C., Administrative Office, General Hospital, Aberystwyth (8231)

BARNSLEY, BECKETT HOSPITAL

HOUSE OFFICER SURGEON

Salary first post £350, second post £400, third post £450. Apply Secretary, Barnsley H.M.C., 33, Gawber Road, Barnsley. (8056)

BATLEY, GENERAL HOSPITAL (102 beds)
Carlinghow Hill, Batley, Yorks
Dewsbury, Batley and Mirfield Hospital Management Committee

Applications are invited for the appointment of

HOUSE SURGEON

now vacant. This general hospital will shortly provide all the in-patient treatment for the Group in the specialties of orthopaedics, E.N.T., and ophthalmology in addition to some general surgery, together with the usual out-patient clinics. Applications, stating age, qualifications and experience, together with recent testimonials, should be submitted immediately to the Secretary, 20, Oxford Road, Dewsbury. (7971)

BEXHILL HOSPITAL, Bexhill-on-Sea (62 beds)
Hastings Group Hospital Management Committee

HOUSE SURGEON

National scales of salary. Applications to Administrator at the hospital. (8379)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

HOUSE SURGEON

for the General Surgery and Orthopaedic Departments of the above hospital. These departments of this hospital provide interesting and active traumatic experience. Resident. The post, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (8341)

BIRKENHEAD GENERAL HOSPITAL (176 beds)

TWO HOUSE SURGEONS (Resident)

For six months from April 1, 1952. Salary £350 by £50 to £450, less £100 for emoluments. Apply immediately, stating age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary to above Committee, St. James Hospital, Birkenhead. (8582)

BRADFORD ROYAL INFIRMARY

HOUSE SURGEON (General)

Vacant March 1, 1952. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary. (8197)

BURNLEY, GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee

RESIDENT HOUSE OFFICER (Surgical)

The post is vacant now, and is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. The post is recognized for the F.R.C.S. examination. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (9287)

BURTON-ON-TRENT, GENERAL INFIRMARY
(Acute General Hospital, 235 beds)
Burton-on-Trent Hospital Management Committee

Applications are invited for the appointment of

RESIDENT HOUSE SURGEON

now vacant. This appointment is recognized for examination purposes for the Royal College of Surgeons, offering excellent general experience in a busy acute surgical unit. Applications, with all details and copies of recent testimonials, to the undersigned.—J. E. Smith, Secretary to the H.M.C. (8583)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee

HOUSE SURGEON

Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (8525)

Surgery—contd.

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical with beds for orthopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee

Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

CHESTER ROYAL INFIRMARY

Applications are invited from medical practitioners, male or female, for the posts of
TWO HOUSE SURGEONS
The appointments are for a period of six months. Applications, giving full particulars, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, King Street, Chester. (8480)

COBHAM, SURREY, SCHIFF HOME OF RECOVERY (80 beds)
RESIDENT HOUSE OFFICER (Surgical)

Required at the above hospital. Post vacant April 2, 1952, considered suitable for anyone reading for a higher examination. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent immediately to Group Secretary, Epsom District Hospital, Dorking Road, Epsom, Surrey. (7964)

DEWSBURY, GENERAL HOSPITAL (119 beds)
Moorlands Road, Dewsbury

Applications are invited for the appointment of
HOUSE SURGEON
now vacant This is a busy modern general hospital, with a large out-patient department and the usual ancillary services. The hospital is recognized for the F.R.C.S. and provides excellent experience. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (7972)

DEWSBURY, YORKS, STAINCLIFFE GENERAL HOSPITAL, Healds Road (316 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee

Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy general hospital with the usual out-patient and ancillary services. It is recognized for the F.R.C.S., and provides excellent experience. Salary and conditions of service in accordance with the national scales. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent to the Secretary, 20, Oxford Road, Dewsbury. (7973)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for the post of
JUNIOR HOUSE SURGEON
at the above hospital. The post will become vacant at the end of March. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash Eton, Radnor Park West, Folkestone. (8566)

EDGWARE GENERAL (formerly Redhill County) HOSPITAL, Edgware, Middlesex (715 beds)
RESIDENT GENITO-URINARY HOUSE SURGEON

Post vacant March 17, 1952. Salary £400 to £450 per annum, according to experience. Deduction of £100 per annum for board, lodging, etc. Six months' appointment. Post recognized for F.R.C.S. Applications, stating age, qualifications, experience, and enclosing copies of up to three recent testimonials, to Medical Director of hospital by March 1, 1952. (8247)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE SURGEON
at the above hospital. The post is recognized by the Royal College of Surgeons, and will become vacant at the end of March. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash Eton, Radnor Park West, Folkestone. (8567)

DUDLEY, GUEST HOSPITAL (154 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Surgical)
Post now vacant, tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (6561)

GLOUCESTERSHIRE ROYAL HOSPITAL (245 beds)
Gloucester, Stroud and The Forest Hospital Management Committee
HOUSE SURGEON

Required to commence March 17. (£350 to £450 per annum.) Post recognized for F.R.C.S. Applications, naming two referees, to the Secy. (8380)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)

Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
for a term of six months. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (8142)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)

Applications are invited for the appointment of
HOUSE SURGEON (Male)
First, second or third post held, for general surgery, gynaecology and obstetrics
Six months' appointment. Salary is at the rate of £350 to £450 per annum, less £100 per annum for residential emoluments. Duties to commence mid-March, 1952. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (8265)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
RESIDENT HOUSE SURGEON

Required at the above busy acute general hospital. Four other resident medical staff. Busy casualty and out-patient departments. Applications, stating age, qualifications and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe, Bucks. (8392)

HUNTINGDON COUNTY HOSPITAL

Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (General Surgery)
to the above hospital. This is a busy hospital staffed by Consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (8199)

IPSWICH, BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)
(Post recognized for Examinations of R.C.S.)
TWO HOUSE SURGEONS (General Surgery)

Posts now vacant. House Officer grade appointments normally for six months. Applications to the Administrative Officer. (7197)

ILFORD, KING GEORGE HOSPITAL
Ilford and Barking Group Hospital Management Committee

There is a vacancy for a
HOUSE SURGEON
on March 6, 1952. Salary will be £350 per annum minimum and maximum £450, according to experience and qualifications, less emoluments. The post will be tenable for six months. Applications, giving full particulars and accompanied by testimonials, should be sent to the undersigned within fourteen days of the appearance of this advertisement.—G. Austin Hepworth, Secretary, King George Hospital, Ilford. (8381)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL (140 beds)
King's Lynn Area Hospitals Management Committee

Applications are invited for the post of
RESIDENT HOUSE SURGEON
at the above hospital. Appointment will be for six months in the first instance. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Duties of the post offer valuable experience in general surgery and E.N.T. work in a busy acute general hospital. Applications to be forwarded as soon as possible to the Secretary of the above Committee, St. James' Hospital, King's Lynn. (7965)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 general beds)
HOUSE SURGEON (General Surgery)

Salary £350 per annum, less £100 residential emoluments, terms and conditions of service in accordance for hospital medical staff. Apply as soon as possible to Miss V. Wells, Hospital Secretary. (8342)

LEICESTER GENERAL HOSPITAL (445 beds)

Applications are invited for the posts of
TWO HOUSE SURGEONS
commencing April 1, 1952. Recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (8343)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of
HOUSE SURGEON
for a period of six months from April 1, 1952. The post is recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8060)

LIVERPOOL, UNITED, HOSPITALS
Liverpool Royal Infirmary
Royal Southern Hospital
Liverpool Stanley Hospital

Applications are invited from registered medical practitioners for appointments as
RESIDENT HOUSE SURGEONS
for the period of six months from April 1 to September 30, 1952. Applicants appointed to House Surgeon posts and Orthopaedic House Surgeon posts at the Liverpool Royal Infirmary and the Liverpool Stanley Hospital will be required to undertake some casualty work as part of their normal duties. The appointments are in accordance with the agreed terms and conditions of service (House Officers). Applications, on forms from the undersigned, to be returned as soon as possible.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney St., Liverpool, 1. (8529)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee

Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy General Hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (4139)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 18

Established 1885

THE Medical Defence Union

EUSton 4244

MEMBERSHIP EXCEEDS 35,700 *Assets exceed £158,000*

Subscription: £1 for first three years for newly qualified entrants, £2 for members of more than three years' standing

(No entrance fee payable by candidates for election within one year of registration with the General Medical Council or the Dental Board.)

Full particulars from the Secretary (Dr. ROBERT FORBES), The Medical Defence Union, Ltd., Tavistock House South, Tavistock Square, London, W.C.1

Surgery—contd.

LOUGHBOROUGH GENERAL HOSPITAL
(120 beds)
Applications are invited for the vacancy of
HOUSE SURGEON
commencing April 1, 1952. Applications, stating age, qualifications and experience, together with copies of recent testimonials, to the Secretary, Leicester No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8344)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham, Manchester, 8 (105 beds)
(Non-sectarian)
Applications are invited for the post of
HOUSE SURGEON
(House Officer grade)
Vacant March 13, 1952. Applications, together with copies of not less than two recent testimonials or names of two referees, to the Hospital Administrator forthwith (7363)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds—10 Residents)
(Base hospital for the Newport and East Monmouthshire Group)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant March 1. The appointment is recognized for the Fellowship of the Royal College of Surgeons, and covers 33 surgical and 12 gynaecological beds. National salary scales and conditions. Apply, with the names of three referees, to T. A. Jones, Sec., 17 Cardiff Road, Newport, Mon. (7364)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for three posts of
HOUSE SURGEON
vacant on April 1, 1952. Recognized for the F.R.C.S. National Health Service salary scale and conditions of service for House Officers. Six months' appointment. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Superintendent. (8345)

NOTTINGHAM CITY HOSPITAL (833 beds)
HOUSE OFFICER (General Surgery)
Post vacant now. Conditions of service in accordance with terms issued by Ministry of Health. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be sent immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (8266)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence immediately. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

NUNEATON, GEORGE ELIOT HOSPITAL
(289 beds)
HOUSE SURGEON
Required for general duties (54 surgical beds). Applications to the Medical Superintendent. (8267)

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (Male or female)
Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6702)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Freedom Fields
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
vacant April 4, 1952, recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications and experience, together with names of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, Head Office, 7, Nelson Gardens, Devonport. (8114)

PONTYPOOL AND DISTRICT HOSPITAL
Pontypool, Mon. (115 beds)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant April 1, 1952, who will work under the directions of the Consultant Surgeons. The resident staff consists of a Junior Hospital Medical Officer (Surgical), a House Physician, and this post. Opportunities exist for visiting other hospitals with the Consultants. The post carries an additional increment of £50 above national scale in view of special responsibilities. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8405)

PONTYPRIDD (near), EAST GLAMORGAN HOSPITAL, Church Village
(316 beds—Committee's base hospital serving population of 177,000)
Pontypridd and Rhondda Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (First or second post) (Surgical)
Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary of the Pontypridd and Rhondda Hospital Management Committee, Courthouse Street, Pontypridd. (8201)

PORTH AND DISTRICT HOSPITAL
Rhondda (110 beds)
(This hospital is visited regularly by Consultants from the Cardiff Royal Infirmary)
Pontypridd and Rhondda Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (First or second post)
(Duties mainly surgical)
Applications, stating age, qualifications, experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary, Pontypridd and Rhondda Hospital Management Committee, Courthouse Street, Pontypridd. (8202)

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments:
Saint Mary's Hospital (150 acute surgical beds)
HOUSE SURGEON
Queen Alexandra Hospital
(62 medical and 124 surgical beds)
HOUSE SURGEON
Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (8072)

PRESTON ROYAL INFIRMARY (400 beds)
GENERAL HOUSE SURGEON
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8481)

ROCHDALE, BIRCH HILL HOSPITAL
Rochdale and District Hospital Management Committee
HOUSE SURGEON
Apply to the Secretary, Central Offices, Birch Hill Hospital, Rochdale, Lancs. (8200)

SALISBURY GENERAL HOSPITAL
Salisbury Group Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
for a period of six months. Post vacant end of February. Apply immediately, naming two referees, to Secretary, Hospital Management Committee, Odstock Hospital, Salisbury. (8511)

SCARBOROUGH HOSPITAL, Yorks (163 beds)
Applications are invited from registered medical practitioners, male or female, for the post of
RESIDENT HOUSE SURGEON (Surgical)
The salary is in accordance with the national scale, and the appointment will be for six months. Applications, stating age and qualifications, together with testimonials, should be sent to the Sec. (8605)

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S. England)
Applications are invited for the resident appointment of
HOUSE SURGEON (General Surgery)
and certain extra duties, vacant April 1, 1952. Applications, giving full details of age, nationality, qualifications, present and past appointments (with dates), and the names of two persons for reference, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (8346)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SOLIHULL HOSPITAL
Lode Lane, Solihull, near Birmingham
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Vacancy immediately for
HOUSE SURGEON
This is a General Hospital and offers good experience in general and traumatic surgery. There are five other Resident Medical Officers. Applications, within fourteen days of this advertisement, giving qualifications, experience and age, with copies of recent testimonials (or names of two referees), to the Medical Superintendent, Solihull Hospital, Lode Lane, Solihull, near Birmingham. (8143)

SOUTH-EAST NORTHUMBERLAND HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners for the posts of
HOUSE SURGEON
at Tynemouth Victoria Jubilee Infirmary and Preston Hospital
Applications, with two testimonials, should be sent to the Secretary, South-East Northumberland H.M.C., Preston Hospital, North Shields, as soon as possible. (8568)

SOUTH SHIELDS, INGHAM INFIRMARY
(158 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (First or second post)
now vacant. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Secretary (7201)

SOUTHEND-ON-SEA, GENERAL HOSPITAL
Applications are invited for the post of
RESIDENT HOUSE SURGEON
vacant on or about April 3, 1952. Salary according to previous appointments held, less a deduction at the rate of £100 a year for residential emoluments. Applications, etc., should reach the undersigned at the hospital by March 5, 1952.—J. C. Field, Secretary. (8446)

SOUTHPORT, PROMENADE HOSPITAL
Southport and District Hospital Management Committee
HOUSE SURGEON (Resident)
Post vacant now. Apply, with details of age, nationality, qualifications, enclosing copies of two recent testimonials, to T. Crook, Secretary, Promenade Hospital, Southport. (8203)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 52 beds)
Stafford Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
HOUSE SURGEON
vacant March 15, 1952. First, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Sec. to Committee, 13 Foregate Street, Stafford. (7365)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
(96 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Surgical)
Post vacant mid-March. Apply, with copy testimonials, stating age, nationality, and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8406)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (General Surgery)
The post is recognized for F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality, and full details of previous appointments, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8407)

STOKE-ON-TRENT, NORTH STAFFS ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Surgery)
Post recognized for F.R.C.S. examination. Applications, with copy testimonials, should be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8408)

SUNDERLAND, GENERAL HOSPITAL
(517 beds)
HOUSE SURGEON (Male or female)
Apply immediately to the Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (8489)

SUTTON-IN-ASHFIELD, NOTTINGHAMSHIRE KING'S MILL HOSPITAL
Applications are invited for the post of
HOUSE SURGEON
The hospital contains 115 surgical beds and the post offers facilities for practical training in general surgery and E.N.T. surgery. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Salary £350 to £450, according to previous posts held, with a deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary to the Committee. (4818)

Surgery—contd.

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident appointment of
HOUSE SURGEON
Full particulars of age, qualifications and experience should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (8251)

SWINDON HOSPITAL GROUP (536 beds)
Swindon and District Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE SURGEON
for General Surgical Unit (80 beds)
Excellent accommodation available. Post recognized by Royal College of Surgeons under paragraph 23 of the Fellowship regulations for six months of requisite year's surgical training. Applications, giving full details and not more than three referees, to Secretary, Swindon and District Hospital Management Committee, 7, Okus Road, Swindon, as soon as possible. (8347)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
at the above hospital. Resident. The appointment will be for six months in the first instance, and the post becomes vacant on March 15, 1952. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Sec., Thurrock Hospital, Grays, Essex. (7966)

TRURO, ROYAL CORNWALL INFIRMARY
(General Hospital, 212 beds, 8 Residents)
West Cornwall Hospital Management Committee
Applications are invited for
HOUSE SURGEON (Male or female)
for General Surgery and Gynaecology
Post vacant March 18, 1952. The successful candidate will be responsible jointly with the House Surgeon for the 66 beds allocated to the two specialties. Salary and conditions of service in accordance with the terms published by the Ministry of Health. Applications, stating age, qualifications and experience, and copies of two recent testimonials, should be sent to the Administrative Assistant, Royal Cornwall Infirmary, Truro. (5268)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointments
TWO RESIDENT HOUSE SURGEONS
(vacant April 1, 1952)
Post is/are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

WARRINGTON INFIRMARY (172 beds)
Applications are invited for a vacancy at the above hospital for a
RESIDENT HOUSE SURGEON
Salary will be £350 to £450 per annum, less a deduction of £100 for full residential emoluments. Applications should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8584)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Second or third post)
Salary according to National Health Service scale. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent to the undersigned.—Cyril Hopkinson, Administrator. (5862)

WESTON-SUPER-MARE GENERAL HOSPITAL (110 beds)
Applications are invited from registered medical practitioners for the resident appointments of
TWO HOUSE OFFICERS (House Surgeons)
Duties to commence as soon as possible. Salary at the rate of £350 to £400 per annum, according to previous posts held, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be addressed to the Secretary, Weston-super-Mare Hospital Management Committee, c/o The General Hospital, Weston-super-Mare. (8268)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
TWO HOUSE SURGEONS
Vacancies March 16 and 29 respectively. General Surgery and work in E.N.T. Department. Apply, with copies of two testimonials, to Secretary. (8442)

WOLVERHAMPTON, NEW CROSS HOSPITAL
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (General Surgery)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (8541)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (General Surgery)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (8539)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications invited for the following appointments:
HOUSE SURGEON
(General Surgery/Gynaecology)
Vacant February 27, 1952.
HOUSE SURGEON
(General Surgery/Orthopaedics)
Vacant March 24, 1952.
In both appointments the division of duties between specialties is approximately equal; each is tenable for six months and is subject to the terms and conditions of service of hospital medical staff. Applications, with copies of testimonials, should be sent as soon as possible to the Secretary, from whom further particulars can be obtained (7905)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital, to commence immediately. Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (7679)

CASUALTY

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the non resident appointment of
CASUALTY OFFICER
of Junior Hospital Medical Officer Grade
to the above hospital. Full particulars of age, qualifications and experience should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe Hospital Management Committee, St. Helen's Road, Swansea. (8250)

WARRINGTON INFIRMARY (172 beds)
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident Casualty Officer)
The commencing salary is in accordance with the scale £700 by £50 to £1,000, less a deduction of £130 for residential emoluments. Applications, stating age, experience and qualifications, should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8585)

YORK, CITY HOSPITAL (Modern general hospital of 265 beds, with full consultant staff)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC OFFICER
Post graded Junior Hospital Medical Officer. Salary £700 by £50 to £1,000 per annum. Residence is available, for which a charge of £153 per annum will be made. Person appointed may be non-resident or partly resident. Post vacant immediately. Applications, giving age, nationality, experience, qualifications and names of two referees, to be forwarded immediately to undersigned.—Frank A. Milnes, F.H.A., A.L.A.A., Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (8569)

WANSTEAD HOSPITAL
Wanstead, E.11 (192 beds)
Applications are invited for the post of
CASUALTY OFFICER
(Graded as Senior House Officer)
Vacant April 5, 1952. Salary £670 per annum. Applications, giving full particulars, together with copies of two recent testimonials, to be sent immediately to the Secretary, Forest Group H.M.C., Langthorne Road, E.11. (8393)

BIRMINGHAM, 18, DUDLEY ROAD HOSPITAL
Birmingham (Dudley Road) Group of Hospitals
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Casualty Department
This is a six or twelve months' appointment and becomes vacant on March 1, 1952. Applications, stating age, qualifications and experience, accompanied by copies of three recent testimonials, to the Secretary, J. Preston. (8586)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (8523)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary (5418)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of either
RECEIVING ROOM OFFICER
Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or
CASUALTY OFFICER
Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant.
Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

MIDDLESBROUGH GENERAL HOSPITAL (350 beds)
Tees-side Hospital Management Committee
SENIOR HOUSE OFFICER (Casualty)
Applications are invited for the above appointment. Salary and conditions in accordance with national scales. Applications, stating age, qualifications and experience, together with names for reference, should be forwarded to the Secretary-Superintendent, Middlesbrough General Hospital, Middlesbrough. (7452)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 18

Chairman: James Fenton, CBE, MD.

MEDICAL INSURANCE AGENCY

Hon. Secretary: Henry Robinson, MD, DL, JP.

FAMILY PROVISION

- Superannuation under the N.H.S. Regulations provides reasonable PENSION
- but NEGLIGIBLE FAMILY PROTECTION.
- Do you appreciate the limitations?
- We specialize in these matters and have policies to suit every requirement.

General Manager: A. N. Dixon, ACII

Unbiased Advice **Direct Saving** **All surplus to Medical Charities**

CHIEF OFFICE: B.M.A. House, Tavistock Sq., London, W.C.1.
Telephone: Euston 5561-2-3.

LEEDS: 20/21 Norwich Union Bldgs., City Sq
MANCHESTER: 33 Cross Street.
BIRMINGHAM: 154 Great Charles Street.
EDINBURGH: 6 Drumsheugh Gardens.
NEWCASTLE-UPON-TYNE: 16 Saville Row.
GLASGOW: 234 St. Vincent Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.

Casualty—contd.

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
CASUALTY SENIOR HOUSE OFFICER
vacant on April 1, 1952. National Health Service salary scale and conditions of service for Senior House Officers with a deduction at the rate of £100 a year for residential emoluments. Six months' appointment in the first instance. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Supt. (8348)

NOTTINGHAM, GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Casualty)
Duties to commence as soon as possible. Salary £670 per annum, less £150 emoluments. Terms and conditions of service as published by the Ministry. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (4819)

POOLE GENERAL HOSPITAL, Poole, Dorset
Bournemouth and East Dorset Hospital Management Committee
CASUALTY OFFICER (S.H.O. £670)
Required immediately. Post suitable for person reading for higher diplomas. Applications to the Assistant Secretary of the hospital. (7652)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
CASUALTY OFFICER
Applications are invited from registered medical practitioners for above post, vacant March 1, 1952. Post offers good experience with fractures and emergency surgery, and is tenable for twelve months. Salary £670 per annum. Applications, stating age, nationality, qualifications, and experience, together with recent testimonials, to be addressed to the Administrative Officer. (8150)

ROTHERHAM, DONCASTER GATE HOSPITAL
(155 beds)
SENIOR HOUSE OFFICER
duty in Casualty, E.N.T. and Eye Departments
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (8382)

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S. England)
Applications are invited for the resident post of
SENIOR HOUSE OFFICER
in the Casualty Department
vacant April, 1952. Facilities also for experience in orthopaedic department if desired. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (8349)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
CASUALTY OFFICER
(Resident or non-resident)
(Senior House Officer status)
Duties to be from 9 a.m. to 5 p.m. each day, except Saturday, which should be 9 a.m. to 1 p.m., and the applicant may be required to do one week-end's duty in each month. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7123)

WALSALL GENERAL HOSPITAL (181 beds)
Walsall Hospital Management Committee
CASUALTY OFFICER (S.H.O. grade)
Required immediately. Apply Secretary. (7527)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the post of
CASUALTY OFFICER
The post is of Senior House Officer status, becomes vacant on May 23 and is tenable for one year. Conditions are in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of three testimonials, to be sent as soon as possible to the Secretary, from whom further particulars can be obtained. (8512)

PUTNEY HOSPITAL, Lower Common, S.W.15
CASUALTY OFFICER AND FRACTURE HOUSE SURGEON (House Officer Grade)
(Non-resident)
Vacant April 1. Apply, enclosing copies of three recent testimonials, to Administrative Officer by March 8. (8520)

PUTNEY HOSPITAL, Lower Common, S.W.15
CASUALTY OFFICER AND E.N.T. HOUSE SURGEON (Non-resident) (House Officer grade)
Vacant early March. Apply, enclosing copies of three recent testimonials, to Administrative Officer by February 29. (8570)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
CASUALTY OFFICER AND SECOND HOUSE PHYSICIAN (Male) (Joint post)
(First or second post held)
Six months' appointment. Salary at the rate of £350 to £400 per annum, less £100 per annum residential emoluments. Duties to commence March 15, 1952. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (8270)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN
Busy casualty department. Applications immediately to the Secretary, H.M.C. (8534)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
CASUALTY OFFICER and HOUSE SURGEON
for a period of nine months from April 1, 1952. The first three months will be served as Casualty Officer and Deputy House Surgeon to future chief. The post of House Surgeon recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (8350)

LIVERPOOL, UNITED, HOSPITALS
Applications are invited from registered medical practitioners for appointments as
CASUALTY OFFICERS
at the Royal Southern Hospital and the Royal Liverpool Children's Hospital
for the period of six months from April 1 to September 30, 1952. The appointments are in accordance with the agreed terms and conditions of service (House Officers). Applications, on forms from the undersigned, to be returned as soon as possible.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (8530)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Casualty and Orthopaedic)
Applications are invited from registered medical practitioners for the above post, which is vacant now. The post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8076)

NEWPORT, I.W., ST. MARY'S HOSPITAL
Isle of Wight Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Required for new department in recently completed premises, with charge of some beds in special departments. Salary according to previous posts held (£350, £400 or £450), less £100 for board, lodging and services provided. National terms and conditions of service. Applications, stating full details as to age, qualifications, experience and nationality, together with names and addresses of three referees, to be sent to the Chief Administrative Officer, Hospital Management Committee, at above address as soon as possible. (8271)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (Junior Casualty Officer)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (8540)

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
CASUALTY HOUSE SURGEON
Post now vacant. National salary and conditions of service. Applications, stating age, nationality, qualifications and experience, and enclosing copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6447)

PRESTON ROYAL INFIRMARY (400 beds)
CASUALTY OFFICER (House Officer Grade)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8482)

SOUTH SHIELDS, INGHAM INFIRMARY
(158 beds)
Applications are invited from registered medical practitioners for the post of
CASUALTY OFFICER "SPECIALS" HOUSE SURGEON (First or second post)
which is now vacant. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Secretary (7205)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL, Watford, Herts
(189 beds)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
The Traumatic and Orthopaedic Department consists of 24 beds, and is integrated with the Royal National Orthopaedic Hospital. Salary according to N.H.S. scale. Applications, stating age, qualifications, and experience, together with copies of two recent tstimonials, should be sent to undersigned.—Cyril Hopkinson, Administrator. (7573)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 18

PUBLIC HEALTH

(See Important Notice page 21)

BIRMINGHAM, CITY OF
Public Health Department
Applications are invited for the appointment of
ASSISTANT ADMINISTRATIVE MEDICAL OFFICER
in the Maternity and Child Welfare Department. The work in this department includes duties in connection with children of all ages in the care of the Children's Committee. Applicants should have had experience in work with mothers and children, including a six months' resident post in a maternity hospital and in a children's hospital. The D.P.H. or the D.C.H. and any administrative experience will be considered an additional qualification. The salary scale is £1,050 by £50 to £1,250, the commencing salary within the scale depending on the medical officer's experience. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. The appointment will be subject to one month's notice on either side. Applications, endorsed "Assistant Administrative Medical Officer for Maternity and Child Welfare," giving full details of training and experience, together with copies of three recent testimonials, should be submitted on a form obtainable from the Medical Officer of Health, Council House, Birmingham, 3, and returned to him on or before March 3, 1952. (8205)

DENBIGHSHIRE COUNTY COUNCIL
Applications are invited from registered medical practitioners holding a Diploma in Public Health for the post of
DEPUTY COUNTY MEDICAL OFFICER OF HEALTH AND DEPUTY SCHOOL MEDICAL OFFICER
at a salary of £1,300 by £100 (two) by £50 (one) to £1,550 per annum. Preference will be given to candidates who have had clinical and administrative experience in public health and school health services. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the National Health Service (Superannuation) Regulations, and the successful candidate will be required to pass a medical examination. Particulars of the duties and other conditions of appointment, and form of application, to be obtained from the County Medical Officer of Health, 16, Grosvenor Road, Wrexham. Applications should be received by me at the address below not later than March 8, 1952.—W. E. Bufton, Clerk of the County Council, County Offices, Ruthin. (8365)

Public Health—contd.

GLAMORGAN EDUCATION AUTHORITY
Rhondda Urban District Council
Committee for Education

Applications are invited from registered medical practitioners for appointment as

ASSISTANT MEDICAL OFFICER

under the supervision of the District School Medical Officer at a salary of £850 per annum, rising by annual increments of £50 to £1,150 per annum. Preference will be given to candidates holding the D.P.H. or D.C.H., and experience in paediatrics will be an advantage. The successful candidate, if in need of housing accommodation and not already a resident of the Rhondda Urban Area, may be offered the tenancy of a Council house. Forms of application and conditions of appointment may be obtained from the District School Medical Officer, Tydfil House, Pentre, Rhondda, by whom completed applications should be received as soon as possible.—D. J. Jones, Clerk of the Council. (8280)

GLOUCESTERSHIRE COUNTY COUNCIL

Applications are invited for the appointment of

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH (Male)

Salary in accordance with the Whitley Council for Health Services, Medical Council, £850 per annum, rising by annual increments of £50 to £1,150 per annum. The commencing salary within this scale will be determined in accordance with the candidate's previous Local Government experience. Applicants must be registered medical practitioners and the possession of a Diploma or Certificate in Public Health will be an advantage. The appointment will be superannuable and the successful applicant will be required to pass a medical examination. Candidates must be able to drive and be in possession of a car, travelling and subsistence allowances will be paid in accordance with the Council's scale. Forms of application, with particulars of duties and conditions of appointment, may be obtained from the County Medical Officer of Health, Berkeley House, Berkeley Street, Gloucester, to whom completed applications should be sent within fourteen days of this advertisement. —Guy H. Davis, Clerk of the County Council, Shire Hall, Gloucester. (7975)

MIDDLESBROUGH EDUCATION COMMITTEE

Applications are invited from registered medical practitioners for the post of

ASSISTANT SCHOOL MEDICAL OFFICER

Salary £850 by £50 to £1,150. Forms of application and conditions may be obtained from the Director of Education, Education Offices, Middlesbrough, to whom they should be returned as soon as possible. (8575)

MIDDLESEX COUNTY COUNCIL
County Health Department

PRINCIPAL MEDICAL OFFICER (Whole-time)

Required in County Health Department at present at 3, 5, and 7, Old Queen Street, S.W.1. Directly responsible to County Medical Officer for Mental Health Service, including community aftercare. Should have had special experience and qualifications in mental health work, including mental deficiency, whilst experience in other branches of health department, with degree or Diploma in Psychological Medicine is desirable. Car allowance payable. Established, subject to medical assessment. Prescribed conditions. Salary as Whitley Council, £1,400 by £50 to £1,800 per annum inclusive. Applications in detail (no forms), two referees, to County Medical Officer (S.), 3, 5, and 7, Old Queen Street, S.W.1, by March 8 (quoting K. 485 B.M.J.). Canvassing disqualifies.—C. W. Radcliffe, Clerk of the County Council. (8513)

NOTTINGHAMSHIRE COUNTY COUNCIL

The County Council invite applications for the appointment of

COUNTY MEDICAL OFFICER OF HEALTH

at a salary of £2,450 per annum, rising by three annual increments of £100 to £2,750 per annum. Candidates must possess the qualifications prescribed by the Local Government Act, 1933, have wide knowledge and experience of the duties of a Medical Officer of Health and possess sound administrative and organizing ability. Full particulars of the appointment may be obtained from my office, and completed applications should reach me by March 5, 1952. Canvassing, directly or indirectly, will be a disqualification.—K. Tweedale Meaby, Clerk of the County Council, Shire Hall, Nottingham. (8351)

SWANSEA, COUNTY BOROUGH OF

Applications are invited from duly qualified medical practitioners for the post of

ASSISTANT MEDICAL OFFICER (Female)

Applicants must have had postgraduate resident hospital experience and should be under 45 years of age unless already holding a similar superannuable appointment. Salary £850 by £50 to £1,150 per annum. Application forms may be obtained from the Medical Officer of Health, Public Health Department, The Guildhall, Swansea, to whom they should be returned not later than Monday, February 25 1952. Canvassing, either directly or indirectly, is a disqualification.—T. B. Bowen, Town Clerk, The Guildhall, Swansea. (8206)

SURREY COUNTY COUNCIL

Applications are invited from registered medical practitioners for several permanent superannuable full-time appointments of

ASSISTANT COUNTY MEDICAL OFFICER

Applicants should possess a Diploma either in Public Health or Child Health. Main duties will be in connexion with school health and maternity and child welfare services, but officers appointed will be required to undertake such other public health work as may be allocated to them by the County Medical Officer. Salary £850 per annum, rising by annual increments of £50 to £1,150 per annum. The appointments will be subject to the successful candidates passing a medical examination, to the provisions of the Local Government Superannuation Act, 1937, as modified by the National Health Service (Superannuation) Regulations, and to the staffing regulations of the Council, which provide, inter alia, that appointments may be determined at any time by three months' notice. Candidates should note that the Council can give no assistance in finding housing accommodation. Applications, stating age, qualifications and experience, together with a copy of three recent testimonials, and/or the names of three referees, should be made on the prescribed form and sent to the County Medical Officer, Kingston-upon-Thames, by March 8, 1952.—T. W. W. Gooderidge, Clerk of the Council. (8576)

WORCESTERSHIRE COUNTY COUNCIL
ASSISTANT COUNTY MEDICAL OFFICER
with Additional Public Health Duties

Applications are invited from registered medical practitioners (men or women) for the above whole-time post. The duties will chiefly concern school health and child welfare services. The possession of the D.C.H. or the D.P.H. and experience in connexion with infectious diseases will be of advantage. The salary and conditions of service will be in accordance with the recent award of the Industrial Court, i.e., £850 per annum, rising by annual increments of £50 to £1,150. Past experience will be considered in fixing the starting point within the scale. The successful candidate must own and drive a car. The holder of this appointment (now vacant) also acted as occasional Deputy at the Hayley Green Isolation Hospital and to the Medical Officer of Health for the boroughs of Halesowen and Stourbridge, for which additional payment is made. The appointed officer will be considered for all or any of these additional appointments. The post is superannuable, subject to medical examination and determinable by three months' notice. Applications, on forms to be obtained from the County Medical Officer, County Buildings, Worcester, should be returned to him by February 29, 1952.—W. R. Scurfield, Clerk of the County Council (X42). (8272)

WORCESTERSHIRE COUNTY COUNCIL
BOROUGH OF OLDBURY
OLDBURY BOROUGH MEDICAL OFFICER OF HEALTH AND WORCESTERSHIRE COUNTY DIVISIONAL MEDICAL OFFICER AND SCHOOL MEDICAL OFFICER

Applications are invited from qualified and duly registered medical practitioners, men or women, holding the Diploma in Public Health and possessing the requisite experience. The salary will range from a minimum of £1,491 13s. 4d. to a maximum of £1,858 6s. 8d. (namely the Borough Medical Officer of Health post will be on the scale of £516 13s. 4d., rising by annual increments of £16 13s. 4d. to a maximum of £583 6s. 8d., and the Divisional Medical Officer post on the scale £975 by annual increments of £37 10s. to a maximum of £1,275 per annum). The post is superannuable, subject to medical examination and determinable by three months' notice. The successful candidate will be required to reside in the Divisional Area. He will be required to undertake such duties as may be assigned to him and will be precluded from undertaking any other duties except with the Councils' previous consent. Travelling allowance for the use of the officer's own car will be paid in accordance with the County scale. Application forms from County Medical Officer, County Buildings, Worcester, to be returned not later than March 12, 1952.—Kenneth Pearce, Town Clerk, Municipal Buildings, Oldbury; W. R. Scurfield, Clerk of the County Council, Shirehall, Worcester. (X104). (8606)

YORK, CITY OF, EDUCATION COMMITTEE
School Medical Service

Applications are invited from male registered medical practitioners for the permanent post of

ASSISTANT SCHOOL MEDICAL OFFICER

Applicants must have been qualified for at least three years and will be required to devote their whole time to the duties of the office. Preference will be given to those who have had special experience of diseases of children. The salary offered, in accordance with the terms of the Industrial Grade Award No. 2285 (Public Health Service), is £850 per annum, rising by annual increments of £50 to £1,150 per annum. The appointment will be subject to the Local Government Superannuation Act of 1937 and to the passing of a medical examination. Form of application and conditions of appointment may be obtained from the undersigned on receipt of a stamped addressed envelope and should be returned within three weeks of the appearance of this advertisement.—H. Oldman, Chief Education Officer, Education Offices, 5, St. Leonard's Place, York. (8607)

ADMINISTRATIVE

KIDDERMINSTER, BLAKEBROOK HOSPITAL
Mid-Worcestershire Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

MEDICAL OFFICER

for two sessions per week, to be responsible for the medical administrative work of the hospital; this is allowed for in the sessions. The successful candidate will have the care of all chronic sick in the hospital (220 beds) and will undertake week-end responsibility on a rota basis. The appointment is initially for a period of twelve months, but, subject to a review of the scheme, the holder will be eligible for re-election. The appointment is subject to the terms and conditions of hospital medical and dental staff and the remuneration is at the rate of £175 per session per annum. Further particulars can be obtained from the undersigned, to whom applications, giving details of age, qualifications and experience, should be addressed not later than Monday, March 10, 1951.—C. M. Smith, Secretary, Mid-Worcestershire H.M.C., Birmingham Road, Bromsgrove, Worcs. (8412)

EIRE

ST. ANNE'S HOSPITAL
Northbrook Road (Leeson Park), Dublin

Applications are invited for the post of

Whole-time RADIOTHERAPEUTIC REGISTRAR

Non-resident appointment. Experience in radiotherapy essential. Higher qualification an advantage. State age, nationality, qualifications, present and previous appointments, and copies of testimonials, to the Secretary, St. Anne's Hospital, Northbrook Road, Leeson Park, Dublin, before March 10, 1952. (8587)

INDUSTRIAL APPOINTMENTS

A LIGHT ENGINEERING ORGANIZATION, which has a well-established medical service, invites applications for the post of full-time Assistant Medical Officer. Candidates should have experience in general practice and/or industrial medical practice, whilst a D.I.H. or D.P.H. qualification will be an advantage. The successful candidate will be required to work in Lancashire and to reside near Burnley. Commencing salary £1,000 to £1,200, with contributory superannuation scheme. Applications, stating age, qualifications, and experience, should be sent to Box 727, B.M.J.

OVERSEAS

SOUTH GEORGIA

Wanted immediately, **Doctor for a Whaling Station at South Georgia.** Higher qualifications necessary. Salary £100 per month, board and lodging provided. Applications to Medical Superintendent, Chr. Salvesen and Co., 29, Bernard Street, Leith.

SHIP'S SURGEON

Applications are invited for position as Ship's Surgeons on first-class passenger liner sailing April to South America. Permanency for the right man. Salary approximately £50 per month, plus fees. Surgeon to supply own uniforms. Write, giving full particulars as to age, qualifications, etc., to A. Shaw, Medical and Dental Agent, Premier Buildings, 88, Church Street, Liverpool.

RHODESIA
OBSTETRICIAN AND GYNAECOLOGIST

Must have M.R.C.O.G. and preferably F.R.C.S. Purely consultant work. Good climate, educational facilities and prospects. Should be able to start work soon. Full details, remuneration, duties, etc. upon application. In applying give details experience, degrees, etc., with names of referees.—Box 746, B.M.J.

WESTERN AUSTRALIA, Perth

Suburban. Fourth Partner required for group practice, with surgical experience. Attractive house available for purchase. Full particulars, Hancock & Robertson, "Shell House," Perth.

DALHOUSIE UNIVERSITY
ASSISTANT PROFESSOR OF ANATOMY
Medical Faculty

Salary $3,750.00. Preference given to applicants with experience in neuro-anatomy and micro-anatomy. Apply to H. G. Grant, M.D., Dean, The Faculty of Medicine, Dalhousie University, Halifax, Nova Scotia, Canada. (8571)

MUSKOKA HOSPITAL (for Tuberculosis)
Gravenhurst, Ontario, Canada
PHYSICIANS

Preferably with experience in tuberculosis. Minimum starting salary $4,000 (£1,400 at present exchange). Yearly increases to a maximum of $6,700 (£2,400). Living accommodation on grounds. Pension plan. Communicate with C. B. Moss, M.D., Superintendent. (8609)

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

Overseas—contd.

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

ALBANY HOSPITAL, Albany, N.Y.

Internships and residencies available in Albany Hospital, Albany, New York. 750 bed general hospital, directly associated with Albany Medical College. House officers receive appointments in medical school. Salaries range from a minimum of $300 a year for interns to $1,400 a year for residents. Details on request. (9695)

DANBURY HOSPITAL
Danbury, Connecticut, U.S.A.

Medical and **Surgical Residents** as well as **four to six Assistant Residents** and **House Officers** are wanted in a newly reorganized 200-bed hospital in Southern New England. Certified specialists head the services of internal medicine, surgery, X-ray, paediatrics and sub-specialties. Hospital is approved by the A.M.A. Honorarium $250 00 plus food and lodging (monthly). For applicants unable to provide own transportation at this time, arrangements can be made for loans to be deductable from the monthly honorarium paid by the hospital. Student visa only necessary. Address, Administrator. (7271)

AUCKLAND HOSPITAL BOARD, N.Z.

Applications are invited from those with the necessary qualifications for the status of Junior or Senior Specialist for the position of

RADIOLOGIST, Board's Institutions

Applicants must be qualified medical practitioners of the British Commonwealth, and the appointee shall be registered in New Zealand before taking up duty. Salary, Junior Specialist £1,260 per annum, rising to £1,560 per annum by annual increments of £50. Senior Specialist £1,660 per annum, rising to £1,910 per annum by annual increments of £50. Commencing salary within these scales will be in accordance with qualifications and experience in the specialty. The amounts quoted are in New Zealand currency and are living out rates. Living accommodation is not provided. Particulars regarding payment by the Board of travelling expenses are set out in the conditions of appointment which, together with an application form, may be obtained from the Office of the High Commissioner for New Zealand, 415, Strand, London, W.C.2. Applications, addressed to the Secretary, close at the office of the Board, Kitchener Street, Auckland, New Zealand, at noon on Monday, April 7, 1952. (8487)

UNIVERSITY OF OTAGO, Dunedin, New Zealand
RALPH BARNETT CHAIR OF SURGERY

The University of Otago proposes to appoint a

PROFESSOR OF SURGERY

to take up office in January, 1953. Salary £2,560 per annum. Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, 5, Gordon Square, London, W.C.1. Applications close on April 15, 1952, in London and New Zealand. (8610)

HER MAJESTY'S COLONIAL RESEARCH SERVICE

Applications are invited from medical practitioners with qualifications registrable in the United Kingdom for two posts of

MEDICAL RESEARCH OFFICER
in the Virus Research Institute, Lagos, Nigeria

Experience in virus techniques and/or medical research an advantage. Institute has well-equipped laboratory and good accommodation is available for married or single officers. Selected candidates will be required to undertake research in laboratory and in the field on animal or human virus diseases and to co-operate in general programme of research, e.g. by assisting in collection of specimens and animals required for virus research, etc., and to supervise and perform when necessary routine tests on vaccine or sera. Every assistance possible will, however, be given to enable officers to carry out individual programmes of research. Salary according to age and experience in the scales £565 by £35 to £740, £795 by £35 to £1,005, or £1,075 by £50 to £1,270 plus overseas research allowance at following rates: £290 per annum on salary below £830; £330 on £830 to £1,005; £290 on £1,070; £260 on £1,120 to £1,270 per annum. A temporary cost-of-living allowance at rate of ten per cent of basic salary is at present payable. If Government quarters are provided a rent of not more than ten per cent of salary (maximum £150) would be charged. Outfit allowance £60. Free passages provided for selected candidate and his wife and for children up to thirteen years. Superannuation provided under Colonial Superannuation Scheme. Forms of application obtainable from Under Secretary of State, Colonial Office (Research Department), Sanctuary Buildings, Great Smith Street, London, S.W.1, and further information regarding Institute and nature of duties from Director of Colonial Medical Research at same address. (8484)

UNIVERSITY OF SYDNEY

Applications are invited for the following positions.

SENIOR LECTURESHIP IN PHARMACOLOGY
TWO LECTURESHIPS IN OPERATIVE DENTISTRY
ONE LECTURESHIP IN PROSTHETIC DENTISTRY

The above vacancies mainly arise from a decision to establish permanent lectureships in place of temporary or part-time appointments. Salaries will be within the range of: Senior Lecturers, £A1,050 by £A50 to £A1,300; Lecturers, £A650 by £A50 to £A1,000 with the addition in all cases of cost-of-living adjustment. Salaries will be subject to deductions under the State Superannuation Act. The commencing salaries will be fixed according to the qualifications and experience of the successful candidates. Further particulars and information as to the method of application may be obtained from the Secretary, Association of Universities of the British Commonwealth, 5, Gordon Square, London, W.C.1. The closing date for the receipt of applications is March 3, 1952. (8572)

HER MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom with one or more years' experience after qualification are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH
for General Medical and Health duties

Appointment is available (a) on probation for permanent establishment; (b) on employment from the National Health Service; and (c) on short-term contract with gratuity. (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in Her Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g., F.R.C.S. M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malaya salary on leaving Malaya at the end of their engagements. Emoluments as under (a), including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a), including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e., those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rent, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/242/51). (5187)

HER MAJESTY'S COLONIAL SERVICE
Gold Coast
TWO SPECIALISTS (Ear, Nose and Throat Specialist and Anaesthetist Specialist)

Required in the Medical Department, Gold Coast. The first to form and take charge of ear, nose and throat departments in the larger hospitals, the second principally to train local staff in anaesthesia. Appointments can be made on a permanent basis with pension (non-contributory) on retirement (the normal age of retirement is 50), or on short-term contract with gratuity on satisfactory completion of service. Candidates in the National Health Service may resign from the National Health Service but retain their superannuation rights during their time in the Gold Coast (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Gold Coast salary on leaving the Gold Coast at the end of their engagement. Salary for either post is £1,700 per annum (£1,300 per annum pensionable basic salary plus £400 per annum pensionable expatriation pay). Pension is earned at the rate of 1/600th of the final pensionable emoluments for each completed month of service. The gratuity for contract service is payable on completion of the contract at the rate of £150 per annum. A temporary cost-of-living allowance of £195 per annum is also payable to officers whether on permanent or contract terms. Free passages are provided for officer, wife and up to three children under nine years, on first appointment and on leave. Annual local leave is permissible and generous home leave is granted after each tour of eighteen months. Quarters are provided at rental of £150 per annum. Income tax at local rates. Social and recreational amenities are good. Applicants for the post of ear, nose, and throat specialist must possess at least the F.R.C.S. Applicants for the post of Anaesthetist Specialist must possess a Diploma in Anaesthetics. Application forms can be obtained from the Director of Recruitment (Colonial Service), Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/321/52). (8608)

UNIVERSITY COLLEGE HOSPITAL OF THE WEST INDIES, Jamaica, B.W.I.

Applications are invited for ten posts of House Officers in the new University College Hospital:

FOUR HOUSE SURGEONS
for General and Surgical duties
THREE HOUSE SURGEONS
THREE HOUSE PHYSICIANS
for Casualty and Out-patient duties

The appointments will be for one year commencing June 1, 1952. Each House Officer will serve four months in the surgical, medical and casualty departments respectively. Salary £350 per annum, less £100 in respect of board, residence, etc. Return first-class passages by sea will be paid. Applications should be sent to the Hospital Manager and Secretary, University College Hospital, Mona, St. Andrew, Jamaica, B.W.I., before March 31. (8485)

BEER YAACOV, near Tel Aviv

Applications are invited for the post of

ANAESTHETIST

for 500-bed chest hospital at Beer Yaacov, fifteen miles from Tel Aviv. A new hospital possessing modern thoracic surgical unit. Applicants should hold Diploma of Anaesthetics and must have experience in anaesthesia of the thoracic surgery. Training of junior anaesthetist part of duties. Contract minimum one year. Salary £1,500 to £1,800 annually, according to experience. Free passage for the successful applicant, his wife and children up to the cost of three adult fares as well as personal effects. Return passage paid after completion of contract. Full board and married quarters provided at low cost. Appointment subject to satisfactory medical examination. Applications, stating age, family status, experience and three references, to Medical Department, Malben, P.O.B. 2883, Tel Aviv. (8486)

UNIVERSITY APPOINTMENTS

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL
(University of London)
Hyde Park Corner, London, S.W.1

Applications are invited for

TWO LECTURESHIPS
one in Pathology and one in Bacteriology

Salary scale £900 to £1,100 per annum, with superannuation and family allowances. Applications should be sent in to the Professor of Pathology by Saturday, March 8, and should be accompanied by the names of two referees. (8589)

UNIVERSITY OF LONDON

The Senate invite applications for the

CHAIR OF MEDICAL PROTOZOOLOGY

tenable at the London School of Hygiene and Tropical Medicine. Salary will range from £2,250 to £2,750 a year). Applications (ten copies) must be received not later than April 1, 1952, by the Academic Registrar, University of London, Senate House, W.C.1, from whom further particulars should be obtained. (8573)

University Appointments—contd.

UNIVERSITY OF LONDON KING'S COLLEGE
Will require on April 23, 1952, a
LECTURER IN PHYSIOLOGY
on the Junior Lecturer scale of £600, rising by annual increments of £50 to £750, with family allowances and F.S.S.U. benefits. Particulars and application forms should be obtained from the Registrar, King's College, Strand, W.C.2, whom completed applications should reach by March 22. (8588)

UNIVERSITY OF BELFAST
Applications are invited for a
LECTURESHIP IN PREVENTIVE MEDICINE
in the Department of Social and Preventive Medicine in the Queen's University of Belfast. Salary £1,300 by £50 to £1,750, plus provision for superannuation. In certain conditions the salary may rise to £2,000. Initial placing on the scale will depend on experience and qualifications. Applications should be received by March 30, 1952. Further particulars may be obtained from G. R. Cowie, M.A., LL.B., Secretary. (8611)

UNIVERSITY OF LEEDS
Department of Obstetrics and Gynaecology
Applications are invited from registered medical practitioners who are members of the Royal College of Obstetricians and Gynaecologists and who hold a Surgical Fellowship for the newly instituted post of
READER IN OBSTETRICS and GYNAECOLOGY
at a salary on the scale £1,500 by £100 to £2,000 a year, initial salary according to qualifications and experience. Applications (fifteen copies), together with the names of three referees, should reach the Registrar, The University, Leeds, 2 (from whom further particulars may be obtained), not later than March 17, 1952. (8612)

NOTICES

APPLICANTS ARE ADVISED NOT TO SEND original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

PLOMBIERE TREATMENT. COLON LAVAGE (by Studa Chair or other methods). Inoculations, dressings, etc.—Sisten Bean, S.R.N., 11, Marylebone High Street, W.1. Tel.: Welbeck 7382.

PREGNANCY DIAGNOSIS

PREGNANCY DIAGNOSIS (HOGBEN TEST). Family Planning Association Laboratories, 64, Sloane Street, London, S.W. (Sloane 0451). Specimens of urine accepted from doctors and hospitals anywhere. Result available within 24 hours of receipt of specimen. Cost 25s. (hospitals and clinics at special rates). Telephone or write for details.

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

EDUCATIONAL

F.R.C.S. POSTAL COURSES FOR PRIMARY AND FINAL EDIN. and ENG. RECIPROCAL EXAMS. Full details also of Private Tuition.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

PERSONAL TUITION FOR M.R.C.P., M.D., by M.R.C.P. University lecturer.—Box 707, B.M.J.

PRIVATE SCHOOL FOR DEAF CHILDREN (from 3 years). Speech, lip-reading, general education. Principal: Miss Ethel M. Bullock, M.R.S.T., Ingleside Deaf School, Reading, Berks.

CLINICAL SURGERY (F.R.C.S.). WEDNESdays, March 12, 19, 26, April 2, at 2 p.m. Whittington Hospital (St. Mary's Wing). General surgical and gastro-intestinal cases. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE
MEDICAL SCIENCES
A three months' course in Applied Anatomy, Physiology, Pathology, Bacteriology and Biochemistry will begin on June 30, 1952. This course is suitable for postgraduates wishing to take the Primary Fellowship examination, as a final preparation in these subjects. Considerable basic knowledge is highly desirable prior to taking this course. Fee £31 10s.

REFRESHER COURSE FOR GENERAL PRACTITIONERS
The nineteenth Fortnight General Refresher Course for N.H.I. practitioners will start on May 5, 1952. Fee for graduates not claiming expenses from Government sources, 10 guineas.
Applications for enrolment should be addressed to Director of Postgraduate Studies, Surgeons' Hall, Edinburgh, 8. Applicants for courses, except general practitioners, should supply particulars of qualifications and postgraduate experience.

FACULTY OF HOMOEOPATHY
Introductory Course in Homoeotherapeutics
March, April, May, 1952
A three months' introductory course of lectures and clinical teaching in homoeotherapeutics for registered medical practitioners will be held weekly commencing Wednesday, March 5, 1952, at 7 p.m., in the Glasgow Homoeopathic Hospital Dispensary, 5, Lynedoch Crescent, Glasgow, C.3. Further instruction for those intending to sit the examination for the Diploma of Membership of the Faculty of Homoeopathy (M.F.Hom.) will also be available. Particulars may be obtained from the Superintendent, Glasgow Homoeopathic Hospital, 1,000, Great Western Road, Glasgow, W.2. (7797)

GENERAL MEDICINE (M.R.C.P.). EVENING Course. March 10 to 14, 7 to 9 p.m. daily. Connaught Hospital, Walthamstow. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

INSTITUTE OF DISEASES OF THE CHEST
MEDICAL REFRESHER COURSE
A Refresher Course dealing chiefly with non-tuberculous diseases will be held at the London Chest Hospital from April 21 to April 25, 1952, inclusive, from 10 a.m. to 4.30 p.m. daily. It will consist of lectures, demonstrations and ward rounds, and is intended primarily for those specializing in chest disease. Fee 4 guineas.
Further information can be obtained from the Sub-Dean, Institute of Diseases of the Chest, London Chest Hospital, London, E.2, before April 1, 1952.

SHORT COURSES IN THORACIC SURGERY AND ANAESTHESIA
Short courses in Thoracic Surgery and Anaesthesia will be held at the Institute of Diseases of the Chest from March 24 to April 5, 1952. The courses will consist of lectures and demonstrations from 5 p.m. to 7 p.m. each evening from Monday to Friday, together with demonstrations on Saturday mornings. Fee 5 guineas.
Further information can be obtained from, and applications should be made to, the Surgical Sub-Dean, Institute of Diseases of the Chest, Fulham Road, London, S.W.3. (8590)

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides COACHING for all Medical Examinations, D.A., D.P.M., D.O.M.S., D.L.O., D.C.H., D.M.R.D. and D.M.R.T., M.R.C.P., F.R.C.S., M.D. thesis, and all qualifying exams by a staff of highly qualified Tutors, Honoursmen and Gold Medallists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes, 1937-1950; M.D.Lond., 62; M.B., B.S.Lond., Final, 133; F.R.C.S.Eng., Primary, 212; F.R.C.S.Eng., Final, 173; M.R.C.P.Lond., 209; M.R.C.S., L.R.C.P., Final, 303; D.A., 177; D.C.H., 135; M. and D.Obst.R.C.O.G., 232; D.O., C.P.H., D.P.H., D.L.O., D.P.M., F.R.C.S.Edin., many successes. Assistance with M.D. Thesis. Prospectus, list of tutors, etc., on application to Dr. G. E. Oates, University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313

RHEUMATIC DISEASES (WEEK-END). ALL day Saturday and Sunday, March 29 and 30. Rheumatic Unit, St. Stephen's Hospital. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

SURGICAL REVISION (F.R.C.S.). MONDAY, Thursday, and Friday mornings. March 10 to April 26. Royal Cancer Hospital. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

TUBERCULOSIS EDUCATIONAL INSTITUTE
A three-day Clinical Course will be held at the Red Cross Sanatoria of Scotland (Tor-na-Dee and Glen o'Dee) on March 19, 20, and 21. Fee £3 3s. Applications to the Secretary, Tuberculosis Educational Institute, Tavistock House North, Tavistock Square, London, W.C.1. (8488)

UNIVERSITY OF LONDON
Applications are invited for the Geoffrey E. Duveen Travelling Studentship for 1952-53, value £650, for research in any aspect of oto-rhino-laryngology. Further particulars and forms of application (to be received by April 30, 1952) may be obtained from the Academic Registrar, University of London, Senate House, W.C.1. (8591)

SITUATIONS VACANT

North Devon Hospital Management Committee.—Pathological Laboratory, Boutport Street, Barnstaple.—Applications are invited for the post of **Technician** or **Junior Technician** in a new laboratory serving the North Devon District. Considerable experience in haematology is essential. Salary and conditions in accordance with Whitley Council scales. Applications, stating age, qualifications and experience, together with the names of two referees, to the Pathologist at the above address. (8108)

PHARMACISTS, DIETITIANS, DISPENSERS, NURSES
AVAILABLE

Dispensing Assistant (lady), with Apothecaries' Hall Certificate, seven years' hospital experience, free immediately for locum duties.—Box 634, B.M.J.

Dispenser-Bookkeeper requires post with doctor or doctors in large mixed practice. London, Brighton, or near districts.—Box 708, B.M.J.

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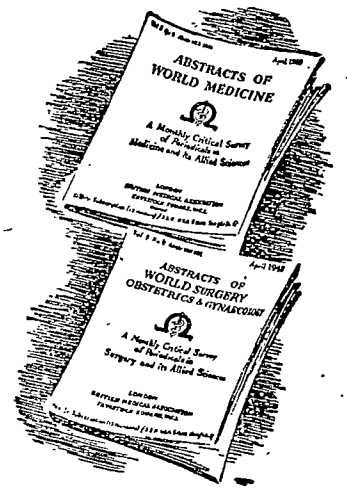

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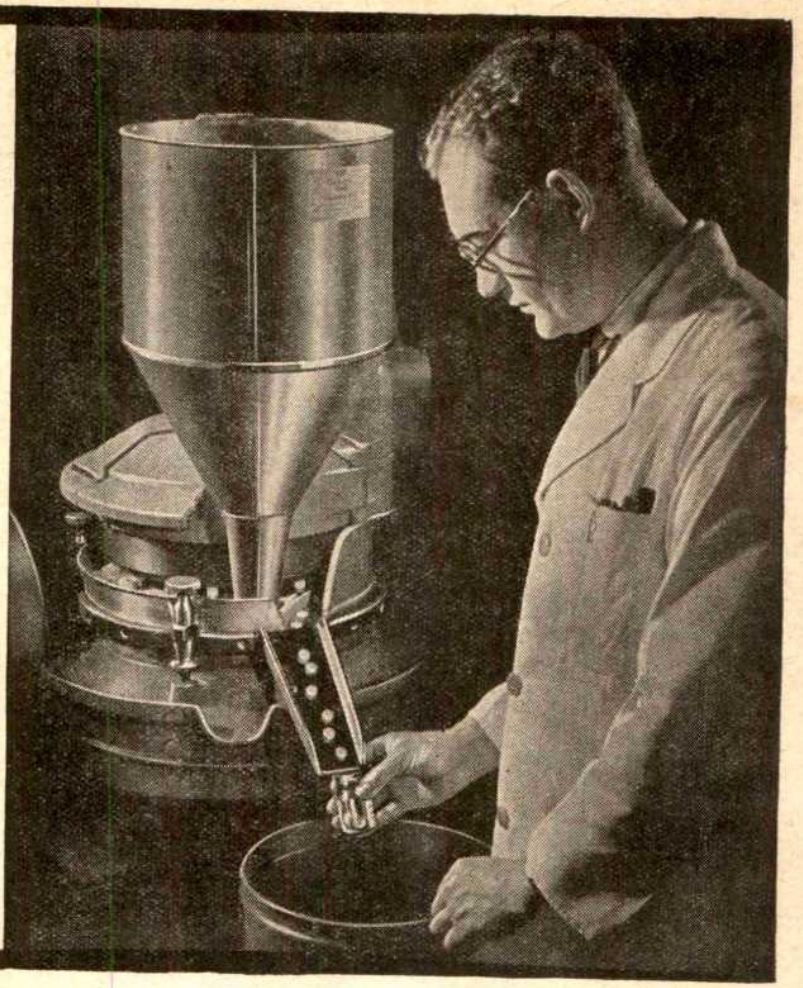

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY MARCH 1 1952

STUDIES ON THE PHYSIOLOGY OF AWARENESS: ANOXIA AND THE LEVELS OF SLEEP *

BY

J. W. LOVETT DOUST, M.B., B.Sc., M.R.C.P.

AND

ROBERT A. SCHNEIDER, M.D.

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It has recently been suggested (Lovett Doust, 1951a) that the varying strata of attention and awareness are intimately related to the levels of the arterial blood oxygen saturation as determined by the methods of continuous oximetry. It was shown that "attention peaks" of periods of increased concentration and awareness are associated with a rise in the oxygen saturation levels, whereas periods of boredom, decreased concentration, reverie, etc., are correspondingly accompanied by falls in the oximetric values.

Considerable work has already been done on the question of anoxia in various pathological and pharmacological analogues of natural sleep, and its importance in these states appears to be paramount. An impressive parallelism has also been found between many types of fatigue conditions and the clinical syndrome induced by experimental anoxic anoxia; indeed, Barcroft (1925) suggested many years ago that the symptomatology of chronic anoxia was that of mental and bodily fatigue.

These phenomena are closely associated with consciousness, and it was therefore thought desirable to follow such changes to their logical fulfilment—namely, that of natural sleep.

Experimental Procedure

Seven normal healthy human subjects were studied and 22 observations made over a period of three months. Six of the subjects were males and the seventh a female. Ages ranged from 22 to 36 years.

Arterial blood oxygen saturation levels were measured photo-electrically and continuously by means of a Millikan oximeter (Millikan, 1942), with the sensitive photo-cell attached to the pinna of the ear in the conventional manner. The instrument was previously standardized on each occasion by the inhalation of 100% oxygen from a cylinder through a modified B.L.B. mask for at least seven minutes until stationary readings were obtained on the galvanometer.

The experiments were conducted under conditions as natural as possible and, so far as circumstances permitted, for night-long periods. For the latter experiments the subject changed into night attire, performed the customary chores of brushing his teeth—reading if that were his wont preparatory to his retiring—and was provided with a comfortable bed in the darkened laboratory.

An observer was constantly present in the same room and a continuous record was made of the galvanometric deflections as they occurred. He also noted changes in the position of the subject, the type and rate of respirations, snoring, the influence of external stimuli, the apparent depth of sleep, etc. At the conclusion of each experiment an inquiry was made of the subject to ascertain details of the depth and quality of sleep, the ability to recall events of the night, and the nature of any fantasy or dreaming.

An attempt was made objectively to record respiratory pattern changes, but this was not found feasible under the otherwise "natural" conditions of the investigation. It was abandoned in view of the already large body of data in this regard (Best and Taylor, 1945).

Results: Sleep and Progressive Anoxaemia

A rather consistent pattern was seen to obtain in some seven observations of protracted, restful, satisfactory sleep. Five observations were made over a period of about three to six hours, from 1 a.m. to 7 a.m. Four observations were made earlier in the evening—for example, from 10 p.m. to 1 a.m.—and the remainder during a postprandial "nap" from 1 to 2 o'clock in the afternoon.

The accompanying Table lists the basic data, and oximetric charts are exemplified in Figs. 1, 2, and 3. Considerable variation was noted to occur, both between different subjects and in repeated observations on the same subject, but a similar overall picture was evident. Noteworthy points will be mentioned later concerning the differential progress of the march of sleep, but, in general, it may be said that the subject began on a base-

*This work was done during the tenure of a Nuffield Foundation Medical Fellowship (J. W. L. D.) and of a Commonwealth Fellowship (R. A. S.).

Table Showing the Basic Data on 22 Sleep Observations in 7 Subjects (A–G). All Save Subject A Were Males

Subject	Plane 1					Plane 2					Plane 3					Plane 4					Plane 5					Plane 6					Plane 7					Remarks
	T	O_2	M	N	R	T	O_2	M	N	R	T	O_2	M	N	R	T	O_2	M	N	R	T	O_2	M	N	R	T	O_2	M	N	R	T	O_2	M	N	R	
A	28	94–97	16	7	0	140	90–94	14	17	1	120	89–91	9	7	4	44	86–90	5	1	6	16	89–91	0	0	0	4	90–92	0	0	0	14	92–95	0	0	0	Good restful sleep
B	34	90–93	10	4	0	46	90–92	4	5	0	40	85–91	2	0	9	39	87–88	2	3	2	20	87–91	1	2	2	3	91–92	0	0	0	4	92–93	0	0	0	Sleepy " "
B	10	93–95	0	0	0	15	90–92	0	0	3	0	—	—	—	—	0	—	—	—	—	0	—	—	—	—	6	91–93	0	0	0	12	92–93	0	0	0	
C	1	95–97	0	0	0	13	89–96	1	0	5	18	87–92	2	0	4	31	87–89	1	1	2	20	86–91	7	1	2	16	88–92	2	3	2	5	90–93	0	0	0	Good restful sleep
C	74	93–96	13	3	23	14	92–96	5	1	11	8	88–93	0	0	3	0	—	—	—	—	3	90–92	0	0	—	5	91–92	0	0	0	5	92–93	0	0	0	Short period of light sleep
C	11	93–95	0	0	0	13	90–92	0	0	0	25	89–90	5	0	14	0	—	—	—	—	0	—	—	—	—	2	89–92	3	0	2	5	92–94	0	0	0	Light sleep
C	12	93–94	2	0	0	42	89–93	4	0	5	0	—	—	—	—	0	—	—	—	—	0	—	—	—	—	6	89–92	4	0	5	6	93–94	0	0	0	Reverie. Day-dreaming
C	3	94–96	3	0	0	10	90–92	0	0	1	21	88–90	8	3	15	0	—	—	—	—	0	—	—	—	—	3	89–92	5	2	3	9	94–97	0	0	0	Light sleep
C	5	94–95	0	0	0	11	90–93	0	0	0	0	—	—	—	—	0	—	—	—	—	0	—	—	—	—	3	90–93	1	1	7	7	94–95	0	0	0	Reverie
D	10	95–96	0	0	0	30	92–96	6	1	4	55	89–92	3	5	4	0	—	—	—	—	36	90–93	7	2	2	6	89–93	3	0	3	8	92–93	0	0	0	Light sleep. Anxious
D	9	92–95	10	0	0	15	90–93	2	3	3	8	89–91	0	1	2	0	—	—	—	—	0	—	—	—	—	2	90–92	0	5	1	3	92–94	0	0	0	Light sleep.
D	13	92–94	0	0	0	10	91–92	3	1	0	0	—	—	—	—	0	—	—	—	—	0	—	—	—	—	1	91–92	0	0	0	4	92–94	0	0	0	Reverie
E	7	92–94	3	0	0	1	90–92	1	0	0	4	86–90	2	1	2	0	—	—	—	—	0	—	—	—	—	3	90–92	0	2	3	8	92–94	0	0	3	Dozing
F	15	95–97	0	0	0	11	90–92	2	0	1	23	89–91	0	0	2	32	87–88	0	0	0	3	89–91	0	0	0	7	87–93	5	0	3	6	92–93	0	0	5	Dozing into deep sleep
F	9	92–93	3	2	0	13	91–92	1	1	3	3	88–91	1	1	0	22	86–88	0	4	0	26	89–90	0	0	0	7	91–92	4	2	4	4	92–94	0	0	2	" " "
F	6	92–93	3	0	0	10	90–92	6	0	0	12	89–91	5	0	0	0	—	—	—	—	0	—	—	—	—	5	90–92	10	0	2	7	92–93	0	0	0	Light sleep
F	13	92–95	0	0	0	10	90–92	0	0	3	0	—	—	—	—	0	—	—	—	—	0	—	—	—	—	3	90–93	0	0	2	14	91–94	0	0	0	Reverie
F	5	93–95	0	0	0	4	91–93	0	0	0	0	—	—	—	—	0	—	—	—	—	0	—	—	—	—	2	91–95	0	0	0	11	94–95	0	0	0	Light sleep
F	2	92–93	0	0	0	14	90–91	5	0	2	8	89–91	2	3	0	0	—	—	—	—	0	—	—	—	—	32	89–92	15	36	5	4	92–93	0	0	0	
G	53	94–96	0	2	0	27	90–93	6	5	0	48	88–91	3	6	2	26	87–88	2	7	3	12	89–92	5	5	3	4	91–94	0	0	0	3	92–94	0	0	0	Good restful sleep
G	48	93–95	6	0	0	30	90–92	2	0	0	62	88–91	3	0	0	28	86–89	0	2	0	7	89–90	0	0	0	5	91–92	3	0	2	15	91–94	0	0	0	" " "
G	3	94–97	0	0	0	40	90–92	4	5	0	0	—	—	—	—	0	—	—	—	—	0	—	—	—	—	2	90–92	3	2	1	5	92–93	0	0	0	Reverie

"T" is time in minutes spent in any one plane of sleep; "O_2" is the % range of arterial blood oxygen saturation as determined by continuous oximetry; "M" is the number of observed gross movements made by the subject; "N" is the number of possibly disturbing noise stimuli; "R" the number of gross changes in respiratory response patterns.

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The Levels of Sleep

Most investigators have divided the varying depths of the sleep pattern into a series of arbitrary levels—reminiscent of the planes of anaesthesia. For our purpose it seemed practicable to distinguish seven such planes of sleep: (1) A period of wakefulness in which conversation is possible and the subject, although at physical rest, still responds to external stimuli by conscious attention. (2) A period of pre-sleep in which muscular relaxation is greater than in plane 1, fantasy life is enriched, drowsiness is obvious, and periods of dozing and transitory lack of awareness are common. The subject often feels some sensations of floating and depersonalization; subjective warmth permeates his body. (3) A period of light sleep in which objective response to stimuli occurs but is relatively unconscious, considerable muscular activity being present as further progressive relaxation of the many muscle groups is sought. (4) A period of heavy deep sleep in which little muscular movement is apparent, no response to external stimuli takes place and the subject is "dead to the world." Wakefulness, in like fashion, is a reversal of the process of sleep and its passage contains a similar number of stages starting with deep sleep, although the time intervals are somewhat displaced. Plane 5 is the period of light sleep following deep sleep; plane 6 the period of pre-wakefulness; and plane 7 the actual awakening to the new world of to-morrow.

Thus we have a series of seven planes of sleep, from wakefulness to wakefulness once more. An average of our observations suggests that anoxaemia is differentially distributed in each of these planes in the following manner:

Plane 1:	Wakefulness ..	Artl. oxygen satn.	=96%
" 2:	Pre-sleep ..	" " "	=90–92%
" 3:	Light sleep ..	" " "	=89–91%
" 4:	Deep sleep ..	" " "	=87–88%
" 5:	Light sleep following deep sleep	" " "	=89–91%
" 6:	Pre-wakefulness	" " "	=90–92%
" 7:	Awakening ..	" " "	=92–98%

These seven planes of the sleep cycle were selected arbitrarily in accordance with the judgment of the observer and the subsequent inquiry of the subject. The oxygen levels, it should be noted, are means and tend to be relative to the initial base-line of the subject. One in whom high initial levels are recorded may drop by similar amounts to one in whom an initially relatively low base-line is seen. But it is by no means uncommon, on the other hand, for a precipitous fall to take place from an initial high base-line to the same anoxaemic level of 87%.

Significance of Muscular Movements in Sleep

A study of our protocols reveals some interesting information regarding the twists and turns, shifts in position, limb movements, and certain quasi-purposive hand movements noted during these sleep observations. These are briefly considered.

(A) *Influence of Posture, etc.*—Because of the necessity that the oximeter earpiece should not come in contact with the pillow, the subjects were instructed that they could lie prone, supine, or on one side or the other, but that the decision regarding which side must be made before the standardization of the oximeter. Their motivation was apparently excellently maintained even during unconsciousness, for none attempted to turn to the side on which the oximeter had been fixed; indeed, most stated that they customarily lay on the one side or the other, but rarely on either.

It was noted that after some turning, usually from the side to the supine position and back again during plane 2, the subject would settle on his side and fall asleep in plane 3 in that position. By the time plane 4 had been reached, however, the subject was usually on his back, and would commonly complete his period of deep sleep thus.

Interestingly enough, exact temporal correlation with the oximeter record showed that each change in position was meaningful in terms of the blood oxygen saturation levels. Not only were twists and turns and changes of position associated with considerable oximetric fluctuations, but also such fluctuations preceded the muscular movement. The saturation levels, for example, would begin to fall from 92 to 91%, and such a fall would be immediately followed, in planes 2 or 3, by muscular movement; if the fall were a major one—for example, to 90%—then often it would immediately be followed by a change in position from side to back, or vice versa. In like fashion such a change in position, apparently occasioned by an incipient anoxaemia, would be followed by a rise in the oxygen saturation levels—for example, from 90 up to 92–93%.

If the subject was not disturbed by this and hence brought into a lighter plane of wakefulness, a third happening would then occur—that is, the oxygen saturation would again fall, not merely to its previous low level, but well beyond it, such a sequence often presaging an imminent change from a lighter to a deeper plane of sleep. Indeed, it was often found to be possible not only to estimate the exact plane of sleep by the saturation value recorded on the oximeter, but also to predict the ensuing pattern of sleep from the combination of the changing oximetric values and the concomitant muscular movements.

(B) *"Pruritic" Phenomena.*—A rather constant observation during the passage of the subject from plane 2 to plane 3 was his tendency to scratch or rub his face or body. Usually this manipulation was confined to the face, nose, and neck; not uncommonly, however, it would spread and include the genital area or, indeed, anywhere else on the body surface. The activity proved on inquiry to be at a very low level of conscious awareness, but sometimes it might of itself induce a slight increase in awareness, and the subject would then be conscious of what he was doing. It formed a useful landmark of the depth of sleep and the immediate progress which might be anticipated. The meaning of the phenomenon is discussed later.

Respiratory Responses During Sleep

Plane 1 is characterized by irregular activities such as yawning, coughing, and sighing. These are fully conscious but involuntary. They accompany subjective feelings of tiredness, lethargy, and fatigue, and help to condition the subject for the sleep awaiting him. Oximetrically, each activity is invariably preceded by anoxaemia and usually succeeds in temporarily overcoming this. Apart from these activities little of significance was noted during the observation of planes 1 and 2 and 6 and 7 in this respect. Subjectively, however, it was not uncommon to be told by an introspective sleeper that he was aware of certain other

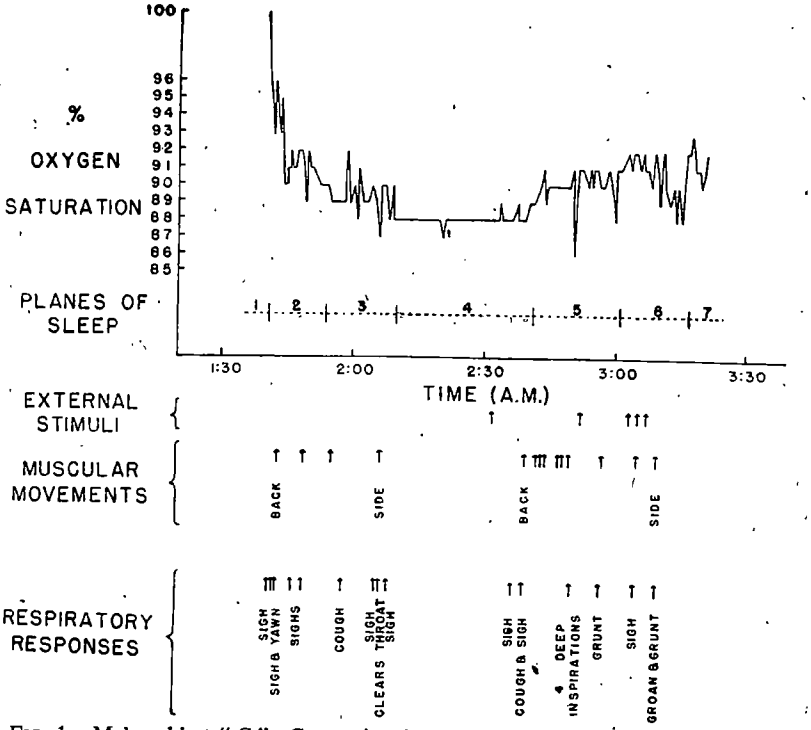

FIG. 1.—Male subject "C." Composite chart showing results of clinical observation and those of continuous photoelectric oximetry during 1¾ hours of sleep. See text for description of the seven levels or "planes" of sleep. In this and in subsequent charts the initial reading of 100% oxygen followed the preparatory inhalation of pure oxygen by facemask for standardization of the oximeter.

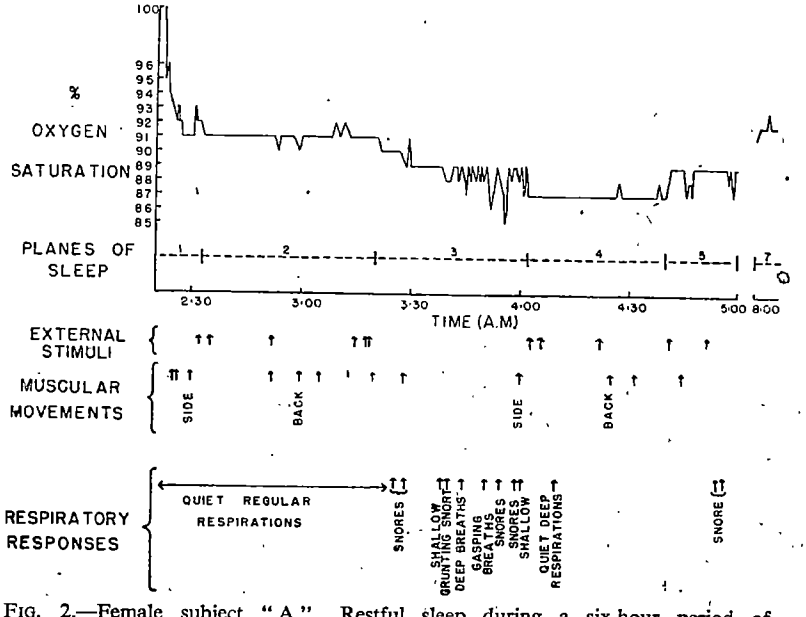

FIG. 2.—Female subject "A." Restful sleep during a six-hour period of observation.

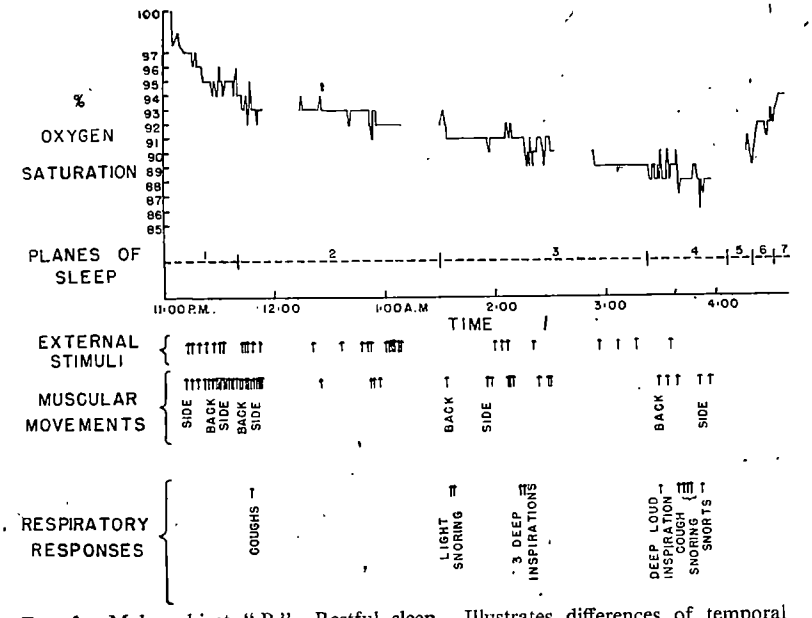

FIG. 3.—Male subject "B." Restful sleep. Illustrates differences of temporal relationships for times spent in the various planes of sleep—compare Figs. 1 and 2. Interruptions in the oximeter tracing indicate periods during which the instrument was switched off to prevent burning of the subject's ear.

changes, especially during plane 2. These consisted of periods of shallow breathing alternating with periods of apnoea and deep breathing. They seemed to be relatively automatic, the subject being conscious that they were occurring though exercising no conscious voluntary control over them. Indeed, when such control is established these patterns tend to disappear and the passage to deeper sequences of sleep is interrupted.

Planes 3 and 4 are characteristically noisy periods of sleep; groaning, mumbling, grunting, gasping, snoring, sighing, and sometimes coughing being individually representative responses for any given subject. Each of these activities is closely correlated with oximetric changes, in a similar fashion to that observed with muscular movements; a trumpeting snore, for example, often occurs at a time when exceptionally low oxygen levels have been reached (for example, down to 85%) and seems to be an effective mechanism for returning the saturation values to their previous levels. Sometimes, as we have all observed, such snoring awakens the sleeper, the mechanism of which is readily understandable in terms of these findings.

Response to External Stimuli

Observations were recorded of all external noises occurring during the sleep experiments. Such external noise was discontinuous in pattern but continued throughout the periods of observation. It consisted of traffic noises, the sirens of tugboats on the river, the beating of storms against the window-panes, the whine of aircraft passing overhead, the occasional clatter of dishes from another floor, the cries of sick children from the department of paediatrics across the courtyard, and finally the sometimes inadvertent, sometimes consciously produced noises of the observer at his night's vigil.

Despite the irregular discontinuity of all these stimuli the subject responded differentially to them according to the depth of his sleep. During planes 1 and 2 and 6 and 7 little change was noted oximetrically or clinically to such stimuli, the subject accepting them consciously and incorporating them into his awareness as part of the field of his environment. In planes 3 and 5, however, dramatic responses were noted. The subject at these times was not consciously aware of these discontinuous stimuli, but each time they occurred he would show a prompt if ill-sustained "attention peak," bringing his oxygen levels up by 1–2%. The significance of this in terms of the tendency for noise to bring about wakefulness is obvious. In plane 4, however, no response to noise took place, the subject remaining oblivious to the stimulus and the oximetric values maintaining their unswerving degree of anoxaemia.

Fatigue, Wakefulness, and the Inability to Sleep

It is not always easy to fall asleep to order. Out of 22 observations, seven represented unsuccessful attempts to sleep in that no progress was made beyond plane 2 despite their being continued under apparently optimal conditions and for a period of some hours.

It would appear that more than mere physical fatigue is necessary to ensure the sleep state. According to the Pavlovian theory a "set" is required incorporating all the usual preliminaries to sleep; but it would appear that this is inadequate of itself, since sleep was sometimes impossible even given every apparent requirement for it, including its urgent desire on the part of the subject and very considerable physical fatigue.

A typical example of this is shown in Fig. 4. The subject could get from plane 1 to plane 2 but not beyond this point. Each time his oxygen saturation level fell to 91–93% it was brought back again by such mechanisms as muscular movement, respiratory patterns of yawning, sighing, grunting, etc., and abandonment to sleep proved impossible. Interrogation of the reasons for this in all four instances proved fruitless, the subject remarking that he just could not understand his inability to fall asleep.

Some factor of emotional or mental fatigue must, it would seem, be added to purely physical factors. It is common knowledge that deep sleep is often impossible for the neurotic or the individual who cannot relax emotionally.

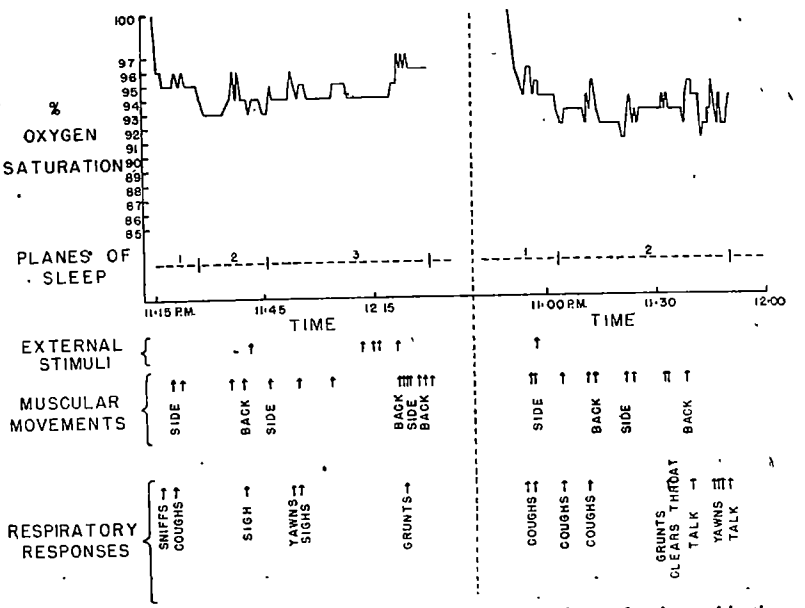

FIG. 4.—Two examples of inability to sink into deep sleep, despite subjective feelings of tiredness and fatigue.

Perseveration of ideas, repeated inability to forgo interest in the environment or in personal problems, persistent introspection, or anxiety is sufficient to maintain relative wakefulness, and it is possible that such factors as these, operating at the peak of their intensity in the fantasy-full planes 1 and 2, produce those patterns of relative awareness which prohibit further progress to a deeper plane.

Dozing

The "nap," "forty winks," "resting one's eyes" are expressions by which are usually indicated temporary cessations of conscious awareness occurring at times not usually associated with sleep—for example, after a heavy meal, during a monotonous conversation, on a hot afternoon, or with a relative cessation of attention-provoking external stimuli. On introspection, however, it would appear that these states are indistinguishable from natural sleep, the deficit of consciousness often appearing to telescope the subjective appreciation of the passage of time, and, furthermore, fantasy is usually enriched to a marked degree.

Oximetrically, it was found (see Table) that these states corresponded to planes 2 and 3 and 5 and 6 of sleep, and on clinical observation could be termed states of impaired awareness. Sometimes they could be shown to proceed to the deep sleep of plane 4, but more often some degree of consciousness was present and circumstances prohibited this from happening. Sometimes, again, it seemed that the unpleasant feeling accompanying drowsiness or dozing might be due to the guilt that sleep should not have been taking place at that time at all. On such occasions retrospective analysis revealed that unpleasant affect had coloured the fantasies, the dreams, or the reverie, and had done so with all the force of the anoxia present at that time.

Discussion

The Physiological Epiphenomena of Sleep

A large body of consistent evidence testifies to a certain cycle of changes which occur during the process of natural sleep. Briefly these include the following: a decline in the blood pressure of from 10 to 30 mm. Hg systolic, with the lowest level about the fourth hour of sleep; bradycardia; reduction in the basal metabolic rate by 10–15%; hypothermia; slowing and intermittent irregularity of respiration, together with a tendency for it to be costal in character; possible disappearance of the knee-jerk, and presence of a positive Babinski sign though lowered thresholds for vasomotor reflexes are typical; oliguria; a variable effect on gastric secretion and some increase in gastric motility; finally, depression of most glandular secretions has been noted to occur.

Among the neurophysiological observations, some interesting electro-encephalographic studies have been made during the various phases of the sleep process. Lindsley (1944) has abstracted the evidence and quotes the relevant literature from Berger's (1932) original observations, showing how five stages of sleep have been delineated from this point of view. Summarizing the E.E.G. evidence, it would seem that the alpha rhythm gradually disappears in the passage from wakefulness to pre-sleep and is extinguished and replaced by 4–5 cycles a second activity in light sleep. These slow waves are complicated by spindles of 14 cycles a second activity in deep sleep, the spindles tending to disappear and the slow waves beginning to decrease in frequency and regularity as the depth of sleep progresses. Brazier (1949) has further shown that a shift occurs with sleep in the origins of maximal voltage activity from the parieto-occipital area to the prefrontal and precentral regions of areas nine and six respectively.

Now, disappearance of alpha rhythm and the production of slow activity is also characteristic of experimentally induced anoxic anoxia when this is pushed to the point of obvious impairment of consciousness (Berger, 1934; Davis *et al.*, 1938; Gibbs and Davis, 1935), and provides us with some interesting circumstantial confirmation of our findings of anoxia in sleep.

In similar fashion all the physiological disturbances occurring during sleep noted initially in this section have also been shown to be associated with states of anoxia. As with the analogy of the E.E.G. findings so with these other disturbances, and we list this evidence for the epiphenomena of anoxia in the order in which we have mentioned them in our discussion on sleep.

Hypotension.—Anderson *et al.* (1946) found that experimental acute anoxia is often accompanied by hypotension and sometimes faintness.

Bradycardia.—The response of the heart rate to anoxia is inconsistent, but Haldane *et al.* (1919) showed that continued anoxic anoxia sometimes leads to slowing after an initial tachycardia.

Basal Metabolism.—Killick (1940) showed that in animals subjected to slow carbon monoxide intoxication the basal metabolic rate decreased, and Beck (1936) confirmed this for human subjects similarly poisoned. At high altitudes, however, such a depression of the basal metabolic rate was not found to occur in human subjects, the rate actually undergoing no change (Monge, 1937), although Hamon *et al.* (1935) showed a decreased oxygen consumption in animals under diminished barometric pressure.

Body Temperature.—Hamon *et al.* (1935) noted that the body temperature falls as the atmospheric pressure decreases. Armstrong (1939), studying human subjects taken to a simulated altitude of 12,000 ft. (3,658 m.), found consistent falls in body temperature lasting up to some 24 hours. Gellhorn (1943) also states that the body temperature falls with anoxia.

Respiration.—The depth of respiration is increased more by anoxia than is the rate (van Liere, 1942). Mosso (1898) first demonstrated the periodicity changes of the respiratory pattern at high altitudes and mentioned the tendency for mountaineers to show a Cheyne–Stokes type of breathing. "This irregularity most frequently occurs during sleep at night. It is caused by oxygen-want, as shown by the fact that the administration of oxygen abolishes it" (van Liere, 1942, p. 113). Barcroft *et al.* (1923) produced radiological evidence for the increased costality of the manner of breathing seen in natives living in the high Peruvian Andes.

Reflexes.—Jokl (1939) showed that a depression of the deep reflexes begins when ascent by man reaches an altitude of 6,600 ft. (2,012 m.) This would represent a blood oxygen saturation level of about 92%. King *et al.* (1932) showed specifically that anoxia inhibits the knee-jerk. Vasomotor reflexes are stimulated (Bouckaert *et al.*, 1941). A Babinski-type plantar response is common in the coma of hypoglycaemic shock (Lups and Kramer, 1940), and, as Gellhorn (1943) has shown, the clinical and other findings associated with hypoglycaemia parallel those of anoxia.

Urine.—Adolph (1934) found a complete anuria in frogs subjected to anoxia, the suppression being associated with total constriction of the glomerular arterioles. Van Liere *et al.* (1935) noted a diminished urine excretion in dogs subjected to anoxic anoxia. These findings have not, however, been confirmed in man.

Gastric Motility.—Anaemic anoxia in dogs greatly increased the tonus of the stomach wall and also the intensity of the hunger contractions (Carlson, 1916). Curtis and Hamilton (1938) showed that these findings are also true for patients with pernicious anaemia.

From these considerations it seems evident that the relationship between the physiological changes occurring in association with the sleep process and those of anoxia is an intimate one. We shall not press their possible functional identity further, however, for a reason which becomes evident later on.

The Biological Significance of Sleep

Philosophers from the earliest times have speculated upon the meaning and necessity of sleep, and their theories have ranged from those suggesting that the soul leaves the body and wanders freely through the world to the concept that man dies at the end of each day and is reborn with the coming of the following dawn. These theories of primitive men are echoed in the findings of contemporary dynamic psychologists who conceive of sleep and dreams as regressive patterns to an earlier plane of existence. Dreaming, says Jung for example, "is a psychosis brought about by free choice"; and Freud writes, "Dreaming is a fragment of the superseded psychic life of the child."

Physiologically, sleep has been perhaps the least well investigated aspect of the functions of man, such theories as have been advanced to account for it being crude and often purely hypothetical extrapolations reflecting the stage of medical progress at the time. The so-called "neuronal theory," postulating a retraction of dendritic processes which leads to a suspension of cortical activity, is an example of this. Various chemical theories have also been proposed, indicating lactic acid accumulation acting as a cerebral depressant, "hypnotoxin," acetylcholine, and "bromhormone," with little supporting evidence for their role in natural sleep. The Pavlovian theory, based largely on animal experimentation, suggests that sleep is a spread of conditioned internal inhibition and seems to account for one aspect of the problem, though its connexion with such hypothalamic centres as have been shown to be involved in various pathological disturbances of the sleep rhythm appears to be remote.

Kleitman (1939) has stressed the importance of afferent impulse bombardment in relation to sleep, and has published some important work which suggests that a lessening in the number of such impulses from the muscles of the periphery is a necessary prelude to sleep. This has been further elaborated by Max (1935) into what he terms the "motor theory of consciousness."

As long ago as 1897 Howell suggested that vasomotor fatigue could explain the necessity for sleep and showed that the fall in blood pressure and peripheral vasodilatation accompanying sleep could logically accompany a relative cerebral anaemia. This theory has been criticized, but it still remains a practical possibility, for differential anoxia on a vascular basis could exist with no overall change in cerebral blood flow.

Ontogenetically, the diurnal rhythm of sleep seems to develop from an irregular polyphasic cycle in infancy, and it has often been suggested that wakefulness is a modality which depends upon maturation, that it is a state to which the organism must *ascend* at intervals and in a pattern which in unique to the individual at any one time in his development. If this is so, then it might be expected that all the forces which contribute to make up the uniqueness of individual personality also assist in the formation of the individual pattern of the sleep-wakefulness cycle.

In a review of the literature concerned with fatigue Bartley and Chute (1947) conclude that fatigue is a part of the picture of frustration and conflict, and any assessment of fatigue states—including its dimension of sleep—must take these important factors into account. They stress the ever-present nature of conflicts and point to the part these play in the constant homoeostatic adjustments which the individual is called upon to make. Sleep would seem to be a release from these conflicts and a time for the "realignment" of the personality in terms of homoeostatic demands. Inability to express emotional needs leads to tension development, and if this tension is abnormally great sleep becomes impossible. The tendency for emotional tension to "spread" and become "somatized" is representative of the organism's inability to withstand the impact of such self-generated forces, and is also the pattern and a means for their—usually inadequate—discharge in dreams. Mature personality development is normally sufficient to permit of the organism's abandonment to sleep, since the force of such deviated "neurotic" tensions is not relatively great. In psychiatrically disturbed individuals, and particularly in psychoneurotics, this is not so; for them conflicts, in the face of poorly differentiated personality development, are very considerable, and sleep, because it entails relaxation, is either impossible or greatly upset.

These considerations help in understanding the often otherwise incomprehensible inability of the normal subject to get to sleep. We have seen already how physical tiredness may be urgently present, the subject apparently desirous of sleep, and all the reflex conditioning stimuli at hand, yet sleep may prove impossible. From the concepts we have just considered it would appear conceivable that these subjects were not emotionally ready for sleep; they were not in a condition to accept its psychodynamic demands. Furthermore, the inability to sleep, it would seem, postulates as well the continuance of a degree of skeletal muscular tonus inhibitory to progress in the sleep cycle. Just as, therefore, inability to sleep may entail persistently increased muscle tone, keeping up an afferent bombardment of the cortex, so also may an actual fear of sleep prevent its onset from a fear of the fantasies accompanying it.

As an example of the interactionism between our findings of anoxia and these psychodynamic considerations of the sleep process, it is interesting to reflect back to our observations of skin-scratching noted to occur in many of our subjects during their passage through plane 2 of the sleep cycle. One of the accompaniments of anoxia produced by lowered barometric pressure is a lowered threshold of irritability of the skin. This may be the result of an altered body-water distribution, as Smith (1928) suggested, and he has postulated it as one of the causes of restlessness in anoxic subjects—a concept which fits in nicely with our findings of the increase in muscular movements at this stage of sleep. It also might be expected psychodynamically in view of the considerable weight of evidence pointing to the function of the skin as an erogenous zone from which pleasure may be obtained through stimulation. The unconscious preference shown by the subjects for those areas of the skin especially sensitive in this respect—for example, the naso-oral mucous membrane, the cheeks, neck, and genitalia—lends support to these considerations.

The psychodynamics of the process of perception and awareness are intimately bound up with those of sleep. Fenichel (1945) has pointed out that the primitive modes of perception employed by psychotics, with their relatively vague and poorly differentiated experience of environment-reality, are identical with those of infants. There is a poverty of sharp distinction both between perceived objects and between the relationship of the sensory experience and the experiencing self. But such awareness patterns, poorly knit and without their normal relationship to such interpreting and normally acting mechanisms as the faculty of associative recall, are also typical of the diminished intensity of consciousness in sleep. It is with the essential identity of these three patterns of awareness—in infancy, in schizophreniform states, and in sleep—that we finally concern ourselves here.

Conclusions: Sleep and the Problem of Anoxia and Awareness

Hughlings Jackson has observed, "Find out all about dreams and you will have found out all about insanity." It is comparatively recently that physiologists have begun to interpret the findings of dynamic psychology in their schema. Yet, intimately associated as sleep is with awareness, it is impossible to neglect the interrelationships of such concepts with the somatic functional disturbances associated with these states.

We have shown (Lovett Doust, 1951a) how conscious awareness is a fluctuating variable, ever in this condition, and with extremes of the complete lack of awareness of deep coma states on the one hand and, on the other, those states

of heightened awareness in normal individuals which we have designated by the term "attention peaks." And accompanying such variations in the pattern and continuum of awareness, with its subjectively experienced panorama of consciousness, we have shown a like picture of oximetric variation. An attention peak in consciousness is accompanied by an oxaemic peak in the arterial blood oxygen saturation levels; a state of reverie or inattention is accompanied, in temporal identity, by anoxaemia. A correlate of awareness variation is oxaemic variation; the appearance of the one postulates the appearance of the other, and vice versa; the one would seem the mirror image of the other—two different ways of viewing a single phenomenon and its ever-changing patterns. It is as easy to follow the progressive diminution in awareness to the levels of sleep, or the intense and overwhelming desire for it accompanying periods of forced wakefulness, or the incarceration of a subject in a low oxygen-pressure chamber equipped with a mechanism allowing for a progressive increase in the simulated altitude to 12,000 ft. (3,658 m.), as it is to follow the progressive anoxaemia occurring in natural sleep as awareness is gradually shut off, in step-like fashion as has been shown, down to the deepest levels of plane 4, and the dramatic anoxia represented by an arterial oxygen saturation level of 87%.

A final point must now be considered. Time and time again it was noticed (Figs. 1, 2, and 4) that the sleeper woke with his blood oxygen saturation levels still low. They climbed back only slowly to their former base-line values. The sleeper was awakening; although no longer asleep he was, however, far from completely conscious. The slurred speech, confused ideation, the weary passage of his hand across his brow, and the frequent yawning were all important evidence of a diminished state of awareness. It would not seem legitimate, therefore, to correlate the diminished oxygen levels completely with sleep, but rather to identify them with the levels of relative unawareness which are so much the necessary components of sleep.

And just as dreams subjectively portray the enrichment of the fantasy life of sleep, so this same enriched fantasy and these same dreams are seen in the phenomenology of anoxia, infancy, and schizophrenia. The qualities of the "real" change their values in anoxia and in dreams—that is, in these states of altered consciousness the schizophrenic-like mutisms, perseverations, autisms, and illusion-delusions merge with hallucinations of every modality of sensation; the dream world is one of bizarre yet essentially personal and meaningful reality, but on a plane and in a sequence ill understood enough by the dreamer—and how much less by the observer.

To be awake under such conditions and in such a nightmare is, in a word, to be a schizophrenic—Jung's "a dreamer in a world awake"—but to be asleep is the experience of us all. And when the homoeostatic realignments which serve, perhaps, the purposes of sleep are accomplished we are recalled to the state of conscious awareness once again.

The oxygen saturation levels of the constitutional schizophrenic, as determined oximetrically (Lovett Doust, 1952), are those of the dreamer. When the attention peaks which have maintained him by conscious empathic effort give, he sinks back into a state of "wakened dreams." His levels of awareness are those of *unawareness* of all modalities save those of his unconscious; his oxygen saturation is that of the sleeper, and fluctuates uneasily as the sleeper, dreaming, twists and turns, mutters and sighs, groans, and snores his way through sleep.

Summary

The sleeping habits and levels of sleep of seven normal healthy subjects were studied.

Photoelectric oximetry in a series of 22 observations suggested seven planes of sleep. These planes were: (1) wakefulness (arterial oxygen saturation 96%); (2) pre-sleep (90–92%); (3) light sleep (89–91%); (4) deep sleep (87–88%); (5) light sleep following deep sleep (89–91%); (6) pre-wakefulness (90–92%); (7) awakening (92–98%).

Muscular movements, posture, scratching, respiratory adjustments, and responses to external stimuli were found to correlate differentially with all these separate planes.

It was seen that the various physiological concomitants of sleep closely resembled those accompanying states of anoxaemia.

The theories of sleep are reviewed, and it is suggested that the concepts of homoeostasis and dynamic psychology, psychiatry, and maturation bear an important relationship to the phenomena of fluctuating awareness, anoxia, and sleep.

It is a pleasure to express our gratitude to Professor Harold G. Wolff and Dr. Stewart Wolf for their constant encouragement and for the provision of facilities enabling this work to be carried out.

REFERENCES

Adolph, E. F. (1934). *Amer. J. Physiol.*, **108**, 177.
Anderson, D. P., Allen, W. J., Barcroft, H., Edholm, O. G., and Manning, G. W. (1946). *J. Physiol.*, **104**, 426.
Armstrong, H. G. (1939). *Principles and Practice of Aviation Medicine*, p. 283. Baltimore.
Barcroft, J. (1925). *The Respiratory Function of the Blood.* Part 1: Lessons from High Altitudes. Cambridge.
—— Binger, C. A., Bock, A. V., Doggart, J. H., Forbes, H. S., Harrop, G., Meakins, J. C., and Redfield, A. C. (1923). *Philos. Trans., B*, **211**, 351.
Bartley, S. H., and Chute, E. (1947). *Fatigue and Impairment in Man.* London and New York.
Beck, H. G. (1936). *J. Amer. med. Ass.*, **107**, 1025.
Berger, H. (1932). *Arch. Psychiat. Nervenkr.*, **97**, 6.
—— (1934). Ibid., **102**, 538.
Best, C. H., and Taylor, N. B. (1945). *The Physiological Basis of Medical Practice*, 4th ed., p. 916. Baltimore.
Bouckaert, J. J., Grimson, K. S., Heymans, C., and Samaan, A. (1941). *Arch. int. Pharmacodyn.*, **65**, 63.
Brazier, M. A. B. (1949). *Electroenceph. & clin. Neurophysiol.*, **1**, 195.
Carlson, A. J. (1916). *The Control of Hunger in Health and Disease.* Chicago.
Curtis, G. M., and Hamilton, F. E. (1938). *Trans. West. surg. Ass.*, **48**, 447.
Davis, P. A., Davis, H., and Thompson, J. W. (1938). *Amer. J. Physiol.*, **123**, 51.
Doust, J. W. Lovett (1951a). *Proc. roy. Soc. Med.*, **44**, 347.
—— (1952). *J. ment. Sci.*, **88**, 143.
Fenichel, O. (1945). *The Psychoanalytic Theory of Neurosis*, p. 38. New York.
Gellhorn, E. (1943). *Autonomic Regulations.* New York.
Gibbs, F. A., and Davis, H. (1935). *Amer. J. Physiol.* **113**, 49.
Haldane, J. S., Kellas, A. M., and Kennaway, E. L. (1919). *J. Physiol.*, **53**, 181.
Hamon, F., Kolodny, S., and Mayer, A. (1935). *Ann. Physiol. Physicochim. biol.*, **11**, 211.
Howell, W. H. (1897). *J. exp. Med.*, **2**, 313.
Jokl, E. (1939). *J. roy. Army med. Cps.* **73**, 289.
Killick, E. M. (1940). *Physiol. Rev.*, **20**, 313.
King, C. E., Garrey, W. E., and Bryan, W. R. (1932). *Amer. J. Physiol.*, **102**, 305.
Kleitman, N. (1939). *Sleep and Wakefulness.* Chicago.
Lindsley, D. B. (1944). In *Personality and the Behavior Disorders*, **2**, 1033, edited by J. McV Hunt. New York.
Lups, S., and Kramer, F. (1940) *Schweiz. Arch. Neurol. Psychiat.*, **45**, 213.
Max, L. W. (1935). *J. comp. Psychol.*, **19**, 469.
Millikan, G. A. (1942). *Rev. sci. Instrum.*, **13**, 434.
Monge, C. (1937). *Arch. intern Med.*, **59**, 32.
Mosso, A. (1898). *Life of Man on the High Alps.* London.
Smith, C. S. (1928). *Amer. J. Physiol.*, **87**, 200.
van Liere, E. J. (1942). *Anoxia: its Effect on the Body*, pp. 106, 113. Chicago.
—— Parker, H. S., Crisler, G. R., and Hall, J. E. (1935). *Proc. Soc. exp. Biol., N.Y.*, **33**, 479.

More medical students should be admitted to Oxford University, according to the report for the year ending July 31, 1951, of the Regius Professor of Medicine (*Oxford University Gazette*, February 9, p. 499). At present 55 men and 10 women are admitted to preclinical studies each year, and divided among the 30 colleges, which makes teaching arrangements very difficult. The restriction to 32 clinical students annually is satisfactory, however, since many of these students come from other universities, while Oxford students are encouraged to pass on to London.

SYMPTOMATOLOGY OF CONGESTIVE AND SIMPLE GLAUCOMA

A STUDY IN CONTRAST

BY

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The cardinal feature of glaucoma is a raised intraocular pressure, as was first fully established by the Scottish physician, William MacKenzie, in 1830. He ascribed the raised tension to an increase in the watery contents of the globe due to a serous choroiditis. Sometimes increased tension is associated with, and secondary to, a concomitant pathological process, but the cause of the increased pressure in primary glaucoma is neither obvious nor well understood. Raised intraocular pressure in itself is, of course, not recognized by the patient, but it is associated with a variety of symptoms.

In the adult there are two main types of primary glaucoma—congestive and simple—and they differ clinically in their mode of onset. The former is characterized by symptoms of haloes and blurred vision or by an acute congestive attack; the latter by an insidious onset which usually escapes notice until the disease is well established. Congestive glaucoma is so often accompanied by a shallow anterior chamber with a narrow chamber angle that the disease is frequently designated, in American literature, as "primary narrow chamber angle glaucoma" (Friedenwald, 1949).

Simple glaucoma is associated with any breadth of chamber angle. Analysis of the series of cases examined gonioscopically at the Institute of Ophthalmology (Hobbs, 1950) in the main supports this generalization, as shown in Table I.

TABLE I.—*Angle of the Anterior Chamber in Glaucoma*

	Narrow	Medium	Broad	Unclassified
Congestive ..	61	12	2	6
Simple ..	20	43	32	4

Angles which were completely obstructed by peripheral anterior synechiae were unclassified.

Early Signs: Congestive Glaucoma

The most dramatic form of onset is the acute attack of congestive glaucoma which usually starts in the hours of darkness and is characterized by severe pain in the eye irradiating throughout the distribution of the trigeminal nerve. There is profuse lacrimation, the eyelids and conjunctiva may be swollen, the eye itself red, angry, and hard, with a dull insensitive oedematous cornea and a dilated pupil. Vision may be reduced to perception of light, and severe prostration is often accompanied by nausea and vomiting. Such an onset may occur without warning and with great suddenness in an eye which is apparently healthy. On the other hand, the attack may be preceded by prodromal symptoms. In a small series of 20 cases of acute glaucoma for which a broad iridectomy had been performed in one eye, eight cases had prodromal attacks and 12 had no warning symptoms.

Warning symptoms, when they occur, are therefore of some importance, because their recognition may avoid the onset of an acute congestive attack. They consist of haloes or rainbows round lights, short-lived attacks of pain in the eye, and temporary blurring of vision. Such symptoms are always evanescent and periodic, and their significance may not be realized by the patient or sometimes by the physician.

A glaucomatous halo is best seen on looking at a point focus of bright light in a dark room. Two coloured rings are usually seen, an inner blue-violet and an outer yellow-red. They are produced by the diffraction by tiny droplets of fluid in an oedematous cornea of the rays of light emitted from the point source, their physical causation being analogous to that of the naturally occurring rainbow. There are other causes of haloes, chief among which is senile sclerosis of the lens. Glaucomatous haloes are always temporary, however, whereas lenticular haloes can be demonstrated at any time of day under suitable conditions; furthermore, when glaucomatous haloes are viewed through a slit they suffer a diminution in intensity, whereas lenticular haloes appear to be broken up into sectors.

Haloes occurring early in the course of the disease may be said to be pathognomonic of congestive glaucoma. Of the 81 cases of congestive glaucoma detailed in this paper 73 were aware of haloes, although not necessarily as a first symptom, and eight had an acute attack without prodromal symptoms. Haloes also occur late in the course of simple glaucoma, and of the 99 cases of simple glaucoma examined 11 advanced cases gave a history of coloured rings round lights. That they are not entirely a function of a narrow chamber angle is shown in Table II.

TABLE II.—*Incidence of Haloes in Both Congestive and Simple Glaucoma and the Nature of the Chamber Angle*

Angle	Haloes	Absence of Haloes
Narrow	59	22
Medium	13	42
Broad	5	29
Unclassified	7	3

It is often maintained that haloes are easily overlooked by a poor witness or that other subjective visual disturbances may be misinterpreted as haloes. On the other hand, if the patient is reasonably intelligent and the examiner careful to elicit a detailed description, including the presence of colour, there is little possibility of confusion. In this series of cases examined at the Institute there are examples of patients with lenticular haloes who have been using daily miotics unnecessarily, and there are others who have lost the sight of one eye, a tragedy which could have been avoided had the patient realized the significance of haloes seen round lights a few years earlier. As Duke-Elder (1940) has written, haloes are regarded by some patients "with interested amusement and by others with lively terror." Prognosis is much better in the latter group.

Simple Glaucoma

Simple glaucoma has a different type of onset of a very insidious nature. The presenting symptoms are not specific and may have a varied pathology. Sometimes there are no ocular symptoms at all in the early stage of the disease, and it is first suspected on routine ophthalmological examination. An early symptom is difficulty in close work. Patients ascribe their troubles to a haze on their spectacle lens unrelieved by frequent cleaning. They find it difficult to describe their symptoms in detail; the print is out of focus, grey in colour when viewed through the affected eye, and uncertain in outline. Patients who present these symptoms may be short- or long-sighted, and their difficulty is due to a reduction in their power of accommodation.

It has been observed in the glaucoma clinic that a patient who reads 6/5 and J2 with his glasses when the intraocular pressure is within normal limits may require an addition of +0.5 D sphere to his distance glasses and an addition of as much as +2.5 D sphere to his reading glasses to attain the same visual acuity when his intraocular tension is raised. The commonest presenting symptom is a permanent blur

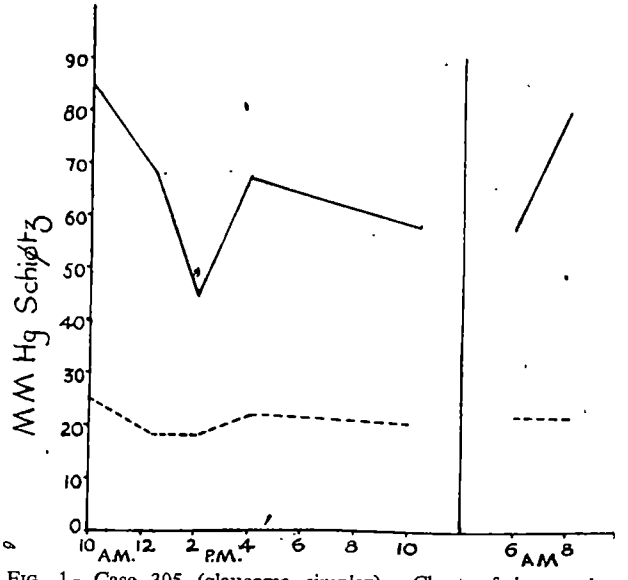

FIG. 1.—Case 305 (glaucoma simplex). Chart of intraocular tension. —— Right eye (glaucoma simplex). - - - - Left eye (normal).

in the vision of one eye. This is not a sign which occurs early in the course of the disease, for examination of such a patient will show a well-marked defect in the visual field which must have developed over a considerable period of time. The loss of field, however, is insidious, and at first monocular, so that it remains unnoticed until such time as the normal eye is occluded—usually by accident. There are two other later signs—constant eye-ache and a noticeable gap in the field of vision. These are, however, late symptoms which force themselves into the consciousness of the patient only after considerable ocular damage has been done.

The earliest symptoms noted in simple glaucoma cannot be explained entirely in terms of intraocular tension. Difficulty in reading is probably due to the effect of a raised intraocular pressure on the ciliary muscle, so that the range of accommodation is decreased and the near-point recedes beyond the usual comfortable distance of 10 to 12 in. (25 to 30 cm.). Eye-ache can also be equated with intraocular tension, as in the patient whose 24-hour tension curve is shown in Fig. 1. The tension of the right eye lies wholly above 45 mm. Hg Schiötz. Patients who complain of a gap in the field of vision have in fact a large scotoma which has broken out to the periphery so that a whole quadrant of the field is blank (Fig. 2), or they may show a relatively small scotoma which approaches close to the fixation point (Fig. 3). The latter patient was an amateur bee-keeper, and he noticed as a first symptom that bees walking across his right hand tended to disappear. Those who complain of a permanent blur in one eye have, as a rule, a combination of a definite field defect and an intraocular tension which is above normal limits during most or all of the 24 hours.

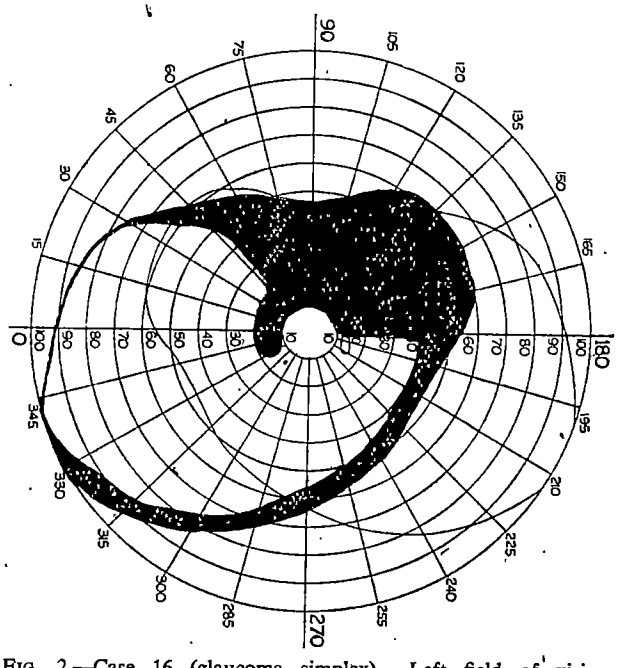

FIG. 2.—Case 16 (glaucoma simplex). Left field of vision charted March 27, 1949. 3-mm. object at 330 mm. distance. L.V. = 6/6.

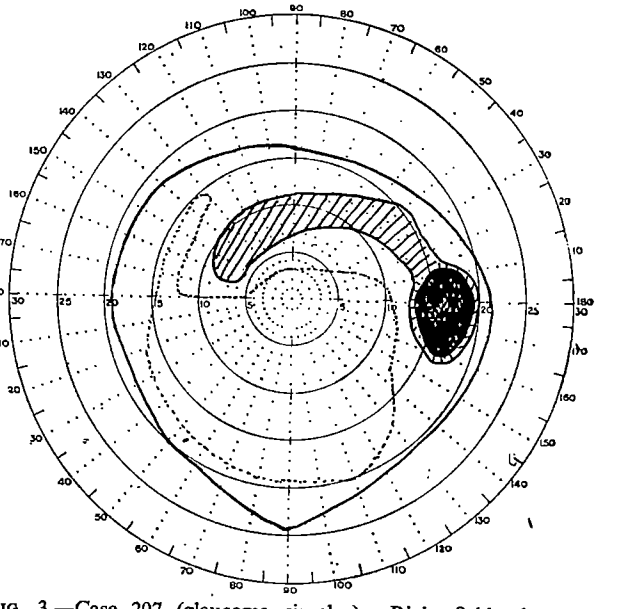

FIG. 3.—Case 207 (glaucoma simplex). Right field of vision charted May 4, 1951, by Mr. H. E. Hobbs. Blind spot mapped by 10-mm. white object at 2,000 mm. —— 5-mm. white object. - - - - 2-mm. white object. R.V. = 6/6.

Table III analyses the first symptom noted by the patient in 180 cases of glaucoma examined at the Institute of Ophthalmology, London.

TABLE III.—*Initial Symptomatology—First Symptom*

	Congestive Cases	Simple Cases
Acute attack	13	0
Attacks of pain in the eyes	8	0
Temporary blurring of vision	11	0
Haloes	49	0
Constant eye-ache	0	13
Difficulty in reading	0	20
Gap in the visual field	0	13
Permanent blur in one eye	0	44
No symptoms	0	9
Total	81	99

Variations in Intraocular Tension

Congestive Glaucoma

The reason for the evanescent nature of the symptoms of congestive glaucoma is found in the behaviour of the intraocular pressure in an untreated case. Fig. 4 shows that the tension is highest just before going to bed, when the symptoms of haloes, blurring, and pain are at their height, and lowest in the morning after sleep.

That sleep has a beneficial effect on the symptoms of congestive glaucoma is well recognized by patients. Their eyes are usually easier in the morning, and even a doze in the middle of the day will relieve them of blurring or ocular

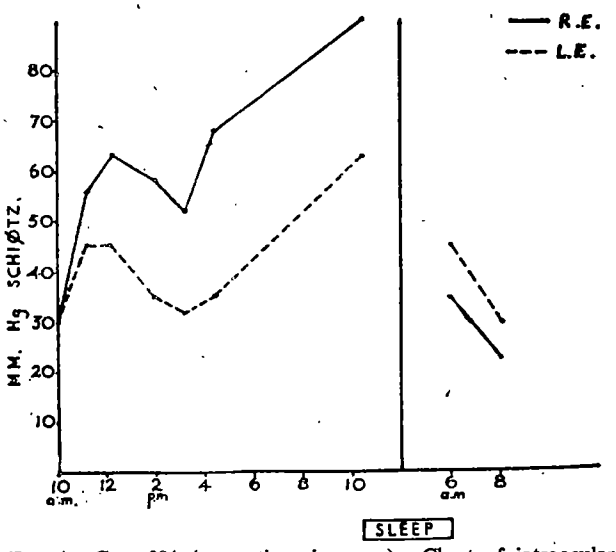

FIG. 4.—Case 291 (congestive glaucoma). Chart of intraocular tension.

pain. Fig. 5 shows the effect of sleep in an untreated case. Emotional strain and fatigue have a contrary effect and precipitate rises in tension.

An important aspect of these observations lies in the recognition of the episodic nature of the increased intraocular tension in congestive glaucoma. Early in the disease haloes may be noticed only occasionally—perhaps once a fortnight—so that whole days or weeks may pass without a rise in intraocular tension. As the disease progresses, haloes become more frequent, but a patient who gives a history of nocturnal haloes may have a normal tension when examined at a morning clinic. The only clue to the diagnosis is often a history of haloes, and confirmation of their glaucomatous nature in terms of Schiötz tonometric readings requires an examination of the patient *when the symptoms are in evidence.*

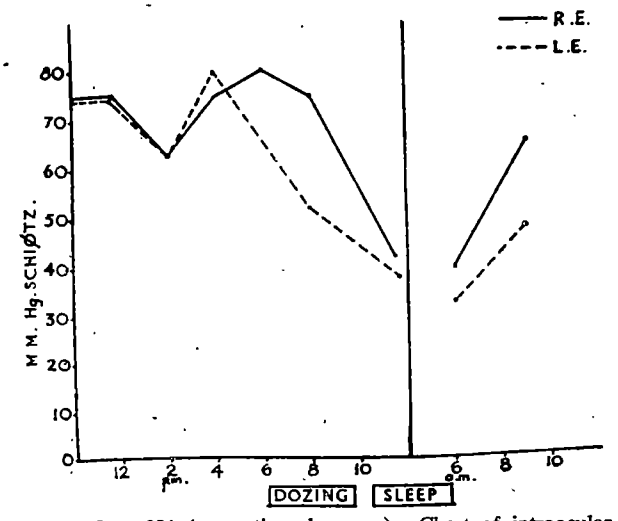

FIG. 5.—Case 281 (congestive glaucoma). Chart of intraocular tension.

Simple Glaucoma

The variations in the intraocular pressure of simple glaucoma which have been investigated and described by Langley and Swanljung (1951) differ from those of congestive glaucoma in one very important aspect. The diurnal variation tends to be constant in extent and time, so that any 24-hour period is diagnostically as suitable for examination as another. It is true that early in the disease the intraocular tension is within normal limits at most times in the day, so that a single Schiötz reading is of very little value. The diagnostic importance of a 24-hour tension curve in doubtful cases has probably been underestimated, and this is best undertaken in both types of glaucoma *before miotics are prescribed.* The variation in the intraocular tension in a normal eye during 24 hours is in the region of 3 to 5 mm. Hg Schiötz, with an upper limit of 25 to 27 mm. (Fig. 6). Most glaucoma curves are abnormal in two respects—the range of the variation and the maximum height of the curve.

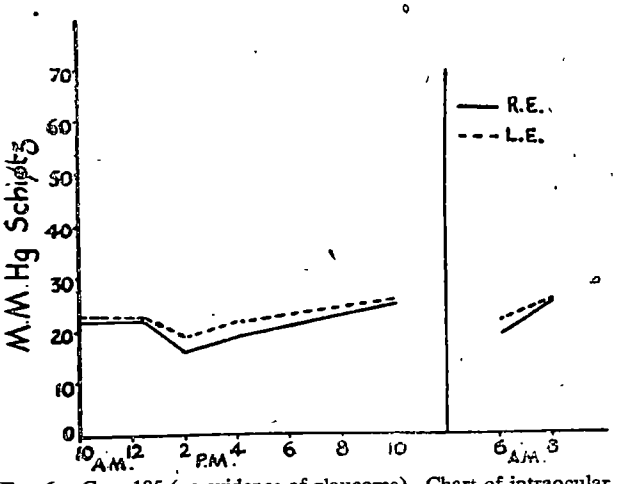

FIG. 6.—Case 185 (no evidence of glaucoma). Chart of intraocular tension.

The difference in the two groups is emphasized in Table IV, which shows that a high percentage of patients with simple glaucoma are unaware of a close association between their symptoms and the time of day; whereas most congestive cases find that their symptoms are consistently aggravated at night.

TABLE IV

	Symptoms Worse		No Difference	Total
	Morning	Evening		
Congestive ..	5	62	14	81
Simple	8	19	72	99

Cupping of the Optic Disk

In Table III there was a small group of cases of simple glaucoma diagnosed on routine examination. These patients had no ocular complaints even in retrospect and, until the diagnosis was made, believed their eyes to be perfectly healthy. The clinical sign which raised the suspicion of glaucoma in the examiner's mind was cupping of the optic disk on one or both sides.

There are various forms of cupping of the optic disk, which can be differentiated from the glaucomatous type only with difficulty. A physiological cup may be deep, but it rarely involves the whole area of the disk, so that one side shows a gentle slope to the point of emergence of the central vessels. The excavated portion may be white and the mottled lamina cribrosa clearly discerned in its depths, but the remainder of the disk is usually pink.

A well-established glaucomatous cup involves the entire circumference of the disk with steep sides. It is white, sometimes with a peripapillary halo of the same colour where the sclera shines through an atrophied retina and choroid. All grades of cupping exist between the physiological and the pathological, and indeed the former may pass imperceptibly into the latter, so that at some stages of glaucoma their differentiation may be quite impossible. Of the 29 cases of doubtful glaucoma referred to the Insti-

tute for investigation, 27 had cupped disks. Follow-up investigation of this series of cases over some years will prove of great interest, for it is possible that some, at least, are in the preclinical stage of glaucoma simplex and will eventually disclose their true nature in response to one of the many periodic tests performed upon them.

Cupping of the optic disk is not an early sign of congestive glaucoma. Table V shows that 54 of 60 early cases of congestive glaucoma presented no pathological cupping, whereas all 88 early cases of simple glaucoma had some form of cupping, 83 of which were frankly pathological.

TABLE V.—*Cupping of the Disk in Relation to Type of Glaucoma*

		Pathological Cupping	Physiological Cupping	No Cupping
Congestive	early	6	9	45
	late	19		2
Simple	early	83	5	
	late	10	1	

There is a close association between cupping and field loss as shown in Table VI. Field changes may coexist, however, with a normal disk, or a normal field may be found in association with a clinically pathological cup. Both are probably the product of one process acting at a different locus and apparently independently.

TABLE VI.—*Cupping of Disk in Relation to Visual Fields*

	Fields		
	Full	Scotoma	Depressed
Pathological cupping	5	103	10
Physiological cupping	8	4	3
No cupping	34	4	9

Field Changes

Changes in the visual field are not an early feature of congestive glaucoma. The majority, as shown in Table VII, have no demonstrable field defect when the diagnosis is made, either centrally or peripherally. The late cases of congestive glaucoma have visual field changes in every way comparable to those found in glaucoma simplex, provided there has been no acute congestive attack.

TABLE VII.—*Scotomata in Congestive Glaucoma*

		Baring of the Blind Spot	Scotoma	Full
Congestive	early	15	2	43
	late	8	13	

Of the 13 cases which had suffered an acute congestive attack, five responded to medical treatment. Four of these five had full fields and excellent vision, and in the other the field was markedly depressed, although vision was 6/6. Of the eight cases which had been treated surgically, two had cataracts, two had full fields, three had slightly depressed fields with good vision, and one had very depressed fields and poor visual acuity. Scotomata seem to be uncommon as a sequel to an acute congestive attack.

Perimetric findings are most valuable in the diagnosis of early glaucoma simplex. Their configuration was fully described by Traquair in 1935, and nothing new has been added since that time. The earliest sign is found by examining the patient with a large Bjerrum screen at 2 metres distance with a small white object 1 mm. or 2 mm. in diameter. Normally this isopter forms a circle subtending an angle of 30 degrees from the fixation point, so that the blind spot lies within its confines. In glaucoma simplex this isopter is altered in such a way as to lay bare the blind

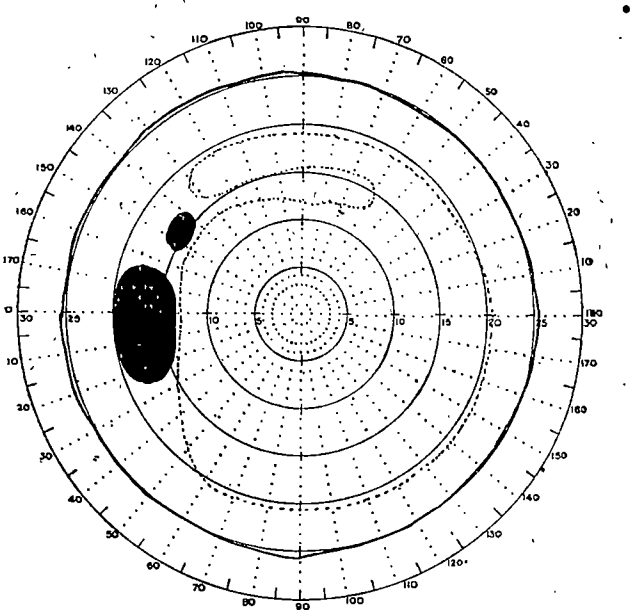

FIG. 7.—Case 136 (glaucoma simplex). Left field of vision taken at 2,000 mm. distance on February 21, 1950. —— 5-mm. white object. - - - - 2-mm. white object. L.V. = 6/6

spot, which now lies outside the deformed circle. Small isolated scotomata then appear (Blaxter, 1950) which coalesce with the blind spot to form arcuate scotomata which spread above or below the fixation point (Figs. 7 and 8). Such signs are inconstant, and in untrained hands are difficult to elicit. All the cases of glaucoma simplex in this series had defective fields, the changes varying from baring of the blind spot to absolute amaurosis.

The Threat to Vision.—It follows as a corollary to the analysis of visual-field changes in the two groups of glaucoma that the threat to vision is much greater in the simple than in the congestive type. Congestive glaucoma being a disease of symptoms, ample warning is usually given of disturbed function. If adequate therapeutic steps are taken the danger to sight is not great, whereas simple glaucoma develops slowly and quietly with few symptoms and no apparent disturbance in function. In this series,

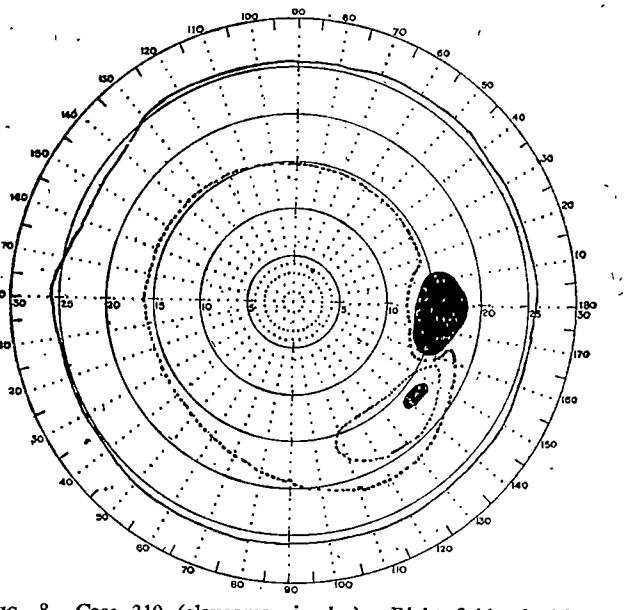

FIG. 8.—Case 310 (glaucoma simplex). Right field of vision taken at 2,000 mm. distance on June 5, 1951, by Mr. P. L. Blaxter. —— 5-mm. white object. - - - - 2-mm. white object. R.V. = 6/9.

cases with a visual acuity of less than 6/60 in one eye amount to 37% of simple and 11% of congestive cases. Only three of the congestive cases had an acute attack. The cause of loss of vision in the others was due to neglect of warning symptoms.

Incidence

Table VIII shows that the average age of diagnosis of simple glaucoma is later than that of congestive glaucoma and that the congestive type is more common in women. A positive family history was obtained in 10% of both types of glaucoma in the series examined. This figure cannot be accurate, for many patients have little knowledge of their close relatives.

TABLE VIII.—*General Incidence*

	Congestive	Simple
Average age of diagnosis ..	54·2 years	59 years
Sex	51 F.; 30 M.	47 F.; 52 M.
Family history	8/81	10/99

The relationship of glaucoma to refraction is drawn up in Table IX. The distribution curves in percentages (Fig. 9) are remarkably similar, showing two peaks at +1 D and at −1 D. Although the curve for simple glaucoma lies on the myopic side of that for congestive glaucoma, the disease is much less common in myopia than in hypermetropia.

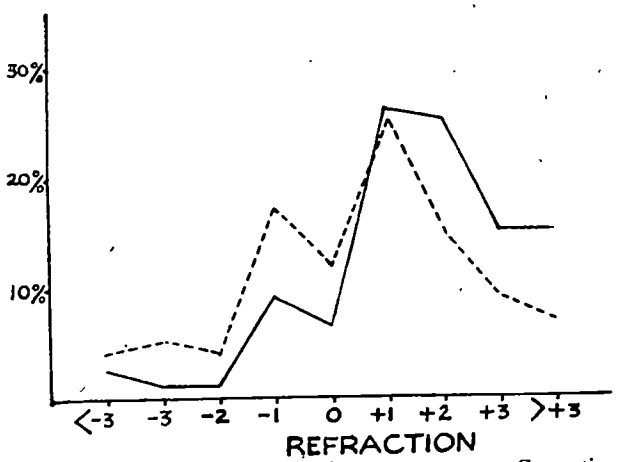

FIG. 9.—Glaucoma and refractive error. —— Congestive glaucoma. - - - - Simple glaucoma.

TABLE IX.—*Glaucoma and Refractive Errors*

	Hypermetropic	Myopic	Emmetropic
Congestive:			
Up to 1 D ..	22	9	5
" " 2 D ..	21	1	
" " 3 D ..	10	1	
" >3 D ..	10	2	
Simple:			
Up to 1 D ..	26	17	12
" " 2 D ..	15	4	
" " 3 D ..	9	5	
" >3 D ..	7	4	

Each patient was interviewed by a lady almoner, and a social history was obtained which included questions on occupation, home conditions, working conditions, financial state, and personality reaction. Table X indicates that many of them are anxious and nervous individuals, more especially among the congestive cases. On the whole, glaucoma patients are industrious and conscientious citizens who set high standards for themselves and who are easily disturbed if these standards are not met.

Typically, a patient with congestive glaucoma is an anxious and conscientious woman in the early fifties who complains of haloes and attacks of blurred vision, especially in the evenings, and on examination is found to be a hypermetrope with good visual acuity, full fields, and normal fundi, and whose eyes present shallow anterior chambers with narrow angles.

TABLE X.—*Psychological Background in Glaucoma*

	Congestive	Simple
Anxious	48	41
Overconscientious	11	7
Depressed	2	1
Aggressive	3	3
No obvious pattern	17	47

A patient with simple glaucoma may be a male or a female in the late fifties who has noticed a vague but constant difficulty in close work for some months and thought a change of glasses was necessary. Examination reveals a low hypermetrope or myope with poor visual acuity in one eye, scotomatous fields of vision, and cupped disk or disks; anterior chambers are of moderate depth and the angle is of medium breadth.

Sample analyses of the 75,000 or so persons registered as blind in Great Britain reveal glaucoma as the cause in 15% (Sorsby, 1951). Earlier diagnosis is one way by which this figure can be reduced. Research on the fundamental disturbance in glaucoma also depends upon the examination of early untreated cases before dysfunction gives way to organic change. The family medical practitioner is most likely to see the patient early in the course of the disease. He should suspect its presence in all patients over the age of 40 who request advice on their eyes, especially if they have ever seen haloes or if one eye is more affected than the other. If he were to refer such patients to colleagues competent to diagnose ocular disease, it is possible that cases of congestive and simple glaucoma would be diagnosed earlier and treated more effectively.

Summary

Analysis of 180 case histories of patients with glaucoma supports the following conclusions :

(1) Congestive narrow-angle glaucoma has an acute onset or begins with periodic attacks of haloes, ocular pain, or blurring. Simple glaucoma has an insidious onset with unspecific ocular symptoms—reading difficulty, eye-ache, blur in one eye—or the disease may be diagnosed before symptoms arise.

(2) Elevation of intraocular tension in congestive glaucoma is episodic, precipitated by emotional strain and fatigue, and relieved by sleep. The diurnal variation in intraocular pressure in simple glaucoma tends to be constant for any 24-hour period.

(3) Cupping of the optic disk is not characteristic of early congestive glaucoma, but is nearly always found in simple glaucoma, and its extent is closely related to the degree of field loss.

(4) Changes in the visual fields are not found in early cases of congestive glaucoma either centrally or peripherally. Central field changes are, however, an early and valuable sign of the simple type.

(5) The threat to vision is less in congestive than in simple glaucoma.

(6) Congestive glaucoma is diagnosed at an earlier age than is simple glaucoma and is commoner in the female sex. A genetic basis is found in 10% of cases of both types.

(7) The distribution of the two types of glaucoma over the refraction range is very similar.

(8) Patients with congestive glaucoma are usually nervous and worrying individuals. This tendency is less marked in simple glaucoma.

(9) A plea is made that practitioners should suspect the disease in all patients over 40 years with eye symptoms, especially if haloes have been seen or if there is a unilateral disturbance of vision.

This analysis touches very briefly upon the work of Mr. G. D. Elphick on visual fields, Mr. H. E. Hobbs on gonioscopy, and Mr. D. A. Langley on the phasic variations in simple glaucoma, carried out at the Glaucoma Clinic under the direction of Sir Stewart Duke-Elder. The social histories were taken by Misses Abbey, Armstrong, and Collis; patients were mainly referred from the surgeons of Moorfields, Westminster, and Central Eye Hospital; the secretarial work was undertaken by Miss J. Brown: to all of whom my thanks are due.

REFERENCES

Blaxter, P. L. (1950). *Brit. J. Ophthal.*, 34, 442.
Duke-Elder, W. S. (1940). *Textbook of Ophthalmology*, 3, 3366. London.
Friedenwald, J. S. (1949). *Trans. Amer. Acad. Ophthal. Otolaryng.*, 53, 169.
Hobbs, H. E. (1950). *Proc. roy. Soc. Med.*, 43, 1018.
Langley, D., and Swanljung, H. (1951). *Brit. J. Ophthal.*, 35, 445.
MacKenzie, W. (1830). *Treatise on Diseases of the Eye.* London.
Sorsby, A. (1951). *Genetics in Ophthalmology*, Preface, p. vii. London
Traquair, H. M. (1935). *British Medical Journal*, 2, 933.

CEPHALIC TETANUS

WITH REPORT OF A CASE

BY

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Cephalic tetanus is a rare disease developing after injuries to the scalp, face, or neck, and associated with palsies of cranial nerves III, IV, VI, VII, IX–X, XII, singly or in any combination. Although general tetanus does not always follow, the condition is invariably associated with some degree of trismus.

Cumstone (1918) and Raven (1940) both recognize a type of cephalic tetanus after head or face injury which is without palsy and in which trismus is the principal sign. This type should not strictly be included in the term "cephalic tetanus," since it does not differ from local tetanus as found in other parts of the body. For this reason it is suggested that the term "cephalic tetanus" should be limited to those cases in which there is a cranial-nerve palsy. For this reason, again, cases such as those of Hyman (1935), in which there was tetanus with trismus and slight neck stiffness after tonsillectomy, and Bagchi (1929), who reported generalized tetanus associated with discharging ears, are not true cases of cephalic tetanus, in spite of the injury being limited to the head.

Rose (1869) is generally credited with the first comprehensive description of the disease, although Sir Charles Bell reported a case in London in 1836 and Pollock another from Dublin in 1847. Brown (1912) reviewed 94 cases, and in 1935 Abel and Hampil comprehensively reviewed the earliest literature on tetanus in general Jayme-Goyaz (1941) and Wetzel (1942) almost simultaneously published reviews on cephalic tetanus in relation to eye injuries. For the past 25 years the *Quarterly Cumulative Index Medicus* has reported on an average two to three cases annually, bringing the present reported total to over 200.

Case Report

A 19-year-old engineer's apprentice was admitted to the Radcliffe Infirmary on July 17, 1949, as an emergency. His complaint was stiffness of the jaws for the previous 12 hours. There was nothing relevant in his past or family history, and he had always enjoyed good health. On July 7 he had had an accident while riding a bicycle along a flint road which was strewn with hay. He fell off and received a cut over his left eyebrow from a pedal. At no time was he unconscious. With a friend he telephoned for a car, which brought them to his doctor in five minutes. After cleansing, two stitches were put into the wound and he received a prophylactic injection of antitetanic serum into his left deltoid. He was home, in bed, within half an hour of the accident. On the next day he felt quite well except for a slight headache behind the left eye which lasted for two days. His doctor, however, advised him to remain in bed.

On July 16 he was allowed up by his doctor for the first time. He felt a little tired but had no other symptoms. Later in the day he had slight difficulty in closing the left eye, but took little notice of this. During the night he was awakened twice by an involuntary closure of the jaws which caused him to bite his tongue. On waking the following morning he noticed that he could not move the left side of his face as well as his right if he spoke or smiled. The left side felt "stiff." Next he noticed that the jaw was "stiff" on the left side. These symptoms progressed. At 8 p.m. he was seen by his doctor, who found a complete left facial palsy, trismus, and no other signs. He sent him into hospital. There had been no difficulty in swallowing and no stiffness anywhere apart from the trismus.

On admission he looked healthy and felt perfectly well apart from the palsy and slight trismus. In fact, he treated the whole matter as a joke. His temperature was 97.8° F. (36.6° C.), pulse 60, and respirations 20.

Examination showed a moderately deep wound over the left eyebrow, 1½ in. (3.8 cm.) long, sprinkled with penicillin powder. It was clean and there were no signs of inflammation. Multiple superficial abrasions were present on both elbows, extensor aspects of both forearms, both palms, and the left knee. These were healing well. There was no stiffness of the neck, back, or abdomen. He had a well-marked upper and lower facial palsy on the left, but could with an effort give a short whistle now and then. He could not close the left eye, although the right closed normally. The left naso-labial fold was almost completely obliterated. There was also mild trismus. No further abnormalities of the cranial nerves were found; the fundi appeared normal, and tone, power, movement, and reflexes in the limbs and abdomen showed no abnormality. The plantar responses were flexor. There was no abdominal rigidity. The cardiovascular and respiratory systems were normal. The blood pressure was 110/80. Urine analysis revealed no abnormal constituents.

Progress and Investigations

He was at once put to bed and given 100,000 units of antitetanic serum intravenously and 100,000 units intramuscularly. He received phenobarbitone and sodium amytal and was given a high-calorie high-protein diet. A skull *x*-ray film showed no fracture or other lesion.

July 18.—The stitches were removed and a swab was taken from the wound, which appeared quite clean. *Clostridium tetani* was not cultured from the swab. The haemoglobin was 17.4 g.%. The white blood cells numbered 5,000, with a normal differential count. The blood sedimentation rate was 1 mm. in one hour (Westergren). The Wassermann and Kahn reactions were negative. He was well and was fairly active in spite of the sedation. The accompanying photograph was taken on this day.

July 19.—The trismus was increasing and he was having difficulty in taking solid foods.

Photograph showing wound and left facial palsy on July 18.

July 20.—The trismus was worse. He complained spontaneously of diplopia for distant objects. The mouth opened ¾ in. (1.9 cm.). There was minimal weakness of the left external rectus muscle on looking to the left. He was developing a right-sided ptosis. He complained of some stiffness of the left side of his neck. There was no abdominal rigidity.

July 21.—The ptosis was more pronounced. The diplopia persisted, but it was difficult to analyse in spite of the images being side by side. There was very slight dilatation of the right pupil. He complained of some blurring of vision. He was unable to take solid food. The wound was quite clean.

July 22.—The ptosis was increasing and there was slight impairment of upward movement of the right eye and slight limitation of lateral movement of the left eye. There was no difficulty in swallowing.

July 23.—The diplopia persisted for distant objects and there was occasional difficulty in swallowing.

July 24.—His sleep was disturbed by involuntary tongue-biting. The trismus was very marked on the left side and the mouth hardly opened, so that fluids had to be taken from a feeder. Occasionally fluids passed into the trachea but not into the nose. The diplopia persisted, but there were no signs of general tetanus.

July 27.—He began to improve. The mouth opened wider and the tongue-biting at night had become much less frequent. The facial palsy and ptosis remained as before. Movements of the left eye were improved, but the right eye movements were still impaired.

July 28.—The diplopia was improving.

July 31.—The ptosis was less marked and the mouth opened wider. He was taking solid food.

August 4.—The facial palsy remained unchanged. The mouth opened wider but fluids still entered the trachea at times although there was no difficulty in swallowing. Vision: right eye, 6/5 and Jaeger 1; left eye, 6/9 and Jaeger 1 with hesitation. The ptosis was improving, but the diplopia persisted. There were no pupillary abnormalities. Changes were observed in the left fundus for the first time.

August 9.—Seen by Mr. J. P. F. Lloyd at the Oxford Eye Hospital, with the following findings. Vision: right eye, 6/5; left eye, 6/18. Orthoptic report: cover test, near and distance slight convergence, rapid recovery; ocular movements show slight left external and left inferior rectus weakness; left superior rectus appears to overact. Synoptophore: angle + 3° straight ahead, + 5° laevoversion, and + 3° on dextroversion; fuses at + 3°; adducts 24°; abducts 4/5°. He still complained of horizontal diplopia on laevoversion and depression which was improving. The Hess chart was attempted, but the angle of deviation was too small. The fundi showed a lesion of the left macular, the fovea appearing to be situated in a small greyish area. This was thought to be due to macular exudate, detachment, or haemorrhage after the trauma of the accident. The 6/18 vision of the left eye was not improved by glasses. In Mr. Lloyd's opinion the incoordination of eye movement could not be attributed to any one muscle, but seemed to involve a midbrain nuclear disturbance.

August 10.—The patient was up and about in the ward. The ptosis was less marked and the mouth opened fairly well, but the facial weakness persisted. The wound was now well healed.

August 12.—Electromyography of the facial muscles showed normal nerve conduction on both sides on faradic stimulation. All facial muscles responded to both faradic and galvanic stimulation, although the response was slightly more sluggish on the left side. The electrical reactions were virtually normal. He was discharged home on August 13. During his 27 days in hospital his temperature rose to 100° F. (37.8° C.) on only four separate occasions.

When seen as an out-patient on September 6 there was some facial asymmetry at rest and upper and lower facial weakness was still present, but much less marked. The left palpebral fissure was slightly smaller than the right. The mouth still did not open fully, but he was eating and chewing his food normally.

On December 15, 1950, eighteen months after the initial injury, he was symptomless and quite well. At rest there was still minimal facial asymmetry, with the left naso-labial fold less marked than the right, but there was no facial weakness. The mouth opened fully, although he did not think it opened as well as before the injury. There were no eye symptoms or signs. Indeed, the only traces remaining of his illness were the well-healed scars over the eyebrow and slight facial asymmetry.

Discussion

In the days before serum was used Brown found the mortality in cephalic tetanus to be 53% in 94 cases, but in the 14 cases in which facial palsy preceded trismus this was raised to 64%. Wetzel's 30 cases after eye injury had a mortality of 80%. The six cases which recovered all had antitetanic serum. For general tetanus Cole (1940) found the mortality to be 38% in 43 consecutive cases in civilian practice. Pratt (1945) found a mortality of 43% among 56 children with all forms. Cole considered the prognosis bad for general tetanus if spasm appeared within 48 hours after injury and good if after this period. Reports certainly suggest that cephalic tetanus is more deadly than other forms and the prognosis is worse the earlier the signs appear.

The palsy may last a few days or persist for several months in the absence of other symptoms. The facial palsy is the most persistent, but recovery always seems to occur in the end. The present patient had a slight facial weakness two months after the initial injury. He was perfectly well apart from this. Sigwald's (1946) case, however, had a persistent facial palsy for seven months with no signs of recovery. This is very exceptional.

Ptosis also tends to persist, but usually for a shorter period. Palsies of the other cranial nerves are generally confined to the height of the illness only.

Pathogenesis and Pathology

The tetano-spasmin fraction of the tetanus toxin is fatal to man in a dose of 0.5 mg. Barnes and Trueta (1941) suggest that it is absorbed by the lymphatics and carried to the anterior horn cells by the blood. The work of Harvey (1939), Schaefer (1944), and Vincent and de Prat (1945), however, suggests that the spastic phenomena may be explained by a purely peripheral action of the toxin on the motor end-plate and proprioceptive endings, associated with increased liberation of acetylcholine.

The paralytic phenomena are very much harder to understand. Rose originally thought that the facial nerve swelled under the influence of the toxin and became strangulated in the stylo-mastoid canal, resulting in the commonest type of palsy. Watkins (1939) found an impaired sensation to taste associated with facial palsy and suggested a similar mechanism with involvement of the chorda tympani. Jayme-Goyaz quoted Mendel, who suggested that the third-nerve lesions were due to intense absorption of toxin from the orbicu-

laris and ciliary regions, which are supplied by this nerve. In Sigwald's case the limitation of ocular movement as determined by electrical tests was due to paralysis and not to spasm of the eye muscles. In the present case myograms of the facial muscles after the patient had improved showed little change from normal, although the response was more sluggish on the side of the palsy. Gunther and Walker (1943) found that in local tetanus myograms showed action currents present even at rest, with exaggerated summation during contraction and after a noise stimulus.

Baker (1943) reviewed the early literature on the pathological changes; it was extremely conflicting. It may be said in general that no definite nerve lesion had been found except for haemorrhages which might have been due to violent spasms. He recorded the case of a farmer who died of general tetanus after the removal of a wart from the hand. He died with irregular heart and respiratory action not associated with spasms and apparently due to failure of the respiratory and cardiovascular centres in the medulla. Sections of the brain showed destructive changes in the motor nuclei of the fifth nerve and in the dorsal nucleus of the tenth nerve. Minimal changes were found elsewhere, and there was no significant lesion of the anterior horn cells. Baker suggested that selective nuclear damage may often be a cause of death in tetanus, and is usually ascribed to respiratory spasms rather than paralysis. Such localized nuclear changes would certainly account for the bizarre ocular signs found in the present and other reported cases. Baker's patient had no ocular signs, and no damage was observed in any of the ocular nuclei. Reversible damage to the nucleus would account for the temporary nature of the paresis, and the extent of the damage would determine its duration.

Treatment

No matter how mild the initial symptoms may be, every case of cephalic tetanus should be treated as a potential case of general tetanus. Antitoxin should be given, 100,000 units intravenously and 100,000 intramuscularly, as soon as possible after the signs appear. Adequate sedation to prevent spasms, a special nurse, and a darkened room are essential. A high-protein high-calorie diet should also be given, by nasal tube if the trismus is intense.

Tongue-biting may be troublesome and the teeth may have to be wedged with gauze. The general nursing of the patient is often of greater importance than any specific therapy. Mephenesin ("myanesin") has been used to overcome the spasms and it is useful for feeding, but there is a danger of haemolysis (Torrens *et al.*, 1948).

Summary

Cephalic tetanus is defined as tetanus after head or face injury which is accompanied by some cranial-nerve palsy. A case with recovery is described.

The clinical picture involves bizarre palsies of cranial nerves III, IV, VI, VII, IX–X, XII, single or in any combination. Exceptionally, the chorda tympani may be involved. It is suggested that the condition results in transient or permanent damage to the cranial-nerve nuclei.

Prognosis is better than earlier reports suggest if prompt treatment with antitetanic serum and sedation is carried out.

I should like to thank Dr. A. M. Cooke for permission to publish this case and for helpful criticism in connexion with this paper. I should also like to thank Mr. J. P. F. Lloyd, of the Oxford Eye Hospital, for the eye examinations.

REFERENCES

Abel, J. J., and Hampil, B. (1935). *Bull. Johns Hopk. Hosp.*, **57**, 343.
Bagchi, H. N. (1929). *Indian med. Gaz.*, **64**, 89.
Baker, A. B. (1943). *Amer. J. Path.*, **19**, 709.
Barnes, J. M., and Trueta, J. (1941). *Lancet*, **1**, 623.
Bell, C. (1836). *The Nervous System of the Human Body*, 3rd ed., p. 330. London.
Brown, A. J. (1912). *Ann. Surg.*, **55**, 473.
Cole, L. (1940). *Lancet*, **1**, 164.
Cumstone, C. G. (1918). *N.Y. med. J.*, **107**, 505.
Gunther, L., and Walker, J. E. (1943). *Wa. Med.*, **4**, 57.
Harvey, A. M. (1939). *J. Physiol.*, **96**, 348.
Hyman, S. (1935). *Amer. J. Dis. Child.*, **49**, 1540.
Jayme-Goyaz, G. G. (1941). *Amer. J. Ophthal.*, **24**, 1281.
Pollock, G. (1847). *Dublin med. Pr.*, **17**, 372.
Pratt, E. L. (1945). *J. Amer. med. Ass.*, **129**, 1243.
Raven, R. W. (1940). *Post-Grad. med. J.*, **16**, 260.
Rose, E. (1869). In *Handbuch der Chirurgie*, edited by F. J. von Pitha and C. A. T. Billroth, vol. 1, part 2. Stuttgart.
Schaefer, H. (1944). *Arch. exp. Path. Pharmak.*, **203**, 59.
Sigwald, M. J. (1946). *Rev. Neurol.*, **78**, 584.
Torrens, J. A., Edwards, P. M., and Wood, M. W. W. (1948). *Lancet*, **2**, 807.
Vincent, D., and de Prat, J. (1945). *C.R. Soc. Biol., Paris*, **139**, 1146.
Watkins, A. L. (1939). *Arch. Neurol. Psychiat., Chicago*, **41**, 788.
Wetzel, J. O. (1942). *Amer. J. Ophthal.*, **25**, 933.

ESTIMATION OF TRYPSIN IN DUODENAL JUICE

BY

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It has been shown (Andersen, 1942) that trypsin is always low or absent from the duodenal juice in fibrocystic disease of the pancreas, and this forms a reliable basis of diagnosis. Andersen has pointed out that the estimation of proteolytic enzyme need not be exact, as there is a fairly wide difference between the amounts found in fibrocystic disease and those found in other conditions, and she therefore adopted a simple modification of Fermi's method (1906) for routine estimation of trypsin. For some time we have been using a modification of the method of d'Este Emery (quoted by Harrison, 1930), which utilizes the gelatin of an *x*-ray film as substrate for estimating trypsin in duodenal juice and faeces. It has the advantage of ease and simplicity and is accurate enough for diagnosis. A similar method has been described for faeces by Shwachman, Patterson, and Laguna (1949), who appear to have overlooked the prior description.

In this investigation, using the method of James (1951) for aspirating duodenal juice, the normal levels of trypsin have been determined by the *x*-ray film method; a comparison has been made between this method, the gelatin method of Andersen, and a more accurate method based upon the proteolytic action of trypsin on casein (Northrop, 1924).

Method of Intubation

An ordinary duodenal tube containing a magnet in the tip was used as in the method of James (1951). In an infant the 10 o'clock feed was not given; in the older child breakfast was omitted so that intubation was performed with the stomach empty. There was no restriction of fluids. Sedatives were unnecessary; in several instances where one was given a longer time was needed to obtain a satisfactory specimen of duodenal juice, possibly because of the diminished gastric peristalsis or because the patients were more restless when the tube was passed. Whenever possible the tube was passed through the nose, as better control was thus obtained. In most cases a small plotting compass—½ in. (1.25 cm.)—with a non-dipping needle was used to locate the tip. The point at which maximum oscillation of the needle occurred was found by experience to be always

½ in. (1.25 cm.) away from the tip as seen by a radiograph. The position of the tip of the tube could not be accurately defined when it lay directly below the rectus muscles unless its position was approached by a deep palpation, with the compass underneath the rectus muscle. In all cases, as soon as the tip was thought to be in the duodenum, its position was confirmed by a radiograph. Of the 48 cases investigated only 2 were unsuccessful at the first attempt, and when repeated no difficulty was encountered. The time taken for intubation varied from 20 minutes to two hours, the majority taking about one hour.

Whenever possible the duodenal juice was allowed to drip out without suction, but it was sometimes found desirable, especially when the fluid was viscous, to apply gentle suction with a syringe to reduce the time of collection. The juice was always collected in approximately 0.5-ml. amounts in separate tubes, thus avoiding the possibility of gastric juice contaminating the whole specimen. The most characteristic specimens of duodenal juice, as judged by colour, clearness, absence of mucus, and the *p*H, could then be pooled and used for analysis. Estimation of trypsin was performed as soon as possible after the duodenal juice had been obtained, being kept ice-cold in the meanwhile. If the analysis were performed the following day, the specimen was kept frozen. Under these conditions there seems to be no diminution in tryptic activity up to 48 hours.

Estimation of Trypsin

Gelatin Method

Andersen and Early's (1942) directions were followed, except that *U.S.P.* gelatin was used instead of Knox gelatin.

X-ray-film Method

Serial dilutions of duodenal juice from 1 in 2 to 1 in 4,096 are prepared by adding accurately 0.2 ml. of the fluid to the first of the series of 12 test-tubes—2 by ¼ in. (5 by 0.6 cm.)—each containing 0.2 ml. of 1% crystalline sodium carbonate solution. After mixing, exactly 0.2 ml. is removed and added to the second tube, and so on up to the sixth tube, from which 0.2 ml. of the mixture is discarded. To the seventh tube is added 0.2 ml. of duodenal juice already diluted 1 in 32 with 1% sodium carbonate solution, and serial dilution effected as before up to the twelfth tube. In this way the large errors which may occur in carrying out 12 successive serial dilutions were avoided.

With a Pasteur pipette, 1 drop (approximately 0.05 ml.) of undiluted duodenal juice is placed upon a 5-cm. square of unused *x*-ray film. Then a drop of each of the serial dilutions of the juice are separately placed thereon, starting with the weakest dilution, and finally 1 drop of 1% sodium carbonate solution as a control. The spots are numbered for convenience from 1 (undiluted juice) to 13. Care is taken in delivery that each drop occupies approximately the same area of film. The latter is then transferred to a covered Petri dish containing a moist pad of cotton-wool to prevent drying, and incubated at 37° C. for 30 minutes. The film is then placed in the *freezing* chamber of a refrigerator for 20 minutes. In all transfers care is taken that the drops are not displaced. Finally the film is washed in a stream of cold water from the tap. If sufficient trypsin is present in any of the drops, a clear circular translucent area is left after the drop is washed off. The control spot remains unaffected, apart from a slight roughening of the surface.

It is essential to place the film in the freezing chamber of the refrigerator before washing in tap water, since the gelatin of the film may be softened by any fluid at 37° C., and if not well cooled may be subsequently washed off in too strong a stream of cold water. The end-point is taken as the highest dilution of duodenal juice giving a completely translucent area. For simplicity the spot number may be reported instead of the dilution. Although used or unused film may be utilized, we have found it preferable to employ unused Kodak film. Other makes give slightly different results. Duplicate estimations were always performed and there was no difficulty in getting good agreement between duplicates.

Casein Method

The method of Northrop (1924) was used. To approximately 17 ml. of distilled water is added 1 g. of soluble casein *B.P.* and the mixture is well shaken to dissolve. Then 6 ml. of 2% crystalline sodium carbonate solution is added, followed by 0.5 ml. of duodenal juice, and the solution made up to 25 ml. in a volumetric flask with distilled water. After inverting several times to mix, 1 ml. is at once removed as a blank, placed in a test-tube containing 2 ml. of water, and 2.5 ml. of 10% trichloroacetic acid solution is added. After standing for five minutes the precipitated protein is filtered off. The remainder in the volumetric flask is incubated at 37° C. for 45 minutes, after which 1 ml. is removed and treated as before. From both these filtrates 3 ml. is removed for the estimation of nitrogen by the micro-Kjeldahl method. From the difference between the two results the number of milligrams of non-protein nitrogen produced by the action of 1 ml. of duodenal juice on 4% casein solution under these conditions is calculated.

Material

Duodenal juice was obtained from 48 infants and children. The total included 15 normal children aged 3 weeks to 2 years; 8 with fibrocystic disease of the pancreas, aged 3 to 14 months; 20 with symptoms suggestive of coeliac disease or fibrocystic disease, aged 7 months to 2½ years; and 5 marasmic infants aged 14 months to 3 years. All specimens of juice except two were golden yellow due to bile, the two exceptions being light green. The specimens from cases of fibrocystic disease were thick viscous fluids, whereas all the others were thin and mainly clear. The *p*H ranged from 7 to 8.3, except for one which was *p*H 5.8, although this gave a normal level of trypsin.

Results

The results of the estimation of proteolytic enzyme by the *x*-ray-film method in the duodenal juice from 48 infants are shown in the Chart. In 7 of the 48 specimens no trypsin could be detected. One further case showed a very low amount of trypsin, giving an end-point in a dilution of 1 in 2 only (spot 2). All these were diagnosed as fibrocystic disease and treated as such. The remainder showed end-points at spots 6 to 11 inclusive, with the largest number at spot 7. There is a wide margin, therefore, between the cases of fibrocystic disease and the others, and this result is also obtained with Andersen's gelatin method as shown in the Table. There were no cases of coeliac disease, marasmus, or possible fibrocystic disease (other than proved cases) in which the amounts of proteolytic enzyme fell below the lowest level found in normal infants.

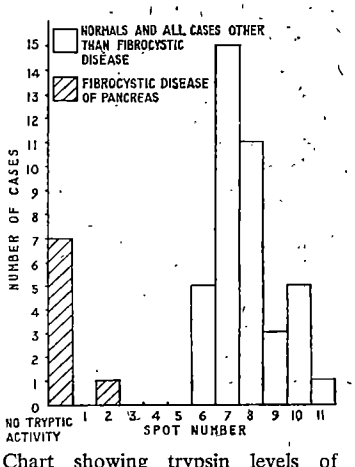

Chart showing trypsin levels of duodenal juice in 48 infants.

Comparison of X-ray-film Method, Andersen's Method, and Casein Method

In a preliminary experiment, using serial dilutions of pancreatin (*B.P.*) containing from 200 to 0.2 mg./ml., parallel results were obtained by all methods. The amount of trypsin in the duodenal juice from 14 infants was estimated by

Trypsin in Duodenal Juice of Infants. Comparison of the Three Methods

Specimen No.	X-ray-film Method Spot No.	Gelatin Method (Andersen) Tube No.	Casein Method mg.N/ml.
1	Nil	Nil	Nil
2	"	"	"
3	2	9	4
4	6	4	52
5	6	3	67
6	7	4	67
7	7	2	85
8	7	2	96
9	7	2	115
10	7	2	124
11	8	4	54
12	8	3	83
13	8	3	88
14	10	4	93

all three methods (see Table). Although the results given for the *x*-ray-film method and Andersen's gelatin method show a close relationship, they are not exactly parallel. Of the three cases of fibrocystic disease, two showed no trypsin by both methods, and the third gave the same low result. However, among the normals, specimens of duodenal juice which gave identical levels of trypsin by the *x*-ray-film method gave levels that differed by as much as three tubes by Andersen's method. These differences are to be expected, since neither method can be considered accurate as compared with the casein method. For example, duodenal juice with an end-point at spot 7 can give a range of 67 to 124 mg. of nitrogen by the casein method and an even wider range is obtained with specimens of duodenal juice giving an end-point at spot 8. A similar wide variation is shown with Andersen's method. Results are, however, generally parallel with all three methods.

The results obtained in this investigation show that the *x*-ray-film method is entirely adequate for the differentiation of fibrocystic disease from other conditions. It is especially suitable as a routine clinical laboratory procedure; it is simple to perform, less juice is required, and it is less time-consuming than other methods, since results can be obtained within an hour. The use of James's method of intubation in conjunction with the *x*-ray-film method of estimation of proteolytic enzyme makes the investigation of suspected cases of fibrocystic disease of the pancreas relatively easy.

Summary

The amounts of trypsin in the duodenal juice of 48 infants and children, including 8 suffering from fibrocystic disease of the pancreas, have been determined by a method utilizing the gelatin of *x*-ray film as substrate. This method, which has advantages of ease and simplicity, has been compared with the gelatin method of Andersen as well as with a more accurate casein method, and has been shown to be accurate enough for the diagnosis of fibrocystic disease of the pancreas.

We would like to thank Dr. A. H. James for originally demonstrating his method of duodenal intubation, and Dr. W. F. Young and Dr. A. H. James for obtaining some of the specimens of duodenal juice.

REFERENCES

Andersen, D. H. (1942). *Amer. J. Dis. Child.*, 63, 643.
—— and Early, M. V. (1942). Ibid., 63, 891.
Fermi, C. (1906). *Arch. Hyg., Berl.*, 55, 140.
Harrison, G. A. (1930). *Chemical Methods in Clinical Medicine*, 1st ed. London.
James, A. H. (1951). *Lancet*, 1, 209.
Northrop, J. H. (1924). *J. gen. Physiol.*, 6, 723.
Shwachman, H., Patterson, P. R., and Laguna, J. (1949). *Pediatrics*, 4, 222.

On the day of the total eclipse of the sun a million Hindu pilgrims bathed in the sacred lakes at Kurukshetra (East Punjab). *The Times* special correspondent (February 26) pays special tribute to the excellent public health arrangements. All pilgrims were inoculated compulsorily against cholera, all water (including the sacred lakes) chlorinated, and D.D.T. sprayed throughout the pilgrim camps, and no outbreak of disease has been reported.

ACUTE IDIOPATHIC PAROXYSMAL COLD HAEMOGLOBINURIA OF NON-SYPHILITIC TYPE IN A CHILD

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Haemoglobinuria, in contrast to haematuria, is a clinical sign which is so seldom seen in paediatric practice that its appearance is a matter of unusual interest and significance. In the great majority of cases there is either clinical or serological evidence of congenital or acquired syphilis, although in the last decade this disease has become increasingly rare.

The syndromes of paroxysmal cold haemoglobinuria associated with cold haemagglutination and paroxysmal cold haemoglobinuria as found in syphilitics were first clearly distinguished by Stats and Wasserman (1943). Cases of paroxysmal haemoglobinuria induced by exposure of the body to cold in which clinical and serological evidence of syphilis is lacking have been described by Stats and Wasserman (1943), Stats, Wasserman, and Rosenthal (1948), Malley and Hickey (1949), and Ferriman *et al.* (1951). These last observers, in an analysis of the reported cases, could find only 12 in which the aetiology is unknown. All were in the later age groups, only one (aged 38) being under 50.

Case Report

A boy aged 3½ was admitted to hospital with a history that on three days during the previous fortnight he had been out with his father (a general practitioner) on his rounds and, on returning home, complained of a headache and vague abdominal pain, had what appeared to be a rigor, and immediately afterwards passed dark urine "like burgundy." On each occasion very low environmental temperatures were present. His symptoms cleared completely in a matter of minutes and his urine became clear in about 12–18 hours. It had also been noticed that the child developed a dusky blue discoloration and puffiness of the hands and ears on exposure to cold, suggestive of Raynaud's phenomenon.

On admission the child was of normal size and weight, active, and of good nutrition. He was pale, with a slight icteric tinge. Neither liver nor spleen was palpable. His pulse was 70 and regular and the blood pressure 110/70. Pulsation of arteries in the upper and lower limbs was normal. There was no history of any previous illness. The family history was irrelevant.

Investigation of Urine.—During a paroxysm the urine was the colour of burgundy and of high specific gravity (1026–1030). Albumin was present. The benzidine test was positive and spectroscopy showed the presence of oxyhaemoglobin. No red cells were seen on microscopical examination. Immediately after an attack a trace of bilirubin was detected and urobilinogen was found in an increased amount. In the intervals between attacks spectroscopy did not show any oxyhaemoglobin and albumin was absent. Haemosiderin was present on two occasions only (Prussian-blue reaction).

Investigation of Blood.—During the period the child was under investigation the haemoglobin varied from 72% (10.7 g.%) to 82% (12.1 g.%) and the erythrocytes from 5.1 to 5.3 millions. Reticulocytes remained at 0.5%. The white cells varied from 8,000 to 13,000, with a normal differential count. The blood Wassermann reaction and Kahn test were repeatedly negative. The Donath–Landsteiner test was positive, serum haemolysins of the "cold" type being present to a titre of 1 in 4. An auto-agglutinin was present in the serum to a titre of 1 in 256 at 2–5° C. No agglutination occurred at 37° C. or at 20° C. (room temperature). When the tubes containing the "compatible" red cells which had been agglutinated by the patient's serum at 2–5° C. were warmed, complete and even dispersal of the cells occurred. No "incomplete" antibodies were detected, a direct Coombs test on the patient's red cells being negative. The acid haemolysis test (Ham, 1939) was negative. Oxyhaemoglobin and methaemalbumin (Schumm's test) were present in the serum during and shortly after an attack. The osmotic fragility of the red cells was normal.

Rosenbach Test.—While in hospital the child was encouraged to go outside lightly clad in the hope that a paroxysm might be induced; none occurred, probably owing to an improvement in the weather conditions. It was therefore decided to induce an attack artificially by a modified Rosenbach test in order to confirm the diagnosis.

Blood was taken from an arm; haemoglobin was not present in the serum, and urine passed at the same time contained no abnormal constituents. The same arm was immersed in water at about 5–10° C. for 10 minutes, no movement being allowed. Venous return was not obstructed. At the end of this period the arm was lifted from the bath. It was noted that the skin had become a mottled blue-and-white. Blood was immediately taken from the arm and a sample of urine obtained. The serum of this blood contained 380 mg. of haemoglobin per 100 ml.; methaemalbumin was present. The urine was of normal colour and contained haemosiderin, but no haemoglobin could be detected. The benzidine test was negative. Two hours later the blood serum still contained 250 mg. of haemoglobin per 100 ml. A specimen of urine obtained at this time was the colour of burgundy and contained haemoglobin and haemosiderin, the benzidine test being positive. No red blood cells were seen on microscopical examination.

Progress of Patient.—The child has been encouraged to lead a normal life and to go out in all weathers suitably clad—that is, wearing extra clothing, thick stockings, and gloves on exceptionally cold days. Eight months later no further attacks of haemoglobinuria had occurred, although occasional duskiness and puffiness of the hands in cold weather had been noticed. The child himself has not complained of any symptoms.

Discussion

In this country the only types of haemoglobinuria which need to be considered are (1) haemoglobinuria due to drugs, (2) march haemoglobinuria, (3) syphilitic haemoglobinuria, (4) paroxysmal nocturnal haemoglobinuria (the Marchiafava-Micheli syndrome), and (5) the idiopathic type.

The lack of any history of drug-taking or any preceding vigorous exercise clearly ruled out the question of drug or march haemoglobinuria. There was no past or present clinical or serological evidence of syphilis. The lack of persistent haemoglobinaemia and haemosiderinuria, the negative haemolysis test of Ham, together with the fact that the attacks occurred by day only, served to differentiate the condition from the Marchiafava-Micheli syndrome.

The diagnosis of haemoglobinuria due to cold agglutinins was finally confirmed by a provocative modified Rosenbach test and by the demonstration of autohaemagglutination at low temperatures and in high titre with complete reversal of the reaction upon increasing the temperature.

The child's paroxysms of haemoglobinuria, although dramatic and alarming events to the parents, appeared to cause little systemic upset. The degree of blood destruction did not call for transfusion or even iron therapy. The adoption of common-sense precautions, such as the wearing of extra clothing on cold days, seems to have controlled the paroxysms without the necessity for curtailing the child's activities.

Summary

A case of idiopathic paroxysmal cold haemoglobinuria of the non-syphilitic type in a child aged 3½ is described. This is the youngest case yet reported.

The differential diagnosis of the types of haemoglobinuria met with in this country is discussed.

REFERENCES

Ferriman, D. G., Dacie, J. V., Keele, K. D., and Fullerton, Jane M. (1951). *Quart. J. Med.*, 20, 275.
Ham, T. H. (1939). *Arch. intern. Med.*, 64, 1271.
Malley, L. K., and Hickey, M. D. (1949). *Lancet*, 1, 387.
Stats, D., and Wasserman, L. R. (1943). *Medicine, Baltimore*, 22, 363.
—— —— and Rosenthal, N. (1948). *Amer. J. clin. Path.*, 18, 757.

INTRA-ARTICULAR STREPTOMYCIN IN TUBERCULOSIS OF THE KNEE

BY

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AND

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Until recently the accepted treatment of synovial-joint tuberculosis was prolonged immobilization of the joint, general sanatorium treatment, and ultimately, in many cases, some form of arthrodesis. This leaves much to be desired, as the treatment lasts for years, a disability is nearly always permanent, and in children there is serious disturbance of growth.

With the advent of streptomycin many have attempted to modify the above regime, but with only a limited success. Most of the papers published (Bickel *et al.*, 1948; Smith and I-Sen Yu, 1950) have been of cases treated by systemic streptomycin in late and well-established infections. The tubercle bacillus is only moderately sensitive to streptomycin, so to obtain the best effect it is essential to procure the maximum concentration of the drug at the site of the lesion. This should be done early before extensive fibrosis and cartilage damage obliterates the joint space, damages the joint, and reduces the blood supply to the affected areas.

Early Diagnosis

To obtain these optimum conditions we have attempted to diagnose cases early by gland and/or synovial biopsy, and we have given streptomycin by the intra-articular route (Streeten, 1949).

By performing gland or synovial biopsies early in suspected cases a definite diagnosis can often be made (Arden and Scott, 1947). In the case of knee-, ankle-, wrist-, and elbow-joints a gland and/or synovial biopsy will give a positive result in 70–80% of cases. In the case of the hip- or shoulder-joint a synovial biopsy is hardly justified, but a gland biopsy can be readily carried out. We believe that all cases showing a chronic inflammatory process in a single large joint should be submitted to biopsy. Only by this method will it be possible to make an early diagnosis of a tuberculous infection of a joint.

It has been found necessary to give streptomycin intrathecally to cure cases of tuberculous meningitis. Streptomycin given locally into tuberculous sinuses has also been found to be most effective (Ahern, 1950). Jones (1948) has demonstrated that intra-articular penicillin can remain in a joint up to 48 hours after intra-articular injection, and that this was the best method of preventing joint infections in war wounds.

The Investigation

This report is an analysis of 10 cases of synovial tuberculous infection of the knee which have been treated by intra-articular streptomycin. Most of the cases had been treated previously, for varying periods, by rest and in a sanatorium, without much improvement. Only three cases were diagnosed early (within four months of the onset of symptoms).

The follow-up is fairly short (20.4 months) and the number of cases is small, but in a few the results have been promising enough to encourage further trial.

Since it is possible to cure 50% of cases of tuberculous meningitis, equal or better results should be possible in the case of joint infections.

In some cases difficulty was experienced in entering the joint cavity owing to fibrosis and partial obliteration of the joint space. During the period of treatment all joints were treated either by traction and immobilization or by immobilization in a plaster backslab. Later the joint was left free when the clinical appearance and sedimentation rate were normal.

In four cases streptomycin blood levels were estimated at six and twelve hours after the intra-articular injections (see Table). The level at six hours was about 100 μg. per ml., but by twelve hours it had fallen to less than 10 μg. It would appear to be unnecessary to give systemic streptomycin as well. Efforts to estimate the joint streptomycin level failed owing to there being insufficient joint fluid.

Blood Levels of Streptomycin after Intra-articular Injection

Case No.	Intra-articular Dosage of Streptomycin	Blood Level (μg./ml.)	
		6 Hrs. After Injection	12 Hrs. After Injection
1	1 g.	93	5·0
4	1 g.	106	8·0
5	1 g.	93	4·8
6	1 g.	106	3·5

Case Reports

Case 1.—Boy aged 12. Pain and swelling of right knee first appeared in February, 1945. Had received prolonged conservative treatment, but condition reactivated on several occasions. Tuberculous focus in right upper zone of chest in 1947. Moderate synovial thickening of knee; 90° movement at start of treatment. No osseous focus and joint space normal on *x*-ray examination. Synovial membrane biopsy (May 25, 1949) positive for tuberculosis. *Treatment:* 21 bi-weekly intra-articular injections of 1 g. of streptomycin (August to November, 1949). Immobilization for three months in a Thomas splint. *Result* (21 months after treatment): Knee cool, no swelling; *x*-ray film as before; normal activities. *Comment:* Undoubtedly benefited from local streptomycin therapy.

Case 2.—Boy aged 6. Focus right hilum in 1947, and right talo-navicular joint in 1948. Recurrent effusions into right knee during 1948. Marked synovial thickening; warm; 10° movement at start of treatment. *X*-ray examination showed no osseous focus and normal joint space. Synovial membrane biopsy (April 13, 1950) positive for tuberculosis. *Treatment:* Four bi-weekly injections of 0.5 g. Child very uncooperative. Treatment stopped August, 1949. Traction for nine months in a Thomas splint. *Result* (24 months after treatment): Knee cool, no swelling: 10° movement; 1½ in. (3.8 cm.) lengthening; wearing calliper. *X*-ray appearances unaltered. *Comment:* Diagnosis proved eight months after a very short course of streptomycin. Reactivated 10 months after streptomycin therapy, with backward subluxation of tibia. Settled after further five months' conservative treatment.

Case 3.—Woman aged 28. Bilateral hilar foci and two spinal foci in 1947. Synovial swelling in right knee, with effusion, since May, 1949. At start of treatment movement not noted. *X*-ray examination showed no osseous focus and moderately reduced joint spaces. *Treatment:* Ten bi-weekly injections of 1 g. of streptomycin (August to September, 1949). Three months in plaster shell. *Result* (23 months after treatment): Knee cool, no swelling; movement 140°; normal activities. Final *x*-ray film showed no osseous focus and very much reduced joint space. *Comment:* Presumptive evidence of tuberculous infection very strong. Benefited from local streptomycin.

Case 4.—Girl aged 13. Pain and slight synovial swelling in right knee, July, 1949; one month in plaster cylinder. 5° movement at start of treatment. *X*-ray films showed no osseous focus and normal joint space. Bilateral healed hilar foci, August, 1949. *Treatment:* 10 bi-weekly injections of 1 g. of streptomycin (August to September, 1949). Nine months' traction in Thomas splint; nine months in walking calliper. *Result* (23 months after treatment): Knee cool, no swelling; movement 80°; calliper discarded after 11 months. *X*-ray film as before. *Comment:* Marked improvement following local streptomycin.

Case 5.—Man aged 29. Pain and swelling of right knee first appeared in April, 1949. Five weeks in plaster before admission in July, 1949. On admission knee cool; no swelling; movement 5°. *X*-ray film showed no osseous focus and normal joint space. *Treatment:* 22 bi-weekly injections of streptomycin 1 g. (August to November, 1949). Three months' traction in Thomas splint; six months in walking calliper. *Result* (21 months after treatment): Knee cool; no swelling; 25° movement. *X*-ray films showed a patchy decalcification of lower end of femur and upper end of tibia and normal joint space. *Comment:* An unusual patchy decalcification noted six weeks after start of streptomycin therapy—probably a streptomycin effect. Very slow to clear.

Case 6.—Man aged 21. Left-sided pleurisy in 1948. Pain, synovial swelling, and effusion in left knee first appeared in March, 1949. Tubercle bacilli not present in fluid on admission in July, 1949. Knee cool; slight swelling; 20° movement. *X*-ray films showed no osseous focus and normal joint space. *Treatment:* 22 bi-weekly injections of 1 g. streptomycin (August to November, 1949). Three months' traction in Thomas splint; seven weeks in walking calliper. *Result* (21 months after treatment): Recurrence of slight pain (May, 1951); slight swelling at inner side left knee. Final *x*-ray appearance: small localized osseous focus in upper inner border of tibia; good joint space. *Comment:* Had regained 90° movement by June, 1950. Slight synovial swelling had persisted since treatment. Mild reactivation with small osseous focus in May, 1951. Thirty degrees movement retained.

Case 7.—Woman aged 40. Tuberculous right hip in 1939; and tuberculous right kidney in 1949. Pain and swelling of right knee following a fall in October, 1948, about a year before admission. On admission slight synovial swelling: 30° movement. *X*-rays showed reduced joint space; very slight erosion of joint surfaces. *Treatment:* 12 thrice-weekly injections of 0.5 g. of streptomycin (February to March, 1950). Eleven months' traction in Thomas splint. *Result* (17 months after treatment): Knee cool, no swelling; 60° movement; 10° flexion contracture. Plaster cylinder applied on discharge in June, 1951. *X*-ray film showed no appreciable alteration. *Comment:* Quiescence not attained with local streptomycin. Synovial swelling and tenderness persisted. Settled subsequently after a further 15 months' conservative treatment and a course of systemic streptomycin.

Case 8.—Girl aged 3. Pain, synovial swelling, and effusion in left knee in July, 1949. Warm, tender, moderate swelling and effusion, and almost full movement, at start of treatment. *X*-rays showed no osseous focus and normal joint space. Biopsy showed inguinal glands, superficial and deep, to be positive for tuberculosis on December 9, 1949. Focus right hilum in July, 1949. *Treatment:* 12 thrice-weekly injections of 0.25 g. of streptomycin (December, 1949, to January, 1950). Two months' traction in Thomas splint. *Result* (19 months after treatment): Knee cool, no swelling; Full movement. *X*-ray film as before. *Comment:* An early case; proved infection overcome with local streptomycin therapy.

Case 9.—Boy aged 16. Pain and swelling of right knee in December, 1947; then treated conservatively for two years. At time of admission moderate synovial swelling; movement 20°. *X*-ray films showed coarse trabeculation, slightly reduced joint space, and irregularity of posterior part of femoral condyles. Biopsy showed inguinal gland (January 18, 1948) to be positive for tuberculosis. *Treatment:* 12 thrice-weekly injections of 1 g. of streptomycin (December, 1949, to January, 1950). Two months' immobilization in Thomas splint. *Result* (19 months after treatment): Moderate swelling persisted; 40° movement. January, 1951: Charnley's arthrodesis. *X*-ray film showed bony fusion. *Comment:* Local streptomycin failed, but moderately advanced erosion of joint surfaces was present at start of treatment.

Case 10.—Male, aged 44. Pain and synovial swelling right knee since March, 1949, *x*-ray film showing rarefaction. Pulmonary tuberculosis, March, 1949; positive sputum. *Treatment:* 12 thrice-weekly injections of 1 g. of streptomycin (April to May, 1950) plus 2 g. of P.A.S. intra-articularly thrice-weekly for same period. Eight months in walking calliper. *Result* (15 months after treatment): Pain and synovial swelling persisted. Charnley's arthrodesis, February, 1951. Synovial membrane at time of operation positive for tuberculosis. February 12, 1951, *x*-ray film showed bony fusion. *Comment:* Local streptomycin failed.

Discussion

The affected knee is indistinguishable from normal in Cases 1 and 8. Cases 3 and 4 are progressing well, have 140 and 80 degrees of movement and no pain, wear no support, and are back at work. Quiescence was attained in Case 5, but only 25 degrees of movement was regained. Quiescence was attained temporarily in Case 6, with 90 degrees of movement. Reactivation occurred 21 months later. Quiescence was not attained with local streptomycin in Cases 2, 7, 9, and 10. It is perhaps not without significance that treatment was discontinued after four injections in Case 2.

Reactions were few. One case developed a rash which did not interfere with treatment. A positive sputum in this case became negative on completion of treatment. A slight local reaction with increased temperature and tenderness not lasting more than 24 hours was occasionally noted, but this occurred only when difficulty was encountered in entering the joint and some of the streptomycin was injected into the soft tissues.

It will be at least two years before enough cases have been treated and followed for any final opinion on this method of treatment to be given. We feel justified in publishing this interim report in the hope that other surgeons seeing these cases early will try to establish a diagnosis and begin treatment before cartilaginous damage takes place.

The average case admitted to an orthopaedic hospital has had symptoms for a year or more.

Summary

The results obtained with intra-articular streptomycin in synovial tuberculosis of the knee are encouraging.

Early diagnosis by gland and/or synovial biopsy is essential.

Four of our ten cases have progressed well, and in two normal function has been re-established.

REFERENCES

Ahern, R. T. (1950). *Lancet*, **1**, 443.
Arden, G. P. and Scott, J. C. (1947). *British Medical Journal*, **2**, 87.
Bickel, W. H., Young, H. H., Pfuetze, K. H., and Norley, T. (1948). *J. Amer. med. Ass.*, **137**, 682.
Jones, G. B. (1948). *J. Bone Jt Surg.*, **30B**, 106.
Smith, A. D., and I-Sen Yu, H. (1950). *J. Amer. med. Ass.*, **142**, 1.
Streeten, D. H. P. (1949). *S. Afr. med. J.*, **23**, 777, 850.

ANGIOMA VENOSUM RACEMOSUM WITH ANGIOMATOUS LESIONS OF SKIN AND OMENTUM

BY

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Vascular malformations and tumours of the central nervous system are sometimes associated with similar lesions of the skin and viscera. Such associations are known by the names of Sturge–Kalischer–Weber, von Hippel, and Lindau when the nervous tissue involved is either the cerebrum or cerebellum.

Wyburn-Mason (1943) quotes numerous instances of skin naevi coexisting with a variety of vascular lesions of the cord. However, he notes only seven instances in which angioma venosum racemosum is associated with a skin naevus, and quotes the cases of Cobb, Alexander, Rand, Sterling, and Jackinowicz, adding three cases of his own. In only one of these (his Case 12) was the skin lesion non-segmental. All cases described had the cord lesion in either the lower dorsal or the lumbar areas.

Subsequently, Cross (1947) published the first case of extensive subarachnoid blood vessels involving the whole of the *cervical* region associated with an angioma of the left side of the neck and prominent vascular markings of the upper part of the chest and over the seventh cervical vertebra. The present case appears to be the second one on record. Of additional interest is the occurrence of numerous small angiomata of the omentum and a further large skin naevus of the flank.

Description of the Case

The patient was a well-built boy aged 15. Three years before admission he jumped off a 5-ft. (1.5-m.) wall and landed on his feet. He sustained no obvious injury, but 30 seconds later, while walking, he developed occipital headache. He was laid up for two weeks at home, complaining of pain at the back of his head, across both shoulders, and radiating down the left arm as far as the elbow. He stated that for several weeks his left leg tended to drag, but that ultimately recovery was complete. He was well until 10 days before admission, when he made a racing dive, swam two lengths of the swimming-bath, and then suddenly developed pain across the forehead and at the back of the neck. He got out of the water and almost lost consciousness on account of the severity of the pain. He was taken home, where his headaches continued for two days, accompanied by vomiting.

Five days before admission, while lying in bed, the pain in the nape of his neck suddenly became worse and again

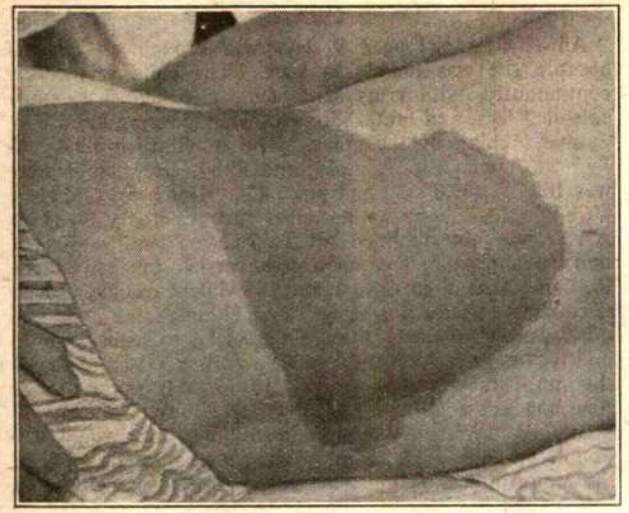

FIG. 1.—Large skin naevus over the left flank.

spread across the back of his shoulders. This lasted for three days. On admission he complained only of stiffness at the backs of both legs.

Examination showed him to be a tall, well-built boy. There was general weakness of the left upper limb only, while neck rigidity and Kernig's sign were both present. A large naevus was observed over his left flank and several small ones elsewhere (Figs. 1 and 2), including one within the distribution of the fifth cervical neuronal segment.

Lumbar puncture produced a xanthochromic fluid with raised protein and cells. Radiographs of the skull and neck were negative.

The patient improved gradually, and on discharge three weeks later had recovered completely and was symptom-free. In view of the history suggesting recurrent sub-arachnoid haemorrhage, the lumbar puncture findings, and the presence of skin naevi, a tentative diagnosis of angioma of the cervical spinal cord was made. Other systems were normal, blood pressure was not raised, and urine examination, E.S.R., and chest radiograph showed no gross abnormality. He was sent to a neurosurgical unit for further investigation, but while waiting for admission to this unit he had a recurrence of symptoms after a friendly tussle with a school friend, and was readmitted to hospital 10 weeks later. Symptoms consisted mainly of pain across the right shoulder which gradually spread down the right side of his body. Examination revealed gross weakness and hypotonus of the right arm and leg, with diminution of tendon-jerks on that side. Neck rigidity was marked, Kernig's sign was positive, whilst the right plantar response was extensor. No sensory loss was detected at this stage. Lumbar puncture produced a clear fluid with evidence of spinal block.

There was a gradual increase of motor weakness, which spread to the left side of the body, so that five days after admission he presented a picture of quadriplegia. There was sensory loss to pin-prick up to the level of C 5 and both plantar reflexes were extensor. Respiratory embarrassment developed, cough reflex was weak, and dysphagia was complained of. His general condition remained poor and gave great cause for anxiety, as it was obvious that the paralysis was gradually spreading.

A neurosurgical team was called in and laminectomy was performed. Unfortunately the patient did not survive the operation, and in view of the extent of the lesion it was doubtful whether it was amenable to surgical treatment. Post-mortem examination revealed a large venous angioma overlying the whole of the cervical cord (Fig. 3); numerous small angiomata of the omentum (Fig. 4); and the skin naevi previously mentioned, which of course were observed *ante mortem*.

FIG. 3.—Large venous angioma of cervical cord.

Discussion

Reference to the symptomatology of recorded cases (Wyburn-Mason, 1943) indicates a fairly constant pattern. There is sudden onset of pain of root type associated with subjective sensory phenomena of tingling and numbness. Weakness or paralysis supervenes sooner or later, and is followed by a variable degree of recovery. Relapse occurs, with general worsening of the clinical state. Although sudden stress of exercise may precipitate symptoms there is no real evidence that trauma plays a part in basic aetiology.

Wyburn-Mason suggests that vascular naevi of the skin are not associated with any special type of blood-vessel abnormality of the cord, but may coexist with any variety. Furthermore, such naevi may or may not occupy segmental skin areas corresponding to the state of the cord lesion.

However, it is worth noting the words of Stanley Cobb (1915), who says that skin naevi are at times of diagnostic value when segmental phenomena referable to the central nervous system are present, and that congenital vascular

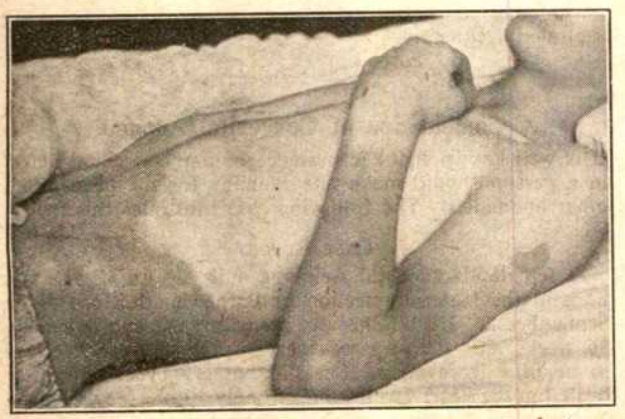

FIG. 2.—The left-flank naevus and other small naevi.

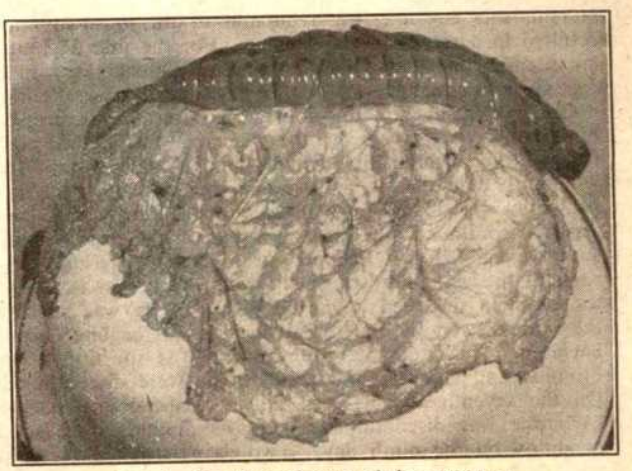

FIG. 4.—Small angiomata of the omentum.

tumours arise from a developmental fault of the central nervous system, so these lesions may occur in any of the organs innervated by filaments from that neuromere. Appreciation of the skin naevi in this case enabled a correct pre-operative diagnosis to be made.

Summary

A case is described of angioma venosum racemosum of the cervical spinal cord associated with angiomata of the omentum and skin naevi of the same metameres. The diagnostic value of the cutaneous lesions is stressed.

I wish to thank Dr. Eliot Mackworth and Dr. Philip Buckley for permission to publish this case, and to express my appreciation of the efforts of Dr. L. Potaschmacher for his painstaking post-mortem examination.

REFERENCES

Cobb, S. (1915). *Ann. Surg.*, 62, 641.
Cross, G. O. (1947). *Arch. Neurol. Psychiat., Chicago.*, 58, 359.
Wyburn-Mason, R. (1943). *Vascular Abnormalities and Tumours of the Spinal Cord and its Membranes.* London.

Medical Memoranda

Two Cases of Tetanus Neonatorum Treated with Penicillin and Aureomycin

Umbilical tetanus is fortunately rare in the British Isles; possibly for this reason the literature on the subject is relatively scanty, and standard textbooks do not deal fully with the use of modern drugs in this condition. W. Sheldon, for instance, in his *Diseases of Infancy and Childhood* (5th edition, 1946, p. 24), recommends 20,000 units of antitetanic serum (A.T.S.) and sedation with chloral and magnesium sulphate. He does not mention the use of the sulphonamides or penicillin. The following cases may therefore be of interest. Both occurred before the end of the second week of life, and made a complete recovery.

CASE 1

An African boy aged 7 days had a history of constant crying. On examination some tendency to rigidity of limbs but no definite spasm was seen. The umbilical wound had not healed and was dirty and plastered with leaves. His temperature was 99° F. (37.2° C.) and pulse 130. Heart and chest were normal. He was given A.T.S., 100,000 units immediately, and penicillin "G," 200,000 units four-hourly, and the cord was dressed with sulphanilamide powder. By the afternoon of admission muscular spasm and trismus of the jaws was obvious. Sedation with chloral hydrate and potassium bromide, 15 gr. (1 g.) of each four-hourly per rectum, was begun. Any reduction of this dose at once resulted in a return of the spasms. For the first 24 hours no attempt was made to pass a nasal catheter, and fluid was given per rectum—2½ oz. (70 ml.) of water two-hourly.

On the second day four-hourly nasal feeds of expressed breast milk were given, but the water per rectum was continued, to guard against dehydration. For five days the whole of this quantity was retained. On the third day penicillin was reduced to 100,000 units four-hourly, and sedation continued. It was now found that the child could swallow, and part of the feeds was given by syringe. As soon as the child tired of swallowing, the tube was passed to complete the feed. On the fifth day he was sucking the syringe strongly; part breast-feeding was begun; phenobarbitone, 1 gr. (65 mg.) four-hourly, was substituted for bromide and chloral; and rectal fluids were discontinued. On the seventh day he was fully breast-fed and phenobarbitone was discontinued. He was discharged in good condition on the ninth day. Two days later he was seen at the clinic. He was then perfectly well and there was no residual stiffness.

CASE 2

An African girl aged 9 days was brought to hospital because she was unable to suck. The child was crying continuously, with risus sardonicus, clenched fists, stiffly extended legs, and taut abdomen. Handling produced convulsive arching of the spine. The umbilical wound was 1¼ in. (3.1 cm.) across, moist, and filthy. Her temperature was 100° F. (37.8° C.) and pulse 134. Her heart and chest were normal. She was admitted at once (February 13, 1951). A.T.S. was not obtained till February 17, when 100,000 units was given. Treatment was carried out on exactly the same lines as in Case 1, but the violent reactive spasms remained unabated for seven days, although the child was quiet unless touched. It was necessary to aspirate four-hourly, or more frequently, with a rubber mucus catheter, the nurse summoning medical aid for this purpose each time the child became cyanosed or showed difficulty in breathing. Without these ministrations she would undoubtedly have died. Passing the catheter to the back of the mouth and directing it to the epiglottis was made difficult by the jaw trismus.

On February 19, as the temperature had not responded to penicillin, "aureomycin," 250 mg. four-hourly, was substituted. From this time onwards the improvement was marked and steady, except for one setback. During a nasal feed on the 21st the child suddenly collapsed and ceased to breathe. She was restored by artificial respiration and nikethamide. No feed had been inhaled, and the collapse may have been due to vagal inhibition coupled with respiratory spasm. Curiously enough, the child appeared much better the day after this episode. The aureomycin was now reduced to 120 mg. four-hourly. On February 22 all reactive spasms had ceased and the child could be handled gently without arching of the spine resulting. Nevertheless the whole body remained stiff, especially the legs, which were all the time held stiffly extended except in sleep, when they relaxed slightly. The fists remained clenched and the head retracted. Phenobarbitone, 1 gr. (65 mg.) four-hourly, was substituted for the other sedatives. Massage and movements were started, and in eight days the limbs were back to normal. The aureomycin was discontinued on February 22 (total 3,000 mg.).

COMMENT

Only one dose of A.T.S. was given owing to local shortage. The successful outcome in Case 2, which was in all respects extremely severe, suggests that delay in giving A.T.S. need not prove fatal. It seems logical to give large doses of penicillin or of a sulphonamide, because septicaemia is a strong probability. It is interesting to note the response to aureomycin in Case 2. The very high fluid intake would seem to be necessitated by the muscle spasm, which no doubt increases the body's needs. It may possibly help to prevent serious consequences from the heavy sedation. It is certain that in Case 2 the patient would have died from pneumonia, if not from asphyxia, had she not been aspirated frequently.

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A Combination of Congenital Anomalies

It is well known that the presence of one congenital defect in a person should make one examine for the presence of other anomalies. The following case illustrates this fact.

CASE REPORT

A female Bantu child weighing 4 lb. 5½ oz. (2 kg.) was born in the maternity section of Baragwanath Hospital on September 26, 1950. She was premature, of approximately 36 weeks, and delivery was very rapid. She was noticed to be blue from birth. She did not cry or breathe after birth, but the heart was beating strongly. Lobeline was given by injection, the air passages were cleared, and oxygen was administered. She soon started to breathe, but remained

extremely cyanotic. The placenta was circular in shape and appeared to be normal. The umbilical cord was centrally inserted in the placenta, but was only 8 in. (20 cm.) in length.

The baby was the second infant of the mother, who gave no history of any illness during this pregnancy.

On examination the patient was seen to be a newborn female infant showing well-marked cyanosis, especially around the lips and tongue. Her rectal temperature was 97.8° F. (36.6° C.). The umbilical cord stump appeared normal and healthy, with no evidence of sepsis or bleeding. The infant had supernumerary nipples placed in a line between the axilla and groin of each side; there were three extra nipples on the right side and four on the left (Fig. 1).

The fingers and toes were longer than normal. There was a flexion deformity of the second, third, and fourth right fingers and of the third left finger (Fig. 2). The palate was highly arched. No obvious anomaly of the eyes was noticed. The heart rate was 136 a minute. Clinical enlargement of the heart was present. No thrills or murmurs were detected. Nothing abnormal was found in the lungs. Neither the spleen nor the liver was palpable.

FIG. 1.—Photograph showing supernumerary nipples and anomaly of fingers.

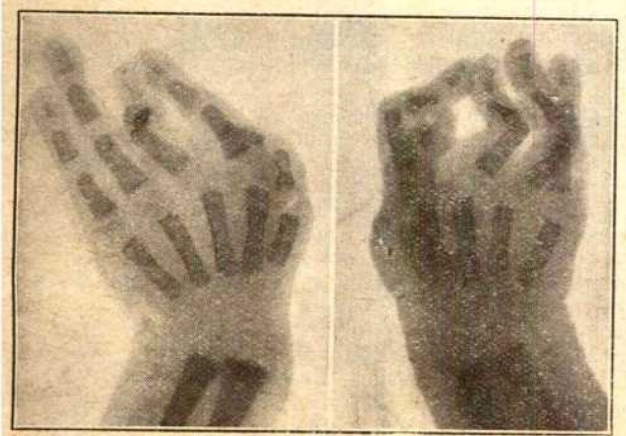

FIG. 2.—Radiograph of hands showing deformities of second, third, and fourth right and third left fingers, and length of fingers.

Investigations.—A blood count showed: haemoglobin, 24 g. % (Sahli); erythrocytes, 6,780,000 per c.mm.; leucocytes, 5,100 per c.mm. (neutrophils 39%, monocytes 12%, lymphocytes 37%, eosinophils 10%, basophils 1%, plasma cells 1%); P.C.V., 74%. The red cells showed anisocytosis and an occasional polychromatic staining cell. One nucleated red cell per 100 leucocytes was observed.

The standard Eagle test was negative. An electrocardiogram showed: rate 150, normal sinus rhythm, heart vertical in position, and right ventricular dominance. On radiological examination the heart was much enlarged, with the toe considerably elevated. On screening, there was well-marked enlargement of the right ventricle. There was a fusion anomaly of the tenth and eleventh right ribs. The skull and spine were normal. Elongation of fingers was noted, with the deformities of the second, third, and fourth right and third left fingers.

At this stage the case presented as one of supernumerary nipples, partial arachnodactyly, minor fusion anomaly of two ribs, and cyanotic congenital heart disease. The exact type of cardiac defect was discussed with the following differential diagnoses in mind: Fallot's tetralogy, transposition of the great vessels, common truncus arteriosus, and tricuspid atresia. The last-named was dismissed as a diagnosis in view of the electrocardiographic finding of a right ventricular dominance and of the *x*-ray evidence of enlargement of the right ventricle: in tricuspid atresia one finds a left ventricular enlargement with left dominance in the electrocardiograph.

The child remained cyanotic until she died on the sixteenth day of life. Throughout this period no murmurs were detected on frequent careful auscultation of the heart.

At necropsy cyanosis was present. The accessory nipples were noted, as were also the long fingers. The palate was highly arched. The lungs, bronchi, and trachea were normal. The heart was enlarged, especially the right ventricle. A high ventricular septal defect was present over which the aorta was straddled. The aortic arch was right-sided. No evidence of a ductus arteriosus was found. An extreme degree of pulmonary stenosis was present. The oesophagus, stomach, and intestines were normal, as were the liver, spleen, and pancreas. The renal system showed the presence of a typical horseshoe kidney. The brain was normal. The fusion of the tenth and eleventh right ribs was noted.

The diagnosis was, therefore, one of multiple congenital defects: supernumerary nipples, partial arachnodactyly, Fallot's tetralogy with a right-sided aortic arch, horseshoe kidney, and fusion of two ribs.

COMMENT

This case illustrates a combination of congenital anomalies, and particularly that of supernumerary nipples and arachnodactyly with congenital heart disease, as mentioned by Paul Wood (1950) and Brown (1939). Here, in addition, we have the kidney anomaly and the minor rib abnormality. The Fallot tetralogy is associated with a right aortic arch, which association occurs in about 20% of cases.

My thanks are due to Dr. J. D. Allen, medical superintendent, for permission to publish this case; to Dr. P. Catzel for the photograph; to Dr. M. J. Meyer, *X*-ray Department, for radiological services; and to the obstetrical department, Baragwanath Hospital, for permission to use their case notes. I am also indebted to Dr. J. Higginson for the necropsy findings and to Dr. H. Hirsch for laboratory investigations.

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REFERENCES

Brown, J. W. (1939). *Congenital Heart Disease.* Bale, London.
Wood, P. (1950). *British Medical Journal,* 2, 640.

Reviews

BLOOD TRANSFUSION

Blood Transfusion in Clinical Medicine. By P. L. Mollison, M.D., M.R.C.P. With foreword by Sir Alan N. Drury, C.B.E., F.R.S. (Pp. 456; 59 figures. £1 17s. 6d.) Oxford: Blackwell Scientific Publications. 1951.

Remarkable developments in immuno-haematology within the last ten years have made the terminology used by blood-group research workers almost unintelligible to the general clinician and even to the clinical haematologist. Like the specialists in blood coagulation, those who devote their lives to a study of the blood groups talk a language of their own. This is probably inevitable in the face of such rapid expansion in so specialized a field, but the difficulty remains that much information which may be most useful to those engaged in clinical transfusion work tends to be lost in a wealth of academical detail which is of little practical importance and at times somewhat precious.

This book indeed does a great deal to bridge the gap between the clinical and academic aspects of blood-group and transfusion work. But it is not easy reading. There is much rather selected documentation and a good deal of cumbersome cross-reference. From the clinical aspect some of the subject is out of balance, but the work as a whole deserves and richly rewards close study.

The subjects first discussed include the survival of the different components of transfused blood, the estimation of blood volume, and the use of transfusion in haemorrhage, in anaemia, and in studying the life span of red cells. These chapters would be more helpful to the clinician if, in conformity with the title, the emphasis had been on clinical problems rather than research methods. For example, the use of transfusion in "shock" deserves more than twenty lines (p. 74) together with a few pages (p. 67 *et seq.*) on the role of haemorrhage in "wound shock"; both sections are all too brief and somewhat uncritical accounts of the work of others. Yet transfusion when intelligently practised and applied with the judgment which develops with experience is universally acknowledged to be one of the most life-saving clinical measures in treating the circulatory failure loosely called "shock" which is so common in times of war, in cases of injury, including crush injuries, and burns (dismissed in two and a half pages). Here indeed the author might well have spread the net wider to include references to some of the excellent clinical papers, rich in life-saving practical points, published by young civilian and Service transfusion officers who had extensive experience during the last war. Again, from the clinical point of view, the use of transfusion in the blood dyscrasias and in haemorrhagic diseases is very superficially discussed: one looks in vain for a critical appraisement of the value of transfusion, views about indications or contraindications, and practical advice about amount, speed of administration, frequency, and the merits of the different fluids available. One looks in vain also for some succinct and practical recommendations for the immediate and long-term treatment (not even indexed) of incompatibility to supplement the few paragraphs on the treatment of anuria which are submerged in the chapter on haemolytic transfusion reactions.

In contrast, on the academic side, the book contains a most informative detailed discussion on the techniques and the uses of blood-volume determination, but this subject seems hardly to warrant 27 pages in a book which is devoted to clinical medicine and which has indeed so wide a general medical appeal.

The chapters on blood groups, iso-antibodies, and grouping techniques are excellent, for here the author is writing on a subject in which he is an acknowledged expert. It is noteworthy that the ABO system, believed to be understood fairly completely 20 years ago, is now the one in the discussion of which the author is least happy. Transfusion reactions and their investigations are fully and competently discussed, while the last two chapters, devoted to problems in newborn infants, are invaluable and contain much information not concisely available elsewhere.

This book is strongly recommended to those who practise transfusion and wish to do so with a fuller understanding.

LIONEL WHITBY.

SOVIET GENETICS

Soviet Genetics. By Alan G. Morton, B.Sc., Ph.D. (Pp. 174. 15s.) London: Lawrence and Wishart. 1951.

This book purports to present without prejudice the general theories of Soviet biology on which present-day Russian plant-breeding methods are based. For this purpose the author has delved assiduously into a good deal of the Russian literature. The book, however, is an account of what the Russians claim, though there is practically nothing that we do not already know about this through the admirable summaries given in *Plant Breeding Abstracts.* If these claims are true, the methodology of workers in non-Soviet countries is out-moded and superseded, and modern genetics, which is by far the most quantitatively exact branch of biology, becomes a tale told by an idiot.

There are strong reasons for rejecting some of the claims. One of the most fantastic is that made by Ter-Avanesjan about cotton hybrids. He chose as a mother plant a variety of American Upland cotton (*Gossypium hirsutum*) which had four recessive characters: green leaves, short internodes, spotless petals, and absence of yellow filaments. Two paternal forms were used; one was a *hirsutum* carrying dominant red leaf. The other was a *barbadense* carrying recessive green leaf, dominant long internodes, spotted petals, and yellow filaments. In the experiment the female flowers were first pollinated by 10 pollen grains of red-leaf *hirsutum*, and then by a large quantity of *barbadense* pollen at intervals from 30 minutes to 4 hours after the first pollination. The three-hour series gave 28 plants, of which 8 showed dominant red leaf from *hirsutum* combined with dominant long internodes and yellow filaments from *barbadense*. The dominant petal spot of *barbadense* did not appear. This means that an egg cell was simultaneously fertilized by two pollen grains, each bearing different dominants. Mr. Morton concludes that this double-paternal fertilization necessitates a "fundamental reconsideration of the nature of sexual fertilisation." This would not be the view of any non-Communist botanist outside the Soviet Union.

The reviewer was the first to undertake this kind of experiment with cotton. It is a standard procedure for obtaining difficult interspecific hybrids. Between 1928 and 1934 many thousands of mixed pollinations were made—a great many at the alleged critical 3-hour interval. The plants obtained were either *hirsutum* hybrids or *barbadense* hybrids, with no sign whatever of double paternal fertilization.

The fact that self-fertilization leads to loss of vigour in many plants and that even in plants which are usually self-fertilized, such as wheat, varietal crossing of heterogeneous forms will result in increased yields is regarded by Soviet workers and evidently also by Mr. Morton as new and revolutionary. A vast body of information was available on this subject long before Lysenko came on the scene. We know now that some single genes can give heterosis in the heterozygous phase. What the Russians should do is to convert wheat into a cross-fertilizing plant, which would enable hybrid vigour to be exploited.

It is clearly uneconomic—if such a word exists in Russian—for crossing of cereals to be done by hand on a large enough scale, though it was done with cotton in the West Indies as early as 1913.

The serious reader who wishes to know about Soviet genetics will have to engulf whole chunks of pure

Communist propaganda. All books by Russians or about Russians are exasperating, and this one is no exception to the rule. Russian genetics may be described as a mixture of the blatantly fraudulent, the naive, the nationalistic, the obvious, and perhaps in rare cases the interesting and novel. The author is not able to separate the ingredients of this "olla podrida."

S. C. HARLAND.

SOVIET PSYCHIATRY

Soviet Psychiatry. By Joseph Wortis, M.D. (Pp. 314. £1 18s. 6d.) London: Baillière, Tindall and Cox. 1950.

Soviet psychiatry is dominated by the figure of Pavlov. In the terms of Pavlovian physiology the neuroses are intelligibly described as disturbances of cortical function produced by the breakdown of conditioned reflexes under excessive or conflicting stimuli. This mode of approach has found a number of followers in Britain, and proved especially useful in the clinical analysis and treatment of the acute neurotic reactions of wartime. Pavlovian concepts are, however, also applied in Russia to the endogenous psychoses. Schizophrenia, for instance, is regarded as a depression or inhibition of cortical function with the partial escape of lower centres from the control of the upper ones, with consequent development of such symptoms as stereotypies. Together with the physiological approach, Soviet psychiatry also favours psychotherapy in the form of persuasion, re-education, and social therapy. Neurotic symptoms may be due to a conflict between the ideas implanted in the course of a faulty (e.g., insufficiently Communist) education and the demands of society in the Communist world. Treatment therefore will be along those lines. Russia was one of the first countries to take up with energy the insulin treatment of schizophrenia, but it also encourages the pedagogic treatment of nervous symptoms in re-educative therapies. Freud and the unconscious are almost totally disregarded, and, though Freud himself is not without honour, psycho-analysis is obsolete. The treatment of the neurotic child is almost exclusively along pedagogic lines and in the hands of teachers; emphasis is even more on prevention and the treatment of causes than on sick individuals.

Dr. Wortis is to be congratulated on having provided a very useful summary of psychiatric development in Russia. His task was not easy, for he had to rely exclusively on publications. No personal visit to Russian centres of teaching and research was possible. The total impression one gains is that Russia has made enormous advances in the provision of adequate medical services since Czarist days, that the clinical practice of psychiatry and the organization of treatment are of a sound standard, but that little new work is being done along research lines. Original thought, in psychiatry as elsewhere, has to be along the lines laid down by dialectical materialism.

ELIOT SLATER.

E.N.T. FOR GENERAL PRACTITIONERS

Ear, Nose, and Throat Diseases for the General Practitioner. By William McKenzie, M.B., B.Chir., F.R.C.S. (Pp. 136; 2 plates and 9 diagrams. 9s.) Edinburgh and London: E. and S. Livingstone Ltd. 1952.

In my opinion this is the most useful little book on otolaryngology strictly for the general practitioner that has ever been published. I may be prejudiced in its favour—for the author, in his preface, attributes its origin to a remark I once made to him—but I do not think I am. It is intended for doctors whose otolaryngological equipment consists of a tongue depressor, a torch, and an auriscope, and rightly avoids elaborate descriptions of views in the laryngeal or post-nasal mirror. The author points out that a careful history combined with a general examination may often prove as informative as any specialist's report, and makes a plea for more help in the doctor's letter about the background of the patient he refers to the specialist—how the patient lives and whether he is happy may well decide the whole course of treatment.

The book is full of vivid and illuminating descriptions of cases, and the author is downright and opinionated in the advice he gives, so that no practitioner will be in any doubt about what he ought to do in these frequently troublesome conditions. That is not to say that every otolaryngologist will agree with all his opinions. For example, transillumination of the nasal sinuses is more handy for the practitioner than radiography (which the author much prefers) and very nearly as accurate. Some prefer a comparatively blunt nasal or sinus forceps to the very sharp von Graefe knife, which the author favours for opening a quinsy. It was much less than "a century ago" that two or three cases of tuberculous laryngitis were to be seen at every throat clinic. The author is perhaps over-optimistic about the results of the fenestration operation. I am not convinced about the value of audiographs in a handbook for the general practitioner, though the author points out that for some years he has always included a copy of the audiograph in his report to the doctor of a deaf patient, and perhaps the general practitioner ought to get accustomed to understanding them. And the only excuse for the two plates is that they include photographs of a very pretty R.A.F. nurse.

Mr. McKenzie is very sound and conservative in his discussion of the tonsils-and-adenoids problem, and comes to the conclusion that, in spite of the many criticisms of the operative treatment of them, more children need tonsillectomy than get it. There are excellent accounts of allergic rhinitis and of nasal sinusitis, sensible reviews of acute otitis media, mastoiditis, chronic middle-ear suppuration, and of vertigo and Ménière's disease, and a sound chapter on malignant disease of the nose and throat. The fifteen chapters end with a useful one on prescriptions and a rather brief index. At the price of nine shillings this handbook, which is really suitable for the pocket, is the best value for the general practitioner's money that has been seen since the war.

R. SCOTT STEVENSON.

DOCTORS' ANTHOLOGY

Doctors By Themselves. An Anthology compiled by Edward F. Griffith, M.R.C.S., L.R.C.P. Foreword by Lord Horder. (Pp. 614; illustrated. £1 1s.) London: Cassell and Co. 1951.

An anthology is a bouquet of the flowers of literature united by some common pattern or joined together by something which makes the posy a harmonious whole. In this book, as the title suggests, unity is provided by the fact that all the contributions come from the pens of medical men, or at least from medical sources. Dr. Griffith has made an interesting and varied collection of extracts calculated to please both doctors and laymen. He has spread his net wide and gathered wit and wisdom from ancient and modern, from old and young, from grave and gay, and the thoughts are expressed both in prose and poetry. The book is divided into five sections dealing respectively with the doctor's work, his amusements, his troubles, and his views on life and philosophy. Limiting the anthology to the writings of medical men excludes such interesting material about medical matters as one finds in *The Anatomy of Melancholy,* and in some places second-hand relations of good stories have for the same reason been substituted for original sources, yet here is plenty of good material to satisfy anyone but a carping critic. It is indeed just the book to have at one's bedside to be dipped into as a prelude to sleep or as a solace for the waking hours.

The value of the book is enhanced by the many photographs of distinguished authors and the thumb-nail biographies of several hundred contributors. In addition, the list of sources will be useful to those who wish to consult the originals of the various extracts. We can recommend this as a delightful book, which incidentally has an entirely appropriate epilogue. If there be one extract which we think will please every doctor it is that numbered 801.

V. ZACHARY COPE.

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NOTIFICATION OF DISEASE

Seventy years ago opposition to the notification of infectious disease centred round the objection of medical men to any form of compulsion and the fear that it would lead to a destruction of confidence between doctor and patient. No one questioned the benefits, but the alternative, voluntary notification, was already falling into discredit. The medical officer of health for Birmingham complained that :

> Instead of the medical man reporting every case of preventable disease, he reports only such as he chooses ; he will report for instance the case of a domestic servant whose presence in a large and respectable family is considered objectionable, and whose removal is therefore desired, and she is removed to the hospital accordingly, but the next case he may for special but insufficient reasons decline to notify.[1]

The social conditions thereby revealed have gone, together with the fear of an inquisition by the M.O.H., who no longer has to defend himself by saying, "To assume that, the moment a medical practitioner becomes a medical officer of health, he forgets professional obligations and loses the instincts of a gentleman . . . is not only absurd but opposed to experience."[1] The objection to publishing the secrets of the sick-room was met by placing the obligation to notify on the head of the family, the nearest relative, or any person in attendance on the patient. There it remains, although it is exceptional to-day for anyone other than the medical practitioner to notify.

In the intervening years compulsory notification has extended to include many, but not all, transmissible diseases. Some are notifiable under the Public Health Act of 1936. Others—for example, measles, whooping-cough, ophthalmia neonatorum, and puerperal pyrexia—are notifiable under regulation. A local authority may, with the consent of the Ministry of Health, make a disease locally notifiable by resolution. Since 1944 the accuracy of the statistics of notifiable disease has been increased by taking into account subsequent amendments of diagnosis, but it is clear that the extent of notification is variable. Thus Percy Stocks[2] estimated that notifications after correction of diagnosis provide a sufficiently accurate picture of acute poliomyelitis, meningococcal meningitis, and diphtheria, but measles is only about two-thirds notified, whooping-cough between a quarter and a fifth, respiratory tuberculosis about nine-tenths, and pneumonia from a third to a quarter of all ages but varying greatly with age.

While the ethical objections were being met and the legal and administrative framework for compulsory notification established, the methods of prevention, diagnosis, and treatment were already beginning to change. So also were the social habits of the people, and the conditions which notification was intended to meet have undergone radical alteration. There can be few doctors now who hurry from the case of erysipelas to the delivery-room. For that matter the incidence of both erysipelas and domiciliary confinement has greatly declined. Ophthalmia neonatorum and puerperal pyrexia are to-day the mere shadows of their former selves, cerebrospinal fever quietly changed its name in 1949 (by regulation) to meningococcal infection, and encephalitis lethargica has disappeared unmourned into the hold-all of acute encephalitis. Diphtheria has become such a rare disease that an epidemic of 37 cases, with four deaths, is sufficiently unusual to warrant special mention in the annual report of the Ministry of Health. The popular fear of the isolation hospital and its ambulance has gone, and the practitioner must now be prepared to advise on such matters as the merits of combined immunization against whooping-cough, diphtheria, and tetanus, and the advisability or otherwise of embarking on this during the poliomyelitis "season." Similarly the requirements of the community have changed. Knowledge of the presence of infectious disease is no longer a matter of concern only to the local sanitary district but is linked on the one hand with international health and on the other with records of morbidity.

The truth is that the notification of infectious disease is not the simple question it used to be. If its main purpose is to protect the community its value in its present form is doubtful. The clinician, for example, with his interest in speedy diagnosis and efficient treatment, can see little point in notifying a disease such as scarlet fever of whose existence as an entity he is sceptical. The medical officer of health, shorn of clinical responsibility for the very conditions which brought him into being, may resignedly play the part of postman, although he knows that many returns are incomplete. The laboratory worker, on whose shoulders rest more and more the burdens of diagnosis, has no responsibility to notify. The research worker seeking accurate information devises his own machinery for obtaining this. Meanwhile,

[1] Hill, A., *Trans. Soc. med. Offr Hlth*, 1883–4, 186.
[2] Stocks, P., *Amer. J. publ. Hlth*, 1950, **40**, 670.

questions of vital importance to the community go unanswered. How real, for example, is the relationship between "scarlet fever" and rheumatic fever? How should food-poisoning be defined? Should cancer be made notifiable? Indeed, many more questions can legitimately be asked now than was the case when notification was the subject of controversy 70 years ago.

We need to inquire again which diseases should be notifiable and for what purpose. It is also necessary to ask who should notify and to whom. It was pointed out recently that the guiding principle in collecting morbidity records must not be whether it would be interesting to have them but whether they can confidently be expected to furnish knowledge which will repay the labour of their collection.[2] So it is with the notification of infectious disease. To be of value it must be accurate, speedy, and complete. Partial information may not only be misleading but may endanger the public health.

PHYSIOLOGY OF SLEEP

In the opening pages of the *Journal* this week Drs. J. W. Lovett Doust and R. A. Schneider describe how with the aid of an ingenious adaptation of a photoelectric cell they were able to make continuous recordings of the oxygen saturation of the blood during some hours of sleep and during the time before falling asleep and after waking up. Twenty-two periods of observation were studied in seven normal subjects. On each occasion an observer was present all night to record changes in respiration and muscular movements, as well as the occurrence of any noises which might affect the depth of sleep. The authors describe seven planes of sleep, of which the 5th, 6th, and 7th are the same, physiologically, as the 3rd, 2nd, and 1st. In the first plane, or stage, the subject is awake, in the second dropping off, in the third he is lightly, and in the fourth deeply, asleep. Arterial oxygen saturation was at 96% in the first, 91% in the second, 90% in the third, and between 87 and 88% in the fourth plane. The fact that there is such a large drop between the stages of wakefulness and sleepiness, with such a relatively trifling one at the later stages, is notable. The levels at which variation in oxygen tension is associated with critical changes in the level of consciousness make a relatively narrow band.

One feature of the experiments which makes the interpretation of results a little difficult is that each subject was standardized individually. The 100% level of oxygen saturation was taken to be that which was reached after inhalation of pure oxygen until stable readings were obtained. The absolute oxygen tension in the arterial blood may have varied a good deal from subject to subject. Furthermore, it is not possible, at least from these experiments alone, to distinguish between cause and effect. We cannot say, for instance, that normal sleep is brought about by reduction of the oxygen saturation; as the authors emphasize, all that is apparent is that there is a close relation between the two.

Interesting but speculative parallels were drawn between sleep and various forms of mental abnormality. The neurotic patient is often unable to get off to sleep. This may be partly because his emotional tension is reflected in the state of muscular tonus, and he cannot sleep because his nervous system is bombarded by sensory stimuli from the muscles. A later paper is promised which will show that "the oxygen saturation levels of the constitutional schizophrenic are those of the dreamer," and this will not be the first attempt to make comparisons between the psychological and somatic state of the schizophrenic and that of normal sleep. It is, however, easy to bound too far ahead of the known facts in speculation of this kind. As Drs. Lovett Doust and Schneider remark in their article, the physiology of sleep has been studied inadequately for the interest it merits; and there have been no exact physiological studies at all on sleep in mentally abnormal individuals. Quite specific variations are met with clinically. The anxious or obsessional neurotic, who is troubled by painful ruminations, often has great difficulty in getting off to sleep, but once asleep may sleep well. On the other hand, the most typical abnormality of sleep shown by the endogenous depressive is that of early morning waking after dropping off to sleep in a normal way at a normal time. Yet some endogenous depressives, with regular recurrent phases of depression, are abnormally sleepy during each successive phase and sleep for the better part of the 24 hours for days and even weeks on end.

The sleeping patterns of the schizophrenic show, clinically, every kind of variation. It may be that in his waking hours the saturation of oxygen in his blood is relatively low; but his state of awareness is not at all like that of a dreamer or a man in reverie. What one does observe is thought processes which appear to be in every way as lucid and alert as those of the normal, but which are interrupted by mental phenomena of sudden incidence and pathological nature, such as an abruptly experienced hallucination or a break in the logical order of thought. If there is a resemblance between the disorder of consciousness

of the schizophrenic and that of any other state, then it is closest between the schizophrenic condition and that of the epileptic having attacks of petit mal.

Of all mentally abnormal states the one most like that of the dreamer is the acute toxic or confusional psychosis. The somewhat drunken condition of the man waking from sleep is persisted in throughout the 24 hours in these patients. All his day is very like a dream, and the illusions or hallucinations, the difficulties of perception and judgment, the sluggishness of thought are like those to which we are all liable in a hypnagogic state. The delirious patient also shows his specific disturbance of the sleep rhythm—he can neither fall off into a deep and restful sleep, nor can he entirely wake up. It is to be hoped that Drs. Lovett Doust and Schneider will pursue their studies on the physiology of sleep into the psychopathological realm.

ANAEMIA IN PREGNANCY

The hypochromic microcytic anaemia so frequently noted during pregnancy has usually been present before the pregnancy began, and arises from the patient's previous state of health, diet, earlier pregnancies, and severity of menstrual loss. This anaemia is both preventable and treatable, and shows a good response to adequate oral or intravenous iron.

But an even commoner anaemia in pregnancy is the normocytic anaemia associated with increased total blood and plasma volumes (up to 23%), a lesser increase in haemoglobin and red cells, but an unchanged mean corpuscular haemoglobin concentration. It begins after the eighth week and increases progressively until after the sixth month; in the puerperium all the values rapidly return to normal in 7–14 days, although the haemoglobin may be delayed.

This "physiological" anaemia of pregnancy is looked upon by some as without pathological significance, a normal dilution of the blood through increased plasma. Others, however, do not accept this view, particularly since adequate oral or intravenous iron will in most cases relieve the anaemia. All agree that a further fall of the haemoglobin to less than 10 g. per 100 ml. is of more serious import.

Writing in last week's *British Medical Journal*, Drs. Nancy Benstead and G. W. Theobald[1] reported that in a group of 2,000 pregnancies 6.5% of the women had severe anaemia by the sixteenth week, before there was much demonstrable haemodilution, while 60% had haemoglobin values below 12 g. per 100 ml.

Taking similar groups of patients, they confirmed that the iron-deficiency anaemias responded, as is already well known, to iron therapy, while similar daily oral treatment over a period of eight weeks from the twenty-fourth week completely relieved the so-called "physiological" anaemia in a comparable group of patients. Further, continued administration of iron throughout pregnancy maintained the blood values at normal non-pregnant levels; the addition of molybdenum as a supplement to iron did not offer any advantage in relieving these anaemic patients. The satisfactory treatment of these iron-deficiency anaemias is not always possible by mouth, for some patients do not tolerate oral iron, fail to take the tablets, or else because of various gastro-intestinal conditions the iron preparation may not be absorbed. Consequently the intravenous administration of saccharated iron[2 3] is a most valuable therapeutic advance in the treatment of iron-deficiency anaemias.

The difficulty of assessing iron deficiency in anaemia of pregnancy by ordinary haematological methods was discussed earlier by Klopper and Ventura.[4] They showed that, in true iron-deficiency conditions, besides a reduction in the mean cell-haemoglobin content there is a characteristic pattern of changes, including a fall in the serum iron, a considerable increase in the iron-binding capacity of the serum proteins, and a rise in the level of the serum copper, while the erythrocyte free protoporphyrin is also raised. These are different from the findings in the ordinary normocytic anaemia of pregnancy. During a study of iron metabolism in these patients they found it necessary to give increased amounts of iron intravenously, and considered that in addition to each 24.5 mg. of iron ordinarily required to raise the haemoglobin value by 1% in a non-pregnant woman a further 12.5 mg. was needed to meet the demands of the foetus; but it must not be forgotten that in the non-pregnant anaemic woman it is usual to give a 50% increase on the calculated 24.5 mg. in order to replenish the iron reserves of the body.

In tropical countries, particularly India and Africa, severe anaemias of pregnancy are often macrocytic in type, much more commonly so than in temperate climates. Foy and others[5] described four varieties of anaemia in Africans. One group was formed by the hypochromic microcytic anaemias with normoblastic marrows, resulting from simple iron deficiency or parasitic infestations. These patients usually respond well to adequate iron or to the elimination of the worms. The other three groups included normochromic normocytic anaemias with or without megaloblastic marrows or giant stab cells, or macrocytic anaemia with megaloblastic marrows and achlorhydria; all of these latter groups respond to liver extracts, folic acid, or "marmite." The megaloblastic, macrocytic anaemias of pregnancy seen in Britain respond to folic acid, but in contrast rarely to crude liver extracts, and never to vitamin B_{12}.

Woodruff[6] adds a further group of pregnancy anaemias observed in Nigerians going into premature labour, taking a protein-deficient diet and showing enlarged liver and spleen, evidence of liver damage,

1 *British Medical Journal*, 1952, **1**, 407.
2 Slack, H. G. B., and Wilkinson, J. F., *Lancet*, 1949, **1**, 11.
3 Scott, J., and Govan, A. D. T., ibid., 1951, **1**, 367.
4 *British Medical Journal*, 1951, **2**, 1251.
5 *Trans. roy. Soc. trop. Med. Hyg.*, 1950, **43**, 635.
6 *British Medical Journal*, 1951, **2**, 1415.
7 *Lancet*, 1952, **1**, 416.
8 Walker, A. R. P., *British Medical Journal*, 1951, **1**, 819.
9 —— and Arvidsson, U. B., *Nature, Lond.*, 1950, **166**, 438.

and usually a macronormoblastic marrow. The anaemia becomes more severe towards the end of the pregnancy, remaining refractory to ordinary anti-anaemic treatment, and usually remits spontaneously after parturition. This anaemia, which may show some evidence of haemolysis, is associated with increased diameter and thickness of the red cells and resembles the anaemia of malignant malnutrition or kwashiorkor. The frequency of microcytic hypochromic anaemia in Africa is again emphasized by Foy and Kondi,[7] who indicate that failure of iron absorption or its utilization, blood loss, and the presence of parasites are very important factors to be considered in diagnosis. This is especially so among natives in South Africa, where it may be quite difficult to find iron-deficient diets.[8 9]

PHOTOSENSITIVITY AND PORPHYRINS

Photosensitivity is an occasional well-known reaction to treatment with sulphonamides, and a number of other drugs may call forth urticarial reactions which at least appear to be aggravated by sunlight. Writing in last week's issue Drs. Frankis Evans and J. Gould incriminate thiopentone. It is natural to recall the photodynamic property of the porphyrins and to consider whether or not these pigments may play a part in all such reactions. Rimington and Hemmings[1] were able to show that the sulphonamides caused a raised urinary coproporphyrin excretion, but the interpretation of this finding was difficult. The extra coproporphyrin might have come merely from the enhanced erythropoiesis replacing red cells lost through the haemolytic action of the sulphonamide. In rats treated with sulphonamide Legge[2] was unable to find any change in the coproporphyrin of the urine, and the differing results were ascribed to differences in diet.

The photosensitivity seen in pellagra has been widely attributed to porphyrin sensitization, without any supporting evidence such as determination of the light wavelengths involved, but non-alcoholic pellagra does not show any change in urinary porphyrin.[3] It is only when alcoholism accompanies the deficiency that coproporphyrinuria is found. Some years ago, Gillman, Gillman, and Brenner[4] reported that liver biopsy of pellagrins revealed a transitory stage in the disease, in which, prior to the deposition of cytosiderin, an intense porphyrin fluorescence was present in the liver cells. They postulated that this was occasioned by the disruption of an intracellular iron-porphyrin complex. By exposing to ultra-violet light patients who had passed through this stage, they were able to demonstrate the reappearance of porphyrin fluorescence in the hepatic cells, although there was no change in the skin lesions or other symptoms of the patients. The South African authors emphasize that massive porphyrin accumulation may occur in the liver without detectable increase in the level of porphyrin in the urine. More recently, Grinstein, Wikoff, de Mello, and Watson[5] have observed that ultra-violet irradiation of rabbits poisoned with lead greatly increases their already severe coproporphyrinuria.

The mechanism of these effects is not understood. Metabolic deficiencies may possibly condition the response of any tissue to a toxic substance, and in certain circumstances it may cause the liberation of photo-active agents, such as porphyrins from intracellular haems, which sensitize the tissues to the action of light. Alternatively, the foreign toxin may be changed in the body into a fluorescent derivative, itself capable of acting as a photosensitizer. Phenothiazine administered as an anthelmintic to calves is converted to the photo-active phenothiazine sulphoxide[6 7 8] and is therefore liable to cause photosensitization. But it hardly ever has this ill effect in sheep, in which the chemical transformation takes place only to a negligible extent.

A careful determination in any patient of the particular wavelengths of light to which the skin is sensitive will often help in identifying the photosensitizer ultimately responsible by indicating its absorption spectrum. Such a spectral survey is always desirable in an investigation of obscure photosensitive states.

EPIDEMIC HAEMORRHAGIC DISEASE IN KOREA

In the past three months some prominence has been given in the lay press to accounts of a new disease which has attacked troops of the United Nations Forces in Korea. The disease is called epidemic haemorrhagic fever or "Songo fever," from the Songo district in Manchuria, where it first attracted Japanese attention in 1939. It has also been called "Kokka disease," "Korin fever," and "Nidoko disease," from the names of places where some of the earlier outbreaks occurred. Some investigations were carried out by the Japanese during the second world war and have been reported in Japanese medical literature.

It is generally thought to be a virus disease which is probably transmitted to man by the mite *Laelaps jettmari* Vitzthum. The host of the mite and the probable reservoir of the virus is a field-mouse *Apodemus agrarius*. The disease in man is characterized by fever, myalgia, albuminuria, and a petechial rash. In the more severe cases there may be haemoptysis, haematemesis, haematuria, and melaena. The fever usually lasts about seven days, and in a favourable case there may be complete recovery within 14 days of the onset. In other cases a low-grade fever, palpitation, insomnia, and anorexia may persist for some weeks. The fatality rate in Japanese cases was about 13%. The condition is seasonal in incidence and occurs most frequently in May and June, and October and November. The treatment is symptomatic, and it is reported that antibiotics and sulphonamides have been ineffective.

It will be observed that the epidemiology of this disease closely resembles that of scrub typhus, although the clinical features present considerable differences. The preventive measures are similar to those for scrub

1 *Lancet*, 1938, **1**, 770.
2 *Biochem. J.*, 1949, **44**, 105.
3 Rimington, C., and Leitner, Z. A., *Lancet*, 1945, **2**, 494.
4 *Nature, Lond.*, 1945, **156**, 689.
5 *J. biol. Chem.*, 1950, **182**, 723.
6 Whitten, L. K., and Filmer, D. B., *Aust. vet. J.*, 1947, **23**, 336.
7 Clare, N. T., ibid., 1947, **23**, 340.
8 —— Whitten, L. K., and Filmer, D. B., ibid., 1947, **23**, 344.

typhus. Long trousers are worn, impregnated by a miticidal agent. As far as possible troops avoid sites where rodents and mites are to be expected, and intensive measures for the control of rodents are put into operation. These include bulldozing, scraping and burning, and the application of miticidal agents.

The most recent information is that some 60 suspected cases of the disease have occurred in troops of the Commonwealth Division. The mortality has been less than 10%. The United States Army medical authorities in Korea are carrying out intensive research on this disease, and have claimed that transfusions of blood from convalescent patients shorten its duration.

VARIOLA MINOR

Since 1934 this country has enjoyed a relative freedom from both varieties of smallpox. Such a statement may seem an exaggeration to those involved in the outbreaks of the major variety of the disease which have occurred in the last few years. Nevertheless these have all been introduced from without, and, although the outbreaks were a legitimate cause of national concern, the energetic measures of public health departments have rapidly subjected each incursion. The news that a focus of variola minor may have been detected in south-east Lancashire (see p. 498) is disquieting, mainly for two reasons—first, because the mild nature of the illness which this type of variola causes means that cases are easily missed or accepted as unusual forms of chickenpox; and, secondly, because the low vaccinal state of the population might well provide the soil in which the disease could again become endemic, as it was during 1928 to 1934.

In such circumstances awareness of the infection and its early recognition constitute the best means of control. What advice can be offered to the general practitioner who may be faced with such cases? Obviously confusion with chickenpox is the likeliest error, and in this connexion two broad generalizations may be made. It should be remembered, first of all, that in chickenpox the rash tends to dominate the clinical picture from the onset. Very few cases show much in the way of a prodromal illness, and in the few where it is present the symptoms are not severe and the duration is short. Then again it may be stated that it is most unusual for the rash of chickenpox to show a preference for the extremities. The patient should lie in bed with arms and legs extended and without covering: the rash will be seen to diminish in quantity as the eye moves out from the centre of the body. On the other hand, when the rash is most prolific on forehead, arms, and legs; when there is more rash on the lower half of the limb than on the upper; and when the palms and soles are involved in a rash which is otherwise sparse, then smallpox is possible and expert advice must be sought. In other words, variola minor shows most of the characteristics (apart from severity) of variola major—namely, a rather marked prodromal illness which may suggest severe influenza or pneumonia and may last for two to four days, a rash which has a centrifugal character, and individual elements which, though they are smaller and less regular in shape and size than in major smallpox, progress rather slowly from stage to stage. Cropping, characteristic of chickenpox, is unusual.

Such dogmatic generalizations make it all sound very easy. Unfortunately many cases make even the expert shake his head, and it is well to emphasize that in such cases judgment must not rest on an assertion of clinical opinion. Perhaps in no other field can the virus laboratory give such rapid and reliable advice as in the diagnosis of smallpox. An attempt at virus isolation must now constitute an essential step in the investigation of every doubtful case.

Certain other questions will naturally be asked. Does vaccination against smallpox afford complete protection? Successful vaccination affords immunity against both variola major and minor; but the important word is "successful." The so-called "immune" reaction must not be relied upon, and, when smallpox is about, should demand revaccination with freshly prepared lymph on to a new skin site. Can variola minor produce the major variety? Up to the present time no difference between the two viruses has been demonstrated, yet every piece of evidence supports the view that the diseases breed true. Lastly, are there any new methods of treatment? So far as the virus stage of the infection is concerned—and this covers the prodromal period and the outcrop of the rash—there is no specific treatment. Anderson and his colleagues have shown that in the major form of the disease early administration of the new antibiotics will not save the life of the patient who is severely infected by virus, but will limit secondary bacterial infection and promote rapid healing of the lesions in those who escape the worst form of the disease. Chemotherapy has therefore a definite place in variola minor. It should be appreciated that the type of bacterial secondary infection may well vary from patient to patient and from place to place, so that bacteriological examination of the pustular material is desirable. For general purposes the newer antibiotics would seem best because of their wide range of activity.

NEW TREATMENT FOR TUBERCULOSIS?

Last week-end a series of press conferences in New York gave the first news of three new drugs which are claimed to be extremely effective against tuberculosis. They are close relatives of nicotinamide, the anti-pellagra vitamin, and their antibacterial activity has presumably been discovered by following out the well-known theory of Fildes and Woods that vitamin-like chemicals are likely to interfere with the normal metabolism of the vitamins needed by bacteria for growth: thus sulphanilamide competes with and displaces the vitamin *p*-aminobenzoic acid and inhibits bacterial growth.

The new drugs are said to be *iso*nicotinic acid hydrazine (the most active), its glucosyl derivative, and 1-*iso*nicotinyl-2-isopropyl hydrazine, which have been prepared in the laboratories of Squibb and Hoffmann La Roche. Both these firms, the National Tuberculosis Association, and the New York Commissioner of Hospitals have given interviews to report the effects of the drugs on the 190 patients so far treated. These,

as reported at length in the *New York Times* of February 22 and 23, are our sole source of information so far, and no details have yet been given to any medical conference or medical journal.

The tuberculous patients, at Sea View Hospital on Staten Island, were selected because they had not responded to streptomycin or *p*-aminosalicylic acid, and were given the new drugs by mouth, after tests on experimental tuberculosis in mice and guinea-pigs had proved promising. The effects were said to be spectacular. Within a week the patients, "all of whom were emaciated and had been refusing food, developed ravenous appetites. One ate as many as 11 eggs for breakfast. A female patient who had declined from 185 lb. to 97 lb. regained 84 lb. in nine weeks. Another gained as much as 95 lb. in a similar period." Many also had temperatures ranging from 100° F. (37.5° C.) to 105° F. (41° C.), which fell to normal after two or three weeks of treatment. Improvement was shown not only in pulmonary tuberculosis but in disease of the larynx and intestine.

Full case histories and proper clinical reports with controls will be awaited with much interest. Much longer experience of treatment will also be needed before any true estimate of the value of the new drugs can be made. The drugs are not yet commercially available, and in the meanwhile we can only watch with cautious enthusiasm for further news.

UNIVERSITIES AND MONEY

It was cheering to learn on February 21 that at this time of financial crisis the Chancellor of the Exchequer has been able to find more money for the universities. This year, which is the last of the old grant, they will have rather less than £17m. between them. Under the new proposals they will get £20m. next year, and increases each following year to £25m. in 1956–7, which, with increasing costs, should mean that they will just about be able to maintain their present activities. This is satisfactory, since the last five years have seen an enormous expansion in higher education, and it is doubtful whether the general facilities require much further increase. The University Grants Committee's interim report on the years 1947–51,[1] just issued as a White Paper, notes in its introduction that during these five years £17m. worth of new buildings have been completed, while the student population has increased by 70% and the full-time university staffs from 5,561 to 8,490. It comments that no further increase in numbers of students can be expected in the immediate future without reducing university standards. The next step in fact is one of consolidation, in particular of making sure that students are studying the right subjects. It will be unfortunate if arts graduates, for example, are produced in numbers far in excess of the suitable jobs awaiting them, leading to unemployment and discontent, while the number of dental students remains well below the level required by the Health Service. The Committee points out that there used to be an average of 350 new dentists a year before the war, and although this figure is now about 600 a year the Teviot Committee recommended 900, and there is clearly need for further expansion. As one contribution towards this expansion, the provision of more teaching staff, the Nuffield Foundation has started an interesting scheme of scholarships and fellowships to induce medical graduates to change over to teaching and research in dentistry, which has been relatively neglected. An advertisement giving details of the openings of this kind appeared recently in our columns.[2]

Although in accordance with the views of the Goodenough Committee there has been no increase in the number of medical students in the past quinquennium, the report has some interesting facts on the quantitative growth of medical education. Last year the medical schools received nearly £3m. of public money, of which the British Postgraduate Medical School in London took over £400,000. Fifty-five new full-time clinical professorships have been created (three for the Postgraduate School), and the full-time academic staffs of nearly all the medical schools have increased. At Guy's, for instance, the staff has grown from 34 in 1946 to 100 last year, at Bart's from 20 to 50, at the Middlesex from 51 to 74.

[1] *University Development: Interim Report on the Years* 1947 *to* 1951. H.M.S.O., 1952, Cmd. 8473, price 1s.
[2] February 2, p. 41.

THE ROSS INSTITUTE INDUSTRIAL ADVISORY COMMITTEE

The Ross Institute Industrial Advisory Committee was formed in 1928 "to keep Industry in touch with Science, to make the Tropics healthy, and to expand the markets of the world." It includes representatives of tea, rubber, sisal, sugar, mining, and oil interests in all parts of the world. They met on February 21 to hear Professor George Macdonald report the Institute's recent work both in the field—it has field branches in India, Pakistan, and Ceylon, and a new mobile laboratory in East Africa—and in London, where it is responsible for the teaching of tropical hygiene at the London School of Hygiene and Tropical Medicine.

In particular, Professor Macdonald discussed the socio-medical aspects of labour problems in the Gold Coast mines. Some 200,000 people move annually between the relatively healthy but infertile territories of the north and the humid and unhealthy forest belt of the south, where they work on the cocoa farms or in the mines; the prosperity of the colony as a whole is dependent on this migration. The journey of at least 350 miles on foot or by expensive lorry to the labour-sorting town of Kumasi is bad, and many arrive in undernourished condition, approaching exhaustion. It is not surprising that tuberculosis is common: B.C.G. vaccination appears to be a partial solution, but it would need to be part of a Government plan to alleviate the conditions of travel and ensure adequate food from source to destination. Among mine employees there is a core of permanent workers who should be singled out for special observation and protection against the industrial hazards of their work, particularly silicosis. Medical and hospital facilities on the mines are good, but there is need for specialist advice on the industrial hazards of heat, silicosis, and accident.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

WARTS OF THE FEET

BY

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Warts of the feet are a common minor ailment. They may lead to considerable discomfort, and, as they often occur on pressure points, may give rise to incorrect positioning of the foot. They are seen in patients of all ages and both sexes, the maximum incidence being between the ages of 10 and 25. In children minor epidemics occur in schools, the infection being acquired by inoculation of the bare feet in swimming-pools and changing-rooms and when dancing. That warts are contagious is a matter of common clinical experience. One may appear on the physician's finger after contact with the instrument used for curettage, and there is experimental evidence that the causative agent is a virus. The incubation period of the plantar wart is variable, from six weeks to five months, and occasionally as long as a year.

Histopathology

The wart consists of a localized hyperplasia (acanthosis) of the epithelial cells (see Fig. 1). There is an increased rate of division of the basal layers, excited by the overlying infected cells. The latter contain intranuclear inclusion bodies and exhibit "ballooning" of the protoplasm. M. J. Strauss and his colleagues have reported the finding of crystalline particles (Fig. 2) in the inclusion bodies under the electron microscope; these they take to be the infecting virus. The rete pegs become thickened and project downwards, with a corresponding elongation of the papillae carrying the fragile capillaries. The latter are easily ruptured by pressure on the wart, and small haemorrhages are carried through the epidermis to show on the surface as discrete black dots. There is an associated increase in the horny layer.

Strauss and his colleagues noted that the warts which showed the "virus" histopathology differed in clinical appearance from those which did not contain inclusion bodies. The "virus" warts were single or multiple, but not confluent, and surrounded and almost hidden by a collar of horn. When exposed by the removal of horn the wart had a soft consistence and with the curette shelled out cleanly. Warts which did not show the characteristic histopathology were of the superficial dry hyperkeratotic type.

Clinical Appearance

The individual plantar wart is skin-coloured or brown, often speckled with brown or black points of haemorrhage. The surface is rough and irregular, tending to show lobulation in the larger warts. The main mass of the wart may be pressed down into the skin by the body weight and barely show above the surface. In addition a thick collar of horn is formed by the surrounding compressed normal skin. If this collar is trimmed away it will be seen that the skin ridges lead up to the edge of the epithelial mass of the wart and then stop short (Fig. 3). Further paring of the wart will cause pain as the nerve endings between the cells are reached, and soon points of bleeding will indicate the severance of the tops of the elongated papillae. Further dissection causes acute discomfort and free bleeding.

Warts may be single or multiple and occur anywhere on the foot or toes. The pressure areas are commonly involved, as they are particularly likely to pick up infected fragments of horn. Warts may reach 1 cm. in diameter, and often they are grouped with a large wart in the centre and smaller warts as a constellation around, suggesting that the latter have arisen by inoculation from the "mother" wart. Another arrangement, seen usually in adults, is the so-called "mozaic wart," where a number of small warts, equal in size, compress each other to a polygonal shape. Mozaic warts have a uniform covering of thick horn. The ball of the foot or the heel are the sites commonly affected. This kind of wart indicates multiple invasion and probably low immunity, for it is the type most resistant to treatment.

Differential Diagnosis

Among the common conditions which may be mistaken for plantar warts are corns and callosities. (For a detailed description see the Refresher Course article by Mr. N. C. Lake on "Minor Ailments of the Feet," published on May 5, 1951.) Horny scars left after caustic, surgical, or *x*-ray treatment of a wart may also be confusing. Because of the thin epidermis and dilated vessels in the atrophied cutis, haemorrhages readily occur which may speckle the horn as in a true wart. Further, the scarred epidermis may be irregular in thickness, the horny cap following the contour to give a rough surface. However, careful dissection will expose the thinned and irregular epithelial base without bleeding, and inspection with a lens after stretching the skin will demonstrate the normal ridge markings. Other localized keratomata rarely cause difficulty, for they are usually multiple. They are either congenital and present on the hands and feet (keratoma punctata) or form part of a general cutaneous disorder—for example, Darier's disease or arsenical keratosis. A pigmented naevus or melanoma appears as a brown or black area with the epithelium stretched and smooth over the surface. If it becomes malignant the increase in size will be noted by the patient, and the epithelium may become necrotic. The malignant melanoma presents as a dark

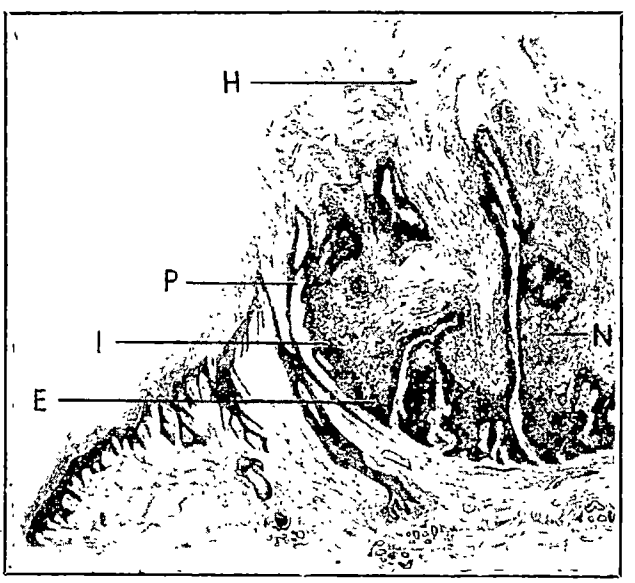

FIG. 1.—Histopathological features of a plantar wart. Great increase in horn (H); hypertrophy of epithelium and rete pegs (E); elongated papillae containing capillaries (P); cells in the Malpighian layer containing eosinophilic granules and masses in the protoplasm (I); dense deeply staining nuclei containing inclusion bodies, the cell bodies being degenerated and ballooned (N). These cells can be traced through the horn. (Drawn by Miss A. Gretener, of the Institute of Dermatology, University of London.)

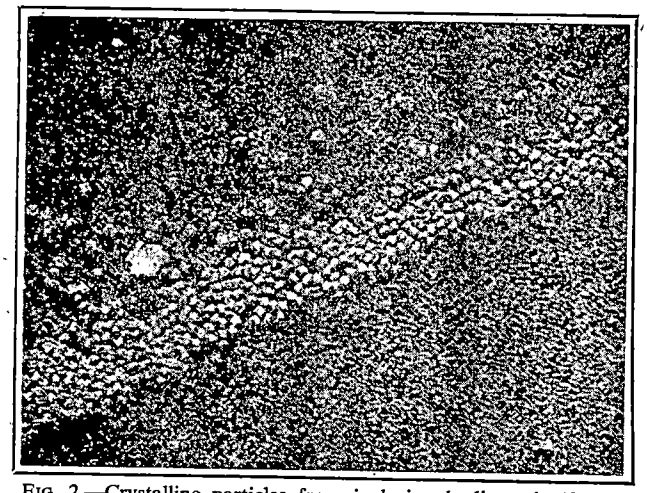

FIG. 2.—Crystalline particles from inclusion bodies. (×40,000.) (M. J. Strauss, H. Bunting, and J. L. Melnick, *J. invest. Derm.*, 1950, **15**, 433. Reproduced by kind permission.)

brown or black crusted mass, bleeding easily and raised from the surface. (See also Refresher Course article by Dr. H. Gordon on "Cancer of the Skin," published on August 11, 1951.)

Indications for Treatment

Plantar warts in children often subside spontaneously. It is difficult to give an accurate figure for this, but at least 25% will disappear over a period of observation of one year. Even in adults this may occur after two or three years. One could therefore delay treatment in certain cases.

What then are the indications for active therapy? Children may not be allowed to take part in some school activities because of the risk of infecting others. The wart may be painful and lead to disability in walking or playing games. When the wart increases in size and new warts appear, spontaneous healing may be too long delayed.

The aim of any treatment of warts on the feet is that it should be speedy, giving the minimum of pain and disablement. Further, no treatment should be advised that is apt to damage the underlying fibro-fatty tissue to any significant extent and lead to scarring or ulceration.

Single or multiple warts in children, with the features of virus warts, will respond to treatment on any of the lines to be discussed, but the dry, multiple, or mozaic wart of the adult or elderly patient can be resistant and calls for the exercise of the utmost therapeutic ingenuity. The method of treatment chosen will depend on the age of the patient, the type and number of the warts, and the time available.

In a child, when the wart reacts with a considerable inflammatory response it is well to wait four weeks before repeating treatment. If successful, the wart will have separated away or be easily lifted off. The epidermis beneath is thin and pink but will soon regain a normal colour and thickness. If no relapse occurs within a month, cure may be assumed. In adults it is wise to wait at least two months before the patient is discharged.

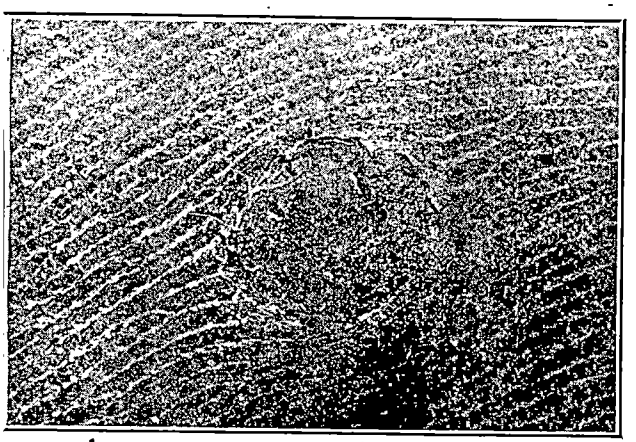

FIG. 3.—Plantar wart (×6) in a child of 9 years, showing the sharp border and interruption of the normal pattern of skin ridges. (From the Photographic Department, Guy's Hospital, London.)

Suggestion

Treatment by suggestion includes buying the wart and burying the coin; applying plants, weeds, and meat, the suggestion being that the living content of the wart is thus transferred. The wide range of agents used has led to the view that suggestion alone will be adequate. The visit to the doctor itself and the act of inspection also suggest strongly to the patient that relief of the warts will be obtained. A plantar wart in a child may involute in the interval between the first inspection and a subsequent visit for treatment. Warts have also been successfully treated while the patient is in the hypnotic state.

Occlusive Strapping

Simple occlusion of plantar warts by strapping carried around the foot and pressing on the wart may be successful. The strapping should be changed every two weeks and the macerated horn and wart substance pared down. D. A. Duthie and D. I. McCallum have recently reported that in 60% of a series of 90 warts so treated the substance of the wart could be removed within one to three months, with cure. They also combined this method with the application of podophyllin in oil.

If the strapping gives rise to irritation of the skin it should be removed and not reapplied, for a strapping dermatitis may extend very widely beyond the original areas of contact.

Freezing

Most plantar warts are treated by physical or chemical agents which damage or destroy the epithelial mass and provoke inflammatory reaction in the skin around.

Freezing with carbon-dioxide snow is a popular, safe, and convenient method. For a small wart or group of warts the stick prepared in the "sparklet" apparatus is adequate; if the wart is larger it can be frozen in segments by the small stick, or a larger stick can easily be prepared. For this the snow is collected from the escaping nozzle of the carbon-dioxide cylinder in a chamois-leather bag and hammered down firmly into a boxwood or plastic mould selected to the size of the wart to be treated. After the horn over and around the wart has been pared down the carbon-dioxide stick is firmly applied, and the wart and the surrounding skin become white and hard. The time of application depends on the size and depth of the wart: from one to three minutes is adequate. With the longer exposure a blister may form within 24 hours. If this is large and uncomfortable it can be snipped in four days, and in many instances the wart riding in the roof of the blister can be detached and the wound dressed. Healing is rapid, with a minimal amount of scar. If blistering has not occurred and after three weeks the wart has not shown any sign of early separation, the snow can be reapplied. There is no contraindication to four or more applications if there is a minimal response in adults. This treatment can be used with confidence for children, in whom the cure rate is 90%; in adults it is 50%.

Liquid oxygen is another convenient agent for freezing plantar warts in the clinic. The temperature of liquid oxygen is −182° C., 125° C. lower than that of carbon-dioxide snow. It is supplied in a vacuum bottle and applied on a wool-tipped applicator for periods of 20 to 40 seconds, depending on the size of the wart, until the latter has been well frozen.

Escharotics

The chemical necrotizing agents in common use are salicylic acid, monochloracetic acid, nitric acid, saturated silver nitrate solution, and the silver nitrate stick. The more

penetrating substances such as monochloracetic or nitric acid should be used with great caution.

Salicylic acid is used in the form of a 40% plaster cut to the shape of the wart, applied for seven days and then removed. After the macerated horn has been scraped away the irregular and papilliferous mass of the wart will be exposed. The applications are repeated at weekly intervals, and the necrotic epithelium is removed until the granulating cutis is eventually exposed.

Other caustics are used in a similar manner, the period between treatments being determined by the depth of the necrosis. If pain is severe the caustic application should be removed and the area bathed with a mild antiseptic lotion, such as 1% cetrimide or potassium permanganate 1 : 2,000. Any fluid or pus under the wart should be released and a bland boric ointment applied. There is a definite risk of scarring if caustic applications are allowed to damage the cutis to any degree.

Formalin

A much safer method than the use of escharotics is to fix the cells of the wart with formalin. The wart-bearing area of the foot is soaked in 3 to 5% formalin in a shallow dish for 10–15 minutes once or twice a day for three to six weeks. The only discomfort is dryness and irritation of the skin, but treatment must be stopped if there is any evidence of formalin sensitivity. Soaking in formalin is also to be recommended for multiple or mozaic warts.

Podophyllin

Podophyllin resin is also an effective and safe remedy for plantar warts. It has a selective action on the nuclei of the cells and in a 10–25% solution or suspension in oil produces necrosis of the epithelium. The horn is pared off the wart and the podophyllin suspension in oil applied; it is prevented from spreading laterally beyond the wart by a ring of strapping, and, finally, a covering of strapping is placed on top. Contact with the oil is allowed for 24 to 48 hours, depending on the rapidity of the epithelial necrosis and the discomfort. The soft white epithelium is then scraped away and the treatment repeated every one or two weeks. After 8 to 10 weeks the bulk of the wart will have been removed, leaving a granulating base of cutis. If excessive, the inflammatory reaction should be treated as indicated above.

Surgical Removal

Surgical removal of a wart is rapid, but the injection of a local analgesic into the foot is painful. Excision of a wart should not be done if a pressure area is involved, because the scar will have to bear weight and may be painful. Should there be a recurrence *in situ*—and this may happen particularly in adults—further treatment will be apt to increase the extent of the scar. Scarring is minimal when plantar warts are removed with a curette, and in an adult with numerous warts this is often the method of choice. It can be carried out under a local analgesic, but a short general anaesthetic may be required. The wart is outlined by an incision in the collar of horn and is readily removed with a sharp spoon from the depression in which it lies. The overhanging horny collar may then be trimmed with scissors. Healing is rapid, within a few days, under a simple antiseptic dressing. The results are good, and treatment can safely be repeated if relapse occurs, as it may do even after several months. This is also a safe method for the dry and mozaic wart, which is outlined by the knife-point and carefully and thoroughly scraped away.

Cauterization.—The galvano-cautery can be used to coagulate a wart, and the charred tissue scraped away with a curette. It is doubtful whether this method is any more effective than simple curettage.

Radiotherapy

The use of *x* rays or radium is the treatment preferred by many dermatologists because it is painless and the patient is able to continue his normal activities. About 50% are cured with an *x*-ray dosage of 400 to 600 r, and this is a safe dose to give. Some dermatologists and radiotherapists give up to 1,500 r, but there are warts which are resistant even to this dosage, particularly the dry and hyperkeratotic type in adults. Attempts to cure them with *x* rays may lead to persistent radio-atrophy or even ulceration. In my view *x* rays or radium are never indicated in the treatment of children or young adults. Their skins are vulnerable to *x* rays and they have longer to live, so that there is more opportunity for late permanent atrophy to occur.

Thorium X, which emits most of its energy as alpha particles, is much less likely to cause damage to the deeper tissues. The dosage used has been 2,000 electrostatic units per ml. of collodion, applied at intervals of three weeks for a maximum of four applications. The preliminary removal of horn before each application is important, as the horn has a screening effect. Thorium X has been found to be most useful in the treatment of adults or the elderly when the warts have not responded to caustics, freezing, or to surgical measures, and should be limited to these cases.

There remains the recalcitrant adult case in which treatment by caustics, surgery, and radiation has failed. These patients have been unable to develop any immunity to the wart virus, and it may be worth trying to stimulate antibody production by the use of a wart virus vaccine.

Conclusion

It must be emphasized that the successful management of warts of the feet depends on the ability to make an accurate diagnosis based on careful dissection of a suspected area. If the wart does not respond to therapy which is safe and non-mutilating, it is best to forbear. Discomfort can be relieved by paring the horn and the application of felt or padding.

Next Refresher Course Article.—"Clinical Assessment of Backache," by Mr. J. G. Bonnin.

LOYAL ADDRESS FROM THE B.M.A.

The Secretary of the British Medical Association has sent the following Loyal Address to the Home Secretary for transmission to the Queen:

TO THE QUEEN'S MOST EXCELLENT MAJESTY

The Humble Address of the President and Members of the British Medical Association

MAY IT PLEASE YOUR MAJESTY,

We, Your Majesty's dutiful and loyal subjects, the members of the British Medical Association distributed throughout Your Majesty's Commonwealth and Empire, beg leave to express our deep sorrow at the heavy affliction that has fallen upon Your Majesty, Her Majesty The Queen Mother, and the other Members of the Royal Family by the death of our beloved Sovereign, King George, Patron of the Association.

We beg Your Majesty to be pleased to accept our loyal congratulations on Your Majesty's Accession to the Throne. We pray that Your Majesty's Reign may be long, illustrious, and blest with peace, and we humbly offer to Your Majesty an assurance of our high regard and affection and our unfailing fidelity to Your Majesty's Throne and Person.

Signed on behalf of the British Medical Association,

A. W. S. SICHEL,
President.

E. A. GREGG,
Chairman of Council.

S. WAND,
Chairman of Representative Body.

A. M. A. MOORE,
Treasurer.

Reports of Societies

PRACTICAL EPIDEMIOLOGY

On February 15 three quite different subjects were discussed at a meeting of the Epidemiology and State Medicine Section of the Royal Society of Medicine at 1, Wimpole Street, W.1.

Dr. D. THOMSON began by describing the consequences of the Ministry of Health's decision to require the separate return of cases of paralytic and of non-paralytic poliomyelitis. During 1950 the returns showed that the ratio of such cases remained fairly constant at about 2 : 1. During the early part of 1951 the same conditions persisted until the 24th week, when there was a sharp change and the cases returned as non-paralytic poliomyelitis began to exceed the cases of paralytic poliomyelitis. From this time until the 37th week of the year this curious change in the ratio continued, and then there was a reversion to the previous approximate 2 : 1 distribution.

A New Type of Meningitis?

It was suggested that these cases of non-paralytic poliomyelitis returned between the 24th and 37th weeks of 1951 were really part of a distinct epidemic of an unknown disease. The epidemic affected approximately the same age groups as poliomyelitis; the incubation period was of the order of 5–7 days and the duration was quite short. The typical case, apart from severe headache, had a moderate temperature for three to four days, and signs of meningeal irritation. Lumbar puncture showed a pleocytosis (mostly lymphocytes) varying from 10 to 150 per c.mm. Striking features were that many cases had been in contact with each other and that no classical poliomyelitis cases had been seen in the locality for at least twelve months. Some observers had been reminded of cases of sandfly fever, but there was no evidence that any insect vector was involved. The disease could most plausibly be classified as an acute aseptic meningitis. The signs and laboratory investigations did not support a diagnosis of lymphocytic choriomeningitis, nor were the symptoms typical of Bornholm disease.

At the end of the discussion Dr. G. W. A. Dick voiced the opinion of many of those present when he urged that epidemiologists must have more co-operation from laboratory workers; in particular that teams of laboratory workers should be available for the collection of specimens in the field on a scale which was not at present possible in this country. The epidemic was, perhaps reasonably, assumed to be a virus infection, but without quite elaborate laboratory investigations it was impossible even to define the problem, let alone to characterize the nature of the infection.

Reactions to Vaccination

Dr. M. MITMAN gave an account of the reactions which might follow vaccination. Local reactions were of two types—those due to multiplication of the living virus and those due to sensitivity to the virus (dead or alive) and its products.

The susceptible—i.e., the unvaccinated and those whose immunity from previous vaccination had lapsed—responded to the living virus with the typical primary-type reaction, which was maximal after the 7th day.

The partially immune—i.e., those with some residual immunity from a previous vaccination—responded with a modified lesion which was called "vaccinoid" or "accelerated." In fact, its onset was not accelerated and might even be delayed, but because it ran its modified course rapidly its maximum intensity was reached between the 3rd and 7th days. It should not be called an accelerated reaction.

The sensitive, whether susceptible or immune, responded to the virus, dead or alive, with an early reaction on the 2nd or 3rd day which had been called the "immediate reaction of immunity," but was neither immediate nor a reaction of immunity. It had been regarded as the normal reaction of the immune subject, but, as it might occur in those whose immunity had completely lapsed, it should not be called a reaction of immunity. Because sensitivity persisted after immunity had waned, revaccination commonly resulted in a combined early and vaccinoid reaction. While the former was regressing the latter developed; hence the impression that vaccinoid reactions start early. Distinction between sharp early reactions and mild vaccinoid ones was sometimes difficult. Vesiculation commonly regarded as a distinctive feature of vaccinoid reactions occurred in sharp early reactions although the vesicle was clinically different.

The absence of any reaction at all had been regarded as evidence of complete immunity and of a refractory state, but was most commonly due to errors in technique. Technical failures, even by the experienced, were surprisingly common. Immunity from vaccination was of shorter duration than commonly believed. The best practice was to obtain a minimal primary vaccination and to revaccinate at short intervals—one or two years in those subject to special risk. Even if there was no take, the revaccination probably boosted immunity, although serological evidence was required to support that hypothesis.

Precautions against Serum Reactions

To conclude the meeting, Dr. H. J. PARISH, in a joint paper with Dr. L. J. M. LAURENT, discussed serum reactions and serum sensitivity tests. Different authorities gave contradictory advice about the various sensitivity tests. The real problem was to avoid the immediate anaphylactic reaction, which, although very rare, was dangerous and might prove fatal. The practitioner was not concerned about serum sickness of late onset, the case incidence of which had been reduced to about 5% by enzyme-refined serum: rashes were almost always transient and mild. Laurent and Parish deprecated the use of the intradermal test for serum sensitivity. It gave no security if negative, and if positive might needlessly deter the administration of serum. The common assumption that local and general hypersensitivity always ran parallel was wrong.

Explicit instructions were given on how to minimize the danger of anaphylactic shock. The preliminary subcutaneous injection of the small "trial dose" of serum was recommended. ("Trial dose" was a preferable name to "sensitivity test" or "desensitizing dose," especially as desensitization was probably impossible in practice.) Trial doses were meant to be absorbed slowly into the general circulation, so that *general* reaction to a small amount of serum was first tried. If shock should develop, it would probably be mild and readily respond to treatment.

If a patient had not had serum before and had not suffered from asthma or infantile eczema, the main dose could be given intramuscularly; but he *must* be kept under observation for 30 minutes. If, however, there was a history of having had serum previously, the main dose should be preceded by a trial dose of 0.2 ml. subcutaneously. If after 30 minutes there were no general symptoms the main dose might be given intramuscularly. Everything should be at hand for emergency treatment. If there was a history of asthma or infantile eczema the trial dose should be reduced to 0.2 ml. of a 1 : 10 dilution subcutaneously, followed after 30 minutes (if there were no general symptoms) by 0.2 ml. of the undiluted serum intramuscularly; after another 30 minutes the main dose could follow intramuscularly. In acute cases in which intravenous injection was indicated all preparations for treating shock should be made beforehand. This route should not be used unless a preliminary intramuscular injection had been tolerated.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Mercury in Paediatrics

SIR,—I was much interested in the article by Miss Vera K. Wilson and Drs. M. L. Thomson and A. Holzel on mercury as a possible cause of nephrosis in children (February 16, p. 358), and would like to congratulate them on a nice piece of investigation. I am, however, a little disappointed in the hesitant phraseology of your annotation on the subject (p. 370), which states:

It is important that we should not be driven from our pharmacopoeia through fear. The immediate need is not to jettison useful drugs but rather periodically to review therapy in use and be sure that the value justifies the risk.

This is fair comment only if we *are* considering useful drugs, and that question does not seem to have been seriously examined. In 31 years of medical practice with adults I cannot remember having once prescribed, or advised the use of, calomel. This may, of course, be due to my ignorance of its virtues, though I prefer to believe that it is due to the enlightened teaching of A. E. Barnes and Edward Mellanby in Sheffield, who gave me, in 1920, a healthy contempt for most of the pharmacopoeia of that day.

Will someone tell me, in 1952, what is the value of calomel in paediatrics? Or is its use, as I suspect, perpetuated solely on a basis of personal preference, custom, and tradition, and on unsupported statements such as those of Bunthorne (R. Bunthorne, see W. S. Gilbert, *Patience*, Act I, London, 1881)?—I am, etc.,

Manchester. ROBERT PLATT.

SIR,—Your contributors, Miss Vera K. Wilson and Drs. M. L. Thomson and A. Holzel (February 16, p. 358), are to be congratulated on their article drawing attention to the dangers of indiscriminate mercurial medication. Perhaps the moral of their article needs no pointing. Yet it seems to me a pity that the author of your annotation (p. 370) should concern himself with the place of mercurial preparations in the pharmacopoiea.

My experience in infant welfare clinics suggests that mercury is most often given without reference to medical advice. Parents, distressed by the sufferings of teething infants, resort to proprietary teething powders. Time and again mothers, informed that the powder in question is a mercurial purgative, express astonishment and incredulity. It is only natural that the exhausted infant's sleep should be attributed to non-existent virtues of the powder. The need for public enlightenment on this point leads me to comment on the lost opportunity. In the history of Case 5 (p. 359), a 19-months infant who died as a result of taking teething powders, occurs the statement that "permission for necropsy was refused." Does this mean that the coroner failed to order a necropsy? It is a pity he did not hold a public inquiry into the cause of death.—I am, etc.,

St. Peter's-in-Thanet, Kent. BRIAN WEBBER.

SIR,—Since the publication of our article (February 16, p. 358) we have had the following case under our care.

A boy aged 6 months was admitted to hospital on January 7, with a history of oedema for one week and much albumin was found in the urine. One teething powder containing approximately 0.64 g. (42 mg.) Hg had been given daily for two weeks. The urine contained 175 μg. Hg per 100 ml. A ten-day course of dimercaprol was given. From the sixth to the ninth day the child's weight fell by 2½ lb. (1.1 kg.) and three days later no oedema could be detected. The albumin in the urine decreased rapidly after the sixth day of treatment and a week later had disappeared. The mercury content had fallen to 16 μg. per 100 ml. The apathy which had been present since admission gradually diminished and there was marked improvement in the child's general condition. So far as we could tell from the mother no other mercury-containing preparation had been given.

Date	Blood Urea mg. per 100 ml.	Blood Cholesterol mg. per 100 ml.	Serum Proteins (g. per 100 ml.)		
			Total	Alb.	Glob.
11/1/52	36	370	3·80	1·51	2·29
18/1/52	36	290			
1/2/52	31	195	5·29	3·04	2·25

—We are, etc.,

VERA K. WILSON.
M. L. THOMSON.
A. HOLZEL.

Manchester.

What Doctors Prescribe

SIR,—The article on 17,301 prescriptions (February 9, p. 292) by Professor D. M. Dunlop and others is obviously most important to the Government as well as general practitioners. It is also most illuminating, but as it contains one or two misstatements and others which are debatable I should like to make a few comments.

The first is that as there is no Form E.C.10A in England all the suppositions based on its existence are fallacious. I wish this form was allowed in England as well as in Scotland, for it would help our work greatly. The second statement I would contest is (p. 295) "that there are few occasions in practical therapeutics which demand the prescription of more than one drug, etc." This implies that suitable single drugs exist for most clinical conditions (apart from taste, which requires the flavouring), and I think that few practising physicians believe this, not even of adrenaline in asthma. Most drugs have undesirable side reactions, and many of these can be minimized by a careful prescription including adjuvants and correctives. Often the same result can be achieved by prescribing smaller amounts of several drugs which have one action in common, but each with its own different series of unwanted effects. This is, in fact, the principle on which many so-called elegant preparations are based. The authors state that these "must generally be classed as placebos," but the general practitioner, who seems to see a different type of patient than that in hospital or academic practice, knows that some, at least, of these preparations are very valuable indeed. It is mostly in the long chronic conditions that they prove of value, and they often have to be given for a considerable time before they prove their worth. Hospitals are not the places where such patients go; they are the cast-offs of the consultant, or if they attend out-patients the physician in charge has not the time to listen to their manifold complaints and to watch their slow return to health, or the junior medical officers have not the experience to deal with them, or indeed much sympathy either with cases that do not correspond with the types of illness he has been taught to class as "disease."

It is for these reasons probably that the authors speak rather disparagingly of the vitamin preparations and (apparently) of plastules with folic acid. I am constantly surprised, and pleased, at the number of women who tell me that the latter have made life entirely different for them when simple ferrous sulphate had had no effect, and their changed attitude to life shows that they are telling the truth. Other vitamin-B-complex preparations have a similar effect on a different type of woman, and, as my wife has been taking a preparation containing "taka-diastase," aneurin hydrochloride, nicotinamide, and ascorbic acid regularly for over a year, I have had a great opportunity to observe its beneficial effects, though when I first read about it I was nearly as sceptical as Professor Dunlop and his colleagues. The fact seems to be that we still have a good deal to learn about vitamins, and probably about nutrition also, and that besides the various enzyme reactions which have now been discovered for most of them there are probably others due to massive doses (particularly perhaps the fat-soluble A, D, and E) or long-continued smaller doses which cannot be demonstrated on experimental animals but which can be observed in human beings if one has the patience to look for them. After all, science is based on observation, and alcohol can make people merry as well as drunk.

It would be nice to comment on many other points, but I should like to stress the point made about the value of chloral, particularly in children's diseases, though my father—with much longer experience than I have had—preferred bromide except in confinements. The large number of sedatives prescribed can to some extent be justified, not because we are most of us neurotic, but because some doctors are still old-fashioned enough

to believe in the *vis medicatrix naturae*; and certainly many cases (some obscure and some less so) prove that Nature can make a good recovery if once the patient's mind and body are put at rest—which is far from saying that their ailments were necessarily psychogenic. This does not excuse slovenly examinations and diagnosis, but a harassed doctor can hardly be blamed if at times he prescribes a barbiturate which at the worst will seldom do harm and will at least give his patient (and his or her household) a good night's sleep and a better chance of recovery.

After offering these criticisms it is a pleasure to say again how stimulating I found the article and how completely I agree with many of the points raised, and especially the conclusions about the teaching of pharmacology, though I think that 10 or 15 years' experience in general practice might be useful for the teachers, as it certainly will be for their students. But the most important thing is that these latter should be taught to observe the effect of what they prescribe and not simply try to memorize and look for what they have been taught to expect.—I am, etc.,

Winsford, Cheshire. W. N. LEAK.

SIR,—One statement in the interesting survey of prescriptions on Form E.C.10 (February 9, p. 292), relating to the incidence of pernicious anaemia and diabetes mellitus, does not seem in accord with conditions in this semi-rural area of Lincolnshire. The authors state, "Diabetes is a common disease, while the megaloblastic anaemias are comparatively rare." In the practice in which I am a partner there are at present 23 cases of diabetes on insulin treatment, one on diet only, and two presumptive cases under investigation, a total of 26 cases. Pernicious anaemia cases, in all of whom the diagnosis has been adequately established, number 16. Incidentally, no member of the partnership prescribes liver other than for cases of megaloblastic anaemia. These figures certainly do not seem to justify the comparative labels of "common" for diabetes mellitus and "comparatively rare" for megaloblastic anaemia, at least so far as this area is concerned: If, as is usually claimed, Jews are more susceptible to diabetes, it should be added that there are practically no Jews in south Lincolnshire.

So far as prescribing is concerned, diabetic patients are usually given on one prescription insulin sufficient for about a month, while pernicious anaemia cases receive usually on one prescription enough liver injections to last them for four to six months. In any one month therefore in this practice the average issue of prescriptions is in the ratio of about six insulin prescriptions to one of liver. One imagines that for the convenience of both patient and doctor infrequent prescribing of both insulin and liver is the rule throughout the country. The close relationship in number of the prescriptions analysed by Professor D. M. Dunlop and his colleagues (50 for liver and 68 for insulin) certainly suggests that liver is not uncommonly ordered for disorders other than megaloblastic anaemia.—I am, etc.,

Boston, Lincolnshire. J. H. F. PANKHURST.

SIR,—A survey of 17,301 prescriptions on Form E.C.10 by Professor D. M. Dunlop and Drs. T. L. Henderson and R. S. Inch (February 9, p. 292) makes some rash statements and draws some rash conclusions. As a G.P. with a mixed practice and a maximum list, I could be one of the 140 or so doctors whose prescriptions have been scrutinized by and subjected to the academic eyes of the authors.

"That 21% of all prescriptions were for proprietary drugs would seem excessive" is politely worded, but carries a sting in its tail. Who are the authors to be able to make such observations? Were they present at the time of the diagnosis, did they see and know the patients, and did they not only follow the cases but also take responsibility for them? Moreover, what do Professor Dunlop and his colleagues mean by proprietary drugs? Are the *B.P.*, and *B.P.C.*, and addenda their criteria? If so, what of such medicaments as the antihistamines, *p*-aminosalicylate, "priscol," vitamin B_{12}, methionine, hexamethonium bromide, and chloramphenicol, which, with many others, may have official names, but may not be in or get into these publications for some time? Are such essential drugs and others that may be patented or are only made by one or two firms to come under the ban? Further, there are many examples of drugs developed by manufacturers (e.g., "coramine" or nikethamide, procaine penicillin, isoprenaline sulphate, dextroamphetamine, etc.) which are of great worth and only get put into the *B.P.* and *B.P.C.* after a lapse of time. Are we, as G.P.s, to be frowned upon for prescribing them for N.H. patients before such drugs are in the official publications?

"Tablets should be prescribed in preference to the corresponding mixture," and, "The powder should generally be prescribed in preference to the mixture." These remarks appear to show little knowledge of and sympathy for the G.P. Such statements savour of the clinic, or of the laboratory with pithed frogs, decerebrate cats, and heart-lung preparations: they could be made by a dictatorial Ministry of Health. Surely the criterion for the form of a medicament is the patient and what suits him best. Some duodenal ulcer sufferers prefer mixtures of alkalis, others favour powders, and a few like tablets to crunch. Sweeping statements such as the two quoted above show a remote control of the patient and a disregard for reality.

"Chloral hydrate was only very occasionally incorporated," and, "Paraldehyde did not appear in a single prescription." Surely paraldehyde is outmoded and chloral hydrate has many drawbacks.

"The value of expectorants is doubtful." It would be more accurate to say the value of expectorants is controversial. However, probably the best answer would be obtained from chesty patients and those who say they have a tight chest and cannot get up the phlegm. Laboratory experiments on animals or humans in which the volume of expectoration is measured on treatment with a drug or a combination of drugs have their value, but the ease and comfort and quicker recovery of the patient also matter, and I feel I can safely advise the authors to try an expectorant mixture (preferably containing tinct. opii camphor. *B.P.*) when they get a tight chest, and they will yet bless me for the advice.

"It is surprising that adrenaline is prescribed so infrequently." There are many methods of treating asthma. Injection of adrenaline is generally used when other remedies do not work, and even adrenaline fails at times.

"Multiple-vitamin preparations were often prescribed and are undesirable." There is much faulty nutrition to-day among old-age pensioners and office girls, and such preparations work wonders. Further, after a debilitating illness, post-influenzal depression, post-operative debility, and for anorexia, they will get people on their feet and back to work.

To say that it is doubtful if "dexedrine" possesses any advantage over amphetamine is to go against clinical findings.

Mersalyl is only one of the organic mercurials used, and it is often necessary to change from one to another to get continuous results—e.g., from mersalyl to, say, "neptal."

The suggestion of the authors that more asthmatics should be taught self-administration of adrenaline is not in my view or experience sound advice, but space will not permit me to give reasons now.—I am, etc.,

Luton. D. R. SNELLGROVE.

SIR,—In their survey of prescribing Professor D. M. Dunlop and Drs. T. L. Henderson and R. S. Inch (February 9, p. 292) have performed a useful service, but their suggested remedies seem to us to result from much too blinkered a view. It is clear from their figures that over one-half, and probably as much as three-quarters, of the prescriptions given by general practitioners are for placebos. This is not because practitioners are ignorant of the fact that many of these preparations are pharmacologically inert but because the prescribing of these is apparently the usual, and sometimes the only known, method of dealing with functional illness. The patient is not being treated for the illness from which he is suffering, but is merely being fobbed off.

We have previously (*Lancet*, 1951, **1**, 1226) expressed the view that functional illness is the greatest clinical problem facing the general practitioner of to-day. We also believe that, given a correct approach to the psychological and social origins of functional illness, and given adequate time, the general practitioner is well able to deal with the problem. Indeed, with his intimate knowledge of the patient's environment, he is the ideal person to do so.

But a correct approach to the problem of functional illness on the part of the general practitioner implies a reorientation of the selection and training of the student and adequate time for the doctor. The latter can be obtained only with a

reorganization of the general practitioner's conditions of work based on the elimination of economic competition between doctors and the development of group practice at properly equipped health centres.—We are, etc.,

L. M. FRANKLIN. R. TEPPER.
St. Paul's Cray, Kent. J. D. PAULETT. E. TUCKMAN.

SIR,—A few days ago, while travelling by rail from Liverpool to London, I was privileged to have a retired sea captain as a travelling companion. He mentioned in the course of our conversation that he had recently consulted his doctor, who, as a result, gave him a prescription for a cough mixture. He took this along to the chemist and was given in exchange an 8-oz. bottle which he saw being filled from a huge stock container. A week later, the medicine finished, he decided to save both his own time and that of his doctor by obtaining a repeat of the mixture direct from the chemist, expecting to pay, perhaps, a couple of shillings for it. To his surprise, he was given a small 2-oz. bottle for which he was charged 3s. I think the concluding remark of my companion is sufficient comment by itself—i.e., "That sort of thing does not encourage one to treat the doctors considerately or to use the Health Service economically."—I am, etc.,

London, S.W.1. I. CRAWFORD JONES.

SIR,—The interesting and helpful article by Professor D. M. Dunlop and Drs. T. L. Henderson and R. S. Inch (February 9, p. 292) prompts me to put forward the views of a general practitioner. It stimulated me to examine the deep ignorance of pharmacology which prevents my attaining the therapeutic wisdom and economy indicated. My one textbook of pharmacology is dated 1921. In addition I have by me and enjoy Professor Dunlop's most practical book on medical treatment. Present-day practice allows me no time to read it systematically and only rare moments to refer to it. Patients visited usually want a prescription they can take immediately to the chemist. In the consulting-room, if I turn to the book and say, "This chap knows far more than I do," the patient loses faith and I face.

Manufacturing chemists are anxious to keep me up-to-date: but I have learned to send away their representatives and to use their circulars for salvage. Any recent knowledge I have gleaned comes from R.S.M. meetings, the *British Medical Journal*, meeting consultants and from their letters. Few consultants, I believe, have Professor Dunlop's profound knowledge of the economics of therapeutics. They tend, naturally enough, to prescribe what they want for the patient and to give little thought to the cost. The general practitioner does not often have the opportunity to take up their time discussing the merits of cheaper equivalents. Consequently I find myself often using the expensive but effective remedies learned from these teachers. (It should be remembered, too, that some of the "equivalents" are not as good as the proprietary substances—e.g., Neb. adren. et atrop. co. is nearly always rejected by asthmatics.) The high incidence of proprietary prescribing in industrial areas might be explained by more patients being sent to hospital and so more consultants' letters recommending proprietary remedies.

The small number of injections, I am afraid, may be due to little time and high cost. The niggardly allowance for injections is very discouraging. Professor Dunlop mentions adrenaline for asthma. I find this short-acting cheap drug is a mere placebo compared to the long-acting ninepenny ampoule of adrenaline in glycerin. Ninepence is our pay for looking after the patient for eighteen days or the injection allowance for 30 patients for a year. I love my patients, but I fear my banker.

Vitamins are an excellent example of prescribing difficulties. In view of the increase in respiratory infections and post-operative haemorrhage some general practitioners doubt the value of *ex cathedra* statements that the post-war diet is adequate for work and for convalescence. We tend, therefore, to prescribe vitamins hopefully. Our prescriptions are often extravagant because we are confused by consultants' letters and manufacturers' pamphlets, and we do not know whether we shall be treating our patients adequately by telling them to drink more milk and take brewers' yeast. Liver, I think, is grossly over-prescribed as the result of advertising. For my part, I am waiting until I get a case of pernicious anaemia.

Another circular we all suffer from is the *National Formulary*. Professor Dunlop comments on inadequate doses of bromides. Let him look in the *Formulary* to see what guidance we get there.

Cold. Vaccines.—On this subject my bow to Professor Dunlop's authority is a purely formal one. In spite of the inconvenience—and, for private patients, expense—my patients keep coming back for anti-catarrh vaccines because both they and I know they work. If one excludes sinus infections and ignores makers' dosage, the results are good. I kept records for two years and found that about 70% benefited at least by having fewer and less severe colds, and many of these had no colds at all.

Mersalyl.—In my case ignorance of pathology and fear of damaging kidneys make me very cautious of using mersalyl without a consultant's advice.

Conclusion.—The general practitioner's handicaps are not indifference, but lack of time, confusion, and lack of knowledge—in which exclusion from hospital practice is a big factor. I have real doubts about whether the teaching of economy in prescribing would be well done by consultants in hospital, and I am sure it is not a bedside subject. Students might get glimpses if and when they are apprenticed to general practitioners.

If time could be found, the general practitioner himself would benefit by being paid to go to postgraduate courses in pharmacology, conducted as seminars by physicians and pharmacologists, with pharmacists and general practitioners as critics. Courses such as these would benefit the patients, make us happier by refreshing our knowledge and self-confidence, and pay for themselves by the resulting economy and efficiency in prescribing.—I am, etc.,

Wembley, Middlesex. M. C. ANDREWS.

Ryle's Tube in the Trachea

SIR,—On two occasions in the last 18 months I have had the same experience as Mr. Eric Coldrey's anaesthetist (February 16, p. 382) and had to remove a Ryle's tube from the trachea before passing an endotracheal tube. On several occasions I have found the Ryle's tube coiled up in the pharynx and tolerated with no apparent difficulty.

My patients have been aged, dehydrated and acidotic, and perhaps this accounts for the surprising tolerance of the pharynx and larynx. The premedication would add to the tolerance by causing further dehydration and depression of the pharyngeal and laryngeal reflexes.—I am, etc.,

Richmond. GORDON C. THICK.

SIR,—I was very interested in Mr. Eric Coldrey's letter (February 16, p. 382). Before an emergency laparotomy one evening I requested, after a stomach washout, that a Ryle's tube should be passed and left *in situ*. It was passed without any difficulty. The patient seemed very comfortable, except that he had "a slight tickle" in his throat—nothing more. When about to pass a tube into the trachea, the Ryle's tube was seen lying between the cords.—I am, etc.,

Birmingham. BETTY THOMAS.

Stellate-ganglion Block

SIR,—I have used the technique mentioned by Dr. J. A. Lee (February 16, p. 381) many times since it was first described by René Leriche and Fontaine (*Pr. méd.*, 1933, **41**, 1819), so that the suggestion that Dr. Virginia Agar was the originator of this method is incorrect. Leriche and Fontaine give more detailed directions than does Dr. Lee;

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and there is no doubt that, simple as the procedure is, it does call for a little more knowledge than is contained in his letter.

I hope later to record a number of cases of aural vertigo treated by stellate-ganglion block; but perhaps I may say here that it is often valuable in this distressing complaint, although, surprisingly, it does not appear to have any effect on tinnitus.—I am, etc.,

London, W.1. A. PINEY.

SIR,—With reference to Professor René Leriche's article (February 2, p. 231), I think it might be of interest if I recalled some of the observations from several hundred procaine stellate blocks and approximately 160 sympathectomies, all of which I have performed for disorders of the internal ear, such as Ménière's disease, tinnitus, and a few selected cases of nerve deafness.

There is no doubt that sympathectomy has an influence on the cerebral circulation if one can regard the internal auditory artery as being a part of the cerebral circulatory system. During the course of a fenestration operation I have seen under the microscope the minute labyrinthine blood vessels dilate as the result of a procaine stellate block. This is recalled in *Proc. roy. Soc. Med.*, 1951, **44**, 760. Here, then, is proof that the cerebral circulation is definitely under sympathetic influence.

It is of interest to recount the effects on concurrent conditions in some of these patients who underwent operation (either stellectomy or upper dorsal sympathectomy).

(1) Nine patients had migraine on the side of the operation: none of them has had any attacks since. The state of mental anxiety, worry, and depression accompanying Ménière's disease was completely lifted in all cases where the operation was performed bilaterally—in fact this is the commonest spontaneous remark of the patients post-operatively, "that they feel a weight has been lifted from them." They no longer have the bursting pressure bands around their heads or the feeling of a weight pressing on the vertex. It would seem that this functional symptom is influenced for the better by the operation.

(2) Eight cases had cardiac palpitations: these also appeared to be relieved.

(3) Three patients had severe occipital cephalalgia; and this was relieved also. The patients said that they were able to take an interest in life and concentrate on their work again.

Apart from the effects on disorders of the internal ear the most striking effect appears to be on the higher centres.

I thought that this long series of cases and these few observations might be of general interest.—I am, etc.,

London, W.1. E. R. GARNETT PASSE.

Vascular Spasm

SIR,—Mr. John Sophian has performed a useful service by pointing out in his letter (February 16, p. 382) that vascular spasm "as the result of nervous intermediation" is not an imaginary occurrence or always a deduction from faulty observation. The nicest demonstration of vascular spasm (and of its relief) is seen in schizophrenic patients whose low metabolic rate may require additional physiological mechanisms for preserving body heat. The brachial vessels below the level of the axillary artery, and the vascular tree of the lower limb below the popliteal artery, are not infrequently affected (*Proc. roy. Soc. Med.*, 1950, **43**, 623). The main vessels, however, remain patent except at their terminal arborizations. When the small terminal vessels are occluded there is no bleeding from fingers or toes after pricking, and gangrene may supervene. The main vessels are easily palpated and rolled under the finger; they are very firm and very narrow in calibre, and they are pulseless. The spasm of these vessels is relieved after warming an "indifferent" limb (so-called reflex vasodilatation), and after anaesthetization of the sympathetic vasoconstrictor supply. The condition is also alleviated by a remission, either spontaneous, or following insulin treatment or E.C.T. Prolonged warming of the extremities will usually avert any considerable loss of peripheral parts, although flaking of soft tissues and atrophy of the nails is often observed. The post-mortem appearance of the vessels of these patients is normal, with the possible exception of hypertrophy of the muscular coat of medium and small arteries.—I am, etc.,

Arlesey, Beds. F. MACKENZIE SHATTOCK.

Hypnotism in Medicine

SIR,—Hypnotism is a mode of treatment which has an important place in medicine. It cannot be adequately studied or practised in abstraction from wider psychiatrical considerations or without training in psychology and in analytical psychotherapy.

Hypnosis is a mental state of increased suggestibility, becoming dangerous when it reaches the deep stage of "hypnotic trance," which I have defined as "a secondary state of mind, produced by definite methods, leaving behind it amnesia or loss of memory for that particular mental state, and at the same time, or alternatively, involving pronounced anaesthesia to painful impressions" (*Brit. med. Bull.*, 1949, **6**, 1307). Such a stage of deep hypnosis clearly involves mental dissociation and is not entirely normal.

Persons who are easily hypnotizable are those most susceptible to mental dissociation and are therefore in need of reassociation and mental integration. It is my experience that such persons become less hypnotizable after a course of integrative psychotherapy. In this my experience agrees with that of Pierre Janet, as I discovered in an interview with him when he attended the 7th International Congress of Psychology at Oxford in 1923. Hence one's psychotherapeutic aim should be to obtain beneficial suggestion effects with the minimum of dissociative hypnosis. Increased suggestibility in itself is neither good nor bad, although not free from danger, and can be turned to good effect only through the imposing and repeating of good (health-giving) suggestions. But the full establishment of such improvement and recovery needs supplementation by some form of active psychoanalytical treatment, so that the "transference," or psychological dependence of the patient upon the physician, is resolved, and the patient can then stand on his own feet and complete his cure by autosuggestion, neuromuscular relaxation, and deepened self-knowledge (autognosis).

On the other hand, the beneficial effects of suggestion treatment, especially if repeated for a considerable period of time, in the case of voluntary and autonomic nervous dysfunction and endocrine disturbance, can find a proximate explanation in terms of I. P. Pavlov's theory of conditioned reflexes, and may be regarded as examples of successful *reconditioning of nerve reflexes* and of bodily functions in general. I have myself set this out in my article "Hypnosis, Suggestibility, and Progressive Relaxation," in 1938 (*Brit. J. Psychol.*, **28**, 396), while indicating that this theory cannot explain *all* the phenomena of hypnosis—e.g., the recall of lost memories in a moment of time under hypnotism, etc.

But, of course, the practice of hypnotism (deep or light) in medicine should take full account of the underlying mental causes of illness as well as of physical and mental symptoms, and should therefore be accompanied by adequate mental analysis and mental and physical rehabilitation.

Looking back on nearly 40 years of experience of medical psychotherapy, I feel inclined to declare that hypnotism is a method to be overpassed wherever possible, and that the watchword of modern psychotherapy should be "Beyond hypnotism."—I am, etc.,

London, W.1. WILLIAM BROWN.

SIR,—May I comment upon the reply given in "Any Questions?" (January 19, p. 173) to the query concerning the place of hypnotherapy in chronic asthma, and at the same time offer some criticism of the attitude generally adopted to this procedure by the journals of the B.M.A.?

Hypnotic treatment can, in my experience, frequently be of the greatest benefit to sufferers from chronic asthma, and indeed from other psychosomatic disorders. Moreover, in a considerable experience of treating children by this method I have never seen any undesirable side-effects, and I doubt if many medically qualified users of the hypnotic method have seen them either in their own patients. Nor can I even visualize the possible occurrence of any adverse manifestations so gross as those described in the answer to your correspondent while treatment is in the hands of a medical hypnotist, and this for the very good reason that none of those symptoms could possibly arise spontaneously, but

would have to be induced either deliberately or from utter incompetence on the part of the hypnotist. Generalizations concerning the occurrence or frequency of such after-effects savour rather of experience derived mainly from the results of stage exponents of hypnotism and the sensational articles of the Sunday newspapers.

Surely it is time that the official journals of the B.M.A. approached the subject of medical hypnosis with the honesty and impartiality that one would expect of a scientific body, and stopped the present practice of making it possible to criticize and dogmatize on this particular form of therapy, under the cloak of anonymity, by persons who may or may not have had first-hand experience of hypnotic procedure. In the January issue of *Family Doctor* the only unsigned article, apart from the editorial, dealt with hypnotism, while every other contribution appeared under the name of its author, whose status and integrity were thereby vouched for. The unknown writer of this paper concluded by saying, "It (hypnotism) is still an art and it depends so much on the individual hypnotist that the type of controlled survey and experiment which would make it scientifically acceptable and measurable is still a long way off. It will reach that phase one day, and at that point hypnotism will fall into line with other branches of medical science." As the end-piece to a recital of various difficulties maybe associated with the technique it is quite apparent what impression the anonymous author seeks to create; but the first part of the statement quoted would, as it stands, be equally applicable to the assessment of any surgical procedure which is also an art and where so much depends on the individual operator, though the procedure may be none the less generally accepted for all that. The second part of the quotation is, of course, deliberately misleading in that it sets out to suggest to the lay reader that only the sciences have any accepted place in the practice of medicine. This we doctors know to be quite untrue, for though use may be made of many sciences the practice of clinical medicine as a whole is still an art. Nor is there any reason why a controlled survey of the results of treatment by hypnosis of suitable cases of a particular disease should not be compared with those obtained by other methods, it being understood, of course, that both would be carried out by medically qualified persons. If this is the sort of exposition and assessment that is put out for consumption by the lay public in an official organ of the B.M.A it is small wonder that the public is driven to quacks, charlatans, stage performers, and writers of sensational articles in the press for information on an important medical topic. If this article and the reply in "Any Questions ?" are examples of the only sort of thing that the medical profession has to say on a subject of this kind it is not surprising that little or no notice should be taken of us as a profession when we condemn the use and abuse of hypnotism by unqualified persons, or seek support to have exhibitions of it banned by law from stage and screen. Until the subject is thrown open to unbiased examination, criticism, and discussion in our own journals, until we are prepared to approach the subject in a purely objective manner and with the scientific detachment that might properly be expected of us, instead of merely reiterating opinions apparently based on the vast quantities of sensational rubbish published by unqualified persons, we have no right as a profession to assume any particular attitude or claim any particular authority in respect of this still neglected subject. To anyone seeking medical assessment of an orthopaedic procedure, for example, we would offer only a reasoned opinion based solely on the experiences of qualified surgeons skilled in the technique and not on those of the bone-setter; to a question concerning the evaluation of the place of morphine in the practice of medicine we would not confine our remarks to a statement stressing the dangers of the drug, its capacity for causing addiction, and to describing the results thereof, or base our evaluation on the results of its mishandling by dope pedlars or its abuse in the opium den. We have a responsibility in this subject of hypnosis and its place in the treatment of disease; it is therefore up to us to clear our minds of past prejudices and to see that we are thoroughly enlightened and informed on the matter before we presume to try to influence others.

—I am, etc.,

Woodford Wells, Essex. JAMES A. O'CONNOR.

SIR,—With reference to Dr. Gordon Ambrose's letter concerning hypnotism (February 9, p. 326); there is no need for medical men to rely on the popular press and stage or lay hypnotists for information on this subject. The British Society of Medical Hypnotists (all fully qualified medical men in this country), which includes the majority of the world's recognized authorities on this subject (authors of textbooks, etc.), has trained medical men and arranged lectures to universities, B.M.A. Divisions, etc. The Society publishes a quarterly journal (*The British Journal of Medical Hypnotism*), now in its third volume, and has produced instructional films. It has been consulted by Members of Parliament and the Ministry of Health for expert advice concerning the banning of stage hypnotism.

Hypnotherapy is probably the only effective treatment in many nervous and allied cases—asthma, alcoholism, etc.—but it is important to draw a sharp distinction between *medical* hypnotism and the stage variety.—I am, etc.,

London, W.1. S. VAN PELT.

SIR,—I am reminded by your correspondence under this heading that as long ago as December, 1913, at the Leeds and West Riding Medico-Chirurgical Society I showed a case of bronchial asthma associated with pregnancy and treated by hypnotic suggestion.

My notes made at the time record that the patient was a married woman, aged 25, who had suffered from bronchitis since childhood, and for the last two years from recurrent attacks of typical bronchial asthma, increasing in frequency and severity until latterly they occurred once a week or more often still. Her health was much disturbed in consequence. There was almost constant dyspnoea between the attacks. She was unable to walk out alone, and unable to assume the recumbent posture at night. The patient was first seen in July last—i.e., 1913—during a typical attack. She was then six months pregnant, looked very ill, and was suffering from chronic laryngitis. Treatment by suggestion began immediately after. Sittings were given three times a week to begin with, later once a week. She proved readily susceptible to hypnotism at the first sitting. At the second sitting there was complete muscular relaxation and amnesia during "sleep." On subsequent occasions post-hypnotic suggestions were readily carried out, and the patient conversed without subsequent recollection. Suggestions were given that the attacks would be less violent and less frequent and eventually would cease. Complete cessation of the attacks was insisted upon as the treatment advanced. The result was that the patient had been free from asthma up to the time of the record. Her household duties had been resumed, and she was able to lie down flat at night—almost an unprecedented occurrence. The huskiness of the voice did not subside until after some nine weeks of treatment. Labour occurred at term without complication.

I have never seen any untoward results from therapeutic hypnosis, and fully agree with your correspondent, Dr. A. P. Magonet (February 9, p. 326), that "in time this will be the method of choice in the treatment of this psychosomatic symptom." Equally do I agree with your correspondent, Dr. Gordon Ambrose (February 9, p. 326), in his view that it is high time that hypnosis as a therapeutic agency should be placed once and for all under the aegis of those who have made a special study of the subject, and above all whose professional probity is above question. I am relieved to hear (*vide* Dr. Ambrose) that therapeutic hypnosis is now regarded as respectable but harmless. What a time it has been wandering in the wilderness. Perhaps, now that it has, so to speak, achieved an official imprimatur, we may hope to see evidence of a more enlightened attitude on the subject. —I am, etc.,

Leeds. J. E. MIDDLEMISS.

Xylocaine

SIR,—The letter from Dr. P. R. Bromage on "xylocaine" (February 9, p. 328) attracted my attention, as I have recently completed notes on a small series of 200 dental cases. In this, details were kept about time of onset of analgesia for various amounts and positions, duration, side-effects, etc., using a 2% solution with adrenaline 1 in 80,000 (awaiting publication).

Dental work is particularly suitable for comparison of a new local analgesic with other agents because of the variety of work, from conservative to minor surgical, which can be done; and also because nerve blocks and local infiltration for opposite sides can be compared conveniently using different analgesics.

In this series a small number of procaine controls were observed in similar circumstances, and there is not the least doubt in my mind that xylocaine is superior in every way to procaine and, from my experience, to any other local analgesic which has been made available for dental work. Side-effects are minimal, onset of analgesia is more rapid and duration longer, while much smaller doses—as little as half or less of the usual procaine dose—are equally or more effective. Furthermore there appears to be less motor involvement seen in the lip in anterior injections, particularly when small doses are used—a source of annoyance especially to women patients. A further 2,000 injections carried out since the original notes were made have only served to confirm my original impression.

I have no experience of epidural block, so that naturally direct comparison of observations with Dr. Bromage is not possible, but, while I feel that his contention that "rapidity of action might be confused with greater certainty of effect" is a reasonable one, yet I believe that he is mistaken and that *both* these attributes are evident in xylocaine analgesia. —I am, etc.,

Dublin. ADRIAN COWAN.

SIR,—May I, as the responsible surgeon, add some details to your medico-legal report (February 2, p. 280) on the death of a patient following the use of xylocaine as a local analgesic? It is important that there should be the clearest understanding and that unfair blame should not fall on this valuable analgesic agent.

Most of the facts are given, correctly, in your report. The strength of the solution used was 0.8% and the total amount of the drug not more than 0.64 g. No adrenaline was used in the solution. No drug was given as pre-operative medication. The weight of the patient was 7 st. 13 lb. (50.3 kg.), and the time taken for the injection about 15 minutes.

This patient had had previous injections of xylocaine, probably amounting to about 100 ml. 0.5% solution with 1/200,000 adrenaline, combined with a general anaesthetic, for one or more of the stages of the thoracoplasty without any unusual reaction being manifest. She was also previously well known for her liability to "faint" on the occasion of minor surgical interference.

It is my belief, in general, that the more serious of these abnormal reactions during the injection of local analgesics are attributable to overdosage unless there is very good reason to the contrary. The overdosage is often not in the total amount of the drug used, but in too much of it having reached the wrong place, presumably the brain, in too short a time. Thus too rapid absorption from normal tissues or absorption by abnormal routes, and the concentration of the solution used, become possible factors concerned in the effect.

We have no reason to suspect intravascular or intrathecal injection, the plunger of the syringe being withdrawn repeatedly during each injection without revealing blood, C.S.F., or air. Dr. Heggie, who performed the post-mortem examination, expressed the opinion that an unusual amount might have been absorbed from the extensive area of granulations around the organizing blood in the Semb's space and the wound.

An additional factor remains in not having used adrenaline in the solution. This would certainly have delayed absorption from normal tissues.—I am, etc.,

Oxford. CLEMENT GRIMSHAW.

SIR,—While I find myself in agreement with most of the statements in Dr. P. R. Bromage's letter on xylocaine in epidural block (February 9, p. 328), there are one or two points in which my experience runs counter to his. I believe that xylocaine *does* have a more certain action than other local analgesics. I have never had a complete failure with xylocaine, but have had more than one with "nupercaine" and "amethocaine." Also partial failures are three times as common when these latter drugs are employed.

As an example, a certain patient had to have two caesarean sections at an interval of two years, the first with nupercaine and the second with xylocaine, exactly the same technique being used on each occasion. With nupercaine she was uncomfortable and had to be given "evipan" after the birth of the baby—with xylocaine she felt nothing, and has indeed described her experience in another journal.

The infrequency of partial failures with xylocaine may be explained by the extraordinary spread of the drug in certain cases. To cite another example, for a perineal operation a patient was given 25 ml. xylocaine between L 4 and L 5, in the sitting-up position. The resultant analgesia, although it spread to the coccyx as expected, also spread upwards as high as T 9. It would, I think, be inadvisable to give xylocaine in a continuous caudal block to relieve the pains of labour, as analgesia would almost certainly extend above T 10 and affect the motor nerve supply of the uterus.

I agree that the 2% solution is too strong, and habitually use a solution of 1.5%, but with this strength I find that analgesia cannot be guaranteed for longer than one and three-quarter hours. If, however, a Tuohy needle and indwelling catheter are employed this is of small moment. Another curious property of xylocaine is the drowsiness which it induces. When using amethocaine for regional analgesia for thoracoplasty it is frequently necessary to calm the patient with light chloroform anaesthesia. With xylocaine, on the other hand, they nearly always go off to sleep. This may well be due to the more certain action of xylocaine. —I am, etc.,

London, W.1. MASSEY DAWKINS.

Medical Aspects of Road Safety

SIR,—All neurologists see an alarming number of epileptics who drive cars regularly. These persons perjure themselves when they apply for a driving licence, and even persuade themselves either that they know when a fit is likely to occur or that they have not got "real epilepsy." The function of a doctor is not to inform against his patient, and the only remedy is a stricter physical examination before a licence is issued, or the enforcement of severe penalties against unfit drivers.

In this category of unfit drivers, I have seen in the last few years persons driving cars with severe paralytic disease of the legs and arms, entirely inadequate vision with bilateral cataracts, and advanced cardiac disease. It is noteworthy that the patient in every case considers himself entirely fit to drive and refuses to admit that he could not do so, and it is strange how often quite reasonable people become entirely unreasonable if their fitness to drive is in any way questioned. They never will admit that at any time their physical unfitness may be responsible for the death of an innocent person.

In a large hospital at least 60% of all motor accidents admitted during the evening and over the weekend have involved drivers who have taken alcohol, and, whilst many of these drivers could not in any way be said to be drunk in the accepted sense of the term, their reaction time has been sufficiently impaired and delayed to make them unfit to drive a motor vehicle. We in this country have entirely neglected the problem of the alcoholic driver, and the only solution which seems at all practicable is the adoption of the Scandinavian method of prosecution if the driver of a motor vehicle is found to have a blood alcohol of over a certain figure. The adoption of this measure in Sweden has greatly diminished road accidents. It is interesting to see in Sweden how carefully this law is respected and how, in a couple attending a cocktail party, either the husband or the wife will take only soft drinks.

At times this law may appear to be unfair, as recently was shown in the case of a Swedish surgeon who was convicted although his raised blood alcohol was found at least 12 hours after any consumption of alcohol and was due presumably to a slow absorption from the stomach. This may seem unduly hard on the motorist. Persons in charge of other vehicles should also be physically fit, and if an alcoholic pedestrian is responsible for an accident the same penalties should be applied.—I am, etc.,

Bristol. A. M. G. CAMPBELL.

School Medical Service

SIR,—Your commentary (January 26, p. 210), conclusions, and great disappointment that the number of children found verminous at school is falling so slowly just show how misleading statistics can be. Statistics compiled from the reports of school medical officers, which are compiled from the figures given by the nurses who make the inspections, whose findings depend on the frequency and accuracy of their inspections and the standard they adopt, cannot be regarded as even approximately correct so long as the factors on which they are based vary so widely as they do at present and when compared with the past.

The standard alone can play havoc with any statistics unless the same standard is used by all. Within the past 15 years the definition of what constitutes a verminous head has varied from heavily infested to the one nit standard now recommended by the Ministry of Education. But how many work to this standard is anybody's guess, and how many who say they do spend enough time to make sure that they do is also anybody's guess. The results of Dr. Mellanby's investigation into the incidence of head lice in 1940 when he found 50% or more of schoolgirls' heads were infested, and of a further investigation in 1947 which showed over 41% infestation in girls aged 9 to 13 in cities, compared with the mere 8% mentioned by the chief medical officer in his report on the health of schoolchildren for the years 1948 and 1949, illustrate very well the difference in results obtained when all the factors are comparable and when they are not, and how erroneous it is to draw conclusions from the latter.

However, I can assure you from my own experience as a school medical officer that the position now is much better than 15 years ago and than it appears to be statistically, because heavily infested heads are to-day as rare as they were common in the past. I think all my colleagues who can look back 15 years or more will agree with that. Even if the statistics mentioned by the chief medical officer are correct, which I beg leave to doubt for the reasons already given, they are not comparable with statistics of 15 years ago, when only really verminous heads were classed as verminous, whereas those with a few nits, much less one nit, were unmentioned or completely overlooked. As Dr. Joad would say, it all depends what you mean by verminous.

Your final recommendation that local authorities should combine to attack infestation at its source received scant support from the powers that be when they cancelled the Scabies Order (1941) with almost indecent haste, and so deprived local authorities of the power to follow up infestation to its source.—I am, etc.,

Gosport. G. W. FLEMING.

Attempted Suicide

SIR,—One cannot but admire the humanity of the approach to the question on attempted suicide ("Any Questions?" February 9, p. 339). However, though the question primarily concerned general practice, I feel the answer should be amplified lest junior hospital residents should be lulled into a sense of false security. Recently a hospital medical officer was severely criticized by a coroner for not reporting such a case to the police, since there were suspicions of foul play. A hospital medical officer does not often know the full facts and, in my opinion, is most unwise not to report these cases.

Another problem which I always found difficult was that of watching these people. When least expected an attempted-suicide patient may make a further attempt. To-day hospitals certainly have not sufficient nurses to watch these patients day and night. In the event of a second attempt being successful, the hospital resident may hear some harsh words from the coroner, particularly if the first attempt was not reported to the police.

Therefore I urge hospital residents to cover themselves by immediately shifting the onus of watching these people on to the family or the police. The most satisfactory solution, however, is to get the patient moved to a mental hospital for specialized treatment as soon as immediate treatment of the poisoning or injury has been successful.—I am, etc.,

London, N.4. PHILIP JACOBS

Lysivane in Parkinsonism

SIR,—On reading the article by Dr. Hugh G. Garland on parkinsonism (January 19, p. 153) I was very interested in the reference to pain and discomfort in the joints and muscles.

I have recently treated a woman aged 74, who has had the disease for some years and been bedridden for the last ten months. All the characteristic signs and symptoms were present, notably severe pain and stiffness in the shoulder-joints and pain in the epigastrium. No cause could be found to account for these, other than that they were part of the syndrome.

Treatment had been given with the usual drugs, belladonna, stramonium, etc., with no improvement. Four months ago she was put on "lysivane," four tablets daily. Improvement was apparent immediately, most marked being the disappearance of pain both in the shoulder-joints and epigastrium. Within a reasonable time the joints were mobile. The patient has progressed remarkably and can now move about the house unaided.

No other treatment has been given during the past four months, and no toxic effects noted from the drug.—I am, etc.,

Leicester. ERIC LODGE.

Iridectomy in Congestive Glaucoma

SIR,—It was a pleasure to read Mr. John Foster's masterly survey of the common causes of curable blindness (February 9, p. 318). I do not, however, share his optimism concerning the result of iridectomy in congestive glaucoma. 90% of cases may well be cured of increased tension, but the visual results are the most dismal in ophthalmology, and depend upon the duration of the acute attack more than upon any particular type of operation.

In regard to cataract, Mr. Foster states, *inter alia*, that if care is exercised in not reading when the eyes are tired the changes in vision are usually slow. I do not think we are really justified in restricting our patients' visual activities in this way, and I shall be glad to know if Mr. Foster has any arguments in support of his statement. May I be allowed to qualify Mr. Foster's remark that "cataract extraction is performed under local analgesia"? Thanks to the introduction of thiopentone, and the co-operation of Professor Macintosh and his staff, it has been possible at Oxford to introduce general anaesthesia for all cases where such an anaesthetic may safely be used. Most general surgeons appreciate the comforts of general anaesthesia, and I do not think it will be long before ophthalmic surgeons follow their example in cataract surgery.—I am, etc.,

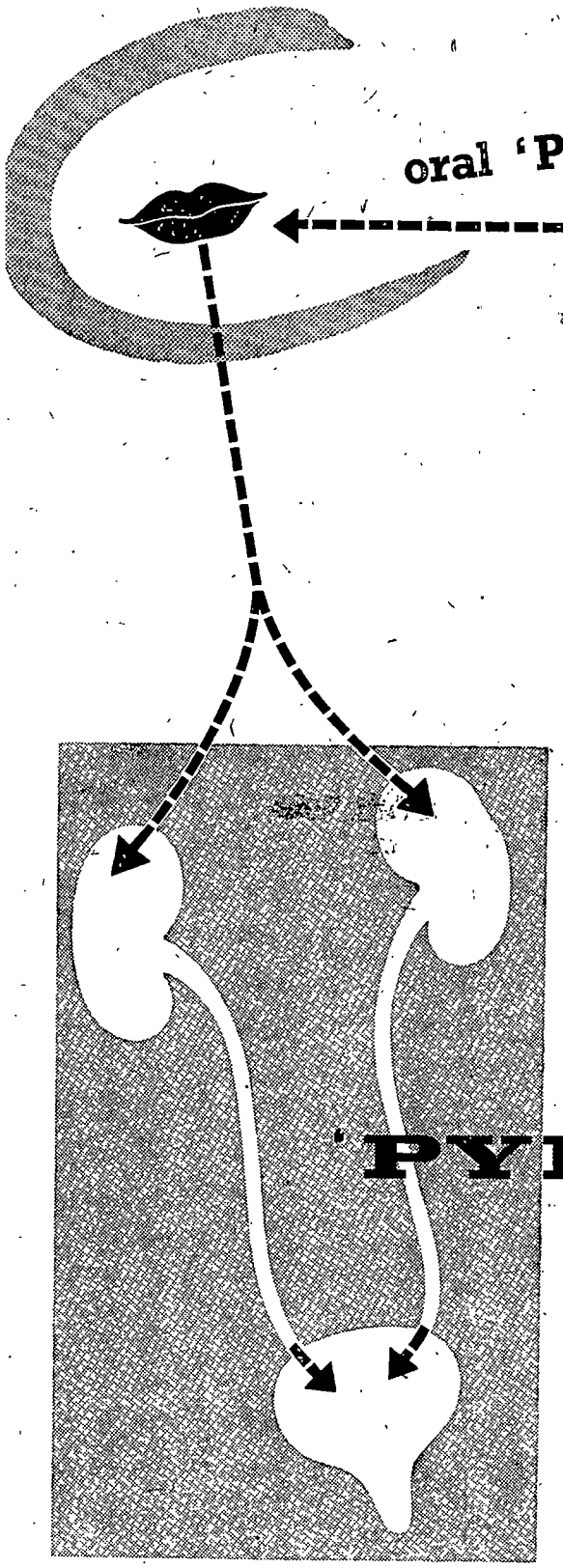
Oxford. VICTOR PURVIS.

Peckham Health Centre

SIR,—I notice that in your annotation on family research at Peckham (February 9, p. 317) you state that the L.C.C. will "keep in being what has been described as the only experimental station where mankind can pursue one aspect of his proper study—man in his environment."

With the good will of the Ministry of Health and the L.C.C., we —the originators of the experiment—could have had financial backing from the same sources as they are now about to tap. Their blessing and approval were denied to us. True, at one period in their consideration of our proposals before the war, they offered us financial help—but "on conditions." In the face of their disapproval we could do nothing to gain the necessary financial help from the various foundations, capable and in some cases willing to give it. Scientific experiment cannot be carried on "on conditions." Any experiment must dictate its own conditions.

Our previous experiments had led us to the hypothesis that the human organism was the home with its family nucleus and that this was so in virtue of Nature's tendency to wholeness, health, and healing. General practice was founded and practised in the home with its nucleus, the family. From time immemorial medical art and science have rested on Nature's tendency to wholeness and health, and, indeed, though both have deserted the home both still trade on that natural tendency. It is well recognized that the success of the physical sciences, as distinct from all biological branches of science, rests on the other and antithetic tendency in Nature—the natural tendency to a maximum, or



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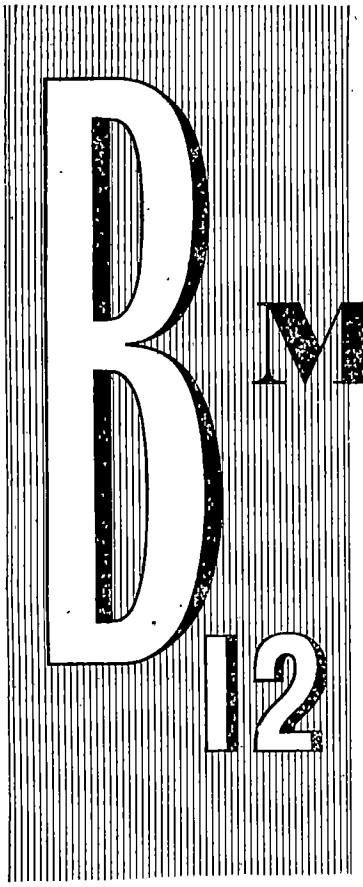

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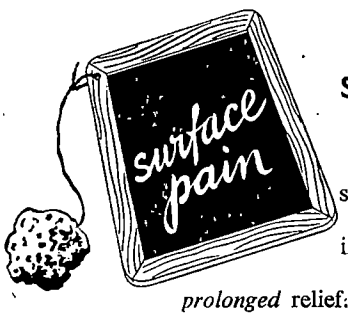

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allness—i.e., the entropy principle of Clausius. I am often tempted to speak of the natural tendency to wholeness and health as the *eutropy* principle, on which the science of hygiene has still to be founded.

We have cleared the ground already—collected the material suitable for study and developed new techniques. Now the L.C.C. has commandeered the site to meet a dire emergency in the disease of the nation. (In this connexion see Dr. Ffrangcon Roberts (February 9, p. 321).) Nevertheless the authorities, having stifled this work at Peckham, still seek to acquire its prestige.

One feature of the Peckham technique will have been carefully noted by the B.M.A. After every cure (either in hospital or by the general practitioner) the discharged patients submitted themselves as a routine for a health reassessment. In other words, not by design but by necessity we have become a sort of censor to medical efficiency in all branches of therapy. Could that be one of the objectives the authorities have in view? Has every therapy now to have its official censor? I would insist that the Family Club at Peckham was an experiment; it was not, as some of my medical critics assume, a borstal institution for delinquent parents. In this Peckham experiment we have reproduced the conditions of the village green across which the general practitioner continually moved through the life of the village. We shall rest content if through our experiment, truncated though it is, we have focused attention on the home with its nucleus, the family, and spotlighted the primary principle, Nature's own tendency to wholeness, health, and healing.—I am, etc.,

Rotherfield, Sussex. G. SCOTT WILLIAMSON.

Malignant Granuloma of the Nose

SIR,—I would like to comment on the interesting paper by Drs. I. B. Sneddon and J. Colquhoun entitled "Granulomatous Ulcer of the Nose Treated with Chloramphenicol" (February 9, p. 298).

This disease is commonly known, owing to its usually fatal outcome, as "malignant granuloma of the nose." Williams (1949) suggested calling it "lethal granulomatous ulceration involving the midline facial tissues." A successfully treated case therefore merits hopeful attention.

The aetiology and pathology of the condition are obscure. Antecedent chronic infection and bacterial hypersensitivity are factors certainly to be considered. The authors have presented therapeutic evidence for the bacterial origin of the condition of their patient. The lack of histological evidence will, however, make it more difficult to correlate their findings with those in other cases of malignant granuloma of the nose with a similar bacteriology.

We have described a patient with the peculiar association of "malignant" giant cell granuloma of the nose and polyarteritis nodosa (Howells and Friedmann, 1950). Cultures from the maxillary antrum showed, as in the authors' case, a mixed growth of *Streptococcus betahaemolyticus*, penicillin-sensitive, and *Staphylococcus pyogenes*, sensitive at first to penicillin. After intensive treatment with 16 mega-units penicillin only *Staphylococcus pyogenes*, now penicillin-resistant, could be grown. The patient died of uraemia, and this organism was also grown from post-mortem specimens from the sinuses and spleen. We have suggested that the granulomata in the nose could be a local manifestation of the generalized vascular disease, due to hypersensitivity to an unknown bacterial or chemical agent.

This association of granulomatous lesions in various organs with polyarteritis nodosa has been frequently noted (Lindsay *et al.*, 1944; Weinberg, 1946). Other authors, and otorhinolaryngologists in particular, have focused their attention almost entirely on the local lesions in the nose and sinuses. Only in two of the ten cases referred to by Stewart (1933) was there a necropsy performed, apparently without further microscopical examination of the organs. On the other hand, many pathological reports on polyarteritis nodosa have not mentioned the histology of the nose and upper respiratory tract, though not infrequently there has been a history of long-standing infection of the upper respiratory tract in these cases. The relationship of the peculiar granulomata to the vascular lesions is difficult to explain. Hypersensitivity due to chronic infection may be the underlying cause leading to the terminal development of polyarteritis nodosa. In some patients, however, the granulomatous lesions in the nose and sinuses may possibly represent a local manifestation of the vascular disease itself. The author's case apparently does not belong to this group of malignant granuloma of the nose.

That polyarteritis nodosa does not develop in every patient was shown, for example, by the interesting case of lethal granulomatous ulceration of unknown aetiology of the upper respiratory tract presented by Stansfeld at the meeting of the Pathological Society in Cambridge, January, 1952.

—I am, etc.,

London, W.C.1. I. FRIEDMANN.

REFERENCES

Howells, G. H., and Friedmann, I. (1950). *J. clin. Path.*, 3, 220.
Lindsay, S., Aggeler, P. M., and Lucia, S. P. (1944). *Amer. J. Path.*, 20, 1057.
Stewart, J. P. (1933). *J. Laryng.*, 48, 657.
Weinberg, T. (1946). *Amer. J. clin. Path.*, 16, 784.
Williams, H. L. (1949). *Ann. Otol., etc., St Louis*, 58, 1013.

Malaria

SIR,—The treatment of malaria by intramuscular injection of quinine has been discussed recently in your columns by correspondents of considerable experience and repute. The debate on this point has been resumed as regularly and as inconclusively as the wall game of a noted school. It is difficult to avoid inferring that here is a question for which there is no nicely calculated yes or no.

It is certain that in therapeutic effects quinine is less successful than the newer preparations in use in eradicating all forms of the malaria parasite. Quinine is, secondly, a drug with unpleasant side-effects, and on intravenous administration its direct access to the tissues results in cytolysis unless it is well diluted. That cytolysis amounting to macroscopic necrosis may occur after intramuscular injection has, in the third place, been widely recognized for a long time.

So let us review the circumstances under which its proponents use the injection intramuscularly. The patient in the average instance is distressed and complains of profound malaise and nausea; oral feeds are not retained in amounts adequate for tissue needs; sweating is profuse and there is considerable weakness. Even if the physician is not beset with the care of many other cases, nor by the pleading of the patient's family, he cannot ignore the fact that this is a medical emergency which has potential dangers.

At this point the administration by various routes of mepacrine, proguanil, and similar preparations has often had complete success. The use of intramuscular injection of quinine at this point nevertheless produces in most cases (as ex-patients, such as Dr. H. G. Caldwell (November 24, 1951, p. 1280) and myself, can attest) a far more rapid improvement and removes the possibility of a serious outcome. But, realizing that this is strongly disputed by the anti-cinchonists, I would like to say that it has been very reassuring to see the clear statement on this by both Sir Gordon Covell (October 27, 1951, p. 1021) and Sir Philip Manson-Bahr (December 8, 1951, p. 1403).

It would be of practical value to know (1) whether any of your correspondents have made a practice of having the injection site massaged gently for half an hour or so after administration with a hot (or very warm) water bottle; (2) how many of your correspondents utilize the quadratus femoris muscle for any intramuscular injections (soreness in the thigh does not as a rule impede sitting or writing); (3) whether therapists in this and other medical fields have found it possible to obtain a wide canvass of the views of colleagues who have both suffered an attack of the condition and also treated it in patients.

—I am, etc.,

Jamaica. K. C. ROYES.

SIR,—I have been very much interested by the correspondence on the subject of quinine injections, as, in the course of the past three years in a highly malarious district, I have had a fairly large experience of their use and abuse.

My own initial reaction on arriving in this area to the practice of giving quinine by injection intramuscularly was wholeheartedly to condemn it, as our out-patient department was very seldom without a case which had developed an abscess as a result of an injection given by outside practitioners. I may say that, having probably handled several thousand cases as out-patients who have had quinine injections intragluteally, I have never seen a case of tetanus which could be attributed to the injection.

I would agree with Dr. Harrison (December 8, 1951, p. 1403) when he attributes the efficacy of the injection method

to the slow absorption from the injection site. Quinine is still our main method of attack against malaria, and I have been very disappointed with proguanil in attacks of malignant tertian malaria. The nausea and vomiting so often associated with severe attacks make oral administration very uncertain. The ability to create a reservoir of quinine by daily injection given about an hour before sporulation is the surest method I have found of checking a severe attack and of giving a low relapse rate.

The three important factors I have found which prevent any severe local or general effects from an intragluteal injection are the type of quinine salt (we always use the dihydrochloride as being the least toxic locally), the sterility of syringe, needle, and skin, and the site of injection. This last is very important, as many injections which have gone wrong in this hospital have been traceable to the habit of giving them too high in the buttock, into subcutaneous fat. Quinine must be injected deeply intramuscularly.

Over the past three months, when about 200 were given here, there has been no case of gluteal abscess, as these three factors have been carefully observed. Previous mishaps were due mainly to lack of care in the last.

I would personally attest to the value of intragluteal quinine injections, as I had a course of daily injections during a severe attack of malignant tertian which occurred despite prophylactic proguanil. A small, sterile necrotic area appears to be formed, from which absorption occurs, probably over about eight weeks.

I would like to emphasize that so long as the injections are given in a careful manner, realizing the inherent dangers, quinine dihydrochloride by intragluteal injection has a very definite place in malarial therapy, especially in M.T. infections.—I am, etc.,

Rajshahi, East Pakistan. IAN T. PATRICK.

SIR,—In his letter in your issue (January 26, p. 220) Colonel Harrison, I think, misses the main point which I endeavoured to make in mine in that of January 12 (p. 104). This was that the injection of quinine is a valuable life-saving measure in an emergency, but should, in my opinion, be reserved for such occasions, and that the intravenous route should be employed if an accessible vein can be found, and the intramuscular method used only when this is not so.

In cerebral malaria, where rapidity of action is vital, it is generally agreed that the intravenous route is the only useful one, and in such cases a vein must, if necessary, be exposed. But cerebral malaria, though the chief, is not the only, indication for injection therapy: the algid and haemorrhagic types of subtertian malaria among others can produce grave emergency, uncontrollable per os and fully justifying injection. My thesis is that in these cases also the intravenous route is that indicated, though I would not claim that the indication is so absolute as to call for the exposure of a vein if none can otherwise be found. But I cannot agree that a procedure which demonstrably causes necrosis of tissue is called for in the ordinary uncomplicated case of acute malaria. Still less, *pace* Colonel Harrison, is it indicated in chronic cases.

Fortunately the point is nowadays almost academic, for the synthetic antimalarials, now in general use, are extremely efficacious in these cases. There are injectable preparations on the market which can safely be given intramuscularly, and the blood levels, I am informed, can relatively easily be determined.

I agree entirely with Colonel Harrison on the need for training medical subordinates in good intramuscular technique generally, but would point out that this is more easily secured in military units with their greater centralization than in civil districts with their scattered dispensaries and more exiguous staff.—I am, etc.,

London, S.W.1. J. B. HANCE.

Carcinoma of the Stomach

SIR,—Drs. B. F. Swynnerton and S. C. Truelove, in their interesting survey of carcinoma of the stomach (February 9, p. 287), tell us that a barium meal is the most accurate single diagnostic procedure. Unless I have misread them, their follow-up was of positive findings, and they have no means of being sure how many cases with negative radiology died elsewhere of gastric neoplasms. One finds doctors naturally reluctant to make such a diagnosis after a normal skiagram, so that these cases tend to escape notice, but they are not rare and should be taken into account. During the past four years I have seen seven patients dying of gastric cancer, in each of whom a barium meal at the onset of symptoms was reported as normal by a competent radiologist, and this is a much larger fraction of my experience of the disease than the 10% of radiological failures recorded by your correspondents. Final diagnosis rested on laparotomy or necropsy. No blame attaches to the various radiologists, who in some types of growth are set an impossible task, but before we can improve the results of treatment of this condition we must have a more reliable means of confirming our clinical suspicions.—I am, etc.,

London, W.1. C. P. PETCH.

SIR,—The paper by Drs. B. F. Swynnerton and S. C. Truelove (February 9, p. 287) on carcinoma of the stomach contains much interesting information but one notable fallacy. It compares survival rates in two groups of patients which are, as the authors themselves admit, not comparable. The groups contain, respectively, the growths which were advanced and those which were still (irrespective of the length of history) in an early stage: or, in brief, the hopeless and the hopeful. It is not the fact that a growth was resected but that it was resectable that, as their work shows, influences the period of survival.—I am, etc.,

Hove. CONSTANCE M. OTTLEY.

Methonium Compounds and Muscle Relaxants

SIR,—Drs. F. C. MacIntosh and W. D. M. Paton (*J. Physiol. Lond.*, 1949, **109**, 190) have reported that, in the cat with autonomic ganglia blocked chemically by nicotine tartrate or tetraethylammonium iodide, the intravenous injection of D-tubocurarine or dimethyltubocurarine causes a fall in blood pressure due to histamine release.

The methonium compounds, which act by blocking the autonomic ganglia, are now being used in anaesthesia to produce controlled hypotension. It would be interesting and also important to know if anyone has observed a further fall in blood pressure or prolonged hypotension occurring, following the injection of muscle relaxant, in patients on whom the above technique has been used.—I am, etc.,

Glasgow. W. SNIPER.

Nomenclature of Diseases and Operations

SIR,—I read with much interest the letter of Dr. W. A. Bourne (February 9, p. 330). I agree with Dr. Bourne that the American *Standard Nomenclature* is superior for clinical purposes to the *International Classification*. Although I can only speak with any authority on my own subject of ophthalmology, I have used the *Standard Nomenclature of Diseases and Operations* for the last few years to classify general extracts from the literature and have found it most helpful. It follows a logical system in which diseases are considered, first by their anatomical location, and second by presumed aetiology; three numerals are allotted to the first group and three numerals to the second, with extension of this where greater detail is necessary.

The new (4th) edition which I received recently is an advance on previous ones, particularly in relation to toxic conditions, and usefully gives the *International Classification* in an appendix, so that the two may be compared. It is at once obvious how meagre the *International Classification* is for clinical purposes, some hundred different eye conditions being included under the joint heading of "other diseases of eye." I can see little reason why the *Standard Classification* could not be used for broad statistical analysis in addition to its use for more detailed clinical analysis, if classes can be grouped—say, by the first two digits anatomically and aetiologically. Possibly it is not immediately adaptable in its present state. For example, I noted that there is no inclusive heading for "All causes of pulmonary oedema," "All causes of cirrhosis," "All causes of eosinophilia," or

"All causes of jaundice." I realize, of course, that these are purely symptomatic diagnoses and include many very varying diseases. The American system, with its insistence on an attempt at exact aetiology, possibly precludes a classification on a symptomatic basis. Is this the kind of grouping that administrators need, or is an aetiological one not as good or better?—I am, etc.,

AYT. W. O. G. TAYLOR.

SIR,—Dr. W. A. Bourne (February 9, p. 330) has found the *International Statistical Classification of Diseases, Injuries, and Causes of Death* unsuitable for the clinical purposes in which he is interested, and has suggested that the World Medical Association might appropriately consider a combined clinical and statistical system. The international statistical classification, like the obsolete *Provisional Morbidity Classification* of the Medical Research Council (1944), was not primarily designed either as a nomenclature of diseases or as a diagnostic index for clinical recording and research. For purposes of nomenclature there is already in this country the admirable *Nomenclature of Disease* of the Royal College of Physicians (7th ed., 1948).

The need for a diagnostic index for clinical purposes, particularly in respect of hospital records, has been recognized by the Registrar-General's advisory committee on medical nomenclature and statistics. The committee considered that the international classification might well form the basis of such a diagnostic index. Accordingly a subcommittee has recently been appointed to examine the possibility of adapting the international classification for this purpose. Already the subcommittee has inquired from a number of hospitals known to be using it how far it has been found suitable as the basis for a diagnostic index, and what adaptations have been found necessary to meet the needs of particular specialties.

It would be of considerable help to the subcommittee if clinicians would bring to my attention any shortcomings of the international classification for the clinical purposes in which they are interested, together with their suggestions for its expansion or modification.—I am, etc.,

W. P. D. LOGAN.
Chief Medical Statistician.

General Register Office,
Somerset House, W.C.2.

POINTS FROM LETTERS

Treatment of Tropical Ulcers

Dr. T. C. HALLINAN (Jamaica, B.W.I.) writes: I was very interested in the article by Dr. H. D. O'Brien (December 29, 1951, p. 1544). I was quoted as having treated 15 cases of small tropical ulcers, and an indefinite number of large ones. In fact, in my original article the only figure I mentioned was a total of 188 cases. In actual fact 87 of these were small ulcers and the remaining 101 were medium (2 to 3 in. (5 to 7.5 cm.) diameter) or large (4 in. (10 cm.) or larger). I now have a total of 1,023 cases treated, and my results remain the same, in time of healing, as mentioned in my original article. One thing, however, I did not mention in the article is that almost all of my cases receive ambulant treatment and go about their normal work during the period of treatment, and even my worst cases could resume work within two weeks or less of commencing treatment, with only two exceptions, in whom ulcers involved a large part of the heel and sole of the foot, baring both bone and tendon. These took six weeks before resuming work. The dressings were applied only once a week, preferably one in two weeks, and are very simple in application, not needing a skilled dresser. Thus the loss of man-power and earning capacity on the part of the workers is almost negligible, and there is also great economy in dressings and doctors' time. One other fact has been observed recently—that if no yeast or other form of vitamin-B complex is taken the ulcers take at least half as long again to heal. This supports the theory that these ulcers are basically a nutritional deficiency disease.

Correction

Owing to a printer's error the word "arthritis" was substituted for "arteritis" in the penultimate line of the letter on diabetic gangrene from W. E. and E. V. Shute in our issue of February 2 (p. 276).

Obituary

Sir RICHARD LUCE, K.C.M.G., C.B., F.R.C.S.

We record with regret the death, which took place on February 22, of Major-General Sir Richard Luce, for many years senior surgeon, and later consulting surgeon, to the Derbyshire Royal Infirmary.

Richard Harman Luce was born in 1867 at Malmesbury, Wiltshire, the son of an Army colonel. He went to school at Clifton College, and from there went on to Christ's College, Cambridge, taking the B.A. with first-class honours in the Natural Sciences Tripos of 1889. In that year he entered as a student at Guy's Hospital, and qualified in 1893. He proceeded to the degrees of M.A., M.B., B.Ch. in the same year. After a period as house-surgeon and obstetric registrar at Guy's and another house-surgeoncy at York County Hospital, he began surgical practice in the North Midlands, making his home at Derby. He took the F.R.C.S. in 1894.

[Press Portrait Bureau

From 1909 to 1913 he was A.D.M.S., North Midland Division, Territorial Force, and in the war which began in 1914 he served in Palestine, Gallipoli, and Egypt, becoming, in 1918–19, Director of Medical Services, Egyptian Expeditionary Force, with the rank of major-general. He rendered conspicuous service in the war, was mentioned in dispatches, and was invested with the C.B. (military) in 1916, the C.M.G. in 1918, and the K.C.M.G. in 1919.

In 1924 Sir Richard Luce entered Parliament as Conservative Member for his adopted city of Derby. His election for such a constituency, the stronghold of one of the then leaders of the Labour party, must be ascribed to his personal popularity, for the other Conservative candidate who ran with him for the two-member seat was some thousands below him at the poll. He did quiet but good work in the House of Commons, and was a useful accession to the Parliamentary Medical Committee, but he failed to retain his seat at the next general election in 1929.

In Derby he built up a sound reputation as an operating surgeon, and in addition to his work at the Royal Infirmary, where he was energetic in promoting plans for new buildings, he was surgeon to the Derbyshire Hospital for Sick Children and consulting surgeon to the Ripley and Wirksworth cottage hospitals. He served as medical referee under the Workmen's Compensation Act in the Derby county court circuit.

For some years Sir Richard Luce had a seat on the Council of the B.M.A., and he gave long and patient service to its Hospitals Committee, of which he was chairman. It fell to his lot to pilot some large revisions of hospital policy through the meetings of the Representative Body in the early nineteen-thirties, and, although he was not a man who cultivated the platform, he showed quite extraordinary skill, foresight, adaptability, and openness of mind in dealing with a most intricate

and often tiresome subject. In addition to this work he also served for a term as president of the Midland Branch and chairman of the Derby Division of the B.M.A.

After his retirement from hospital and consulting practice in Derby, Sir Richard Luce went to live in Hampshire, the native county of his wife, who was the daughter of Sir John Scott, of Bournemouth. They had five children—three daughters and two sons, the younger of whom died in India. One of Luce's first activities in retirement was to write a history of the old Benedictine monastery in his native town of Malmesbury. Archaeology shared with music his recreational interest, and he was president of the Hampshire Field Club and Archaeological Society. In later years he became an authority on the history of Romsey Abbey, and published a book on the subject in 1948. He himself helped in the work of making tapestries needed for the restoration of some of the Abbey's furniture. It was inevitable that his fellow citizens in Romsey would elect him to the borough council, and he was mayor of the town from 1935 to 1937. In addition he was a co-opted member of the health committee of the Hampshire County Council. He was chairman of the Hampshire County Medical Advisory Committee and county controller of the V.A.D.s. Few men can have had a more active "retirement."

Always modest and kindly in demeanour, and sparing himself no pains to be of service to his colleagues and his patients, he was most popular among them, and although he went into politics it is to be doubted whether he ever had a single enemy. Some will remember, years after his retirement from active participation in Association affairs, the great welcome he received from his old colleagues when he appeared at the Annual Meeting of the Association at Plymouth in 1938.

Dr. Hugh Barber writes: When I first knew Richard Luce, in 1906, he had been established in Derby for 11 years. Holding the post of honorary surgeon to the Derbyshire Royal Infirmary, he was accepted by the medical profession as the leading consulting surgeon in the district. At the same time he was engaged, single-handed, in a busy general practice. He would be driven round in his dog-cart in the morning until towards lunch-time, when he would visit the hospital. For his out-patient session once a week, which began at noon, he was always punctual, as also for his operating sessions, which would be in the afternoon. During his emergency week he would cycle to hospital to operate in the evening or at night. Although, like the majority of the profession, he changed from horse transport to a motor-car in 1906, he still used a bicycle for emergencies, because cars had not the conveniences or reliability which we know to-day.

It is true to say that he succeeded in both general practice and consulting work. He was quick by temperament, making up his mind to the correct decision without delay. His patients knew that they could not detain him unnecessarily, but that nothing essential for their care or comfort would be neglected. In hospital he gained the respect and affection of colleagues, residents, nursing, and administrative staff. Although an influential member of the hospital board, he had little time for committee work, but gave his advice freely behind the scenes. Understanding the anxieties of a general practitioner, he was a delightful colleague to call in for a difficult problem. In taking a history he would go straight to the root of the matter and keep others to the point. On one occasion, when questioning a man about a pain not very well defined, he was interrupted by a wife prepared to describe her husband's symptoms. His immediate response—"You cannot tell me if he can't"—was accepted as a reasonable correction by a woman who could realize that the case was in good hands.

After his distinguished war service from 1914 to 1918—which was the outcome of his former work as a Territorial—he returned with well-deserved honours and confined himself to consulting surgery. Two years before reaching the age when his retirement from hospital work was due he was invited to stand for Parliament as Conservative candidate, and his election in 1924 was a tribute to his high reputation in the town rather than to fixed political principles. He was a man of exceptional energy and enthusiasm, but always courteous. He earned the gratitude of many patients, a large number of whom were doctors or their relatives. Outside his professional work he was gifted in music and art. His success as an Army administrator was only to be expected.

Sir FRANK GUNESEKERA, C.B.E., M.R.C.S.

The sudden death of Sir Frank Gunesekera while attending a reception at the Governor-General's residence in Colombo on January 23 came as a shock to his family and to his numerous friends and patients throughout the length and breadth of Ceylon.

Frank Arnold Gunesekera was born on November 14, 1887, the son of the late Mr. Francis Gunesekera, J.P., and was educated at the Royal College, Colombo, and at the Ceylon Medical College, from which he qualified in 1910. He held the post of house officer at the General Hospital, Colombo, for one year, and then proceeded to England for further medical studies at the London Hospital Medical School, taking the M.R.C.S., L.R.C.P. in 1913. Returning home immediately, he was in private practice in Colombo, and for very many years until his death had one of the busiest practices in Ceylon. In 1914 he was commissioned in the Ceylon Medical Corps and was medical officer in charge of the combined hospital for British, Australian, and Sinhalese Servicemen during the 1914–18 war. He was appointed O.B.E. (Military Division) in 1935, was awarded the Efficiency Decoration in 1936, and was Commanding Officer of the Ceylon Medical Corps from 1935 to 1939. In 1937 he represented the Ceylon Defence Force at the Coronation of the late King George VI, and in 1938 was appointed Honorary Surgeon to the Governor of Ceylon, being the first medical man in Ceylon to receive the honour.

With the creation of an Upper House in the new Dominion of Ceylon, established in 1947, Sir Frank Gunesekera was nominated by the Governor-General, on the recommendation of the Ceylon Branch of the British Medical Association, to represent the professions in the Senate—a fitting tribute to a highly respected member of the medical profession. His services to the State were soon recognized and he was appointed C.B.E. (Civil Division) in 1948. Thus he became the recipient of an appointment in both the Military and Civil Divisions of the Order of the British Empire, receiving special permission to wear both insignia. In 1950 he was created a knight, an honour he regarded as a tribute to the profession of his country. Shortly before his death the Upper House elected him Deputy President of the Senate.

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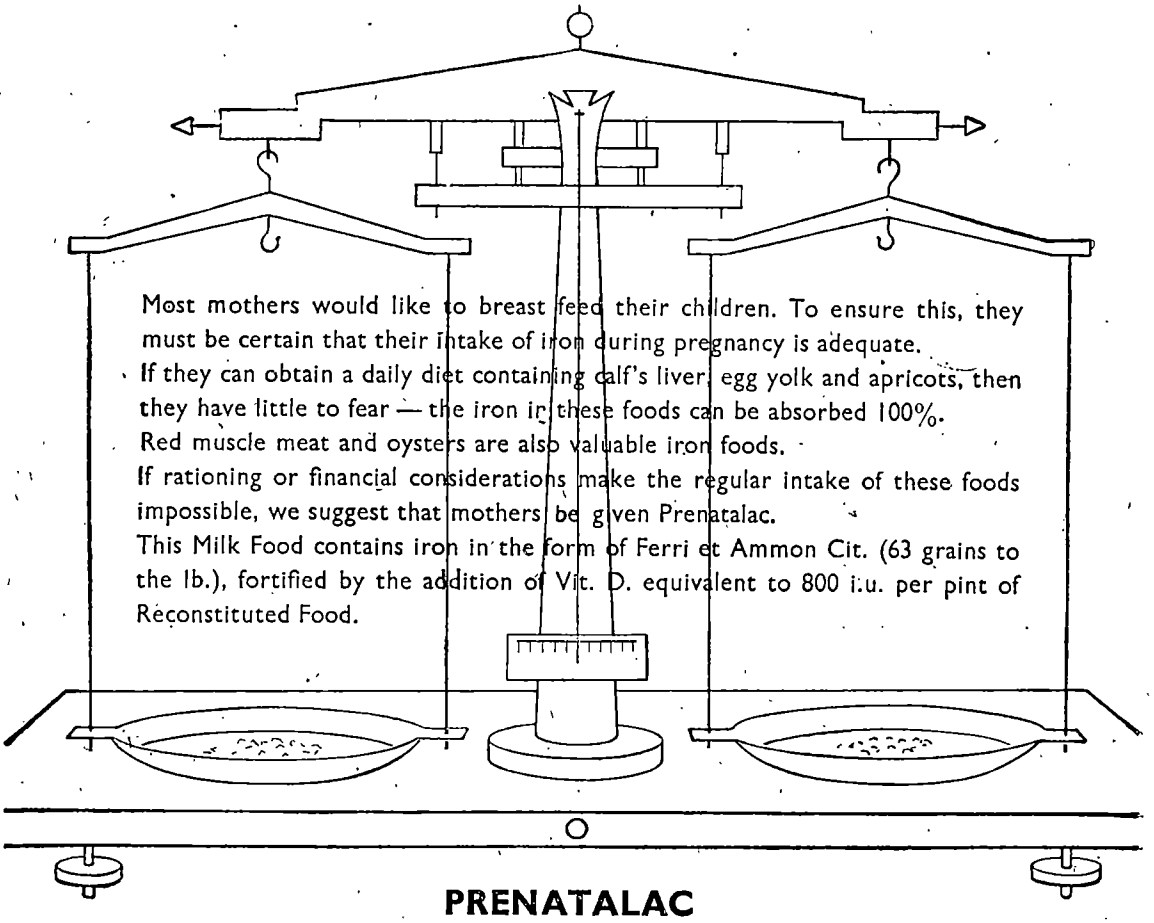
during pregnancy



Most mothers would like to breast feed their children. To ensure this, they must be certain that their intake of iron during pregnancy is adequate.

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ANALYSIS

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Fat	27.1%	3.4%
Protein	26.5%	3.3%
Lactose	37.5%	4.7%
Milk Salts	5.8%	0.7%
Iron Ammonium Citrate	0.9%	0.1%
Moisture	2.2%	87.8%

		Dry Food	Reconstituted Food (1 in 8)
Calorific Value	per oz.	145	18.1
	per 100 grms.	514	64.3
Vitamin D.	per oz.	320 i.u.	
	per pint		800 i.u.
Calcium ...	per oz.	230 mgms.	
Phosphorus	per oz.	175 mgms.	
Iron ...	per oz.	50 mgms.	

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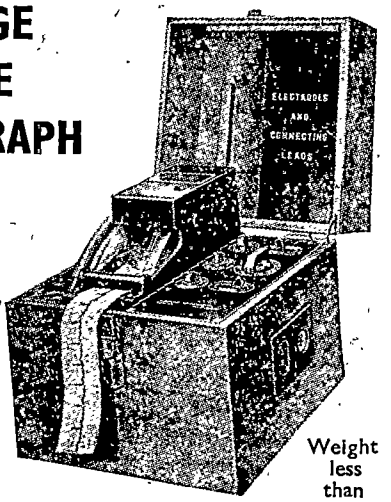

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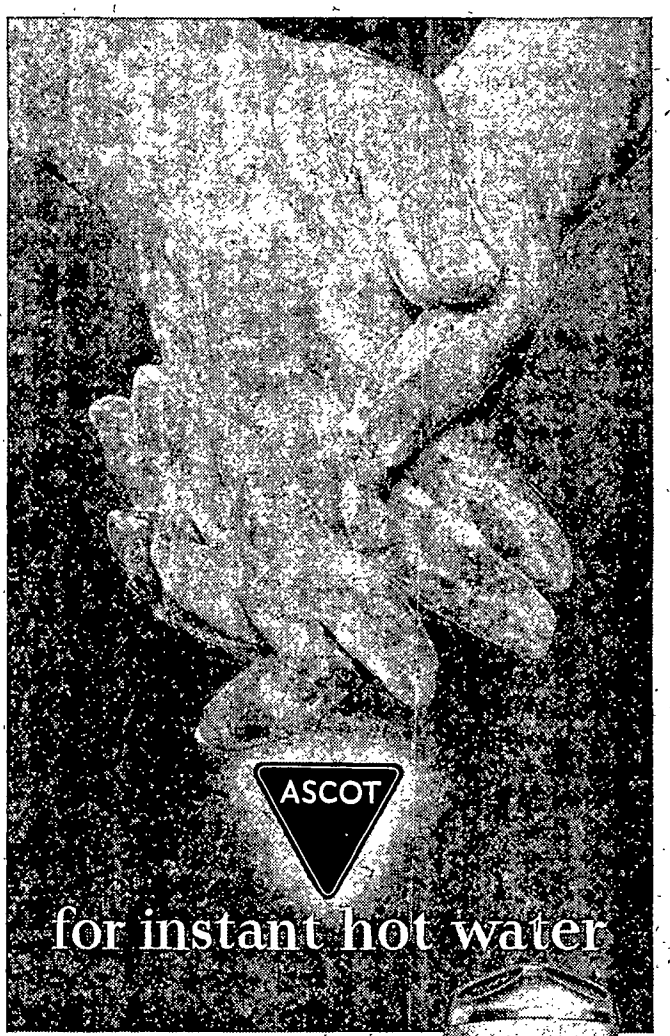

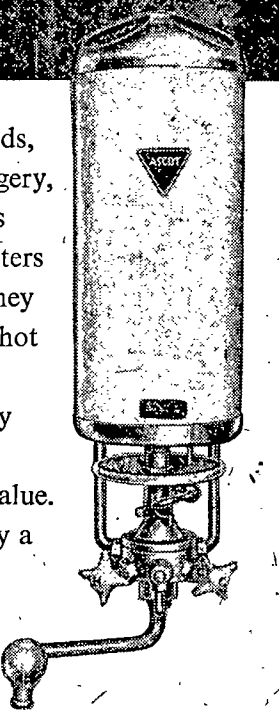

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Sir Frank Gunesekera took a leading part in the medical affairs of Ceylon, and was particularly interested in maintaining a high standard of professional ethics. An enthusiastic member of the Ceylon Branch of the British Medical Association, he was its president in 1931–2. He was also a member of the Ceylon Medical Council since its inception in 1925, and had been its vice-president since 1933. He served on numerous committees. As a member of the Ceylon University Court, University Council, and the Faculty of Medicine, he expressed his views forcibly and frankly. In addition, he will be remembered always as an ideal practitioner and as a lovable and upright man. With his personality and charm, Sir Frank Gunesekera had thousands of patients, both rich and poor, who came to him from all parts of Ceylon for advice and treatment, and who left him carrying with them an everlasting affection and regard. An engraved card found in his notebook after death bore testimony to his ideals. On it were the words: "The glory of life is to love, not to be loved. To give, not to get. To serve, not to be served. To be a strong hand in the dark to another in the time of need. To be a cup of strength to any soul in a crisis of weakness. This is to know the glory of life." The funeral of one of the most beloved physicians of Ceylon took place on January 24 at the General Cemetery, Colombo, in the presence of a large gathering of mourners.

Sir Frank Gunesekera leaves a widow, four sons, two of whom are members of the medical profession, and two daughters. We offer our deepest sympathy to them. —O. E. R. A.

W. J. ELFORD, Ph.D., F.R.S.

By the death of Dr. William Joseph Elford on February 14 at the early age of 52, medical science lost one of the pioneers in virus research.

Born in 1900, Elford spent his early life and schooldays in Malmesbury in Wiltshire. He gained a scholarship to Bristol University, where he graduated B.Sc. in 1923. His research career began under Professor J. W. McBain, F.R.S., during tenure of a Colston research fellowship. In 1925, after he had proceeded to the degree of Ph.D., he joined the scientific staff of the National Institute for Medical Research at Hampstead as a physical chemist to be mainly concerned with problems in virus research. This appointment was soon to bear fruit. Elford developed in the mysteries of virus diseases an absorbing interest which he was never to lose.

Very little was known at this time about the filter-passing viruses, until Elford developed a method for measuring their size. This he achieved by filtering the virus through an accurately calibrated series of collodion membranes of graded pore size. His "gradocol" membranes became widely known and used in virus laboratories. Subsequent development of the electron microscope has provided confirmation by direct measurement of the accuracy of his method. During the war he applied his knowledge of physical chemistry to the study of air disinfection and the production of aerosols. Later he renewed his early interest in bacteriophage, and began to investigate the interaction of penicillin and bacteriophage upon staphylococci. In 1949 Elford published his remarkable electron micrographs of the recently isolated strains of influenza virus adsorbed upon the laked chicken red cell. These photographs showed the presence of new "long forms" of the virus and were of extreme interest.

His election in 1950 to the Fellowship of the Royal Society was richly deserved and undoubtedly gave him great pleasure. It is a tribute to his inventive genius that his two major contributions to science—the gradocol membrane and new electron microscopical method for virus research—have been key techniques which open up relatively easy access to much vital new knowledge.

To his colleagues William Elford presented a quiet and retiring personality, while his closer collaborators found he possessed scientific enthusiasm and a capacity for painstaking critical investigation second to none. A kinder or more pleasant teacher would be hard to find. The generous and helpful attitude he showed to his numerous scientific visitors was in part responsible for the large number of callers he received; with all his friends and co-workers he maintained a very extensive correspondence. The output of work published on his own or in collaboration with others was very considerable, and behind it lay a vast amount of information and experience gained in nearly thirty years of research. He applied the most exacting standards to his work before publishing any results, and this fact was reflected in his scientific reputation, which was of the highest order. On entering his laboratory one was always impressed by its extreme tidiness, however busy the day or complex the experiment; though in many respects a necessity, this tidiness was no mean achievement in research embracing physical, chemical, and microbiological studies of infectious and frequently virulent material. Elford was a master in all these fields. Although he had received no biological training, it came as a surprise to many of his co-workers to learn that he did not possess a medical degree; however, he was always content to leave animal experimentation to his medically qualified colleagues.

In recreation Dr. Elford was as active as in his work. Keenly interested in all branches of sport, he was an excellent cricketer and tennis player. He played a prominent part in the origination and organization of the Institute's athletic association. When a breakdown in health had put an end to his active participation in games he still continued to be a frequent visitor to Lord's, Wimbledon, and Twickenham. His early death will be keenly felt by his friends throughout the world: but Elford would surely have preferred a sudden end to a long separation by illness from his work, for this was his life.—J. E. H.

Dr. F. H. ROBBINS died very suddenly, of coronary occlusion, at his home in London on December 25, 1951, after having appeared to be in vigorous good health. Frank Hubert Robbins was born in 1887, the son of a distinguished dental surgeon. He was educated at St. Paul's School, Pembroke College, Cambridge, and St. Bartholomew's Hospital. His quiet, earnest manner as a student earned him the nickname of "Razzle." He graduated B.A., with first-class honours in the natural sciences tripos, in 1909, and qualified M.R.C.S., L.R.C.P. in 1912. The next two years were spent in house appointments at St. Bartholomew's Hospital. In the war of 1914–18 he joined the 85 Field Ambulance, R.A.M.C., T.A., and served in France, Salonika, and Gallipoli, and was awarded the Military Cross. (At his funeral his coffin was covered with the Union Jack that had flown wherever his ambulance was stationed.) On demobilization he studied further and obtained the F.R.C.S.Ed. in 1920 and the B.M., B.Chir. in 1923. He first practised at Leatherhead in Surrey, but very soon took over the late Dr. O. C. Shaw's practice in Golders Green,

where he remained until his death. His appointments included those of surgeon to the Post Office, Treasury medical officer, chairman of a National Service medical board, and medical officer to the Hendon District Hospital. He was chairman of the Hendon Division of the British Medical Association in 1934–5, and he often represented the Division on the Metropolitan Counties Branch council. It was in committee that his sane advice was most appreciated. To his colleagues, who were deeply shocked by his death, he was looked upon as the ideal general practitioner and a most strict observer of medical etiquette in the best sense. He was a devout Christian, a good Freemason, and was a Past Master of the Rahere Lodge. The latter part of his life was marred by the death of his son Anthony, a promising medical student, who died of infantile paralysis in Snowdonia while out with the Cambridge Climbing Club. He was further distressed when his other son was affected by the same disease, but happily only mildly. Because of his sufferings he was able to give wise and sympathetic help to all those who sought his advice. He will be greatly missed and long remembered by his patients, his colleagues, and by those who loved him.—C. B. W.

Dr. SAMUEL STUART BROWN, who died suddenly on January 15, was educated at Ravenscroft School and at the Royal Belfast Academical Institution and Queen's University, Belfast, where he graduated M.B., B.Ch. (with honours) in 1923. Soon afterwards he took over a large general practice at Fulham, in London, where he held appointments as police surgeon, medical adviser to the Chelsea Football Club, and physician to an L.C.C. orphanage. In 1936 he returned to Belfast and rapidly built up a large practice, work in which was interrupted by the war years, when he served for a long period overseas, including Burma, with the Royal Air Force, retiring with the rank of squadron leader. On returning, his practice became larger than ever, and since the inception of the National Health Service he had been overworked. He retained his interest in children by becoming honorary physician to one of Dr. Barnardo's homes. Added to his other work, he threw himself wholeheartedly into the affairs of the British Medical Association, and, as honorary secretary of the Northern Ireland Branch since 1949, he had carried a great portion of the responsibility for Ulster. For the last three years he had represented his constituency at the Annual Representative Meeting. In his younger days Dr. Brown was a keen athlete and a fine rugby player. He represented his province in the schools' interprovincial games, and later was one of the best forwards playing in senior rugby. He carried his enthusiasm to London, and his advice was early sought by the local club. Latterly golf had been his game, and, although very busy in his practice, he usually found some time for it. He not only enjoyed the game itself but was very popular on the social side, for with his fine, commanding appearance and his attractive manner he made friends wherever he went. His funeral, one of the largest seen for a long time, was a testimony to the love in which he was held in the east end of Belfast. Dr. Brown is survived by his wife, a daughter, and a son, now a second-year medical student, and to them we offer our deepest sympathy.—I. F.

We announce with regret the death on January 28 of Dr. ROBERT MOORE FRASER at his home in Knock, Belfast. Dr. Fraser was born in 1865, and was educated at the Royal Belfast Academical Institution and at Queen's College, Belfast. He graduated B.A. at the old Royal University of Ireland in 1885, and took the M.B., B.Ch. degrees five years' later, proceeding M.D. in 1920. Dr. Fraser, who had lived in retirement for some time, had carried on an extensive practice in Knock and district for nearly 50 years. A man of many interests, he was the Ulster representative on the committee of the *Scottish National Dictionary*, and retained to the end his love of the classics. He was keenly interested in world affairs, especially European politics, and took a leading part in the historical section of the Presbyterian Church. In his own church at Knock he was the senior elder. He was a staunch Unionist, and in the 1914–18 war took an active part in the work of the Ulster Volunteer Force Hospital. Of a quiet, reserved nature, he was a staunch friend and a delightful companion. He was twice married, first to Miss Margaret Ferguson, of Muckamore, and secondly to Miss Alice Cuthbert. He is survived by his wife; one son, Ian Fraser, the Belfast surgeon; and his daughter, Margaret.

Medico-Legal

NO VACANT BEDS

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

How far the hospital service falls short of requirements was shown vividly by a recent inquest at Leeds. An elderly retired labourer complained for many months of steadily increasing pain, sometimes round the heart, sometimes in his trunk and legs. At length he became bedridden and sleepless. He was a widower, and so his care fell heavily upon his three sons and the young daughter of one of them. His family doctor, who saw him for his pains in the middle of January, thought he should see a specialist, and gave him an appointment card for the orthopaedic department of the Leeds General Infirmary. The department replied that an appointment with a specialist could not be arranged for about eight weeks. The doctor then gave the sons a note to St. James's Hospital for the patient's admission, and he was put on its "priority list." Next week, as the hospital would give no definite promise of admission, the doctor had him seen by a specialist, who said he would take the patient into hospital as soon as a bed was available. More weeks went by and the patient still could not enter hospital. The doctor saw him weekly, pressed the specialist's secretary to hasten admission, and gave him a note for the hospital almoner. On March 17 the patient, trying to turn himself over in bed, fractured his left femur. For this acute condition the doctor's assistant was able to send him at once to the infirmary, but he died soon after arrival.

The necropsy showed that the cause of death was a carcinoma of the lower lobe of the left lung, with metastases scattered throughout the liver, spleen, and mesentery. The fracture had been due to a deposit just below the lesser trochanter.

At the inquest the sons were resentful of what they called the neglect of their father, and blamed the doctor; but he was able to show that he had paid 11 consecutive weekly visits before the end, had prescribed palliatives, and had done his best to secure proper attention for the patient. He pointed out that at times he had had 20 patients on priority awaiting their turn, some in at least as serious a condition as the deceased. The medical superintendent at St. James's Hospital said that the male waiting-list at the date of the inquest was about 150 and the priority list 42. The patient had been placed on the priority list in 50th place as soon as his request for admission had been received, and at his death he had been eighth. The female waiting-list was 200. The only remedy was more beds and more nurses, which meant more buildings. There was no waiting-list before the war. He suggested that more women were working now and that they were no longer able to look after their own ailing relatives; the population's longer life meant more elderly patients, and perhaps doctors were sending more patients to hospital under the Health Service. Dealing with the waiting-list, he remarked, was his "worst job." The deputy house governor at the infirmary testified that male patients had been waiting on its priority list for two or three months and female for five to six months. The verdict was death from natural causes.

Medical Notes in Parliament

Abolition of Identity Cards

In answer to a question in the House of Commons on February 21 the MINISTER OF HEALTH announced that it was no longer necessary for the public to possess and produce an identity card or to notify change of address for National Registration purposes, although the numbers would continue to be used in the National Health Service. Numbering was necessary in the National Health Service in order to identify patients and to avoid inflation of doctors' lists of patients. To save the labour and expense of allotting new numbers the old National Registration numbers would be retained for this purpose. Anyone using the Service would be asked, as now, for his number when applying to go on a doctor's list or for dental or ophthalmic treatment.

Connaught Military Hospital

Mr. F. F. A. BURDEN on February 21 drew attention to the conditions at the Connaught Military Hospital for tuberculous patients at Hindhead, Surrey. Mr. A. HEAD said the accommodation at this hospital was not all that he would wish. If, however, it were not used, tuberculous patients would have to wait for a bed in the limited general hospital accommodation elsewhere and would not have the advantage of early specialist treatment. Further improvements in the structure and amenities were in hand. Recent allegations about the conditions were much exaggerated.

Cost of Patients' Food

Mr. N. N. DODDS on February 21 spoke of the concern caused by the decision of the South-west Metropolitan Regional Board controlling over 300 hospitals to spend no more than 21s. a week on feeding each patient. Mr. H. F. C. CROOKSHANK replied that the board asked management committees, in preparing their estimates for the next financial year, to regard as maxima for their groups certain figures of expenditure on provisions based on averages in the region. In addition it warned committees to take account of possible price rises in framing their estimates. This was an interim measure pending a further detailed investigation into the costs of provisions. On the information at present available he saw no reason to intervene.

Sanatoria Waiting-lists.—Provisional figures show that the number of persons waiting to enter tuberculosis sanatoria in England and Wales at December 31, 1951, was about 8,200.

Surgical Boots.—It is proposed to make a fixed charge of £3 a pair for surgical boots and shoes.

Estimates.—Mr. Crookshank states that it seems probable that in 1951–2 expenditure on the general dental services as a whole will be about equal to the estimate, while that on the supplementary ophthalmic services will be about £5m. below. In Scotland expenditure on the latter is expected to be about £50,000 below the estimate.

Universities and Colleges

UNIVERSITY OF OXFORD

Charles Joseph Singer, D.M., D.Litt., F.R.C.P., Professor Emeritus of History of Medicine in the University of London, has been elected to an Honorary Fellowship of Magdalen College, Oxford.

UNIVERSITY OF CAMBRIDGE

The Copeman Medal for medical research of Corpus Christi College has been awarded to Dr. John Chaplin Sloper.

The following medical degrees were conferred in Congregation on February 8:

M.D.—A. A. Miles, J. Lister, H. T. H. Wilson, J. R. Robinson.
M.B., B.CHIR.—*D. B. Murray, *N. R. Lewis, *E. M. Sproston.

Professor B. H. C. Matthews, F.R.S., Professor of Physiology in the University, has been elected to a Professorial Fellowship of King's College.

Dr. T. S. Hele, formerly Master of Emmanuel College, has been elected into a Life Fellowship of the College.

*By proxy.

UNIVERSITY OF ST. ANDREWS

The honorary degree of LL.D. will be conferred on Emeritus Professor R. C. Alexander, formerly Professor of Surgery, and on Emeritus Professor Adam Patrick, formerly Professor of Medicine, in the University at a graduation ceremony on July 4.

UNIVERSITY OF LEEDS

At a meeting on February 20 the Council of the University recorded its deep regret at the death of His Majesty King George VI, the Visitor to the University, and the Pro-Chancellor read the letter and resolution of the Senate and the Council which had been forwarded to Her Majesty the Queen by the Chancellor.

The following appointments were announced: I. M. P. Dawson, M.B., B.Chir., M.R.C.P., as Lecturer in Pathology, and C. O. Carter, B.M., B.Ch., M.R.C.P., as part-time Medical Geneticist. Professor R. D. Passey, Head of the Department of Experimental Pathology and Cancer Research in the University, has received the following letter from the trustees of the Anna Fuller Fund of New Haven, Connecticut, U.S.A.:

"The trustees of the Anna Fuller Fund, at their meeting on February 8, 1952, on their own motion, voted a gift in the amount of one hundred pounds to the University of Leeds, in memory of King George VI. The trustees specifically provided that this gift needs no acknowledgment or special accounting, but may simply be used, in whole or in part, at any time or from time to time, for any purpose having to do with cancer research in your complete and unfettered discretion."

It is proposed to devote the money towards the cost of the electron microscope recently installed in the department.

The Services

Surgeon-Commanders A. F. M. Barron and D. J. N. McNab, R.N.V.R., Surgeon Commander C. A. Pittar, R.N.Z.N.V.R., and Surgeon Lieutenant-Commanders O. J. Vaughan-Jackson, F. G. Ward, and T. B. Snell, R.N.V.R., have been awarded the Royal Naval Volunteer Reserve Decoration.

Brigadier G. E. MacAlevey, C.B.E., D.S.O., M.C., late R.A.M.C., has been appointed a Deputy Director of Medical Services of the Army and has been granted the temporary rank of Major-General.

Lieutenant-Colonel (Temporary Colonel) Sir Arthur Porritt, K.C.M.G., C.B.E., R.A.M.C., T.A., has been appointed Honorary Colonel of a T.A. unit in succession to Colonel Lord Webb-Johnson, K.C.V.O., C.B.E., D.S.O., T.D., R.A.M.C., whose tenure has expired.

A *Supplement* to the *London Gazette* has announced the following awards:

First, Second, and Third Clasps to the Territorial Efficiency Decoration.—Major (Honorary Colonel) T. A. A. Hunter, R.A.M.C.

First and Second Clasps to the Territorial Efficiency Decoration.—Major (Honorary Lieutenant-Colonel) J. R. Wright, T.D., and Major A. D. Briscoe, T.D. (now Supplementary Reserve), R.A.M.C.

Territorial Efficiency Decoration and First Clasp.—Majors P. T. Cooper, J. C. Fletcher, J. B. Mackay, M.B.E., and C. S. Nicol, R.A.M.C.

Territorial Efficiency Decoration.—Major (Honorary Lieutenant-Colonel) A. G. Hammond and Honorary Major D. S. Macpherson, retired, R.A.M.C.

The President of the U.S.A. has conferred the Silver Star Medal upon Major D. H. R. Montgomery, M.C., R.A.M.C., and the Bronze Star Medal upon Lieutenant-Colonel A. MacLennan, O.B.E., R.A.M.C., in recognition of gallant and distinguished services during the operations by the United Nations in Korea.

The Prince Regent of Belgium has conferred the following decorations in recognition of distinguished services in the cause of the Allies during the 1939–45 war:

Commander of the Order of Leopold II.—Brigadier (Honorary) R. R. G. Atkins, O.B.E., M.C., late R.A.M.C.

Officer of the Order of Leopold.—Lieutenant-Colonel J. Smith, O.B.E., T.D., R.A.M.C.

Croix Militaire 1st Class.—Lieutenant-Colonel J. V. Bradley, T.D., and Major J. K. Willson-Pepper, R.A.M.C.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **February 9** (No. 6) and corresponding week 1951.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 160 great towns in England and Wales (London included), London administrative county, the 17 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	34	4	15	0	0	44	4	9	1	5
Dysentery	592	82	40	0	2	985	77	216	5	
Encephalitis, acute	3	1	0	0		9	2	1	0	1
Enteric fever: ..										
Typhoid	2	0	1	1	4	5	2	0	0	0
Paratyphoid ..	6	0	0	0	1 (B)	6	0	1 (B)	0	
Food-poisoning ..	89	14		0		82	22		1	
Infective enteritis or diarrhoea under 2 years				13	12				16	18
Measles*	4,425	65	456	136	97	21,633	2929	197	38	99
Meningococcal infection	49	4	11	0	3	52	4	9	2	4
Ophthalmia neonatorum	35	6	7	0		42	1	19	1	1
Pneumonia† ..	1,105	41	340	11	1	3,091	164	385	48	96
Poliomyelitis, acute:										
Paralytic ..	11	1	3	2	2	12	0	2	0	3
Non-paralytic ..	6	0				7	0			
Puerperal fever§ ..	216	37	9	6		90	12	15	1	
Scarlet fever ..	1,416	114	207	26	36	892	63	157	31	48
Tuberculosis:										
Respiratory ..			134	26				168	32	
Non-respiratory..			26	0				26	8	
Whooping-cough ..	2,686	91	306	100	72	5,110	394	716	22	81

DEATHS in Great Towns	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire	Eire
Diphtheria	0	0		0	0	1	1	0	0	0
Dysentery	0	0		0			0		0	
Encephalitis, acute		0			0		0			1
Enteric fever ..	0	0		0		0	0	0	0	
Enfective enteritis or diarrhoea under 2 years	18		5	0	0	15		2	1	0
Influenza	40	9		2	0	864	76	27	13	50
Measles		0		0	0		1	0	0	0
Meningococcal infection		1					0	0		
Pneumonia ..	354	64		13	16	662	105		13	22
Poliomyelitis, acute	2	0			0	1	0			1
Scarlet fever ..		0		0	0		0	0	0	0
Tuberculosis:										
Respiratory ..	181	20	25	3	9	193	19	33	6	17
Non-respiratory..		2	2	0	3		3	1	2	0
Whooping-cough ..	2	0		0	1	12	3	0	0	0
Deaths 0–1 year ..	285	28	41	8	20	294	42	32	9	12
Deaths (excluding stillbirths) ..	6,759	988	829	155	219	9,090	1324	817	168	386
LIVE BIRTHS ..	7,680	1155	914	209	410	7,101	1105	855	218	353
STILLBIRTHS ..	191	29	21			174	19	27		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.

Vital Statistics

Smallpox in Lancashire

Up to and including February 22 a total of 40 confirmed cases of variola minor have been reported from Rochdale (38 cases) and the adjoining town of Milnrow (2 cases). Of these 40 patients, 23 developed their disease in February; in 17 patients the illness was diagnosed retrospectively. All medical officers of health have been warned of the presence of this disease in south-east Lancashire by the Chief Medical Officer, Ministry of Health.

Infectious Diseases

Infectious diseases increased in incidence in England and Wales during the week ending February 9. The largest rises in the number of notifications were measles 1,039, dysentery 102, acute pneumonia 100, scarlet fever 96, and whooping-cough 34.

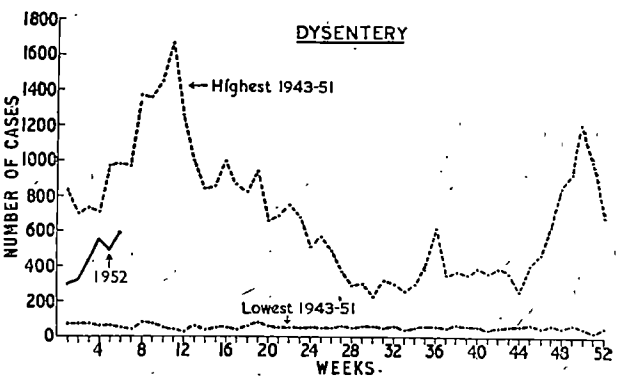
The increase in the incidence of measles was mainly contributed by the northern section of the country; the largest rises were Lancashire 286, Warwickshire 129, Durham 106, and Yorkshire East Riding 101. A small rise in the number of notifications of scarlet fever was recorded in every region of the country, but no large local fluctuations occurred. The only large variations in the trends of whooping-cough were an increase of 84 in Yorkshire West Riding and 65 in Staffordshire. The number of notifications of diphtheria was 10 more than in the preceding week; these cases were scattered throughout the country. The largest returns of diphtheria during the week reviewed were Warwickshire, Birmingham C.B. 6, Lancashire, Darwen M.B. 5, and Liverpool C.B. 3.

The number of notifications of acute poliomyelitis was 6 fewer for paralytic and 2 fewer for non-paralytic cases than in the preceding week. The largest return was 4 in Yorkshire West Riding. No multiple cases were recorded in administrative areas.

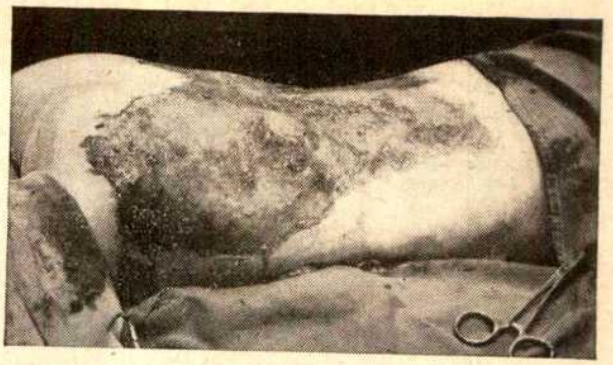
The notifications of dysentery were the largest for 33 weeks. A further 83 cases were notified from the outbreak in Norwich C.B. The other large centres of infection during the week were London 82 (Wandsworth 23, Hackney 12, Islington 12); Lancashire 71 (Oldham C.B. 19); Yorkshire West Riding 63 (Leeds C.B. 36, Bradford C.B. 17); Middlesex 53 (Willesden M.B. 28); Warwickshire 24 (Sutton Coldfield M.B. 10); Derbyshire 21 (Repton R.D. 21).

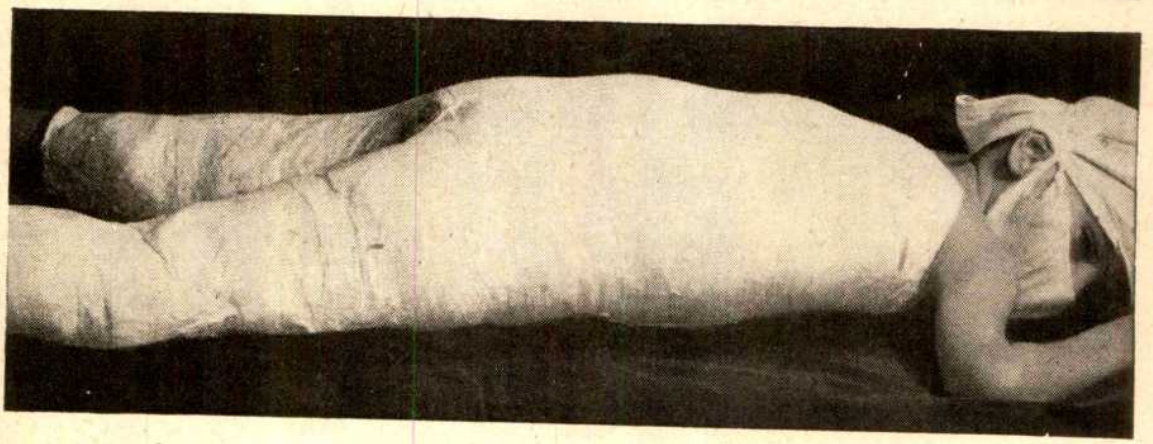
Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1943–51 are shown thus --------, the figures for 1952 thus ———. Except for the curves showing notifications in 1952, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.



IMMOBILIZATION BY GYPSONA AFTER SKIN GRAFTING OPERATION





These illustrations and the brief details below are of an actual case where, after a skin grafting operation, a Gypsona plaster of Paris cast was used to immobilize the patient.

In such a case Gypsona is particularly convenient. The bandages are ready for immediate use and are quick setting. Being evenly impregnated with a uniform content of plaster of Paris, they can be quickly formed into a strong but light cast — with a minimum of disturbance to the patient in the post-operative condition.

CASE HISTORY: Boy received a burn covering 16% of body surface. Plasma transfusion started and the burn dressed with penicillin cream.

There was almost complete skin destruction, and a fortnight later early granulations were visible through separating slough. Under general anæsthetic, these were stripped off leaving a clean raw area. This was covered with split skin grafts which were fixed with crepe pressure dressings. The child was immobilized in a Gypsona cast.

A week later, the cast was removed. 100% take of grafts. Tulle gras dressings applied. Three weeks later the boy was discharged home, walking satisfactorily.

OTHER SMITH & NEPHEW PRODUCTS USED IN THIS TECHNIQUE

JELONET (Tulle gras) is an open mesh gauze dressing impregnated with medicated soft paraffin containing 1.225% Balsam of Peru. Its non-adherent properties prevent dressing trauma, making it particularly suitable for wound areas encountered in skin grafting operations.

ELASTOCREPE is Elastoplast cloth without the adhesive spread. It therefore maintains uniform tension when stretched for long periods, keeping the pressure dressing firm throughout the immobilization.

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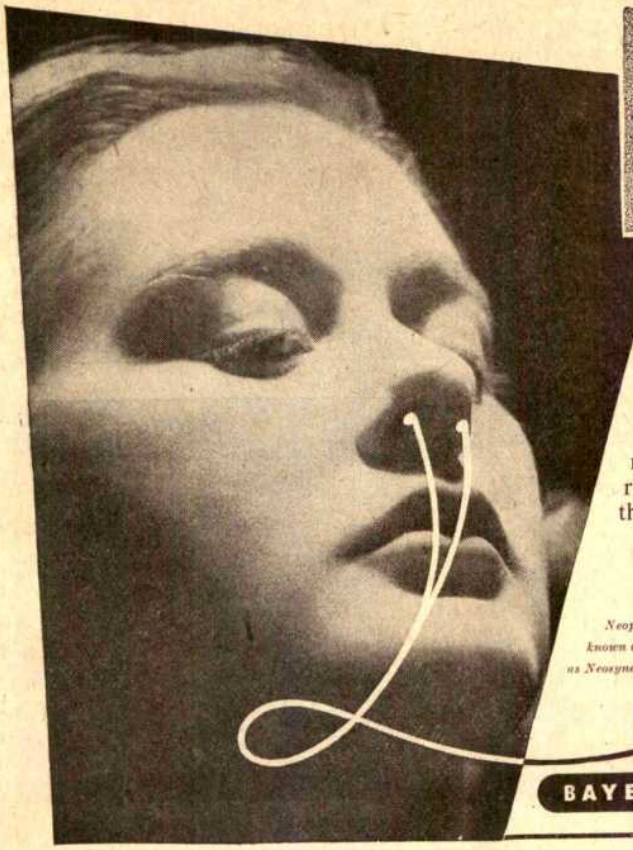
GYPSONA, ELASTOCREPE *and* **JELONET** *are made by T. J. Smith & Nephew Limited, Hull. Outside the British Commonwealth, Elastocrepe is known as Tensocrepe.*



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Three or four drops are instilled into each nostril. The patient should lie flat with chin raised and neck fully extended, and maintain this position for two minutes.

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Anahæmin has also been found to be of value in the treatment of herpes zoster and post-herpetic neuralgia. The recommended dosage is 2 ml. followed by 1 ml. on subsequent days until relief is obtained.

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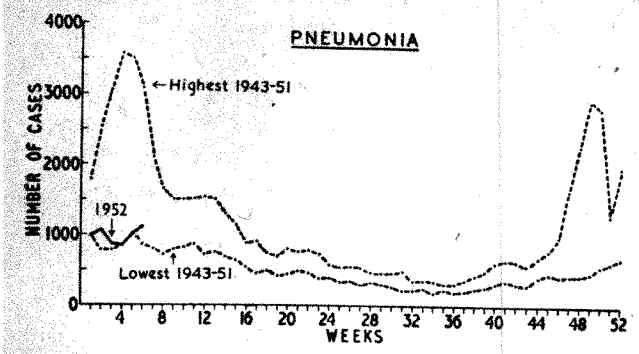

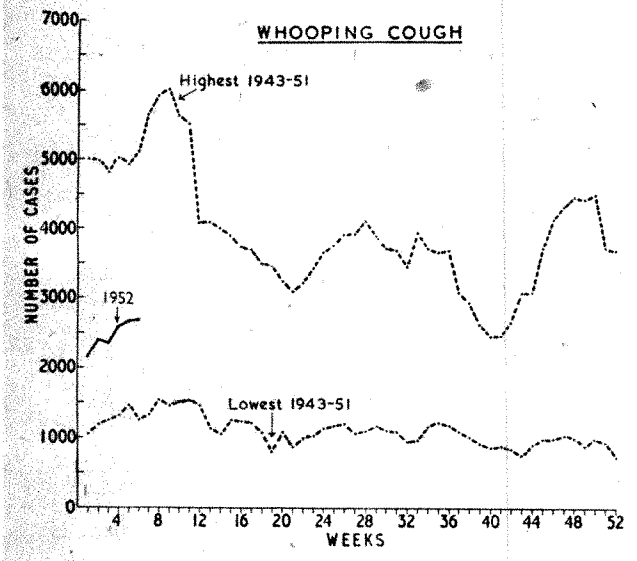

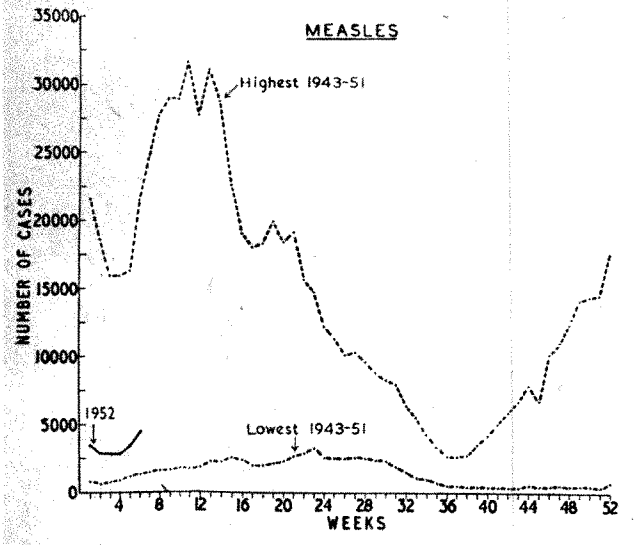

Diphtheria Immunization

The immunizations of children under 5 years of age against diphtheria were 141,000 fewer in 1950 than in 1949. An inquiry was carried out for the Ministry of Health by the Social Survey and a summary published in the February issue of the *Monthly Bulletin of the Ministry of Health and the Public Health Laboratory Service*. In a sample of 1,254 children between the ages of 6 months and 5 years there were 26% who had not been immunized and a further 5% who had not completed the immunization course. Of the children between 6 and 12 months of age 72% had not been immunized. The number with completed immunization rose steadily with age to 82% at 4–5 years.

67% of the children had been inoculated in the arm, the left arm being the most popular site. Inoculation in the arm caused the least discomfort. Soreness in the arm was reported by 11% of the mothers, compared with 31% who reported soreness following inoculation in the legs.

It appears from this report that the success of the campaign in almost eliminating diphtheria has led to some apathy among mothers who have lost their fear of diphtheria as a deadly illness. If diphtheria is to be kept at its present low incidence an adequate level of immunization in the population must be maintained.

Tuberculosis Mortality in Scotland

The Registrar-General for Scotland in his annual report for 1949 states that the death rate from all forms of tuberculosis was 67 per 100,000 for 1949. This is the lowest rate ever recorded in Scotland, being 8 below the rate for 1948 and 2 below the previous lowest level recorded in 1938. The death rate from respiratory tuberculosis was 60 per 100,000 and was 6 below the level of 1948 but still above the level of the immediate pre-war years. The lowest death rate from respiratory tuberculosis was 52 per 100,000, which was recorded in 1938.

Road Accidents in 1951

Casualties on the roads in December, although fewer than in November, were the heaviest recorded in this month for 10 years. The total was 18,187, including 521 killed and 4,578 seriously injured. Over one-sixth of them occurred on the last four week-days before Christmas. Casualties reached their peak on Christmas Eve, with a total for this one day of 1,065, including 24 killed.

Casualties in 1951, the first complete year since petrol rationing was abolished, totalled 216,493, including 5,250 killed and 52,369 seriously injured. In 1950, when there were seven months without petrol restrictions, the killed numbered 5,012, seriously injured 48,652, and slightly injured 147,661, making a total of 201,325. The 1951 total was, however, 16,866 fewer than in 1938, when casualties totalled 233,359, including 6,648 killed.

Week Ending February 16

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,481, whooping-cough 2,550, diphtheria 48, measles 4,980, acute pneumonia 1,175, acute poliomyelitis 20, dysentery 636, paratyphoid fever 3, typhoid fever 3.

Medical News

Mixed Bag.—The March issue of *Family Doctor*, out on February 28 at 1s. 6d., contains a long article giving a sensible picture of what it is like to be a nurse, which would be useful reading to any girl thinking of going in for nursing; advice on dandruff; how to nurse children at home; and useful recipes to tempt the invalid's appetite, as well as advice on breast-feeding, growing deafness, influenza, and many other matters: altogether a very varied issue.

"Alcoholism: A Social Problem" is the title of a booklet just issued by the Advisory Council on Alcoholism, setting out a new policy of attack on alcoholism as an illness and a new approach to its treatment. The World Health Organization recently published figures showing that there are 86,000 chronic alcoholics in England and Wales, and of these a large number are permanently unemployed, many in prison and mental hospitals. The council proposes to tackle the problem from the educational angle, holding that nothing can be done as long as the general public remains ignorant of the true facts. Alcoholism is a disease, the alcoholic a sick person who can be helped and is worth helping. This is a public-health problem and therefore a public responsibility, and the council seeks the support of

the public in its campaign. The chairman is Dr. T. A. Munro, and members of the council, who represent many different sections of the community, include Sir Frederick Bartlett, Dr. J. A. Hobson, the Reverend Canon J. T. Hughes, and Mrs. Marty Mann, chairman and executive director of the National Committee on Alcoholism, New York, who is acting as consultant. Full information about the work of the council may be obtained from the secretary, Mr. Forbes Cheston, 99, South Hill Park, London, N.W.3.

Royal Statistical Society Prize.—The council of the Society offers the Frances Wood Memorial Prize, value £30, for competition in 1952. The object of the prize is to encourage young investigators, and it is offered for the best investigation, on statistical lines, of any problem bearing directly or indirectly upon the economic or social conditions of the people. Such investigations might, for example, concern housing, food production and distribution, health and nutrition, conditions of work, output, incomes and expenditure, education, and old age. Competitors must be under the age of 30 on January 1, 1952, but need not be Fellows of the Society. Entries, which must be printed or typed on foolscap or quarto paper (diagrams may be hand-drawn), must be sent to the honorary secretaries of the Royal Statistical Society (from whom full details may be obtained), 4, Portugal Street, W.C.2, not later than December 31.

Services' Dental Congress Subscriptions.—At a meeting of the organizing committee of the XIth International Dental Congress held on January 26, the question of reduced subscriptions for members of the armed Forces attending the congress (to be held in London July 19 to 26) was discussed. It was decided that any officer holding the rank of major or below, or its equivalent rank, in the armed Forces in Europe and the United Kingdom would be admitted to active membership of the congress at the reduced subscription of £2 15s., provided an enrolment form is presented endorsed by a senior dental officer in his Service and that the officer concerned attends the congress in uniform. All inquiries about the congress should be addressed to Mr. G. H. Leatherman, 13, Hill Street, London, W.1.

World Tour for W.H.O. Director-General.—Dr. Brock Chisholm is to make a 23,000-mile trip which will take him to Pakistan, India, Ceylon, Singapore, Thailand, the Philippines, Hong Kong, Japan, Canada, the United States, and the United Kingdom. He is expected back in Geneva on April 25. He will discuss international health programmes with the national administrations concerned, inspect projects undertaken with W.H.O. aid, and discuss plans for future operations. While in the United Kingdom he will attend the health congress of the Royal Sanitary Institute at Margate in April, and will give an address at London University on April 24.

Middle East Visit.—Professor F. A. R. Stammers, of Birmingham, is about to visit Bagdad, Cyprus, and Khartum under the joint auspices of the British Council and British Medical Association. In Bagdad he will attend the annual general meeting of the Middle East Branch of the B.M.A. on March 3, 4, and 5. He will be in Cyprus March 6–21, and will spend March 22–26 in Khartum, lecturing and visiting hospitals.

Emergency Bed Service: Applications and Admissions.—During the seven days ending February 25 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,138, of whom 88.84% were admitted.

COMING EVENTS

Blood Transfusion Conference.—An international conference will be held in London at the British Standards Institution, Victoria Street, S.W.1, from March 3 to 5. The object of the conference is to seek the international standardization of blood transfusion equipment, and full details may be obtained from the secretary of the institute (telephone Abbey 3333).

St. John Ambulance Brigade Conference.—The surgeons of the St. John Ambulance Brigade will hold their Northern surgeons' conference at the Spa Hotel, Buxton, on April 26 and 27. Sir Harry Platt, Mr. R. Guy Pulvertaft, and Major Harold Stewart will speak. Further information can be obtained on application to the conference secretary, St. John Ambulance Brigade, 8, Grosvenor Crescent, S.W.1.

Chesterfield Medal Examination.—The Chesterfield Medal examination in dermatology, 1952, will be held at the Institute of Dermatology, St. John's Hospital for Diseases of the Skin, Leicester Square, London, W.C.2, on Monday, Tuesday, and Wednesday, April 7 to 9. The examination will include papers on general dermatology and pathology, an essay, and an oral examination. Particulars may be obtained on application to the secretary.

Week-end Seminar for M.O.H.s—A residential week-end seminar for medical officers of health and health education officers will be held at Southlands College, Wimbledon Park Side, London, from April 18 to 22. The subject of the course will be health education for mental health, and will cost £4 4s. Full details may be obtained from the medical director of the Central Council for Health Education, Tavistock House, Tavistock Square, W.C.1.

C.M.F./M.E.F. Physicians' Dinner.—The C.M.F./M.E.F. physicians' seventh reunion dinner will be held at Grosvenor House on Saturday, April 5, with Dr. E. R. Boland in the chair. Inquiries should be addressed to Dr. A. Willcox, 66, Harley Street, London, W.1.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Friday

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES, 11, Chandos Street, London, W.—February 29, 7.30 p.m., general meeting. *"Prostitution and Venereal Diseases in Uruguay,"* by Senorita Gloria Lanza. (Senorita Lanza will speak instead of Dr. F. R. Curtis.)

Monday

INSTITUTE OF NEUROLOGY, National Hospital, Queen Square, London, W.C.—March 3, 5 p.m., *"Neurological Manifestations of Porphyrinuria,"* Guest Lecture by Dr. Raymond Garcin.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—March 3, 8.30 p.m., *"The Surgery of the Heart and Great Vessels,"* Third Lettsomian Lecture by Mr. R. C. Brock.

PHARMACEUTICAL SOCIETY, 17, Bloomsbury Square, London, W.C. —March 3, 7.30 p.m., *"The Use of Films in Science Teaching,"* by Dr. B. Stanford.

Tuesday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., March 4, 5.30 p.m., *"The Effects of Haemorrhage on the Peripheral Circulation in Man,"* by Dr. O. G. Edholm.

CHADWICK TRUST.—At Sir Edward Meyerstein Lecture Theatre, Westminster Medical School, 17, Horseferry Road, London, S.W., March 4, 5.30 p.m., *"The Prevention of Dental Caries by the Administration of Fluorine in Public Water Supplies,"* Chadwick Public Lecture by Lieutenant-Colonel E. F. W. Mackenzie.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—March 4, 5.30 p.m., *"Antibiotics in Skin Diseases,"* by Dr. F. R. Bettley.

WEST END HOSPITAL FOR NERVOUS DISEASES, 40, Marylebone Lane, London, W.—March 4, 5.30 p.m., neurological demonstration by Dr. G. Parsons-Smith.

Wednesday

BIRMINGHAM MEDICAL INSTITUTE: MIDLAND MEDICAL SOCIETY.—At 154, Great Charles Street, Birmingham, March 5, *"Some Medical and Actuarial Aspects of Life Assurance,"* by Dr. E. Bulmer and Mr. B. Priestman.

CAMBRIDGE UNIVERSITY.—At Department of Physical Chemistry, Free School Lane, Cambridge, March 5, 12 noon, *"Some Aspects of the Physical Chemistry of Amino-acids, Peptides, and Proteins,"* by Professor John T. Edsall (Harvard University).

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—March 5, 5.30 p.m., *"The Chemistry and Bacteriology of Antibiotics,"* by Dr. J. O. Oliver.

INSTITUTE OF UROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., March 5, 4.30 for 5 p.m., *"Non-gonococcal Urethritis,"* by Dr. A. H. Harkness.

OXFORD UNIVERSITY.—At Radcliffe Infirmary, Maternity Department Lecture Theatre, Oxford, March 5, 5 p.m., "*Some Old and New Views on Localization of Function in the Cerebral Cortex*," Litchfield Lecture by Dr. F. M. R. Walshe, F.R.S.

ROYAL MICROSCOPICAL SOCIETY, Tavistock House South, Tavistock Square, London, W.C.—March 5, 6 p.m., "*Some Techniques of Modern Enzyme Histochemistry and Their Application*," by Dr. A. G. Everson Pearse.

Thursday

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., March 6, 5.30 p.m., "*Environmental Factors in Work*," by Professor G. P. Crowden.

EPSOM AND SUTTON INTER-HOSPITAL PSYCHIATRIC ASSOCIATION.—At St. Ebba's Hospital, Epsom, March 6, 8 p.m., clinical meeting. Case demonstrations by Dr. J. C. Batt. Papers, "*Treatment of Juvenile Psychiatric Disorders*," by Dr. D. E. Sands; "*Some Aspects of the E.E.G. in Juvenile Psychiatric Cases*," by Dr. G. H. A. Chamberlain; "*Factors Contributing to the Necessity of Prolonged Psychiatric Treatment*," by Dr. W. McIntyre.

FACULTY OF HOMOEOPATHY.—At Royal London Homoeopathic Hospital, Great Ormond Street, London, W.C., March 6, 5 p.m., "*Vomiting in Infancy and Childhood*," address by Dr. D. M. Foubister.

●INSTITUTE OF CHILD HEALTH, Hospital for Sick Children, Great Ormond Street, London, W.C.—March 6, 5 p.m., "*Modern Orthopaedic Principles*," by Mr. H. J. Seddon.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—March 6, 5.30 p.m., "*Histopathology of Ecto- and Mesodermal Naevi*," by Dr. H. Haber.

LIVERPOOL MEDICAL INSTITUTION, 114, Mount Pleasant, Liverpool.—March 6, 4.30 p.m., joint meeting with Manchester Medical Society. "*Opportunities for Research in General Practice*," by Professor Robert Platt; "*Art in Paediatrics*," by Professor Wilfrid Gaisford.

LONDON UNIVERSITY.—At Wright-Fleming Institute Lecture Theatre, St. Mary's Hospital Medical School, Paddington, W., March 6, 5 p.m., "*The Cerebellum and its Connexions in the Light of Recent Investigations*," Special University Lecture in Human Anatomy and Morphology by Professor Jan Jansen (Oslo University).

MEDICAL SOCIETY OF LONDON.—At Claridges, Brook Street, London, W., March 6, annual dinner.

●MOTHERS' CLINIC, 108, Whitfield Street, London, W.—March 6, 2.30 p.m., lecture and demonstration (on living models) on contraceptive technique by Marie C. Stopes.

ROYAL SANITARY INSTITUTE.—At Mansion House, Doncaster, March 6, 10 a.m., papers: "*Co-ordination Within the Welfare Service*," by Dr. Llywelyn Roberts; "*Recent Advances in Insecticides*," by Mr. I. A. Mackay, B.Sc. Afternoon visits.

ROYAL SOCIETY, Burlington House, Piccadilly, London, W.—March 6, 4.30 p.m., "*The Rowett Research Institute*," by Dr. D. P. Cuthbertson.

ST. ANDREWS UNIVERSITY.—At Lecture Theatre, Materia Medica Department, Medical School, Small's Wynd, Dundee, March 6, 5 p.m., "*Problems Connected with Old Age*," by Dr. A. G. Anderson.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—March 6, 4.30 p.m., lecture-demonstration in neurology by Dr. D. Williams.

UNIVERSITY COLLEGE, Physiology Theatre, Gower Street, London, W.C.—March 6, 4.45 p.m., "*Mitochondria and Biological Oxidations and Phosphorylations*," by Dr. A. L. Lehninger (Chicago).

Friday

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—March 7, 5.30 p.m., "*Common Skin Diseases in Children*," clinical demonstration by Dr. R. T. Brain.

●INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., March 7, 5.30 p.m., "*Medical Aspects of Rheumatic Heart Disease*," by Dr. Graham Hayward.

OXFORD UNIVERSITY.—At Magdalen College, Oxford, March 7, 5 p.m., "*The Neurophysiological Basis of Mind*," Waynflete Lecture by Professor J. C. Eccles, F.R.S.

UNIVERSITY COLLEGE, Physiology Theatre, Gower Street, London, W.C.—March 7, 5.30 p.m., "*Cell Physiology and Pharmacology—The Distinct Nuclear and Cytoplasmic Actions of Drugs*," by Professor J. F. Danielli, D.Sc.

Saturday

BIRMINGHAM MEDICAL INSTITUTE: SECTION OF ODONTOLOGY.—At Medical School, Hospitals Centre, Selly Oak, Birmingham, March 8, clinical meeting.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Brown.—On February 4, 1952, at the British Military Hospital, Singapore, to Marguerite, wife of Squadron Leader T. C. Brown, G.M., a son—Christopher.

Edwards.—On February 7, 1952, at Queen Charlotte's Hospital, London, W., to Hetty, wife of Dr. Errol M. Edwards a son—Jonathan.

Any Questions ?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Pregnancy Tests

Q.—*Have there been any recent improvements in laboratory tests for pregnancy? Which is the earliest to give a reliable answer? Is anything known about a test in which serum expressed from the breast is injected subcutaneously into the forearm?*

A.—The original Aschheim–Zondek test, which uses ovulation in the immature female mouse as its end point, is still one of the most accurate pregnancy diagnosis tests and probably is the earliest to give a reliable answer. All "improvements," therefore, have been intended to simplify the technique, reduce the time required to perform the test, or dispense with animals.

The Friedman test uses a single intravenous injection into a mature female rabbit (in place of several injections into several mice) and requires 24 to 48 hours as compared with five days. The Hogben test uses external ovulation in the South African clawed toad (*Xenopus laevis*) and requires about 24 hours. The male South American toad (*Bufo arenarum* Hensel), North American leopard frog (*Rana pipiens*), and edible frog (*Rana esculenta*) respond to injection of pregnancy urine within three hours by expelling spermatozoa into the cloacal urine, whence they are easily removed and observed beneath the microscope. Chemical tests (such as pregnanediol assay) on the patient's urine are less reliable than animal tests. Properly recorded basal temperatures taken first thing every morning also give reliable answers very early in pregnancy (within three weeks of ovulation—ordinarily one week after the expected onset of the "missed" period).

The colostrum test was described by Falls, Freda, and Cohen (1941); it was claimed that the intradermal injection of 0.02 ml. of a solution consisting of equal parts of human colostrum and physiological saline produced no reaction in pregnant women, but a typical allergic response (flare and wheal) within half an hour in non-pregnant women. In the original publication there were 98% correct answers in 265 pregnant women and 96% correct answers in 113 non-pregnant women. Few subsequent reports have confirmed these findings and most—for example, Pulver and Posner, 1942; Allen and Donaldson, 1943—indicate the test to be quite unreliable. There do not seem to have been any reports since 1945, and it may therefore be concluded that no further interest in the test remains.

REFERENCES

Allen, E., and Donaldson, L. B. (1943). *Amer. J. Obstet. Gynec.*, **45**, 208.
Falls, F. H., Freda, V. C., and Cohen, H. H. (1941). Ibid., **41**, 431.
Pulver, M., and Posner, L. B. (1942). Ibid., **44**, 690.

Insulin-resistance and Schizophrenia

Q.—*What determines the size of the dose of insulin in insulin coma therapy? Does the dose bear any relationship to the severity of the mental illness?*

A.—The dose of insulin required to produce coma varies very much from case to case. In schizophrenics it is generally higher than in normal persons or patients suffering from other conditions, 300 units or more being quite commonly required. Insulin-resistance is thought to be aetiologically related to the disease, and many clinicians are convinced that patients with a high resistance to insulin have a worse prognosis. Little is known for sure on this subject, which is theoretically important.

Mitigation of Assault

Q.—*In a case of assault, to what extent is the presence of a pre-existing abnormality which is liable to make fracture of a bone easier than usual a defence in law? For example, as a result of a blow a fracture occurred of the body of the mandible at the site of a dental cyst.*

A.—The fact that a person was suffering from some abnormality which would render him more liable to serious injury if he should be the victim of assault is no defence in law, the assailant being liable for all the consequences of his act. If, however, a condition such as that described were proved to be present, it would no doubt be taken into consideration in deciding the penalty. Therefore, though no defence in law is available, a plea of mitigation would no doubt be successful.

Disseminated Sclerosis

Q.—*(1) Is a diagnosis of disseminated sclerosis tenable if no physical signs are detectable other than "doubtful blurring" of the nasal margin of one optic disk six years after a supposed attack of optic neuritis? There have been no suspicious symptoms during this period. (2) Is there a hereditary factor in disseminated sclerosis? (3) Does pregnancy precipitate or aggravate disseminated sclerosis?*

A.—(1) Disseminated sclerosis is generally considered to be the most common cause of unilateral retrobulbar neuritis occurring in Great Britain. Blurring of the nasal margin of an optic disk is not a frequent sequel of retrobulbar neuritis, and on the slight facts given in the question it would be unwise to make a certain diagnosis of disseminated sclerosis.

(2) There is no apparent hereditary factor in the majority of cases of the disease, but familial cases do occasionally occur. In a recent series of 310 consecutive cases (*Brain*, 1951, **74**, 191) a positive family history was recorded in 6.5%, which was considered to be significantly higher than that expected on the basis of a random distribution of the disease.

(3) It is a widely held opinion that a relapse or aggravation of existing symptoms of disseminated sclerosis commonly follows parturition, and individual cases to support this opinion could be quoted by most neurologists, but in a comprehensive study of the prognosis in 810 patients with the disease in Sweden (*Acta med. scand.*, 1949, **133**, Suppl., 222) the author could find no statistical evidence to show that pregnancy or parturition alters the course of the disease.

Alcohol for Angina

Q.—*Is alcohol bad for hypertensive patients who occasionally suffer from anginal pains?*

A.—In moderation, particularly amongst those accustomed to its use, alcohol cannot be regarded as harmful to hypertensive patients liable to angina pectoris. In point of fact, as long ago as 1768 Heberden, in his original description of angina entitled "Some Account of a Disorder of the Breast," noted "the relief afforded by wine and spirituous cordials"—an observation which has been confirmed by many sufferers. Some claim that they obtain almost as much relief, though not so promptly, from a sip of whisky or brandy as they do from nitrites. As a vasodilator it is possible that alcohol thereby relieves or prevents in some measure the myocardial ischaemia responsible for the anginal attack by increasing local blood flow. Comfort is sometimes attributed to the prompt carminative action of the stronger spirits, such as liqueurs, taken undiluted after a meal, when anginal attacks are particularly prone to occur. It is also claimed that whisky before retiring reduces the liability to nocturnal attacks. In so serious a disorder fears of habituation are seldom warranted, but nevertheless, were it not for the risk of the corruption of his patient, the practitioner would no doubt be tempted to order alcohol more generously for sufferers from obliterative vascular disease. Unless the hypertensive patient is overweight or presents definite evidence of chronic alcoholism, there is at least no justification for countermanding alcohol amongst those afflicted with angina.

Idiosyncrasy to Morphine

Q.—*How common is idiosyncrasy to morphine? What are its manifestations? How specific is it? A patient under my care with a coronary thrombosis who was given morphine gr. $\frac{1}{6}$ (11 mg.) developed respiratory depression. Was this due to an idiosyncrasy to morphine?*

A.—The idea of idiosyncrasy is slowly giving place to the conception that there is a wide variation in sensitivity to all drugs. According to this view the pharmacopoeial dose of morphine will cause an excessive response in a small percentage of persons—perhaps in much less than 1%. The excessive response will be shown by the evidence of the usual toxic effects of morphine, which are vomiting, respiratory depression, and perhaps intense itching. The patient who developed respiratory depression after morphine gr. $\frac{1}{6}$ was one of these more sensitive individuals.

Mild Aperient for the Elderly

Q.—*What mild aperient for regular use would you recommend for a man of 83 who has great trouble with his bowels and is nauseated by liquid paraffin?*

A.—A simple anthracene-group laxative would seem suitable for such a case, to be taken every night in the smallest quantity which will ensure a soft, formed, regular motion. I suggest the liquid extract of cascara sagrada, the elixir of cascara sagrada, the syrup of senna, or the concentrated infusion of senna. These are all *B.P.* preparations. The minimum dose necessary will have to be found by trial and error. The average dose of any of these preparations is from 2 to 8 ml. (30 to 120 min.).

NOTES AND COMMENTS

Strained Eyes.—Dr. A. VICKERS (Worcester) writes: The answer under the above heading ("Any Questions?" January 26, p. 229) contains the following statement: "The misuse of the eyes from working in bad light . . . may have both general and local results". . . Probably few people spend more of their time working in indifferent lighting, peering hopefully at a dim moving image often well within 10 in. (25.4 cm.) of the eyes, than many diagnostic radiologists. Surely it is established that poor lighting does not of itself contribute in any way to ill health, either general or local, provided that one knows how to use one's eyes without straining, "straining" in this context being defined as conscious and subconscious endeavour to see that which is not visible.

OUR EXPERT writes: I am not in agreement with Dr. Vickers. Unfortunately not everyone working in a dim light can eliminate altogether "conscious and subconscious endeavour to see that which is not visible." Apart from the specific example he gives, the tendency in many cases is to crouch and to get the eyes too close to the work. If persisted in, these positional errors may lead to postural and local troubles, especially in the young.

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CONTENTS

Australia's National Health Service - - - - - 73
The Shilling on Prescriptions - - - - - - 76
Adjudication March 10 - - - - - - - 77
The Approaching Adjudication - - - - - - 77
Hospital Prescribing - - - - - - - - 80
Identity Cards Abolished - - - - - - - 80
Scottish News - - - - - - - - - - 80
Central Consultants and Specialists Committee (Scotland) 81
Correspondence - - - - - - - - 82
Diary of Central Meetings - - - - - - - 84
Branch and Division Meetings to be Held - - - 84
Meetings of Branches and Divisions - - - - 84

AUSTRALIA'S NATIONAL HEALTH SERVICE

BY

J. G. HUNTER, M.B., Ch.M.

General Secretary, Federal Council of the B.M.A. in Australia

PART I. ATTEMPTS TO NATIONALIZE MEDICINE

Standstill and advance in the development of national health services in Australia may be summarized as in two phases.

After six years of resistance the medical profession in Australia assured its freedom against the then (Labour–Socialist) Government, whose admitted "ultimate object," in its scheme for free medical and pharmaceutical benefits, was complete nationalization of medical services.

The present (Liberal–Country Party) Government intends no interference with the freedom of doctors. It has obtained the profession's full co-operation in planning a national health service. Elements of the programme already carried into effect include: free treatment and free medicine for pensioners and their dependants; and, for the entire community, free "life-saving and disease-preventing" drugs.

Ulterior Objective

It may be valuable to present an outline of the first phase, since this illustrates the manner in which a scheme for social services might be utilized to attempt an ulterior objective—that of nationalization. In this instance, resort was had to a device which the High Court of Australia found to be unconstitutional, as amounting to peacetime "civil conscription" of doctors. (Australia has a written constitution which permits no such form of conscription.) The method proposed by the then Government, led by the late Rt. Hon. J. B. Chifley, was to make it impossible for the individual doctor to earn a livelihood unless he should accept Government control in the prescribing of medicines for his patients. Incidentally, if the British Medical Association in Australia had not fought on this issue, and won, a way would have been opened to State regimentation of any group in the community.

Although the Federal and six State Parliaments in Australia had made many experiments in social legislation, including some not elsewhere tried, no comprehensive scheme for free medical services and pharmaceutical benefits was initiated until 1947. To understand the constitutional obstacles to any such scheme it is necessary to recall that the Federal Parliament cannot legislate in a manner which would be inconsistent with any definite head of power written into the Constitution itself. The subject-matters of its powers, though the range is wide, are precisely defined. Its powers are those only which the States, at Federation or since, have surrendered or which the people by referendum have given to the Commonwealth. Accordingly, the validity of any legislative Act of the Federal Parliament can be challenged before the High Court. Here is an essential difference between the constitutional system of the Commonwealth and that of Great Britain, where Parliament possesses supreme and sovereign power.

Prescription from a Formulary

In 1944 the Federal (Labour) Government introduced a Pharmaceutical Benefits Act, which was passed by Parliament in the belief that authority to do so was contained in the financial and incidental powers of the Constitution. A basic provision was that medicines, if the patient were to receive them free, must be prescribed from a Government *Formulary* of drugs. This would place the doctor in the dilemma of having either to confine his choice to the standardized prescriptions in the *Formulary* or to prescribe otherwise if his judgment required it—in which case he might incur the displeasure of his patient, who would be taxed to pay for the benefit.

Adjudication March 10

Mr. Justice Danckwerts has fixed March 10 as the date when adjudication begins. The two sides have exchanged their statements of the case (see page 77). The G.M.S. Committee answers critics (see page 77).

The Shilling on Prescriptions

The G.M.S. Committee seeks to protect 4,000 dispensing doctors from serving as Government collectors and from losing financially. It has asked for an interview with the Minister (see page 76).

Strong exception was taken by the medical profession to the provisions of the Act, and its attitude was very clearly stated by Sir Henry Newland, the then President of the Federal Council of the British Medical Association, in a letter to the Minister for Health. He said:

"I have been requested to convey to you with all respect the opinion of the Federal Council that rigid adhesion to a formulary, and all the more if enforced by contract, violates the first great principle of medical practice—namely, that whatever the organization, the doctors taking part must remain free to direct their clinical knowledge and personal skill for the benefit of their patients in the way in which they feel to be best. The Federal Council holds that the medical profession, in the interests of the public weal, must retain the priceless asset of individual freedom and enterprise. On this principle, the Federal Council can make no compromise."

In the difficult few years that followed there was no compromise whatever by the medical profession on the issue of freedom. The measure was nullified when the Medical Society of Victoria, applying through the State Government to the High Court, obtained a declaration that the Act was invalid.

Following this defeat the Federal Government decided in 1946 to ask the people, by the method of a referendum, for an extension of powers. The referendum, which was approved, was in these terms: that the Commonwealth Parliament might make laws with respect to "the provision of maternity allowances, widows' pensions, child endowment, unemployment, pharmaceutical, sickness, and hospital benefits, medical and dental services (but not so as to authorize any form of civil conscription), benefits to students, and family allowances."

The decision of the people, who at the same time returned Mr. Chifley's Government with a substantial majority, seemed to put beyond doubt the power to establish medical, pharmaceutical, and dental services, free to all, which the Government had promised before the election. Long negotiations followed between the Minister for Health and the Federal Council of the B.M.A. on various features of the proposed scheme for free national health services. The Minister offered to drop sections of the 1944 Act which imposed penalties on doctors. There was discussion also of a plan submitted by the B.M.A. as an alternative to compulsory use of the *Formulary*, the plan later adopted by the Menzies Government—that is, the provision of the costly life-saving and disease-preventing drugs.

But on decisions made by the Cabinet the new Pharmaceutical Benefits Bill, when presented to Parliament, repeated the main objectionable provisions of the 1944 Act. In addition it included a new feature, one deeply resented by the medical profession. The penalty clause, which appeared in the body of the 1944 Act, and so was subject to open criticism and amendment if desirable, was replaced by a clause conferring on the Minister power to determine offences and penalties by simple regulation. Doctors feared that under this arbitrary power they might be oppressed by burdensome penalties or vexatious controls.

The Bill, passed by Parliament with extraordinary haste, received the Royal Assent on June 12, 1947. The profession's fears were justified by the nature of regulations made under the Act and gazetted in May, 1948.

Proposed Free Service

Meanwhile the Minister had conferred with the Federal Council of the Association on the subject of a proposed complete national medical service, free to all, but paid for out of social services taxation. The Government contemplated some form of direct contract between itself and doctors co-operating in the scheme; the method of payment might be fee-for-service, capitation, or salary, or a combination of these. Ministerial control of the health service would be insisted on. In reply, the Federal Council presented to the Minister a constructive statement of policy on national medical services. Essentials of this were: that the role of the Commonwealth Government should be to supply capital expenditure; that any general medical service should be controlled by a non-Ministerial body in which doctors would form a majority; and that there should be free choice of doctor, payment at fee-for-service, and preservation of the contract between patient and doctor. There should be no contract between the doctor and the Government.

These were principal matters discussed at a conference held in July, 1947, between the Association and the Government on a national medical service. In retrospect, the occasion seems significant mainly because of a Ministerial remark which, when made public later, was to alert not only the doctors but all other citizens who would oppose nationalization of medical practice.

Having been asked repeatedly if the ultimate object of the Government's policy was the elimination of private medical practice, the Minister replied: "That is so. There is no dispute as to that."

Once aware of the ultimate object, the doctors closed their ranks. They were confident that their resistance would have the support of a large majority of the people. Indeed, the support which patients gave to their doctors was the most pleasing and heartening aspect of the dispute with the Government. But to the Government the practically complete silence of the public, in spite of being deprived of benefits for which they were being taxed, was most disconcerting. At this time Acts had been passed, or were contemplated, to nationalize banks, airlines, and shipping. Insurance was threatened with a like fate, and even the Press had become apprehensive of Government control.

When regulations under the Pharmaceutical Benefits Act were proclaimed in May, 1948, it was seen that the restrictive nature of the Act itself was aggravated by the substance of certain of the regulations. One (No. 34) introduced a novel method of invading the freedom of the subject. It was the Government's stated intention to deliver at every doctor's address a copy of the Government *Formulary*, a copy of rules for prescribing, and prescription forms. Regulation 34 authorized the Director-General of Health to call on the doctor, if he so desired and without warning, to deliver up these documents, in default of which he might be fined £50. Such was the spirit of these regulations. (Presumably it was feared that the documents would be used as waste paper, which indeed they later became.) The Association, having obtained counsel's opinion, advised its members to refuse delivery. Within two weeks the Act came into operation (on June 1), and immediately it was apparent that the scheme could not be made to work. Approximately 98% of doctors refused to accept State control through the *Formulary* and official prescription forms. The highest figure which the Government could give for those co-operating under the Act was 157 out of 7,000 practising doctors. Of doctors in private practice probably not more than 70 co-operated at any time.

Failure of the scheme, and the resulting loss of Government prestige, led to postponement of the National Health Service Bill, which did not reach Parliament until the end of 1948, and then only in the form of an enabling Bill, rushed through Parliament in a few hours right at the end of a session. In the debate, the Prime Minister, the late Rt. Hon. J. B. Chifley, used words which helped to strengthen the ever-growing opposition to the Government's proposals. Referring to the records to be kept by doctors, he said, "All that the doctor will be asked to do is to furnish a return showing the people he has attended and what they have been attended for."

Resistance to Nationalization

It followed that the issue of nationalization would be decided on the Pharmaceutical Benefits Act—or at the election due at the end of 1949. As the doctors continued to resist month after month (while subjected to attacks in Parliament and outside it by members of the party in power), the Government was driven gradually to the resort

of compulsion. Leaders of the profession could hardly repress the hope that the Government might in some way attempt conscription of the doctors' services. Here one should recall the safeguarding words of the referendum question: "But not so as to authorize any form of civil conscription." These words had been added to the text, with the Government's consent, by an amendment moved by the leader of the Opposition, the Rt. Hon. R. G. Menzies (now Prime Minister).

As the Federal Council of the Association was about to end its meeting in Melbourne, during March, 1949, it was informed by telephone message from Canberra that the Government was just then introducing an amendment to the Act. The effect of this amendment was that a doctor must not prescribe any medicament, compounded or not compounded, or any material or appliance, contained in the Government *Formulary*, except upon the Government prescription form. Immediately it was realized that this meant that doctors must either co-operate in the scheme or lose the right to prescribe lawfully a number of the medicaments used in their practice—for example, sulphonamides, antibiotics, adrenaline, etc.

The rest of the story may be told shortly. An "Independence Fund" was inaugurated to provide the means of challenging the amendment in the High Court, and later of presenting the doctors' case to the people by vigorous methods of publicity. On October 10, 1949, the Court gave its decision, holding by a four-to-two majority that the amendment was a form of civil conscription and therefore invalid.

Of the later publicity the most striking feature was the daily broadcasting by more than 500 family doctors throughout the length and breadth of Australia for a period of five weeks.

For the Government there was nothing left but to hope for a mandate, at the coming elections, to proceed with the socialization of medicine in Australia. In the result it met defeat, and gave place to a coalition Government led by Mr. Menzies.

PART II. HEALTH SCHEME WITHOUT SOCIALIZATION

During 1950 first steps were taken towards the objective of a national health scheme without socialization. The Minister for Health, Sir Earle Page, announced that the Government would avoid the mischiefs of State paternalism and would adopt, so far as possible, the principle of encouraging voluntary health insurance. Generally, its method would be to use its funds to amplify the cover against sickness provided by approved insurance organizations. Instead of indiscriminate State charity, made possible by burdensome taxation, there would be help for those willing and able to help themselves, with special aid for the minority who for various reasons could not meet the cost of adequate medical care.

In a speech to Parliament on November 2, 1950, the Minister said that the new health scheme would establish a partnership between the individual and the State. His own task was to initiate a programme of medical benefits and provide the necessary machinery free of red tape, of departmentalism, and of vitiating restrictions on professional standards. Instead of regimenting the professions, the Government had chosen the method of a working partnership. In many instances already proposals had come from doctors, chemists, or hospital managements. Rejecting the centralization common to all socialized schemes, the Government had chosen the policy of decentralization. "The doctor's surgery and the pharmacist's shop became the headquarters where decisions could be made."

"Our policy aims," the Minister said, "to improve the quality of medical services in its essential factors by stimulating individual and community effort. It makes the individual a partner of the Government, not its servant. One outstanding fact that has emerged from various schemes of socialization of medicine is that Government control of medical treatment, especially the handing out of treatment for nothing, does not improve the standards of medical treatment or of national or individual health. The most that Government control has been able to do has been to retain the *status quo ante*. In most cases, however, there has come inevitably a steady deterioration of the morale of the people, loss of skill of the doctors, especially general practitioners, through the enormous wastage of time in filling in forms, and consequent degeneration of the health of the patients. There is already evidence that that was happening in Britain and New Zealand and, where it applied, was beginning to happen in Australia. The Government's aim is to maintain the continuous improvement in the health of the Australian people that the progress of the last 50 years shows."

Past Progress

Outlining that progress, Sir Earle Page drew attention to the great decline in mortality rates at all ages between 1901 and 1947 and the increased expectation of life. These results were an expression of the cumulative efforts of the medical profession on the whole health front during this period. Insistent advice and pressure of doctors in Australia, as in other countries, had ensured improvement in water supplies, in sanitation, and in immunization against infectious diseases. By the research of doctors new germs, new drugs, and new methods of treatment had been discovered. The result was seen in a remarkable improvement in national health.

"The Australian people," Sir Earle Page continued, "have asked themselves why, when they are getting such magnificent results from our present health system, they should discard that system and attempt to sail on the uncharted sea of nationalization of medicine.

"In all nationalization schemes there has been pressure to cover the whole field at once. This of itself has led to chaos, and does not ensure that the area of treatment most needing care receives priority. Our first task was to direct attention to that huge bare area of sickness which was not covered in the past, but which now must be specially treated by reason of modern progress with means that have become increasingly expensive. With this ideal, the Government aims to deal with the problem of national health in two stages: first, that covered by current expenditure; secondly, that dealing with capital expenditure. Both stages will be designed to ensure a progressive improvement in all phases of the healing art—from teaching and research through to actual practice and the training of medical graduates qualified to deal with all emergencies. Intimate contact and knowledge of the general practitioner of the history, constitution, life, and circumstances of the patient make the preservation of his opportunities to use to the full all modern improvements in knowledge and technique one of the most important factors in a national health scheme."

Existing health insurance agencies that had proved their value would be utilized to the greatest possible extent. The Minister emphasized that the willing co-operation of doctors, chemists, hospital managements, voluntary organizations, and insurance societies should be secured by leaving in their expert hands as much as possible of the administration and control of the scheme. The patient should be given a definite sense of personal and social responsibility. It was essential that the scheme should result in raising the level and standard of medical care and treatment; in building up, not undermining, the self-respect and morale of the people at large.

"Experience of the rest of the world in regard to health schemes indicates," the Minister declared, "that the most likely system to satisfy all these requirements is one of voluntary insurance. Voluntary insurance will prove as valuable against unpredictable sickness risks as it has with life, shipwreck, theft, and other risks. It may be argued that voluntary insurance cannot cover the whole possible field of sickness risk on an actuarially determined premium. The Government aims to give this full cover with a system of cash benefits added to the insurance benefits, for each item of sickness. The double benefit thus offered would meet roughly 80 to 90% of the cost of medical

treatment. The Government benefit would also be continued to the sick, for medical and hospital care, even after the ordinary insurance benefit expires."

Present Arrangements

Steps taken to date in putting the programme into effect may now be summarized. They have been, successively: the provision of free milk to schoolchildren; payment of increased allowances to sufferers from tuberculosis; free supply, on a doctor's prescription, of life-saving drugs to all persons requiring them; provision of free medical treatment and free medicine to pensioners and their dependants; and financial assistance to contributors to voluntary schemes for the provision of hospital benefits. Some details of these measures may here be given.

By arrangement with the State Governments, free milk up to a half-pint daily is provided for children below the age of 12 years attending public and private primary schools and recognized kindergartens, nursery schools, and creches. In places situated far from fresh milk supplies (as are many throughout the continent) powdered milk is kept to be made up for drinking.

A scheme of tuberculosis allowances was brought into operation on July 13, 1950. Rates at present payable to the main categories of sufferers are: £A8 5s. a week to a married man with a dependent wife; and £A5 a week to a sufferer without dependants, reducible to £A3 a week when the sufferer without dependants is accommodated in a hospital or tuberculosis institution free of charge. An allowance of £A5 a week, without reduction for free institutional accommodation and treatment, will be paid to a sufferer whose only dependant is a child or children under 16 years of age. There is also an allowance of 9s. a week each in respect of dependent children under the age of 16. This payment is additional to child endowment of 5s. a week for the first child and 10s. a week for each subsequent child under the age of 16.

A not ungenerous means test takes account of income only, not of property. Permissible income is £A4 a week (including wife's income) in the case of a married man with dependent wife, and £A2 a week for other categories. Allowances cease, however, when the earnings of a sufferer, entitled to the rate of £A8 5s., reach this figure.

The tuberculosis allowances scheme is designed to check the spread of infection by enabling sufferers to give up work and take treatment. It is in the interest not only of sufferers but of the rest of the community. This justifies the payment of higher allowances than other classes of invalid receive.

General Practitioner Treatment

The third measure, introduced on September 4, 1950, makes available, free to all citizens, life-saving and disease-preventing drugs on submission to any approved chemist of the prescription of a registered medical practitioner. There are no intermediaries between doctor, chemist, and patient. The Government, through the Department of Health, pays the chemist on production of the doctor's prescription. Prescriptions are handled by any chemist or dispensary selected by the patient.

Drugs cover treatment for those diseases which are responsible for most of the deaths in the community. They include all the sulphonamides, insulin, penicillin, streptomycin, chloramphenicol, "aureomycin," vaccines, and sera. Others will be added from time to time, as medical science advances. There is no means test. The list of drugs was drawn up by a Pharmaceutical Benefits Advisory Committee, nominated by the Federal Council of the B.M.A., and this committee advises the Minister for Health about new additions to the list. The list includes all known proprietary brands of listed drugs. An identifiable prescription form, the doctor's own form with the words "Pharmaceutical Benefits" imprinted on it, is used in duplicate.

The fourth step is the provision of free general practitioner medical treatment and free medicine (in addition to the life-saving drugs available to all citizens) for aged, invalid, and widowed pensioners and their dependants. Medical services are services such as are rendered by a general practitioner in his surgery or the patient's home and for which the practitioner normally charges a consultation or visiting fee. Names of participating doctors are furnished to the Department of Health by the B.M.A.

There is no contract between the individual doctor and the Government. By arrangement with the Federal Council of the Association, pensioners are charged concessional rates—at the moment 8s. a consultation and 10s. a visit, representing approximately 60% of private charges. The practitioner receives payment not from the patient but from the Government, on the authorization of the patient, who signs a voucher certifying that he has received service and requesting that payment be made directly to the medical practitioner on his or her behalf.

A medical practitioner providing medical services to pensioners may prescribe any drug in the *British Pharmacopoeia* and such additional drugs as may be from time to time prescribed by regulation or any combination of such drugs. At the request of the Minister for Health, a committee appointed by the Federal Council has prepared a formulary—the *Prescribers List*—for the guidance of medical practitioners in their prescribing. This committee also advises the Minister for Health in regard to the additional drugs to be prescribed by regulation.

The latest step is the provision of an additional benefit of 4s. a day to patients in private hospitals who are contributors to voluntary hospital contribution schemes providing a minimum benefit of 6s. a day. (The rate of contribution is 3d. a week for a single contributor, 6d. a week for a married contributor.) Under the Chifley regime the Commonwealth entered into an agreement with the six States to pay 6s., later 8s., a day in respect of every bed occupied in a public hospital provided that no means test was applied. The benefit was also available to patients who elected to go into private hospitals. The effect of the new regulation is that a patient in a private hospital who is a contributor to a voluntary hospital contribution scheme will receive 18s. a day—12s. from the Commonwealth and 6s. from the contribution scheme towards the cost of hospitalization.

Conclusion

As the next step in the national health service the Government intends to subsidize approved voluntary schemes providing medical benefits. This measure may be introduced later this year. In this the underlying principle of Australia's national health scheme will find expression—the encouragement of voluntary effort on the part of all who are able to insure against the costs of illness.

THE SHILLING ON PRESCRIPTIONS

CRITICISMS BY G.M.S. COMMITTEE

The scheme for imposing prescription charges is held by the G.M.S. Committee to be impracticable in many respects. While the political issues do not concern the Committee, the position of the dispensing doctors does. There are 4,000 of these—that is, about 20% of the general practitioners in the Health Service. Ten per cent. are paid on the tariff system and 90% on the capitation system.

At its meeting on February 21 (reported on page 77) the Committee agreed to ask for an interview with the Minister of Health to bring up the following points:

(1) The profession should have been consulted earlier.

(2) The profession has alternative suggestions to offer: it wants discussion on the whole question of economies in the pharmaceutical field.

(3) The rural doctor doing his own dispensing needs special consideration.

(4) Hardship on certain types of patient must be avoided.

As previously reported (*Supplement*, February 16, p. 61), the Committee has instructed its representatives "to press the Government to take such steps during the passage of legislation as will alleviate hardship to certain sections of the population and will ensure that the doctor is not required to play any part in the actual collection of the money." The Committee does not regard this scheme as the best way of saving money. Suggestions made at the meeting include raising the National Insurance contribution by, say, 2d. a week, and affixing stamps to prescriptions.

The Dispensing Doctor

The Committee condemns the scheme in that it makes the dispensing doctor an agent for collecting Government money. If the patient fails to pay, the doctor loses—not the Treasury. Several members emphasized the difficulties in rural areas, where the doctor sometimes sets out the medicines on a shelf and the patients later collect them; or the doctor sends the bottles off by bus. In these circumstances it would be difficult to collect the shillings and there would in any case be much extra clerical work.

There would be many bad debts, which could not be compensated for as in the old days by adjusting private fees. In England and Wales there is no Form E.C.10A, and doctors giving stock orders might be out of pocket.

Again, if 3s. 6d. per year per patient is to be deducted from the doctors' pay some doctors will have to prescribe more than they do now in order to recoup themselves. As a member pointed out, this arrangement, designed to save, would encourage extravagance. The Committee also feared that the numerous explanations dispensing doctors would have to give their patients might damage the doctor–patient relationship.

ADJUDICATION MARCH 10

EXCHANGE OF DOCUMENTS

Mr. Justice Danckwerts has fixed March 10 as the date when adjudication begins. In accordance with his instructions the General Medical Services Committee and the Ministry of Health have exchanged statements on the general practitioners' claim for higher remuneration.

The first meeting of the Working Party to discuss distribution of remuneration was held on February 26. The Working Party consists of representatives of the G.M.S. Committee and officials of the Ministry of Health.

The Working Party Agreement

In agreeing to set up this Working Party (*Supplement*, August 25, 1951, p. 69), the Committee accepted two provisos. These were: (1) It undertook to accept whatever decision may be reached following arbitration; (2) It accepted that an agreement satisfactory to both sides should be reached on a revised plan for distributing the central pool. Therefore actual payment of whatever sum is awarded is conditional on agreement in the Working Party. In this connexion the Committee gave an assurance at the time "that it would be the aim of its representatives . . . to work harmoniously with a desire to provide the best possible service for the public and make possible a better and happier atmosphere among the doctors who take part in it, but in the Committee's view the profession would feel rightly aggrieved if the award following arbitration were nullified by failure to agree in the Working Party upon a proper distribution of the pool."

The Committee, together with its counsel and expert advisers, continues to prepare the case. An account of this was given at its meeting on February 20 (see next column), where a speaker emphasized again the difference between bargaining with the Ministry and preparing a case to put before a judge in court.

THE APPROACHING ADJUDICATION

COMMITTEE'S STRAIGHT ANSWER TO CRITICISM

A full two-day meeting of the General Medical Services Committee was held at B.M.A. House, London, on February 20 and 21. The special business on the first day was to consider in detail a report by the Committee's representatives on the Working Party concerning the distribution of the Central Pool. Before this was embarked upon, however, the CHAIRMAN, Dr. Wand, made emphatic reference to what he described as uninformed criticism appearing in the correspondence columns of the *Journal* and elsewhere concerning supposed delay for which the Committee was held responsible in starting arrangements for the adjudication.

Dr. Wand referred in particular to a resolution from the Plymouth Division expressing "profound dissatisfaction" with the delay in bringing the case before the tribunal. A similar resolution had been passed by the West Middlesex Division. These attacks were very disturbing. He and some other members, who were all busy general practitioners, together with Dr. D. P. Stevenson, the secretary of the Committee, had sacrificed a great amount of time, by night as well as day, on Sundays as well as weekdays, in making preparations for an occasion which would be of the very greatest importance to the profession now and in the future. He reminded the Committee that only as a result of insistent pressure on the Government were they able to secure the services of a High Court judge as adjudicator, and what was not understood by their critics was that now that the judge had been appointed the timing was in his hands and in the hands of counsel. It was no easy task to give to counsel the proper background and to ensure that all the issues in their case were fully appreciated.

Dr. HOWIE WOOD said that the chairman and secretary had no need to justify themselves to the Committee. They all knew how hard they had worked. There were a small number of dissident members outside who were making the most of the difficulties. He thought that the substance of what the Chairman had just stated should appear in the *Journal* above all their signatures.

Dr. J. C. ARTHUR suggested that the criticism came from those who rarely turned up at a meeting, and when they did so found something which they thought was wrong and without further inquiry expressed their indignation. Dr. FRANK GRAY said that the critics did not appreciate the difference between negotiating with the Ministry and preparing the case for an adjudicator. To convince a judge who came new to the facts was a different problem from arguing with a Minister or his officers who were anxious to make a bargain.

Dr. TALBOT ROGERS said that as these resolutions came from Divisions they must go to Council, and he proposed that they be accompanied by a statement from the Committee on the lines of what the Chairman had said, together with a unanimous expression of the utmost confidence in and admiration for those who were bearing the burden of this work. This was seconded by Dr. A. B. DAVIES, who said that more progress had been made during the last six months than during the previous three years, and that no apologetic explanations were necessary. Dr. W. WOOLLEY said that the ill-informed criticism which was current in some quarters at present embarrassed the Working Party and might jeopardize the success of the doctors' case.

The action proposed by Dr. Rogers was agreed to unanimously.

The Committee spent almost the whole of the rest of the day in considering the instructions it should give to its representatives on the Working Party at the first meeting of the two sides arranged for February 26.

THE SHILLING ON PRESCRIPTIONS

On the second day of its meeting the Committee discussed at length the report of an interview which its representatives,

including members of the Rural Practices Subcommittee, had had with officers of the Ministry of Health on the proposed charge for prescriptions. It was stated that the officers had proved most unyielding and were not prepared to modify their present proposals.

On the method of collecting the levy the Ministry had stated that the charges received from patients would form part of the total remuneration of dispensing practitioners, and that whatever dispensing capitation fee was in operation when the charges were introduced would be adjusted accordingly. In 1950 the average number of prescription forms issued by prescribing doctors per patient was 3.5, which would point to a deduction of 3s. 6d., but in this respect the Ministry was prepared to hear what deduction the Committee would consider reasonable.

Mr. H. NOBLE, secretary of the National Pharmaceutical Union, and other members of that body attended by invitation during the discussion on this subject. Mr. Noble said that his union had not thought it within its province to consider the social and political aspects of the problem. At a conference of the union an amendment was moved, but rejected, that they should seek to transfer to the medical profession the responsibility for collecting the charge. In the operation of the scheme in rural areas, although some doctors in a spirit of good will might act as intermediaries, they did not expect members of the profession to do so. They had made representations to the Ministry that the best solution would be by way of a stamp to be affixed to the prescription, but he gathered that this was regarded by the Ministry as unworkable. His members were having an interview with the Ministry later that day.

Unsuccessful Tax Collectors

Dr. D. P. STEVENSON, secretary of the Committee, said that in a number of letters received at Headquarters the Committee had been accused of adopting an unrealistic attitude in that they had not welcomed a scheme which would mean less work for the great majority of general practitioners. One part of the resolution passed by the Committee at its recent special meeting and published in the daily newspapers had been taken out of its context and misunderstanding had arisen. The obligation of the Committee embraced the interests of both rural and urban practitioners, minorities as well as majorities, and it was necessary that the profession be informed of the strong feeling that existed against turning a section of the profession into "unsuccessful tax collectors."

Strong exception was taken to this aspect of the Government's proposal by a number of members of the Committee, one of whom described it as not only tax collection but as "farming out." A rural practitioner, a member of the Committee, said that he and his partner had 3,500 on their dispensing list. If 3s. 6d. a year per patient was to be deducted, it meant that they would have to collect £612 a year from these patients. This worked out at 34 medicaments a day, which was rather more than were actually dispensed. The result of this proposal would be to encourage extravagance. This member urged that attention be paid to the Australian scheme whereby certain essential drugs on the list were free and everything else had to be paid for (see p. 73 for an account of this scheme).

Pharmacists' Point of View

In some further presentation of the pharmacists' point of view Mr. NOBLE pointed out that, apart from the rural-practice aspects of the problem, there were a number of other features of the proposal which did not commend themselves to his union. Under the existing regulations the pharmacist was required to supply whatever was ordered on the prescription form and to do so with reasonable promptness. Technically at least the pharmacist would break his terms of service if, having failed to obtain or knowing that he could not obtain, the payment of the charge, he said, "I am not going to dispense the prescription." Therefore he would have to dispense knowing that in many cases he would not obtain the shilling. Pharmacists also had in mind the possibility of a considerable reduction in the number of prescriptions owing to a feeling in the minds of doctors that out of consideration for their patient's pockets they should not prescribe save under strict necessity. They also foresaw the possibility of "hidden prescribing," that is to say, prescribing for a number of individuals on the same form, or the prescription of medicaments to cover a long period. The classic example of this last was a prescription of sufficient barbiturate tablets on one form to provide treatment for five years. But it was not unusual for such prescriptions to cover three months, and there might be an increase of that practice.

In the course of general discussion one member pointed out that it was two years ago that the then Government proposed a shilling charge on prescriptions, and in the intervening time the department must surely have had every opportunity of working out a practicable scheme of collection. Another said that he did not believe that the result would be to reduce the work of general practitioners, for, especially since the National Health Service came in, an increasing number of people came to the doctor for consultation and did not ask for or obtain a prescription. To suppose that the number of items of work of the doctor was bound up with the number of prescriptions was nonsense.

The answer to the whole problem was that tax collection was a Government job, and not the job of the doctors. A stamp method could be arranged, together with a system of exemption for old-age pensioners and others. Another member who supported the stamp method suggested that if patients turned up without a stamp they should give an IOU on a prescribed form. Others urged that methods of saving money on pharmaceutical services, quite apart from this impost, should be investigated. One of the visitors from the National Pharmaceutical Union, while agreeing that any extravagance there might be in prescribing was not intentional on the part of practitioners, suggested that some of it might be due to the fact that few practitioners were aware of the cost of drugs and particularly of proprietaries, and he thought that it would be useful if at some medical meetings demonstrations of pharmaceutical service costs could be arranged.

Almost No Grumbling from Patients

Several members of the Committee testified that from patients in general almost no grumbling was heard about the proposed charge. One member reminded the Committee that as citizens they could not ignore the economic position of the country; the gravamen of their complaint was that they had not been consulted from the start about the best method of effecting these economies.

Interview with Minister Sought

A long discussion ended in unanimous agreement to request an interview with the Minister himself, when the following points would be brought forward: (1) that the profession should have been consulted on the detailed application of the scheme and that consultation even at this late hour might be productive; (2) that the profession had alternative suggestions to offer and was anxious for a discussion on the whole question of economies in the pharmaceutical field; (3) that the position of the rural practitioner doing his own dispensing deserved special consideration, and (4) that hardship on certain special classes of patients—for example, those suffering from diabetes or pernicious anaemia—must be avoided. A resolution was passed that representatives of the Committee, in conjunction with representatives of the pharmacists, should seek an interview with the Minister on these lines with a view of bringing to his notice the difficulties arising from the unrealistic proposals of the Government concerning the charge on prescriptions, especially as affecting the dispensing doctor, who was expected

to be an intermediary in collecting the charge, which was not part of the doctor's job and might well prejudice the doctor-patient relationship in a publicly organized service.

WORK OF MEDICAL PRACTICES COMMITTEE

Anxiety about Classification

Dr. W. E. DORNAN, chairman of the Medical Practices Committee of England and Wales, attended the meeting of the General Medical Services Committee in response to a request arising out of the anxiety expressed at the last Annual Conference concerning the criteria which his committee applied in classifying various areas throughout the country. Dr. Dornan said that his committee took all relevant factors into account before classifying any area. A doctor was free to practise wherever he wished except in those areas where the average list was so low that a waste of medical man-power would be entailed and the doctor himself would probably not be able to earn a satisfactory living. In closing areas with an average list of 1,600 or less, his committee was in no way implying that it was beyond the power of a practitioner to deal with a higher list.

He added that in fixing on a figure of between 1,600 and 2,000 average list as representing the limit above which they were not prepared to consider refusing any doctor the opportunity to go on the medical list, they had divided the low-list areas into two categories: those in which admission was unlikely to be granted and those in a doubtful category, these latter being multi-doctor areas where the admission of one more doctor would not appreciably reduce the 1,600–2,000 average. The committee had published schedules of areas so that doctors going into practice would know in which areas automatic admission would be granted, and the areas which were under-doctored and better-doctored. Whatever figure was taken must be interpreted with a certain flexibility. All along the line they had endeavoured to be as elastic as possible. They did not like splitting up large city areas, though there were some parts of cities where the average approached 4,000 while other parts would probably come into the schedule of better-doctored areas.

Appointment of Successors to a Vacancy

Dr. Dornan also, at the request of the Committee, made a statement on the procedure of the Medical Practices Committee concerning the appointment of successors to vacant practices. The matter had arisen from a resolution of an executive council urging that executive councils be given full power and responsibility for the final choice of the practitioners with whom they contracted to provide service in vacant practices, subject, of course, to the customary rights of appeal. The Association of Executive Councils desired to obtain the views of the British Medical Association in the matter before reaching a decision. The question of the difference in procedure obtaining in Scotland also came forward.

Some figures were first given by Dr. Dornan covering the last seven quarters. During that time the average number of new admissions to the lists of executive councils in England and Wales per quarter was 277 and the average number of withdrawals 208, a net increase each quarter of 69. These new admissions fell into a number of different categories: those admitted with permission to start new practices averaged 48 each quarter, and admissions for the purpose of practising on limited lists 57. Practitioners admitted to practices in partnership at the selection of the partner, already installed numbered 155 per quarter, of whom 83 were entirely new to the partnership practice and 72 had previously been in the practice as assistants. During the middle part of the seven quarters the admissions to partnership had averaged well over 200 per quarter and the total admissions 320.

In England and Wales, Dr. Dornan continued, the executive councils decided whether there was or was not a vacancy in the practice and made a recommendation to the Medical Practices Committee accordingly. If they said there was a vacancy and it should be filled by advertisement the Medical Practices Committee said, "Go ahead, and tell us about it when you have done it." On the other hand, if the council notified a death or resignation but declared that there was no vacancy, his committee might have something to say in the matter. In England and Wales an average of between 30 and 40 practices were dispersed each quarter, and in the vast majority of these cases there was no disagreement between the two bodies. The practices were mostly those with small lists.

Questions were raised over the dispersal of any practice of substantial size, but his committee was usually convinced of the rightness of the procedure, and the last word was with the executive council. In Scotland, however, the Medical Practices Committee had an absolute right to insist on its point and, if it so considered, to declare a practice vacant and advertise it.

Contrast with Scotland

In England and Wales, when applications were received by executive councils, a short list was prepared in most cases and candidates interviewed. In a few cases the Medical Practices Committee, acting on information, might make inquiries, as a result of which now and then someone other than the recommended candidate of the executive council might be appointed. In Scotland the Medical Practices Committee came into the picture only after the executive council had arrived at its decision and there was an appeal against it. The Scottish Committee's decision was limited to the choice between the selected candidate and the appellant; it could not look again at all the applicants for the appointment, whereas in England and Wales the Medical Practices Committee had that power. As against this, one virtue of the Scottish method was that it gave to the local body a good deal more determination in its local affairs.

It was said that the Scottish method saved time. On this point Dr. Dornan said that he had made certain estimations. In England and Wales he had taken 32 consecutive vacancies, of which 10 went to appeal. In the 22 no-appeal cases the average time between the date of advertisement and the completion of the appointment was just under eight weeks (in which period the M.P.C. procedure occupied just under one week), and in the 10 appeal cases the average period from advertisement to final settlement was 11 weeks. In Scotland in 18 consecutive cases, of which three went to appeal, the average time for the 15 no-appeal cases was seven weeks, and for the three appeal cases just over nine and a half weeks. Thus the no-appeal cases in England took on the average one week longer than in Scotland, but he thought that the extra week's delay was a small price to pay for the advantages which the English system offered.

He added that his committee was by no means satisfied with the present appeals machinery. They were agreed that there should be an appeal from themselves as the Medical Practices Committee—to the Ministry of Health if they pleased—but the machinery by which the Ministry reached its decision should be materially altered. Appeals were heard by the Ministry, the tribunal comprising a barrister and a medical assessor, but the latter was one of the Ministry's own officers, not necessarily one in touch with conditions of general practice. In reply to a question, he said that legal assistance was available on appeal and almost invariably practitioners were represented by counsel, though now and then a doctor would present his appeal himself.

The CHAIRMAN (Dr. Wand) suggested that Dr. Dornan's very full statement on this subject should be circulated to local medical committees, with a request that they give some attention to it, and that it should come forward at the next meeting of the G.M.S. Committee, when an opinion might be given on the respective merits of the English and Scottish systems.

This course was agreed to.

Value of Doctors' Premises

The Committee also considered at length a detailed report from a subcommittee which had been exploring the alternative methods of dealing with the question of the outgoing doctor's premises on a vacancy occurring in the practice. The subcommittee was not able to present an agreed report, and certain differing proposals were submitted. One point of agreement was that the doctor's premises should carry a functional value, by which was meant a value attaching to the house, with vacant possession, which had been adapted structurally for medical practice. A statement on the whole somewhat detailed matter will be included in the Annual Report of the Committee to come before the Conference of Local Medical Committees on June 12.

HOSPITAL PRESCRIBING

SENSE OF RESPONSIBILITY LACKING

A letter from the Liverpool Regional Hospital Board to the secretaries of its hospital medical boards draws attention to "a certain lack of a sense of responsibility" in view of the rapid increase of expenditure on medical supplies in certain hospitals. Regional expenditure on vitamins during the year ending March 31, 1951, amounted to £11,211, which was 4.48% of the total expenditure on drugs. The board's committee "was convinced that so large a figure could be explained only by the existence of indiscriminate and unnecessary prescribing of these drugs."

Saving on Drugs

The average ratio of expenditure on proprietary drugs to that on non-proprietary drugs is said to be 1 : 2 in general hospitals, and general hospitals whose expenditure exceeds this ratio are to be asked for further information on the type of proprietary drugs prescribed. Hospital medical boards are asked to consider authorizing hospital pharmacists to substitute standard preparations for proprietaries if standard preparations are available with substantially the same or of reputed analogous therapeutic effect (unless the doctor specifies the proprietary is required). Saving in antibiotics is advocated and also of dressings, particularly gauze. Small tomograms are suggested as one way of cutting down use of *x*-ray films.

Other recommendations are that lists should be displayed showing current prices and local consumption of medical items, that pharmacists should draw attention to any marked increase in prices of drugs, and that it should be pointed out that pharmacists have the right to refuse drug orders not correctly prescribed.

Emergencies Refused

A report of another of the board's committees deplores the fact that "an increasing number of true emergencies are being refused admission by many general hospitals in the region when beds are known to be available." Measures for remedying this are described.

IDENTITY CARDS ABOLISHED

Though National Registration identity cards have been abolished, people who use the National Health Service still need to be numbered. People who had identity cards will continue to have these numbers in the Health Service records. Babies and others who did not come under the National Registration will be given numbers for the N.H.S. The Ministry of Health asks doctors in their own interests to obtain the N.H.S. number from any patient wanting to go on their lists and to quote the number when required—for example, on maternity and temporary-residents forms.

Scottish News

G.M.S. SUBCOMMITTEE (SCOTLAND)

The General Medical Services Subcommittee (Scotland) met at B.M.A. House, Edinburgh, on January 31, with Dr. J. T. BALDWIN (Milton Bridge) in the chair. The Subcommittee received with regret the resignation of Dr. F. McEwen Sinclair, who had been the representative of the Fife Local Medical Committee for a number of years. It was agreed that a letter should be sent to Dr. Sinclair expressing appreciation of his services as a member of the Subcommittee, and also of the services given as a member of the Insurance Acts Subcommittee (Scotland).

It was intimated that Scotland had now two representatives on the Assistants and Young Practitioners Subcommittee of the G.M.S. Committee The representatives were Dr. G. C. Malloch (Armadale), representing the assistants in Scotland, and Dr. J. Shapiro (Glasgow), representing the unestablished practitioners.

Liaison in Health Service

The Subcommittee considered further the proposal by the Department of Health to appoint, as an experiment in a few selected areas only, regional medical officers to the general-practitioner service for the purpose of liaison between the three branches of the Health Service and to assist in day-to-day routine matters. After a lengthy discussion, during which particular attention was paid to the proposal in the light of the Scottish Health Services Council's report on the general-practitioner and hospital service, it was decided that the proposal should again be discussed with the Department to clear up one or two points and to seek an undertaking that if the Subcommittee, on examining the working of the scheme, after a specified period, should find it to be serving no useful purpose it would be abandoned. The final decision on the matter was deferred until the next meeting of the Subcommittee.

It was agreed that after the G.M.S. Committee had concluded its examination of the medical service committee and tribunal procedure the Chairman's Subcommittee of the G.M.S. Subcommittee (Scotland) should examine the position from a Scottish point of view and in the light of the G.M.S. Committee's findings.

Inflation of Lists

There was considerable discussion about the procedure for the elimination of inflation of lists. The Subcommittee expressed itself as being in agreement with the amended procedure which the Department had decided to put into operation as a result of representations by the Subcommittee. The following is a summary of the essential points in this agreement:

(1) It is appreciated that many doctors, especially during the first three months of the year, which have normally a heavy sickness incidence, will not find it practicable in the time allotted to carry out the work entailed in trying to trace those patients notified to them on Form E.C.S. 75B.51. The Secretary of State accordingly has authorized the following modifications in the arrangements.

(2) Executive councils should regard the three-month period as the *minimum* of time to be given to a doctor under the regulations to report on any patient notified to him on Form E.C.S. 75B.51.

(3) Where a doctor on examination of the list of persons sent to him is satisfied as regards any of them that either they cannot be traced or they are no longer resident in his area and he is no longer responsible for the provision of treatment in respect of such persons, he should be asked to inform the clerk of the council accordingly and such persons will be removed from his list with effect from April 1, 1952.

(4) The doctor should be asked to notify the clerk of the council as soon as possible of any persons he has traced or whose

whereabouts he thinks he can determine without much trouble. He should supply the council with such particulars regarding these persons as he can obtain—e.g., present address, National Registration number, name (if name has been changed). The absence of an identity number will not of itself mean that a patient will be removed from a doctor's list.

(5) In regard to the remainder of the persons notified to the doctors and not disposed of under paragraphs 3 and 4 above, if a doctor has good reason to believe that they are still resident in the practice area, and might be traced, he should be asked to inform the clerk to the council accordingly. The council should give the doctor whatever assistance it can in a fresh endeavour to find these persons. Such assistance would include the issue of a further letter to the person at his last known address.

Local authority housing factors may be in a position to assist the council by supplying the present address in the case of any persons who have been rehoused.

(6) Persons in the category covered by paragraphs 4 and 5 above and who have not been traced by the end of June, 1952, will be removed from the doctor's list with effect from July 1, 1952. Should a doctor be able to add to the names notified to the council under paragraph 3 above before March 31, 1952, the council would arrange to remove them from his list with effect from April 1, 1952.

The Subcommittee expressed itself as being fully aware of the difficulties being experienced by practitioners as a result of these investigations. It was agreed that in cases of difficulty secretaries of local medical committees should consult with the clerks of executive councils in an endeavour to clear up any problems, and if such a meeting was unsuccessful that the secretary of the local medical committee should contact the Assistant Scottish Secretary, who would arrange for a meeting between the clerk of the executive council, the secretary of the local medical committee, and a representative of the Department in an endeavour to make things easier for everyone concerned. The Department had indicated its willingness to co-operate in any way possible.

Practice Vacancies

The Subcommittee then considered the question of practice vacancies occurring in areas where the practice was in more than one executive council area. It was agreed to refer to the liaison committee between the Scottish Association of Executive Councils and the General Medical Services Subcommittee (Scotland) the possibility of having proportional representation of executive councils on the committee making the appointment in such a vacancy.

Shilling on Prescriptions

The Subcommittee considered the proposed charge of 1s. for each prescription, as introduced by the Chancellor of the Exchequer as an emergency measure. The Subcommittee felt that practitioners should not be required to collect this money.

CENTRAL CONSULTANTS AND SPECIALISTS COMMITTEE (SCOTLAND)

The Consultants and Specialists Committee (Scotland), at a meeting at B.M.A. House, Edinburgh, on January 28, received with great regret from Mr. T. Murray Newton his resignation on medical grounds from the chairmanship of the Committee. Dr. J. G. M. HAMILTON, Edinburgh, vice-chairman, was appointed to the chair, and Dr. I. D. Easton, Perth, was appointed vice-chairman.

Need for Economy

In connexion with the need for economy in the affairs of the Association, it was pointed out that in the past the Association had paid the whole secretarial and clerical expenses incurred by Regional Consultants and Specialists Committees. It was decided that in future these costs should be borne by the Central Consultants and Specialists Fund; other economy measures in connexion with the meetings and the conduct of these were also approved.

Anaesthetic Services

Following the decision to set up a Central Anaesthetic Services Subcommittee, it was agreed that the constitution should be: chairman and vice-chairman of the Central Consultants and Specialists Committee (Scotland), six consultants or S.H.M.O. anaesthetists appointed regionally thus—Western Region two, Northern one, North-eastern one, Eastern one, and South-eastern one—the Scottish representative on the B.M.A. Anaesthetic Group Committee, and one representative from the General Medical Services Subcommittee (Scotland). The reference, it was decided, should be: "To consider and report to the parent committee on all matters relating to the anaesthetic service under the National Health Service (Scotland) Act."

Hospital Staffing

On the question of the Department of Health's proposals on the structure of hospital medical staffing, it was reported that at a meeting of the Scottish Joint Committee and officials of the Department it had become apparent that there were a number of misconceptions about the nature of the department's proposals. A small subcommittee was appointed to examine these aspects, and it was hoped that at an early date there would be submitted a report on which the Central Consultants and Specialists Committee (Scotland) could decide policy.

Regional Appeals

A report was also received that it had been ruled that regional appeals involving appointing authority's discretionary powers were not competent under the present regional appeals arrangement. As some of the appeals at present outstanding in Scotland relate to the exercise of a board's discretionary powers, it was decided that the Scottish Joint Committee be asked to discuss with the department the application of the regional appeals machinery to cases in which consultants felt that they had been unjustly, as opposed to incorrectly, treated by their appointing authority.

Alteration of Contracts

Attention was drawn to a letter now being issued by regional hospital boards to consultants, proposing the insertion of an additional clause in their contracts defining more precisely the procedure under which boards may alter contracts in respect of variations in duties and number of sessions. It was pointed out that the Scottish Joint Committee had accepted the proposed clause as reasonable, but, when some concern was expressed, it was agreed that an explanatory communication should be sent to Regional Committee secretaries and that the matter be considered at the next meeting.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Southwark, Stoke Newington.

Non-County Borough Councils.—Crewe.

Urban District Councils.—Droylsden, Houghton-le-Spring, Huyton-with-Roby.

Correction.—Sir Richard Croft was erroneously called Sir John Croft (*Supplement*, February 16, p. 63) in our reference to the physician who attended Princess Charlotte, daughter of George IV.

Correspondence

Health Service Charges

SIR,—Although retired after 60 years in general practice, and therefore having no axe to grind, I view with real concern the provisions set out in the present National Health Service Bill for making a charge of 1s. on each doctor's prescription. This to my mind means an inevitable if only a restricted bar to the doctor prescribing what he or she deems fittest and best for the patient, though this may be only what is termed a "placebo." I feel sure if the Bill comes into force it will tend to debar patients from consulting their doctors at all and drive them to buy more and more proprietary medicines.

Surely if these millions of revenue have to be raised or saved it could best be through the income and "pay as you earn" taxes. What benefits the whole community should be paid for by the whole community. Although I am a loyal supporter of the present Government, I consider this Bill bad in every way—politically, financially unfair, and most difficult to administer.—I am, etc.,

London, N.13. ALEX P. AGNEW.

SIR,—I cannot understand why this tax or charge is not placed on the bottle or container rather than on the prescription. This would solve most of the difficulties inherent in the suggested scheme. It would cause little hardship and would save an enormous amount of waste. I believe it would be readily accepted by the chemists, and I can see no reason why the doctors should object to it. A similar system worked before July, 1948.

The scheme as reported (*Supplement*, February 9, p. 47) would be very difficult to carry out and would bear heavily on the really sick person and the aged, and would not be so effective in reducing the very large wastage of fuel, transport, and glass which the present system allows.—I am, etc.,

Coventry. T. B. KENDERDINE.

SIR,—The proposal to tax prescriptions in order to reduce the cost of the national medicine bill surely infers criticism of the medical profession who issue the prescriptions, the grounds for the proposal being that consumption is excessive. If deterrents must be introduced, would it not be more just to apply them to the doctors who, by their prescriptions, authorize the issue of medicines? This could be effected by requiring each practitioner to purchase his book of E.C.10 forms as he does his cheque book at, say, 3d. per form. He could be reimbursed by having the capitation fee increased by 1s. on the grounds that each patient receives four prescriptions annually, judging by current figures. Further "deterrents" would be applied, on a sliding scale, to prescriptions costing more than, say, 5s.

There cannot be any genuine objections to such a proposal, for it is under a system very similar to this that the rural dispensing practitioner works now. It would of course deal a mortal blow to the practices with large lists, dependent as they are for their management on the slick use of prescription forms without much regard to the cost.—I am, etc.,

Uffculme, Devon. FRANK MURRAY.

SIR,—I must refer to the correspondence appearing in your columns anent the proposed charges for prescriptions under the National Health Service, and would agree with all who have raised their voices against it. However, economies are necessary, and one's thoughts are directed to another method of reducing the cost of prescriptions, bearing in mind that a considerable proportion of old-age pensioners would have been entitled to free medical treatment for life under the previous insurance scheme, and taking into account any way of lightening the burden of G.P.s in general.

A perusal of the analyses given in a report of the survey of National Health Service prescriptions (*Journal*, February 9, p. 292) shows that 21% of the prescriptions dispensed relate to proprietary preparations. If, therefore, a ban were placed on the prescribing of such preparations under the National Health Service, a saving of well over 5% on prescription costs would be achieved. It would also serve to reduce many of the frivolous demands by patients who would not otherwise be deterred by the payment of a mere fraction of the cost of these preparations.

Who knows: if such a scheme were adopted, the new Minister of Health might agree to raise the central pool by 50% of any saving in excess of 5% on the pharmaceutical services?—I am, etc.,

Southport, Lancs. E. PEARSON.

SIR,—By what authority has an "autonomous body" of the Association issued a statement to the public press saying that the British Medical Association is "disturbed" over the Government's proposals to introduce charges for prescriptions? Was the Council of the British Medical Association consulted? Considering that in all probability the majority of the profession agree that some charges are necessary, the G.M.S. Committee seems to be out of tune with the rank and file.

It would appear that the G.M.S. Committee is rapidly turning itself into an extension of the Ministry of Health. Its members seem to have forgotten that they were elected to represent their colleagues, not to administer the National Health Service, nor to express, in a roundabout manner, the views of Civil Servants in the Ministry.

It is quite noticeable that the members reported as having taken part in the discussion on this problem, with one exception, represent a certain point of view, which is quite definitely not the point of view of the profession nor indeed of the British Medical Association as defined by the Representative Body. The secretary of the Medical Practitioners Union made certain statements which are quite irrelevant. This is not a question of paying twice for the same thing: this is a question of finding enough money to keep a bad scheme going. I have never noticed a similar protest from the M.P.U. when the price of other commodities increased, such as coal or transport. Many of us feel that psychologically, far from being a barrier, it would be much better for the patients' appreciation of the Service if some percentage charge were made throughout the Service. Personally, I am not convinced of the best method of introducing this, but I am equally unconvinced that "free at the time" service or the capitation method of payment is good.

It is a tragedy that we have no leaders like those of the B.M.A. in New Zealand, who were willing to accept and overcome a threat to remove their licences to practise before they got a National Health Service to their liking after 10 years' fight. Our leaders, for all their protestations in 1948, have accepted this patchwork scheme lock, stock, and barrel.—I am, etc.,

London, W.C.1. J. L. MCCALLUM.

The School Medical Service

SIR,—"The problem of bringing about a closer liaison between the school health service and the family doctor" referred to in the report of the Chief Medical Officer of the Ministry of Health, and noted in the *Journal* of January 26, (p. 210), is indeed complex. So much so that one is tempted to ask, Why try to solve it at all?

Why not let the school medical service, with its staff of doctors, health visitors, and nursing assistants, its clinics, and school medical rooms, take over the care of children in sickness as in health? Why not build up a semi-specialist service for children based on the home and the school, thus cementing these two important elements in a child's life more firmly together and forming a powerful bridge of understanding between the two?

At first sight such an idea may seem rather shocking, almost indecent, but consider the following points. The old-

fashioned family doctor has become a relic of yesterday just as the present school medical service has become an anomaly of to-day. Past improvements in child health have been largely due to better maternity and child welfare clinics, school milk, school dinners, and improved physical training in the schools—all background features of the school medical service.

A comprehensive child health service could provide treatment for sick children in their private homes, help with their sexual and psychological adjustments, supervise their care in health, and help teach hygienic habits. The single service could be ideally adapted to the needs of parents and teachers, would draw the school and home closer together, would provide interesting work for doctors and nurses, and would solve the problem of a better liaison between the family doctor and the school medical service. On leaving school children could be handed on to the family doctor with a summary of their childhood medical histories.

Surely such a single service would be preferable to the present double one, which limits the school medical service to the supervision of healthy (and for the most part normal) children and does little to draw the home and school more closely together.—I am, etc.,

Newton Abbot, Devon. W. G. HUTTON.

Fees for Lectures to Nurses

SIR,—The scale of fees for lectures to student nurses negotiated in Whitley Council (*Supplement*, February 2, p. 43) cannot be allowed to pass unchallenged, since it is extremely unfair to members of hospital medical staffs.

Ability to lecture to student nurses cannot be related to "grading"; it depends on teaching aptitude and experience. Moreover, the lecturer, whatever his grade, must prepare his material with great care so that he can present it in a clear and simplified form to his students. Another point to be remembered is that these lectures often have to be given at inconvenient hours in order to fit in with hospital routine.

The scale of fees agreed compares unfavourably with less important teaching undertaken by medical men. The B.M.A. has negotiated a minimum fee of £1 11s. 6d. for doctors lecturing to laymen on first aid, while some polytechnics and training colleges pay £2 2s. per lecture for similar work.

The minimum fees for these lectures should be £2 2s. whatever the grading of the member of the medical staff, and for this principle the B.M.A. should fight immediately.—I am, etc.,

Wimbledon, Surrey. A. DAVID BELILIOS.

Visitors from Abroad

SIR,—It appears that people arriving in this country from abroad are no longer provided with Form E.C.1 (Med.) or any other instructions to register with a doctor. I have had two within a week, one expecting to stay 12 months, the other nine months, so both are too long to be temporary residents.

As doctors we carry the risk and responsibility, but it does not appear that we receive any payment for the risk, but only for actual attendance. It may be said that we do receive an intangible fragment of payment from an invisible pool. If so, it is an unsatisfying form of sustenance unlikely to be approved by any experienced personnel relations officer.—I am, etc.,

Crowthorne, Berks. H. D. FORBES FRASER.

Prescribing and the Public

SIR,—In spite of the fact that prescribing costs in England are lower than in Northern Ireland (*Supplement*, February 2, p. 43), I consider that a similar notice to the one supplied to Northern Ireland doctors would be of great help to practitioners in this country. Such a notice, prominently displayed in one's surgery, would go a long way to checking the minor abuses of the N.H.S. which are still a source of irritation to the majority of practitioners.

I know that at the moment one is fully entitled to resist unreasonable demands by patients, but in my experience this nearly always leads to bad feeling or a lengthy discussion, neither of which is to be desired. An official statement of policy, such as described in the *Supplement*, is to my mind second in importance to the question of general-practitioner remuneration. I sincerely hope that this matter will not take three and a half years to reach a stage of adjudication.—I am, etc.,

Hayes, Middlesex. S. EDELMAN.

Whole-time Salaried Specialists

SIR,—As President of the Association of Whole-time Salaried Specialists, I have noted with pleasure from the Proceedings of the Council (*Supplement*, February 2, p. 38) that the B.M.A. has decided to examine the position of practitioners in whole-time salaried appointments in relation to income tax with a view to the submission of evidence to the Royal Commission on Income Tax. I should like to draw attention to the fact that the Association of Whole-time Salaried Specialists has already submitted a memorandum to the Royal Commission on this subject drawn up in consultation with an income-tax expert.—I am, etc.,

London, W.C.2. RUFUS C. THOMAS,
President, Association of Whole-time Salaried Specialists.

Paying for the Health Service

SIR,—Mr. Hilary Marquand (*Journal*, February 2, p. 272) exhibits a politician's view of the Health Service when he says that the public will only use it economically when they realize who pays for it. Modern preventive health medicine emphasizes early diagnosis and treatment. Only the trained expert can find out. The public's economical use of the Service can only be fairly rationed out by the medical and allied professions. Who pays for it appears irrelevant.—I am, etc.,

Honicknowle, Devon. G. H. MILES.

SIR,—I was very interested to learn from his letter (February 2, p. 272) that Mr. Hilary Marquand believes one of the causes of extravagant use of the Health Service is the misunderstanding that it is paid for by the Insurance Fund. I find the misunderstanding is very common, and I believe it has arisen partly from the association of health and insurance in the old National Health Insurance and partly from the publicity put out by the Government in 1948. At that time I formed the impression that the Government was intentionally encouraging the persistence of the belief that the weekly contributions paid for the Health Service, in order to induce the more well-to-do section of the population to register with doctors and get their money's worth.

I am in no doubt that this misunderstanding did much to bring the wealthier to the surgeries and hospitals, and helped to achieve the very general acceptance the Health Service received. I never noticed that the late Government took any useful steps to correct the misunderstanding; perhaps the present Government will.—I am, etc.,

London, S.W.1. GEOFFREY HALE.

Strange Encounter

SIR,—I received on the afternoon of Christmas Eve the following telegram: "Please meet me Ribble bus station Preston 8 o'clock. P." I spent a rather agitated hour wondering who could have sent this cryptic message, which, on inquiry at the Post Office, I discovered had been handed in at Blackpool by a person signing herself "Mrs. P." With no great stretch of the imagination one can understand just how puzzling this message was, as I know no Mrs. P. resident or non-resident in Blackpool.

However, my evening surgery on Christmas Eve did not finish until 8.15 p.m., and I could not make the 12-mile journey from my home in Blackburn to Preston. At 8.30 p.m. an aggrieved female voice sounded on my telephone inquiring had I not got the telegram and complaining of being kept waiting in the rain. The owner of this

voice subsequently divulged that she was a relation of a patient of mine and was anxious about her and wished to talk to me.

I will refrain from comment on this episode, which caused me some perplexity and anxiety, except to add that the time is ripe for even the wormiest of G.P.s to turn. B.M.A. negotiators please note.—I am, etc.,

Blackburn, Lancs. A. C. SMERDON.

POINTS FROM LETTERS

Telling the Public

Dr. A. C. SOMMERVILLE (East Grinstead, Sussex) writes: Surely, Sir, we G.P.s are educated men and women and can be trusted to manage our own affairs—as we did before 1948—without the help of appealing to the B.B.C. or appealing for regulations to be drawn up, which incidentally could seldom be enforced, to control the so-called public. . . . .

Dr. L. F. EVANS (Bolton, Lancs) writes: I would like to associate myself with the suggestion put forward by Dr. D. R. MacDonald (*Supplement*, February 2, p. 45). In addition I would like to suggest that local P.R.O.s should bring Dr. S. Wand's address to the notice of their local press, when I am sure it would be welcomed as good copy. . . .

Loath to Take Partner

Dr. H. FIRMAN (North Wingfield, Derbyshire) writes: Dr. W. Watson Newton's letter (*Supplement*, February 2, p. 45) displays to a nicety why, because of the attitude of mind of a certain section, G.P.s are being handicapped in their struggle for better remuneration and working conditions. . . . Has he ever stopped to give a thought to the large numbers of our brethren who are trying to make ends meet with a list of 1,000 to 2,000? Until there is a substantial rise in the capitation fee, there exists no ray of hope that these unfortunate colleagues will be able to improve their pitiful financial lot. As matters stand at present, it is necessary to have a list of at least 3,000 before one can reach a reasonable standard of living. It follows, therefore, that practitioners are loath to reduce their lists, or to take in a partner, until such time as the capitation rate is substantially raised. . . .

Early Call

Dr. S. J. HOWARD (Ivybridge, Devon) writes: Is this a record? I was telephoned to-day at 5.30 a.m. and asked to pay a routine visit.

Association Notices

SCHOLARSHIPS IN AID OF SCIENTIFIC RESEARCH

The Council of the British Medical Association is prepared to receive applications for research scholarships, as follows:

An Ernest Hart Memorial Scholarship, of the value of £250.
A Walter Dixon Scholarship, of the value of £250.
Four Research Scholarships, each of the value of £200.

These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease.

Each scholarship is tenable for one year, commencing on October 1, 1952. A scholar may be reappointed for not more than two additional terms. A scholar is not necessarily required to devote the whole of his or her time to the work of research, but may be a member of H.M. Forces or may hold a junior appointment at a university, medical school, or hospital, provided the duties of such appointment will not, in the opinion of the Science Committee, interfere with his or her work as a scholar.

Applications for scholarships must be made not later than March 31, 1952, on the prescribed form, a copy of which will be supplied on application to the Secretary, B.M.A. House, Tavistock Square, London, W.C.1. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated.

Diary of Central Meetings

MARCH

3	Mon.	Armed Forces Committee, 2 p.m.
4	Tues.	Organization Committee, 2 p.m.
5	Wed.	Amending Acts Committee, 11 a.m.
5	Wed.	General Practice Review Committee, 11 a.m.
5	Wed.	Public Relations Committee, 2 p.m.
6	Thurs.	Journal Committee, 2 p.m.
6	Thurs.	Subcommittee on Constitution and Procedure of Medical Service Committees, General Medical Services Committee, 2 p.m.
7	Fri.	Tuberculosis and Diseases of the Chest Group Committee, 12 noon.
7	Fri.	Public Health Committee, 2 p.m.
10	Mon.	Conference between the B.M.A., Ministry of Health, and associations of local authorities on Dual Appointments (at 1, Richmond Terrace, Whitehall, London, S.W.1), 3.30 p.m.
11	Tues.	Central Ethical Committee, special meeting, 12 noon (*date and time changed from February 26*).
11	Tues.	Publishing Subcommittee, 5 p.m.
13	Thurs.	General Practice Review Committee, 11 a.m.
18	Tues.	Medical Students and Newly Qualified Practitioners Subcommittee, Organization Committee, 2 p.m.
19	Wed.	Joint Meeting of B.M.A. and T.U.C. Committees, 11 a.m. (Preliminary meeting of B.M.A. Representatives, 10.15 a.m.)
19	Wed.	Occupational Health Committee, 2 p.m.
20	Thurs.	General Medical Services Committee, 10.30 a.m.
21	Fri.	Colonies and Dependencies Committee, 2 p.m.
26	Wed.	**Council**, 10 a.m.
26	Wed.	Charities Committee, 1.30 p.m.
27	Thurs.	**Council.**

APRIL

2	Wed.	General Practice Review Committee, 11 a.m.
16	Wed.	General Practice Review Committee, 11 a.m.

Branch and Division Meetings to be Held

EAST HERTS DIVISION.—At County Hospital, Hertford, Thursday March 6, 8.30 p.m., address by Professor W. C. W. Nixon: "Analgesia in Labour." To be illustrated with lantern slides.

HAMPSTEAD DIVISION.—At Hampstead General Hospital, Wednesday, March 5, 8.30 p.m., meeting. Talk by Mr. A. J. Gardham. All medical practitioners in the area of the Division are invited.

NUNEATON AND TAMWORTH DIVISION.—At Red Lion Hotel, Atherstone, Tuesday, March 4, 8 p.m., informal supper; 8.45 p.m., discussion: "Peptic Ulceration." To be opened by Dr. J. C. Neill, Dr. E. A. Hoare, and Mr. L. E. Jones.

REIGATE DIVISION.—At Redhill County Hospital, Tuesday, March 4, 8.30 p.m., Dr. Clifford Hoyle: "Doubtful Chests."

ST. PANCRAS DIVISION.—At Old Library, B.M.A. House, Tavistock Square, London, W.C., Tuesday, March 4, 8.30 p.m., lecture by Professor L. P. Garrod: "The Intelligent Use of Antibiotics."

SOUTH BEDFORDSHIRE DIVISION.—At Luton and Dunstable Hospital, Friday, March 7, 9 p.m., Mr. N. R. Barrett: "Cardiac Surgery" (illustrated).

SOUTH ESSEX DIVISION.—At King's Head Hotel, Market Place, Romford, Thursday, March 6, 7.30 p.m. to 1 a.m., annual supper dance and cabaret.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—At Morriston Hospital, Swansea, Thursday, March 6, 3 p.m., joint clinical meeting of Branch and Swansea Division. Cases will be shown.

WANDSWORTH DIVISION.—At St. James' Hospital, Ouseley Road, Balham, London, S.W., Tuesday, March 4, 8.45 p.m., lecture by Dr. T. H. Howell: "The Medical Care of the Aged." To be illustrated by cine films.

WEST BROMWICH AND SMETHWICK DIVISION.—At the Red Cow, High Street, Smethwick, Friday, March 7, 8 p.m., dinner dance; dinner 9 p.m.

Meetings of Branches and Divisions

HOLLAND DIVISION

A meeting of the Holland Division was held on February 1 at Boston (attendance 33). The chair was occupied by Dr. Gerald Walker and an address was given by Dr. William Tegner on "The Management of the Rheumatic Patient." The lecturer covered an extensive and interesting range of treatments which were in favour in the past and at the present time. His helpful observations on the results obtained in his considerable experience were received with very evident interest by his audience. Some forecasts concerning the probable availability of some of the newer remedies were mildly encouraging.

A hearty vote of thanks was accorded to Dr. Tegner on the proposal of Dr. R. E. Crockatt, who expressed thanks to him for his kindness in travelling to such relatively remote parts for the purpose of imparting some very interesting information and for the delightful manner in which it was presented.

Are Vaginal Tampons Prejudicial to Health?

An Investigation* concerned with the bacteriology of vaginal flora following the use of internal tampons was undertaken at the request and with the co-operation of the visiting gynaecologists to a London Women's hospital.

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★ "There was no aggravation of the condition or delay in healing following the use of tampons in the patients who had cervical erosions."

★ "In each case the underlying cause responded to treatment, and did not recur, which proves that the internal tampon does not act as an irritating foreign body."

★ "The rate of healing compared favourably with four control cases in which the perineal pad was used."

★ "The glycogen content was uninfluenced by the use of tampons."

★ "There was no appreciable alteration in the pH in the pre- and post-menstrual phases."

★ "Volunteers who had not previously used tampons stated that they did not cause the irritation usually found with the perineal pad."

★ "There was no evidence that vaginal tampons are prejudicial to health."

British Medical Journal, 1, 24 (1952)

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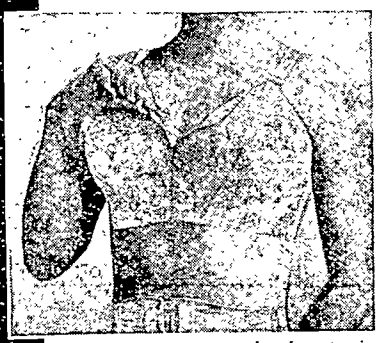

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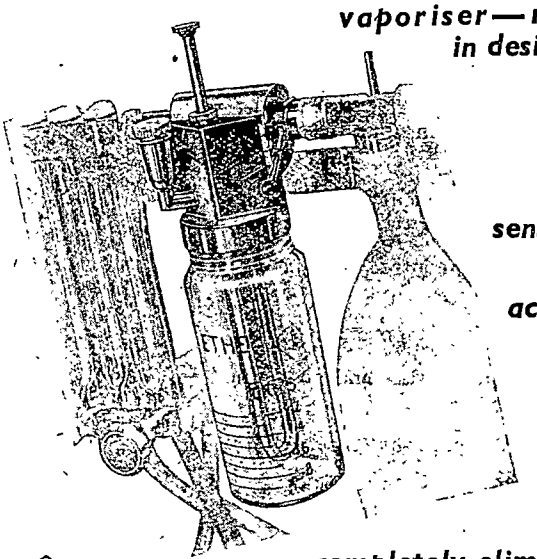

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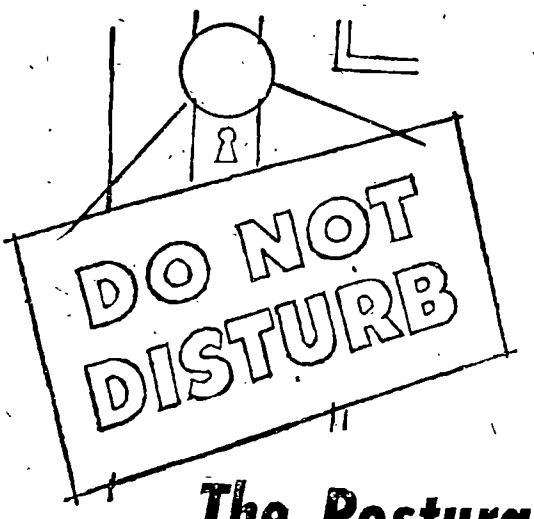

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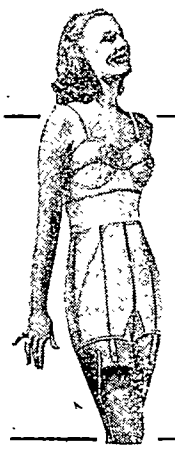

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APPOINTMENTS

Applicants should state name, address, age, nationality, qualifications, and enclose 3 copies (unless otherwise specified) of recent★ testimonials with short statement of experience and appointments held.

Applications should be sent at once if no closing date is given.

Canvassing in any form will disqualify.

★*SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

Deferment of call-up for "R" practitioners (i.e., practitioners liable for call-up under the National Service Acts) is granted at the discretion of the Central Medical War Committee and (in Scotland) the Scottish Central Medical War Committee. The Committees normally allow an "R" practitioner to hold a First House Officer post (N.H.S. salary £350 per annum) provided that he obtains it without delay. *Under present arrangements* the Committees also normally allow an "R" practitioner to hold a Second House Officer post (£400) and a Senior House Officer post (£670), provided in each case that the higher appointment is secured before the termination of the practitioner's current appointment.

"R" practitioners may not accept Third House Officer posts (£450 per annum) unless they have obtained the special permission of the C.M.W.C. or (in Scotland) the Scottish C.M.W.C.

SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

Registrar Grades, Whole-time

(*a*) *REGISTRAR:* Posts obtained normally not less than two years after registration as a medical or dental practitioner and held normally for two years: £775 per annum in the first year; £890 per annum in the second and any subsequent years.

(*b*) *SENIOR REGISTRAR:* Posts obtained normally not less than four years after registration as a medical or dental practitioner and held normally for three years: £1,000 per annum in the first year; £1,100 per annum in the second year; £1,200 per annum in the third year; £1,300 per annum in any subsequent years.

Other Grades, Whole-time

(*a*) *HOUSE OFFICER:* £350 per annum for the first post held, £400 per annum for the second post held; £450 per annum for the third and any subsequent post held; with, in each case, a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Each post shall be tenable for six months.

The Minister will be prepared to authorize, in exceptional circumstances, salaries up to £50 per annum higher than the standard rates specified above where a post cannot be filled otherwise.

(*b*) *SENIOR HOUSE OFFICER:* Posts obtained normally not less than one year (in Scotland, two years) after registration as a medical or dental practitioner and normally held for one year only: £670 per annum.

(*c*) *JUNIOR HOSPITAL MEDICAL OFFICER:* Officers who have held house appointments but who are not Registrars and who have less responsibility than other hospital officers of non-consultant status: £700 (for an officer appointed not less than two years after registration as a medical practitioner) by £50 to £1,000 per annum.

ALL NATIONAL HEALTH SERVICE HOSPITAL APPOINTMENTS ARE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SERVICE OF HOSPITAL MEDICAL STAFF

Those intending to apply for resident appointments in the Registrar grades are recommended to make inquiries with regard to the deductions proposed for board and lodging at the time of submitting their applications, where this is not stated in the advertisement.

(22/2/52)

CLASSIFICATION

and order of appearance

Practices — Assistantships
Partnerships — Locums
Situations (Medical)

HOSPITAL APPOINTMENTS

CONSULTANTS
S.H.M.O.s
REGISTRARS
J.H.M.O.s
SENIOR HOUSE OFFICERS
HOUSE OFFICERS
CLINICAL ASSISTANTS

under appropriate specialty headings, e.g.:—

Anaesthetics	Orthopaedics
Blood Transfusion	Paediatrics
Cardiology	Pathology
Chest and Tb.	Plastic Surgery
Dental	Psychiatry
Dermatology	Radiology
E.N.T.	Radiotherapy
Geriatrics	Rheumatology
Infectious Diseases	Urology
Neurology	Venereology
Neurosurgery	Medicine
Obstetrics and Gynaecology	Surgery
Ophthalmology	Casualty

PUBLIC HEALTH
in alphabetical order of names of employing authorities

Governmental	Lectures
Services	Situations (Non-med.)
Commercial	Pharmacists, etc.
Industrial	Receptionists, etc.
Eire	Accommodation
Overseas	Consulting Rooms, etc.
University	Hotels
Personal	Motor Cars, Hire, etc.
Notices	Miscellaneous
Educational	Homes

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

BENTLEY, near Doncaster

Applications are invited for vacancy, chiefly urban. List at present approximately 700. Apply, on E.C.16A, to the undersigned not later than March 7, 1952. Further details may be obtained on request.—C. H. Stabler, Clerk of the West Riding of Yorkshire Executive Council, 5, St. John's North, Wakefield.

FISHGUARD, Pembrokeshire

Applications are invited for vacancy in the above urban/rural area. List at present approximately 2,800. Applications, on Form E.C.16A, to reach the undersigned not later than Monday, March 10, 1952.—W. C. Scourfield, Clerk, Pembrokeshire Executive Council, 9, Quay Street, Haverfordwest.

PLYMOUTH, Devon

Applications invited from doctors willing to commence a practice on a new housing estate, population at present 2,300. It is anticipated that 8,000 will ultimately be housed on the estate. Accommodation of a suitable size will be provided by the Corporation, according to the needs of the doctor appointed. Apply, on Form E.C.16A, before March 24, 1952, to the undersigned, giving details of professional experience, etc.—J. E. Bowen, The Clerk to the Council, Executive Council for Plymouth, Dispensary Buildings, Catherine Street, Plymouth.

ROTHERHAM, Yorks

Applications are invited for death vacancy (urban/rural). List at present approximately 3,000. Residence and surgery may be available for purchase. Apply, on E.C.16A, to the undersigned not later than March 15, 1952.—H. K. Robson, Clerk of the Rotherham County Borough Executive Council, All Saints' Buildings, Corporation Street, Rotherham.

WATTON-AT-STONE, near Hertford, Herts

Applications invited for vacancy (rural) due to resignation. List at present 2,690 (Dispensing List 2,600, Mileage "Units" 2,428). Residence and surgery may be available to rent. Applications, on Form E.C.16A (accepted up to first post March 7), to the Clerk, Hertfordshire Executive Council, 156-158, Fore Street, Hertford.

PRACTICES (Offered)

ENGLISH DOCTOR WISHES TO SELL UNopposed country practice, on coast 100 miles Adelaide, South Australia. House to rent. Hospital. Price £A2,000. Fullest particulars, Box P810, B.M.J.

HOUSE, PRE-WAR, LABOUR SAVING, DEtached, growing district, Dublin, 17 miles, used 17 years medical practice, retiring, with goodwill.—Box P849, B.M.J.

PRACTICES (Exchange)

EXCHANGE PRACTICE NORTH-EAST SEAside resort, 6,000 units, income £5,400 approximately. Easily run from one surgery. For 3,000 units, London or South Coast. House attached to surgery and beautiful modern house, four bedrooms, with gardens, for sale. Premises optional.—Box P830, B.M.J.

PRACTICES (Wanted)

M.B., D.R.C.O.G., SEEKS SUCCESSION PARTnership, Assistantship, view, London, near. Capital available for house.—Box P811, B.M.J.

PRACTICE, PARTNERSHIP OR ASSISTANTship with view required. Central London or near. Capital available for house.—Box P850, B.M.J.

PARTNERSHIPS (Offered)

Partner required for old-established N.W. London practice. Pleasant district.—Box P831, B.M.J.

PARTNERSHIPS (Wanted)

Experienced Jewish practitioner requires practice Partnership or Assistantship, preferably with View. Capital available for house purchase. Married. Car. North-West London or South Coast preferred.—Box P833, B.M.J.

F.R.C.S., 38, family, experience also G.P., midwifery, car, capital available for house purchase, wishes Assistantship with View, rural or seaside, some surgery.—Box P832, B.M.J.

Partnership, Succession or early View. Experienced doctor, 39. Capital for house, equipment.—Box P812, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, a full-time Assistant for practice in S.W. London area. No night calls. Live out. Car available.—Box 803, B.M.J.

Wanted, Trainee Assistant, car owner, country practice South Midlands. Furnished accommodation for married man available. Salary by arrangement.—Box 855, B.M.J.

Wanted at once, Male Assistant, preferably G.P. experience, without view. Pleasant Suburban practice. Week-end rota. Time for study. Car essential. Salary by arrangement.—Dr. Gold, 65, Ethelbert Gardens, Ilford. Valentine 3740.

Wanted, Assistant, experienced, car, Glasgow. Full details, Box 854, B.M.J.

Wanted immediately, Outdoor Assistant, car owner, £1,000, E. Yorks. Ample leisure.—Box 852, B.M.J.

Wanted urgently, Trainee Assistant, male, preferably single, with car, indoor.—Dr. G. S. Lawrence, Abbotsford, Bewdley, Worcs.

Wanted, Trainee Assistant, March or April; male, British, with car. Usual salary and allowances.—Dr. Wilfred Knight, 10, Fonnereau Road, Ipswich.

Wanted, well recommended Assistant, some experience of obstetrics. If conscientious excellent outlook for partnership. Car owner. Grimsby-Cleethorpes area.—Box 815, B.M.J.

Wanted, Single Trainee Assistant, London, N.1. Furnished accommodation, attendance, part fuel and light available. Car not very essential.—Box 804, B.M.J.

Assistantships Vacant—contd.

Wanted, Trainee Assistant, March, Kentish suburb.—Box 816, B.M.J.

Assistant wanted, South Coast private and N.H.S. practice, prospects right man. Car owner, abstemious, preferably Catholic. Salary by arrangement. Live out.—Box 853, B.M.J.

Assistant required near Liverpool. Good house available. Car essential. Work moderate.—Box 817, B.M.J.

Assistant required, June to December, North-West Coast. Study time. Car owner preferred.—Box 732, B.M.J.

Doctor required for light night work, one night weekly and urgent calls, one Sunday in seven. Surgery near City of London. Two furnished rooms available.—Box 813, B.M.J.

Male Trainee Assistant wanted. Mid-April. Pleasant rural Midlands practice. Free unfurnished house. Car essential. Usual salary.—Dr. Macdonald, High Meadows, Great Haywood, Stafford.

N.W. England. Christian doctor wishes to engage Christian Assistant in busy general practice. Good prospects. Comfortable furnished rooms provided.—Box 711, B.M.J.

Trainee Assistant, outdoor, Sheffield-Derbyshire border. Single principal. Light interesting work. Well-equipped premises. Nearly every week-end free.—Box 814, B.M.J.

Trainee required April. Pleasant Kent suburb. Ample time for study. Car available.—Box 834, B.M.J.

Trainee Assistant, Partnership of two. Good scope for midwifery experience. Salary usual scale. Car essential.—Dr. W. T. Westwood, 1100, Chester Road, Stretford, Manchester.

Trainee Assistant, male, wanted, Cumberland semi-rural, list 2,750. Usual salary. Car allowance. Unfurnished modern flat or furnished room. —Box 851, B.M.J.

Trainee Assistant, lady, required in good-class partnership practice, south side of Midland city. Car essential. Flat available.—Box 836, B.M.J.

Trainee Assistant, outdoor. Vacant May. Partnership two, Leeds. Work light. Car owner preferred. Arrange salary.—Box 835, B.M.J.

Vacancy for Trainee Assistant, British, male or female, end of April, Surrey town. Light work. Unfurnished flat and car available if required.—Box 818, B.M.J.

ASSISTANTS AVAILABLE

Assistantship wanted, June, 28, married. Queen's (Belfast). One year's hospital, three months' G.P. New car. Four years R.A.F. pilot. Do locum first.—Box 837, B.M.J.

Assistantship, Partnership or Locum with early succession. Experienced practitioner, R.A.M.C., M.B., Ch.B., D.R.C.O.G. Car owner. Capital for surgery and house purchase—Box 856, B.M.J.

Assistantship, southern half England. Married. Experienced G.P. Car. Capital available for house purchase.—Box 838, B.M.J.

Cambridge area, part or full time work required by experienced woman doctor.—Box 819, B.M.J.

Doctor, 27, single, requires Assistantship, rural area preferred. Hospital and G.P. experience.—Box 821, B.M.J.

Married doctor, own accommodation, car owner, seeks Trainee Assistantship in London.—Box 858, B.M.J.

Practitioner, 36, desires to contact doctor retiring in year or two, to arrange Assistantship or Partnership View Succession. Capital available for house purchase. Car owner. Free April.—Box 633, B.M.J.

Part time work wanted High Wycombe-Maidenhead-Reading area. Experienced G.P. Own car. 'Phone: Marlow 979.

Scots M.B. desires Assistantship with View, market town England. Single, 29, car, 18 months' G.P. experience. Commence September.—Box 820, B.M.J.

Trainee Assistantship wanted in Northern Ireland. Hospital and locum experience. Single, male.—Box 857, B.M.J.

Woman, hospital experience, including obstetrics, G.P., locums, wishes Assistantship or Traineeship, N.E., or Scots border preferred.—Maddison, 5, Great North Road, Brunton Park, Newcastle.

Woman graduate (Qu.B.), ex-Service, hospital and G.P. experience, wants Assistantship, preferably View.—Box 839, B.M.J.

LOCUMS (Vacant)

Energetic Locum with own car for busy Blackpool practice, June 6 to 29 inclusive.—Box 631, B.M.J.

Indian doctor, Lancashire town, requires Locum from mid-April to end June, preferably car owner. Please state full particulars.—Box 840, B.M.J.

Lady Locum wanted, April 19 to May 4, for practice in Yorkshire Dale. Car provided.—Box 805, B.M.J.

Locum required for several weeks from March 31 in a partnership practice in Leicester. Usual fee. —Write to Dr. Angus, 160, Dominion Road, Glenfield, near Leicester.

Locum wanted from March 30 for three to four weeks, £2 2s. per day, plus £2 2s. per week for car.—Apply Dr. Mukerji, Craghead, Co. Durham.

Locum required, Surbiton, June 9 to 14 inclusive. Car essential.—Box 737, B.M.J.

Locum wanted for last two weeks April. Rural practice small N.W. seaside resort. Hospitality for family.—Box 841, B.M.J.

Locum required May 1 to 31 inclusive. Car essential. Country practice.—Dr. Widgery, Island Surgery, Midsomer Norton, near Bath.

Surrey. Experienced Locum required, British, male or female, own car preferred, about April 16 to June 18.—Box 859, B.M.J.

Central Middlesex Hospital, Park Royal, N.W.10. —Locum Registrar Anaesthetist required for holiday period July, August, September. Whole-time duties. Applications, with copies of two testimonials, or names of referees, to Medical Director immediately. (8717)

St. Alfege's and the Miller General Hospitals, Greenwich.—Locum tenens Senior Registrar (Pathology), full-time, required for indefinite period from approximately end March, 1952. National salary and conditions. Interview, and inspection laboratory, arranged on request. Please telephone GREenwich 2655, Ext. 28. (8803)

St. Thomas' Hospital, London, S.E.1.—Locum Medical Registrar for a period of six months from early April. Applications, including names and addresses of three referees, to the Clerk of the Governors by March 15, 1952. (8729)

Wanstead Hospital, Wanstead, E.11 (192 beds). —Full time Registrar (non-resident) required as Locum for three months from April 1, 1952, for obstetric and gynaecological department. Applications, giving full particulars and names of two referees, to be sent immediately to the Secretary, Forest Group H.M.C., Langthorne Rd., E.11. (8383)

Barnsley, St. Helen Hospital. Sheffield Regional Hospital Board.—Whole-time Locum Obstetrician required for the above hospital, to commence duty on March 24, 1952, for a period of three to six months. Remuneration at the rate of 31½ guineas per week. Applications, with the names of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. (8366)

Croydon Group Hospital Management Committee, General Hospital, Croydon.—Orthopaedic Registrar (Whole-time), March 19 to 30, inclusive. Duties involving both orthopaedic and fracture work. Previous orthopaedic experience essential. Possession of higher surgical qualification an advantage. Apply, giving particulars of age, qualifications and experience, to Secretary. (8650)

Hull (A) Group Hospital Management Committee, Hull Royal Infirmary. — Locum required **(Senior House Officer grade)** for Casualty Department. Applications to Administrative Officer. (8592)

Leeds Regional Hospital Board.—Short term Locum Tenens appointments in the Registrar Grade are constantly available at hospitals in the area of the Board, particularly in the specialties of general medicine and general surgery. Suitably experienced practitioners interested in such appointments are invited to communicate with Sec., Joint Registrars Committee, Park Parade, Harrogate. (5255)

Mansfield, King's Mill Hospital. Sheffield Regional Hospital Board.—Required immediately **Whole-time Locum Anaesthetist** for the above hospital, for a period of approximately three months. Duties may include work at other hospitals in the Group, and single accommodation is aavilable if required. Remuneration 31½ guineas per week. Applications, with names of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. (8686)

Southampton Group Hospital Management Committee.—Locum Tenens Registrar in Pathology required immediately pending filling of post on permanent basis. Mainly based on Royal South Hants Hospital, Southampton. Apply, quoting qualifications and experience, to the Secretary of above Committee, Bullar St., Southampton. (8716)

Southport and District Hospital Management Committee. Promenade Hospital (General).—Locum Tenens House Surgeon (Resident) required on a day to day basis at a salary of £350 to £450 per annum, according to previous National Health Service appointments held, less £100 in respect of full residential emoluments. Apply, with details of age, nationality and qualifications, together with copies of two testimonials, to T. Crook, Secretary, Promenade Hospital, Southport. (8715)

Sutton-in-Ashfield, Notts. King's Mill Hospital.—Locum Assistant Anaesthetist required for period of six to eight weeks. Salary £670 per annum, with a deduction of £135 in respect of residential emoluments. Applications to the Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (7968)

LOCUMS (Available)

Experienced woman doctor free now, long or short locums.—Tel.: Hillside 5046 (after 8 p.m.) or Box 860, B.M.J.

Experienced G.P. available for South Coast. July. Hospitality wife and child.—Box 802, B.M.J.

Locum wanted, two weeks in summer, rural or seaside. Hospitality for wife. Own car.—Write to Box 845, B.M.J.

M.B., B.S., experienced, single, male. British. Available February, March, April. Car available. —Box 843, B.M.J.

M.B., 1945, experienced, own car, requires Locum work anywhere.—Box 844, B.M.J.

Woman doctor available Locums May to August. Any area. Car driver.—Box 842, B.M.J.

SITUATIONS (Vacant)

Retired doctor wanted, for summer holiday locum, occasional week-ends, etc. Permanent basis preferred.—Dr. Houghton, Chasetown, near Walsall.

APPOINTMENTS

ANAESTHETICS

BRISTOL CLINICAL AREA
South-Western Regional Hospital Board

Applications are invited from registered medical practitioners for the appointment of

WHOLE-TIME CONSULTANT ANAESTHETIST

to the Bristol Clinical Area, which comprises Bristol and the adjoining districts of Gloucestershire and Somerset. The successful applicant will be required to work at Southmead Hospital, Bristol, which has 126 surgical beds and 133 obstetric beds, and to visit other hospitals in the clinical area as may be determined by the Regional Board from time to time. Preference will be given to candidates who are interested in anaesthetics and analgesics in obstetric practice. Candidates are invited to visit the hospitals concerned, and should communicate with the Secretary of the Southmead General Hospital Group Management Committee. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than March 20, 1952. (8718)

LIVERPOOL REGIONAL HOSPITAL BOARD

Applications are invited for the post of

PART-TIME CONSULTANT ANAESTHETIST

to hospitals in the undermentioned areas: (a) Liverpool Groups for seven notional half-days weekly. Experience in anaesthesia for chest surgery would be an advantage. (b) Southport and Ormskirk for maximum part-time sessions. (c) Birkenhead and North Wirral for seven notional half-days weekly. (d) Central Wirral and Chester for seven notional half-days weekly. Applicants must possess the D.A. and should have had considerable experience in the administration of anaesthetics. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 15, 1952.—Vincent Collinge, Secretary to the Board. (8826)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

WHOLE-TIME ASSISTANT ANAESTHETIST
(S.H.M.O. scale)

for duties at hospitals in the Hull (A) and East Riding Hospital Management Committee Groups. The successful candidate will be required to reside in or near Hull or within such distance of that town as the Board may approve. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than March 29, 1952. (8687)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time non-resident post of

ASSISTANT ANAESTHETIST

to work under the general guidance of the Group Consultant at the Oldham Group of Hospitals (Oldham Royal Infirmary, Boundary Park General Hospital, etc.). Salary £1,300 by £50 to £1,750. The successful candidate will be required to live near Oldham. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than March 15, 1952. (8761)

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified medical practitioners for the following appointments:

WHOLE-TIME ASSISTANT ANAESTHETIST, based upon the Western Infirmary, Glasgow. Salary on the scale £1,300 by £50 to £1,750.

WHOLE-TIME ASSISTANT ANAESTHETIST for duties in the Lanark County Area, based at Stonehouse Hospital. Salary on the scale £1,300 by £50 to £1,750.

Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted, not later than thirty days after the publication of this advertisement, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointments will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (8812)

Anaesthetics—contd.

BRISTOL, UNITED, HOSPITALS
(Joint Appointment with the South-Western Regional Hospital Board)

Applications are invited by the above Boards from registered medical practitioners for the joint appointment of

ANAESTHETIC REGISTRAR

The appointment will be subject to the terms and conditions of service of hospital medical and dental staff negotiated between the Minister and the profession. The successful applicant will be appointed to work in the first instance for one year in the United Bristol Hospitals. Applications, giving full Christian names, particulars of age, qualifications, and experience, and the names of two referees, should be sent not later than March 17, 1952, to Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (8772)

COVENTRY GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of

WHOLE-TIME REGISTRAR IN ANAESTHETICS

Duties mainly at Hospital of St. Cross, Rugby (168 beds), which is recognized for D.A. Experience in specialty essential. Possession of D.A. an advantage. Appointment subject to N.H.S. (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 17. Candidates may visit the hospital concerned. (8722)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for two posts of

REGISTRAR IN ANAESTHETICS

as follows:

Blackburn and District Group of Hospitals, resident at Blackburn Royal Infirmary.

North Manchester Group of Hospitals, resident at Manchester Northern Hospital.

All hospitals at which the successful applicants will be required to undertake duty are recognized for the D.A. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 10, 1952. (8762)

ROTHERHAM, MOORGATE GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of

REGISTRAR (Anaesthetics)

to the above hospital, which is a recognized training hospital for the D.A. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to reach him not later than March 17, 1952. (8662)

LEWISHAM HOSPITAL, London, S.E.13

Applications are invited for the appointment of

SENIOR HOUSE OFFICER
in the Department of Anaesthesia

The hospital is recognized for the Diploma in Anaesthetics, and there are facilities for training and for clinical investigations within the department, which is directed by full-time anaesthetists. Preference will be given to those studying for the D.A. The appointment, which will be vacant on April 2, 1952, is tenable for one year at a salary of £670 per annum. An appropriate deduction will be made for residential services provided, although the post may be non-resident. Applications, stating age, qualifications, and experience, with names of three referees, should be addressed to the Secretary, Lewisham Group Hospital Management Committee, Lewisham Hospital, London, S.E.13. (8663)

WOOLWICH GROUP HOSPITAL MANAGEMENT COMMITTEE

SENIOR HOUSE OFFICER (Anaesthetics)

The appointment is to the Woolwich Group of hospitals and is tenable for one year, resident for six months at St. Nicholas Hospital, Plumstead, and for six months at Memorial Hospital, Woolwich. These hospitals are recognized for the D.A. Salary £670 per annum, less £150 per annum for board and lodging. Applications, together with copies of two recent testimonials, to be sent to the Sec., Memorial Hospital, Woolwich, S.E.18. (8730)

BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

SENIOR HOUSE OFFICER (Anaesthetics)

The post is recognized for the D.A. examination and is tenable for one year. Salary £670 per annum, less an appropriate deduction in respect of board residence. Applications, stating age, qualifications, nationality and experience, etc., with names of two persons for reference, should be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (8652)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1,

or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
(Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

FIFE COUNTY COUNCIL
(Senior Medical Officer (Chief Executive School Medical Officer))

LANCASHIRE COUNTY COUNCIL
(Assistant Divisional Medical Officers)

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE
(Assistant School Medical Officer)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,

A. MACRAE,
Secretary.

February 26, 1952.

BRADFORD, ST. LUKE'S HOSPITAL

SENIOR HOUSE OFFICER (Anaesthetics)

Vacant now. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8448)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding
(Full Consultant Staffs)

Applications are invited for the appointment of

SENIOR HOUSE OFFICER in Anaesthetics
(Male or female)

for duty at the above hospitals for acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment, vacant now. Salary £670 per annum. National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley, as soon as possible. (8688)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of

SENIOR HOUSE OFFICER (Anaesthetics)

commencing April 1, 1952. Applications, stating age, experience, and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8322)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Luton and Hitchin Group Hospital Management Committee

Applications are invited for the post of

RESIDENT ANAESTHETIST
(Senior House Officer)

at the Luton and Dunstable Hospital. The appointment, which is vacant now, offers varied experience, and this post is recognized for the D.A. examination. Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (8664)

OLDHAM AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the appointment of

SENIOR ANAESTHETIC HOUSE OFFICER
(Resident)

for duties at the Oldham Royal Infirmary (200 beds) and the Boundary Park General Hospital (390 beds), becoming vacant on April 11, 1952. The hospitals are recognized for the D.A. Salary in accordance with the terms and conditions of service of hospital medical staff. Applications, giving age, sex, nationality, qualifications and previous appointments, together with the names of three persons to whom reference may be made if desired, should be sent forthwith to the Secretary. Please quote reference number A/824.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (8827)

PRESTON ROYAL INFIRMARY (400 beds)

RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer Grade)
(Recognized for D.A.)

Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (8449)

SIDCUP, QUEEN MARY'S HOSPITAL (510 beds)
(Recognized by R.C.S. for Diploma in Anaesthetics)
Sidcup and Swanley Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (Anaesthetics)

Salary £670 per annum gross. Post tenable for twelve months. Apply, with full particulars and copies of testimonials, to the Secretary, Queen Mary's Hospital, Sidcup, Kent. (8731)

STOURBRIDGE (near), WORDSLEY HOSPITAL
(450 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER
(Resident Anaesthetist)

Post now vacant. Applicants should have held house appointments and had previous experience in anaesthetics. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications, with dates, experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (6601)

WARRINGTON GENERAL HOSPITAL (372 beds) and WARRINGTON INFIRMARY (172 beds)
Warrington and District Hospital Management Committee

RESIDENT SENIOR HOUSE OFFICER
for Anaesthetic work

Required for duties at the above hospitals. The person appointed will be resident at the General Hospital. The commencing salary is £670 per annum, less £130 for full residential emoluments. Applications, stating age, experience and qualifications, should be sent immediately to H. L. Boot, Secretary to the Committee, c/o General Hospital, Warrington, Lancs. (7087)

ROYAL NATIONAL THROAT, NOSE AND EAR HOSPITAL
Gray's Inn Road, London, W.C.1, and Golden Square, W.1

There will be a vacancy for a

HOUSE ANAESTHETIST (Resident)

to enter on duty on April 1, 1952. The appointment will be for a period of six months, with salary at the rates for House Officers in the National Health Service. Candidates must have had some preliminary training in anaesthesia, and should preferably be working for the D.A. Applications, giving full particulars of age, qualifications, and experience, and the names of two referees, should be sent to the undersigned on or before March 7, 1952.—John H. Young, House Governor and Secretary. (8420)

BLACKPOOL, VICTORIA HOSPITAL

HOUSE OFFICER (Anaesthetics Department)

Post is vacant April 7, 1952, and recognized for D.A. N.H.S. salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (8651)

COVENTRY AND WARWICKSHIRE HOSPITAL
Coventry (346 beds)

ANAESTHETIC HOUSE OFFICER

Required April 1. Post provides wide experience in anaesthetics for all types of surgery. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (8828)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 17

Anaesthetics—contd.

EDINBURGH, NORTHERN HOSPITALS BOARD OF MANAGEMENT
RESIDENT HOUSE OFFICER (Anaesthetics)
(Second or subsequent post)

Appointment for six months commencing April 1, 1952. Salary £400 or £450 per annum, according to previous posts held, less £100 for residential emoluments. Applications to Medical Superintendent, Western General Hospital, Crewe Road, Edinburgh, 4, as soon as possible. (8829)

HALIFAX GENERAL HOSPITAL
RESIDENT ANAESTHETIST
(House Officer grade)

Hospital providing large surgical turnover. Facilities available for practical experience under guidance of consultant staff. Ample opportunities for studying for D.A. Applications, stating age, sex, qualifications and experience, with copies of three recent testimonials, to the Secretary, Halifax Area Hospitals Management Committee, Royal Halifax Infirmary, Halifax. (8593)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL (350 beds)
Tunbridge Wells Group Hospital Management Committee

Applications are invited for the appointment of
FULL-TIME RESIDENT ANAESTHETIST
vacant April 12, 1952. Post tenable for six months in first instance, or locum duties, and recognized for Diploma of Anaesthetics. Applications, stating age, qualifications, with copies of recent testimonials, to Administrative Officer. (8830)

BLOOD TRANSFUSION

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified practitioners for the whole-time appointment of
DEPUTY BLOOD TRANSFUSION OFFICER
(S.H.M.O. scale) of the Blood Transfusion Service in the Leeds Region

The person appointed will be required to act as Deputy to the Regional Blood Transfusion Officer and opportunities will be given for original work and research of an academic nature. Applicants must have been qualified at least six years and some previous experience in clinical pathology would be desirable. The headquarters of the service is at the Regional Blood Transfusion Centre, Bridle Path, York Road, Seacroft, Leeds. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary to the Board, Park Parade, Harrogate not later than March 29, 1952. (8689)

NEW BARNET, HERTS, NORTH LONDON BLOOD TRANSFUSION CENTRE

There are vacancies for two additional
JUNIOR HOSPITAL MEDICAL OFFICERS
for full-time duty to work with the mobile teams at donor sessions. Opportunity for training in clinical pathology exists. Applications, stating age, qualifications and experience, together with the names of two referees, to the Group Secretary, Hendon Group Hospital Management Committee, Edgware General Hospital, Edgware, Middlesex, not later than March 8, 1952. (8543)

CARDIOLOGY

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT HOUSE OFFICER (Male)

Required for wards taking cardio-vascular and dietetic, vacant April 15. Six months' appointment. National Health Service salary and terms of service. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by March 15, 1952. (8831)

WIRRAL, CALDY MANOR HOSPITAL, Caldy (41 beds)
North Wirral Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT HOUSE PHYSICIAN
for the above new hospital, which specializes in the treatment of heart cases. The appointment will become vacant on April 1, 1952, and will be tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Secretary, North Wirral H.M.C., Leasowe Children's Hospital, Moreton, Wirral, Cheshire. (8832)

CHEST AND TUBERCULOSIS

HOSPITALS FOR DISEASES OF THE CHEST

Applications are invited for the whole-time appointment of
ASSISTANT TUBERCULOSIS OFFICER
(Senior Hospital Medical Officer scale)
to the Dispensary Clinic at the London Chest Hospital, E.2. Experience in diagnosis and treatment of tuberculosis essential. Applications, stating date of birth, qualifications, and experience, with names of three referees, to be sent to the undersigned by March 31, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (8423)

BOURNEMOUTH, SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of whole-time (non-resident)
MEDICAL SUPERINTENDENT AND ASSISTANT CHEST PHYSICIAN (S.H.M.O.)
at Linford Sanatorium, Bournemouth. Candidates should have wide experience in the treatment of tuberculosis and chest diseases. Duties primarily at Linford Sanatorium, together with such other duties, which will include chest clinic work and charge of tuberculosis beds in the Bournemouth area, as may be required, consultant supervision being carried out by the Consultant Chest Physician for that area. Applications (five copies), stating date of birth, qualifications, experience, and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than March 22, 1952. Applicants may visit the Sanatorium by local arrangement. (8665)

CHESTER, LIVERPOOL REGIONAL HOSPITAL BOARD

Applications are invited for the post of
WHOLE-TIME TUBERCULOSIS MEDICAL OFFICER
with duties in the Chester area, mainly at Chester Royal Infirmary. The person appointed will undertake preventive and after-care duties with the local health authorities concerned. Candidates should have good general medical experience and special experience in tuberculosis. This appointment is vacant from October 1, 1952, and the salary will be within the scale £1,300 (at age 32) by £50 to £1,750. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 15, 1952.—Vincent Collinge, Secretary to the Board. (8833)

LIVERPOOL REGIONAL HOSPITAL BOARD
Barrowmore Hospital (153 beds and 52 chalets)

Applications are invited for the post of
WHOLE-TIME SENIOR RESIDENT MEDICAL OFFICER
The person to be appointed will assist the Medical Superintendent at the above hospital and will deputize for him during periods of absence. Candidates should have good general medical experience and special experience in tuberculosis. This appointment is vacant from October 1, 1952. Salary within the scale £1,300 (at age 32) by £50 to £1,750. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 15, 1952.—Vincent Collinge, Secretary to the Board. (8834)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest

Applications are invited for the post of
REGISTRAR (Whole-time)
to the Tuberculosis Dispensary Clinic at the hospital. Experience in diagnosis and treatment of tuberculosis essential. Appointment for one year in the first instance. Applications, stating age, qualifications, with dates, previous appointments held, with copies of three testimonials, should be sent to the undersigned by March 7, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (8424)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest

Vacancies occur for
TWO PART-TIME SENIOR MEDICAL REGISTRARS
each to attend five notional half-days a week, including one refill clinic. The appointment is for one year from April 1, 1952, and renewable. The present holders of Registrar posts at the hospital are eligible to apply. Applications, stating age, qualifications (with dates), and previous appointments held, and accompanied by copies of three testimonials, should reach the undersigned not later than March 8, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (8425)

SOUTH LODGE HOSPITAL
Winchmore Hill, London, N.21
REGISTRAR (Tuberculosis and Infectious Diseases)

Preferably non-resident. The appointment is subject to review after one year. A local charge would be made for any meals or residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 15, 1952. (8732)

ST. THOMAS' HOSPITAL, London, S.E.1
REGISTRAR
Department of Thoracic Medicine

Vacant from May 29, 1952. One year in first instance. Applications, including names and addresses of three referees, to the Clerk of the Governors by April 1, 1952. (8763)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the post of
REGISTRAR in Chest Diseases
The initial duties will be with the Mass Radiography Service in Hull, under the immediate supervision of the Senior Chest Physician in the area. Ample facilities will also be given for clinical work at the parent chest clinic, attendance at Sanatoria and General Hospitals, etc. After a satisfactory term in mass radiography, suitable candidates will be considered for a further period of training in selected regional sanatoria. This is essentially a trainee specialist post and only applicants possessing a first-rate clinical background in chest work will be considered. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than March 15. (8690)

LEICESTER, MARKFIELD SANATORIUM AND ISOLATION HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of
REGISTRAR (Chest Diseases and I.D.)
to the above hospital, where minor thoracic surgery (T.B.) is undertaken. The duties are mainly in the hospital, but clinic work may be undertaken under the supervision of the Consultant. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Rd., Sheffield, 10, to arrive not later than March 17. (8666)

NEWCASTLE REGIONAL HOSPITAL BOARD
Newcastle T.B. Administrative Area
REGISTRAR CHEST PHYSICIAN (Whole-time)

Required for the above area which includes the Northern Counties Chest Hospital and an allocation of approximately 60 beds at the Newcastle General Hospital (900 beds). The appointment will be temporary in the first instance up to August 31, 1952. Salary £775 to £890. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (8691)

ROCHFORD GENERAL HOSPITAL
Rochford, Essex
RESIDENT MEDICAL REGISTRAR (Chest Unit)

Duties in active treatment chest unit of 72 beds at Rochford General Hospital; 24 beds at Westcliff Hospital, and attendance at the Lancaster House Chest Clinic for clinical duties and assistance with refills. The appointment is subject to review after one year. A local charge would be made for any meals or residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 15, 1952. (8733)

CHEPSTOW, MON., MEMORIAL WARDS MINISTRY OF PENSIONS HOSPITAL

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
in Tuberculosis
National salary scales and conditions. The resident medical staff consists of a Senior Hospital Medical Officer and this post, while the Consultant visits regularly. Apply, with the names of three referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8692)

GROVE PARK HOSPITAL, London, S.E.12
Lewisham Group Hospital Management Committee

Applications are invited for the resident post of
SENIOR HOUSE OFFICER
to the Thoracic Surgery Department (52 beds)
at the above hospital, which has 401 beds for the treatment of pulmonary tuberculosis. The appointment is vacant immediately and tenable for one year. Salary £670, less £150 for residential emoluments. Applications, stating age, qualifications and experience, with copies of three recent testimonials or names of referees, should be sent to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (8667)

HOSPITALS FOR DISEASES OF THE CHEST

Applications are invited for the following whole-time appointment from registered medical practitioners, male and female. The appointment is for six months commencing May 1, 1952.
ASSISTANT RESIDENT MEDICAL OFFICER
at Brompton Hospital, S.W.3
Experience in artificial pneumothorax essential, and in ear, nose and throat work desirable. Salary at Senior House Officer rate. Applications, stating age, qualifications (with dates), nationality and previous appointments held, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, March 8, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (8515)

Chest and Tuberculosis—contd.

BARROW AND FURNESS HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for a resident post of
SENIOR HOUSE OFFICER
for Chest Services in the Group, with main duties at the High Carley Sanatorium (153 beds and regional centre for major thoracic surgery) and also at Chest Clinics. National salary scale and conditions, with a deduction of £100 per annum for residential emoluments. Applications, stating age, qualifications, and experience, with two recent copy testimonials, to be forwarded to the Secretary of the Committee, 52, Paradise Street, Barrow-in-Furness. (8735)

GODALMING, SURREY, KING GEORGE V HOSPITAL FOR DISEASES OF THE CHEST (232 beds)
Godalming, Milford and Liphook Group Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Medical)
at the above hospital. The appointment is residential. Salary and deduction for board, lodging, etc., in accordance with the national scales (£670). All modern forms of treatment are carried out at the hospital, including major thoracic surgery, a proportion of the beds being set aside for non-tuberculous thoracic surgery. Applications, giving full details, together with the names of three referees, to be sent as soon as possible to the Physician Superintendent, King George V Hospital for Diseases of the Chest, Godalming, Surrey. (8354)

ILKLEY (near), THE HOSPITAL, Middleton-in-Wharfedale (510 beds)
Applications are invited for appointment as
SENIOR HOUSE OFFICER
at the above hospital for tuberculosis. Salary £670 per annum, in accordance with the terms and conditions for hospital medical and dental staffs (England and Wales). If resident, a deduction of £130 per annum will be made in respect of board, laundry and other services provided. Applications, stating age, qualifications and experience, together with names of two referees, to be addressed to the Secretary, at the Hospital, Middleton-in-Wharfedale, Ilkley, Yorkshire. (8498)

NOTTINGHAM CITY HOSPITAL (833 beds)
SENIOR HOUSE OFFICER
to the Department of Thoracic Surgery
Post vacant April 1, 1952. Salary £670 per annum, less £130 per annum for residential emoluments. The appointment will be for one year. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be submitted immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (8891)

HOSPITALS FOR DISEASES OF THE CHEST
Applications are invited for the following whole-time appointments from registered medical practitioners, male and female. The appointments are for six months, commencing May 1, 1952.
RESIDENT HOUSE PHYSICIANS
at Brompton Hospital, S.W.3
for which there are three vacancies. The duties include work in the out-patient department as well as in the wards. Salary £400 or £450 a year, according to experience. Applications, stating age, qualifications (with dates), nationality and previous appointments held, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, March 8, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (8516)

HOSPITALS FOR DISEASES OF THE CHEST
Applications are invited from registered medical practitioners, male and female, for appointment of
RESIDENT HOUSE PHYSICIAN
at Brompton Hospital Sanatorium, Frimley, Surrey
The appointment is whole-time, for six months, commencing May 1, 1952. Salary £400 or £450 a year, according to experience. Applications, stating age, qualifications (with dates), nationality and previous appointments held, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, March 8, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (8517)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (Thoracic Unit)
Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (8837)

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
Applications invited for the appointment of
HOUSE PHYSICIAN
to the Chest Unit at the above hospital, possibly with duties at two other chest hospitals in the Group. Vacant mid-March. Applications, stating age, qualifications, and experience, with a copy of two testimonials and the name of one referee, should be sent immediately to Group Secretary, St. Helier Hospital, Carshalton, Surrey. (8396)

EDINBURGH, 4, ROYAL VICTORIA HOSPITAL, Comely Bank
(90 beds for tuberculosis)
HOUSE OFFICER (Male or female)
Required on April 7, 1952. Previous hospital experience desirable but not essential, and appointment is for six months in first instance. N.H.S. salary and conditions of service. Applications, stating age and experience, with names of two referees, to the Secretary, Board's Office, City Hospital, Greenbank Drive, Edinburgh, 10. (8734)

LIVERPOOL, AINTREE HOSPITAL
(Late Fazakerley Sanatorium)
Liverpool, and District Fazakerley Group of Hospitals Management Committee
RESIDENT HOUSE MEDICAL OFFICER
Applications are invited for the above appointment from fully qualified registered medical practitioners. The hospital is for the treatment of pulmonary and non-pulmonary tuberculosis, and is a main centre for thoracic surgery and has an orthopaedic department. Salary will be in accordance with terms and conditions of service for hospital medical staff. Applications, endorsed "Resident House Medical Officer," to be submitted immediately to the Physician Superintendent, Aintree Hospital, Fazakerley, Liverpool, 9. (8835)

LIVERPOOL, AINTREE HOSPITAL
(Late Fazakerley Sanatorium)
Liverpool and District Fazakerley Group of Hospitals Management Committee
RESIDENT HOUSE OFFICER
(in the Thoracic Surgery Unit)
Applications are invited for the above appointment from fully qualified registered practitioners. The hospital is for the treatment of pulmonary and non-pulmonary tuberculosis, and is a main centre for thoracic surgery and has an orthopaedic department. Salary will be in accordance with terms and conditions of service for hospital medical staff. Applications, endorsed "Resident House Officer," to be submitted immediately to the Physician Superintendent, Aintree Hospital, Fazakerley, Liverpool, 9. (8836)

LONDONDERRY, ST. COLUMB'S HOSPITAL
Northern Ireland Tuberculosis Authority
Applications are invited for the post of
HOUSE OFFICER
at the above-mentioned hospital. Applicants must be registered medical practitioners who have had at least six months' general hospital experience. The appointment will be for six months at a salary of £450 per annum and may be renewed for a further period at a salary of £500 per annum. A deduction of £100 per annum will be made for board and lodging. Forms of application and conditions of appointment may be obtained from the Secretary, Northern Ireland Tuberculosis Authority, 27, Adelaide Street, Belfast, with whom completed applications should be lodged not later than March 15, 1952. (8719)

DENTAL

ROYAL MASONIC HOSPITAL
Ravenscourt Park, London, W.6
Applications are invited from registered dental surgeons for the appointment of
DENTAL SURGEON
at the above hospital as from July 1, 1952, or some convenient date within three months thereafter. The candidate appointed will be required to attend on two half-days per week. Applications, giving detailed information and the names and addresses of three referees, should reach the undersigned (from whom further information may be obtained) on or before March 31, 1952.—R. E. Lawson, Secretary and House Governor. (8455)

DERMATOLOGY

SCOTLAND, NORTH-EASTERN REGIONAL HOSPITAL BOARD
Applications are invited for the post of
SENIOR REGISTRAR IN DERMATOLOGY
Duties are mainly in hospitals under the Board of Management for the Aberdeen General Hospitals, but the officer appointed may be required to visit other hospitals in the Region. Candidates should have considerable experience in their specialty, and preferably hold an appropriate higher qualification. Applications, giving two names for reference, should be submitted by March 15, 1952, to the Secretary, 1, Albyn Place, Aberdeen, from whom further particulars may be obtained. (8426)

EAR, NOSE, AND THROAT, etc.

ST. MARY'S HOSPITAL, W.2
Applications are invited for the two posts of
PART-TIME CLINICAL ASSISTANTS
to the Ear, Nose and Throat Department
These appointments are graded (a) Senior Registrar, and (b) Registrar. The successful candidates will each be required to undertake two notional half-days at St. Mary's Hospital (Monday and Thursday mornings). Applications, stating nationality, date of birth, permanent address, qualifications, with dates and details of previous appointments, together with names and addresses of three referees, should reach the undersigned by March 21, 1952.—Alan Powditch, House Governor. (8787)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
NON-RESIDENT SENIOR REGISTRAR
in Oto-Laryngology
for duties mainly at the Royal Eye and Ear Hospital, Bradford (51 E.N.T. beds). Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 15, 1952. (8693)

OLDHAM AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Boundary Park General Hospital and Oldham Royal Infirmary
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
to the E.N.T. Departments at the above hospitals, becoming vacant on April 24. Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference number A/828, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (8720)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds) and SOUTHAMPTON GENERAL HOSPITAL (453 beds)
SENIOR HOUSE OFFICER (E.N.T.)
Applications are invited for this whole-time post, becoming vacant March 27. The post is recognized for the F.R.C.S. (Eng.) and D.L.O. examinations, providing experience in all branches of E.N.T. work, including audiometry. The Group includes a diagnostic and distributing hearing aid centre. Occasional work at other hospitals may be required. Applications, with copies of three recent testimonials, should be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8226)

BRADFORD ROYAL EYE AND EAR HOSPITAL
HOUSE SURGEON (E.N.T.)
Vacant April 1. Hospital recognized for D.L.O. and F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8456)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
HOUSE SURGEON
Required in the Ear, Nose and Throat Department at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. Recognized for D.L.O. National scales and conditions. Six-monthly appointment, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8468)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Ear, Nose and Throat)
Applications are invited from registered medical practitioners for the above post, which is now vacant. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience, £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8075)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)
Applications are invited for the post of
HOUSE SURGEON (E.N.T. Department)
Male or female. Vacant immediately. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

YORK, COUNTY HOSPITAL (General hospital of 269 beds, with full consultant staff)
CITY HOSPITAL, York (Modern general hospital of 265 beds, with full consultant staff)
E.N.T. HOUSE SURGEON
The E.N.T. Department (which is mainly at the County Hospital) has approximately 30 beds, is recognized for the D.L.O. and offers excellent opportunities for learning the specialty. Appointment for six months initially and is vacant immediately. Previous experience preferable but not essential. Residence available at the County Hospital. Salary £400 for second post, £450 for third post, less £100 for residence. Applications, giving age, nationality, experience and qualifications and names of two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (8838)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 17

GERIATRICS

ROCHFORD GENERAL HOSPITAL
Rochford, Essex
GERIATRIC REGISTRAR
(Resident or non-resident)

Accommodation available for single or married candidate. Unit consists of 118 beds, to which new out-patient clinic is to be added. Duties include liaison with adjoining Part III accommodation of 305 beds and participation in development of comprehensive geriatric service in the area. The appointment is subject to review after one year. A local charge would be made for any meals or residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 15, 1952. (8736)

YORK, GRANGE HOSPITAL (269 beds)

Applications invited for post of

JUNIOR HOSPITAL MEDICAL OFFICER IN GERIATRICS

Salary £700 by £50 to £1,000. Residence available, for which £153 is charged. Arrangements may be made for person appointed to be non-resident. Post vacant as from March 19, 1952. Applications, giving age, nationality, experience, qualifications, and two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (8737)

ST. MATTHEW'S HOSPITAL
Shepherdess Walk, London, N.1
(Chronic Sick, 320 beds)
Central Group Hospital Management Committee

Applications are invited from male or female registered medical practitioners for the appointment which commences immediately of

GERIATRIC HOUSE PHYSICIAN

Appointment is for six months only in the first instance. Salary at the rate of £350, £400 or £450 per annum, depending upon the number of posts held, less £100 per annum for full board and lodging. Applications, stating age, qualifications, experience, etc., together with copies of two testimonials or names of two referees, should be addressed to the Medical Superintendent without delay. (8429)

SUNDERLAND, GENERAL HOSPITAL
HOUSE PHYSICIAN
for Geriatric Department (264 beds)

Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (8785)

INFECTIOUS DISEASES

PRESTON INFECTIOUS DISEASES HOSPITAL
Preston and Chorley Hospital Management Committee
HOUSE OFFICER

Required at the end of March at the above hospital, pleasantly situated on bus route on Northern fringe of Preston. The post includes visiting duties at a nearby Chest Sanatorium (30 beds). Altogether there are 125 beds—61 fevers (mostly in cubicle wards) and 64 chest. The post offers excellent facilities for experience in these specialties. Residence in lodge, suitable for married couple. Applications, stating full particulars, with copy testimonials, to be forwarded as soon as possible, to the Secretary, Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Sec. (8457)

NEUROLOGY

BIRMINGHAM, UNITED, HOSPITALS
Queen Elizabeth Hospital

Applications are invited for the temporary non-resident appointment of

SENIOR REGISTRAR
in the Department of Neurology

for the period ending December 31, 1952. Previous neurological experience and possession of the M.R.C.P. are essential. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him at once. (8788)

NEUROSURGERY

BRISTOL, FRENCHAY HOSPITAL
(470 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER
in the Regional Neurosurgery Department

Vacant in March. This post offers useful surgical experience and the opportunity of gaining a working knowledge of neurological diagnosis. Two referees required. Applications to the Secretary, Frenchay Hospital, quoting "N:S.F." (8892)

OBSTETRICS AND GYNAECOLOGY

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time post of

CONSULTANT OBSTETRICIAN AND GYNAECOLOGIST (Assistant)

at Preston Royal Infirmary, Sharoe Green Hospital, Preston, and the Chorley Hospitals. The person appointed will also undertake consultant antenatal and post-natal clinics at Bamber Bridge, Kirkham and Chorley. Candidates must be of high professional standing and possess higher qualifications. The successful candidate will be required to live within reasonable distance of Preston or Chorley. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than March 12, 1952. (8893)

BETHNAL GREEN HOSPITAL
Cambridge Heath Road, London, E.2 (313 beds)
Central Group Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

TEMPORARY GYNAECOLOGICAL REGISTRAR to the Gynaecological and Obstetric Department

for a period of six months in the first instance. Salary £775 to £890 per annum, depending upon experience and service, less charge of £140 for full residence (if desired). Applications, giving details of age, nationality, qualifications and experience, together with copies of three testimonials, should reach the Group Secretary, 213, Kingsland Road, London, E.2, by March 15, 1952. (8499)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD
REGISTRAR IN OBSTETRICS AND GYNAECOLOGY (Non-resident)
Prince of Wales's General Hospital
South Tottenham, London, N.15

With duties also at both Hampton Court and Stoke Newington Units of Bearsted Memorial Hospital.

REGISTRAR IN OBSTETRICS AND GYNAECOLOGY (Resident)
Forest Gate Hospital, Forest Lane, London, E.7

Appointments are subject to review after one year. A local charge would be made for any meals or residential amenities provided. Separate applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, 11a, Portland Place, W.1, by Saturday, March 15, 1952. (8738)

ASHTON-UNDER-LYNE, LAKE HOSPITAL
(600 beds)
Ashton, Hyde and Glossop Hospital Management Committee
SENIOR HOUSE OFFICER (Obstetrics)

Required April 1, 1952. Maternity unit of 65 and Gynaecological ward of 30 beds. Post recognized for M.R.C.O.G. Preference will be given to holders of previous House Officer posts. N.H.S. terms and conditions of service. Applications, giving age, nationality, qualifications, and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (8643)

BARKING HOSPITAL (Maternity)
Ilford and Barking Group Hospital Management Committee

There will be a vacancy for a

RESIDENT SENIOR HOUSE OFFICER
(Male or female)

on March 19, 1952. Salary being £670 per annum, less emoluments valued at the rate of £150 per annum. Applicants should have been qualified not less than one year. Duties will include ante-natal work. Applications, accompanied by copies of testimonials, should be sent to the undersigned within seven days of the appearance of this advertisement.—G. Austin Hepworth, Secretary, King George Hospital, Ilford. (8668)

CROYDON, SURREY, MAYDAY HOSPITAL
(619 beds)
Croydon Group Hospital Management Committee
SENIOR GYNAECOLOGICAL AND OBSTETRICAL HOUSE OFFICER

For period of six months in first instance, commencing about April 1. Post, which is resident, is recognized for M.R.C.O.G. Forms of application obtainable from George A. Paines, Secretary, Hospital Management Committee, General Hospital, Croydon, to be returned by March 15. (8694)

PRESTON ROYAL INFIRMARY

The following post will become vacant on May 1, 1952:

SENIOR HOUSE OFFICER to the Gynaecological Department, 30 beds, with Consultant Out-patient Clinics
(Post recognized for M.R.C.O.G. examinations)

Applications, stating age, qualifications and previous posts, with copy testimonials, should be forwarded to the Secretary, H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8459)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee

Applications are invited for post, vacant now, of

RESIDENT SENIOR GYNAECOLOGICAL HOUSE SURGEON (Male or female)

for duties at the above hospital and Scarthoe Road, Infirmary, Grimsby. Apply to Administrative Officer, Grimsby General Hospital. (7020)

HALIFAX GENERAL HOSPITAL (425 beds)
SENIOR HOUSE OFFICER in Obstetrics and Gynaecology (Male or female)

Required at above hospital, which has 86 maternity and 30 gynaecological beds with 1,800 deliveries annually and is recognized for the M.R.C.O.G. Applications, together with copies of three recent testimonials, to be forwarded to the Secretary at the Royal Halifax Infirmary. (8458)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
RESIDENT HOUSE OFFICER
Obstetric and Gynaecological Department

Appointment for six months from April 1 (renewable). Approved for M.R.C.O.G. Applications to Medical Director by March 15. (8894)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1

Applications are invited from registered women practitioners for the post of

OBSTETRIC HOUSE SURGEON
(Recognized for the M.R.C.O.G.)

Duties to commence May 1, 1952. Appointment for six months. Salary in accordance with National Health Service scale for House Officers. Applications, with copies of three recent testimonials, to be sent to the Secretary by March 12. (8839)

HACKNEY HOSPITAL, E.9 (797 beds)

Applications are invited from registered medical practitioners for six months' appointment of

OBSTETRIC AND GYNAECOLOGICAL HOUSE SURGEON (Post recognized for M.R.C.O.G.)

Vacancy occurs on April 1, 1952. Preference will be given to applicants who have held resident surgical and medical posts in a General Hospital, and who have held an obstetric appointment. Applications should be submitted not later than March 12, 1952, to the Secretary, Hospital Management Committee, Hackney Hospital, E.9. (8460)

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60, Grove End Road, N.W.8

Applications are invited from registered medical practitioners (male) for the appointment of

HOUSE SURGEON
to the Midwifery and Gynaecology Departments

and to be responsible for the Casualty Department, to become vacant on Monday, March 31, 1952. Appointment will be for a period of six months. Salary is at the rate of £350 per annum. Applications should reach the Secretary on or before Tuesday, March 4, 1952, together with copies of three recent testimonials. (8096)

ASHTON-UNDER-LYNE, LAKE HOSPITAL
(600 beds)
Ashton, Hyde and Glossop Hospital Management Committee
OBSTETRIC HOUSE SURGEON

Required late March. Maternity Unit of 65 beds and Gynaecological Ward of 30 beds. Post recognized for D.R.C.O.G. N.H.S. terms and conditions of service. Applications, giving age, nationality, qualifications, and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (8644)

AYLESBURY, BUCKS, STOKE MANDEVILLE HOSPITAL
HOUSE SURGEON for Gynaecological Department
(First or second post)

Applications, with two testimonials, to the Administrative Officer. (8669)

BIRMINGHAM, 19, HEATHFIELD ROAD MATERNITY HOSPITAL
134, Heathfield Road, Handsworth
Birmingham (Dudley Road) Group of Hospitals
OBSTETRIC HOUSE SURGEON

Required for a period of six months on April 1, 1952. This is a third post, salary in accordance with the recognized scales. This hospital is a 50-bed maternity unit, with a 15-cot premature baby unit attached. There is a large antenatal department, and the appointment is recognized for the D.(Obst.)R.C.O.G. Applications, together with copies of three recent testimonials, should be forwarded to the undersigned within seven days.—J. Preston, Secretary, H.M.C., Dudley Road Hospital, Birmingham, 18. (8173)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (259 beds)
Canterbury Group Hospital Management Committee
GYNAECOLOGICAL HOUSE SURGEON

Required at Highland Court annexe, which is a new unit of 30 gynaecological beds situated three miles from the above hospital, with all ancillary services available. Six months' appointment. National Health Service conditions and salary. Applications to be addressed to the Chief Administrative Officer at the hospital. (8132)

Obstetrics and Gynaecology—contd.

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
OBSTETRIC HOUSE SURGEON
Applications are invited from registered medical practitioners for this post, now vacant, which is recognized for the D.R.C.O.G. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Surgeon Superintendent. (8521)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE SURGEON
to the Gynaecological Department
commencing May 18, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings. (8174)

DUNFERMLINE MATERNITY HOSPITAL
(52 beds)
TWO OBSTETRICAL HOUSE SURGEONS
(Resident)
Required at the above hospital. The hospital is recognized for the D.Obst.R.C.O.G. Applications, giving age, nationality, qualifications and experience, with copies of three testimonials, should be sent to the Medical Superintendent, Maternity Hospital, St. Leonards, Dunfermline, within fourteen days of the date of appearance of this advertisement. The successful applicants will be required to take up duty, the first on April 1, and the second on May 8, 1952. (8595)

HALIFAX ROYAL INFIRMARY
(301 beds—44 maternity)
OBSTETRICAL HOUSE SURGEON (Male)
Salary according to experience. The post is recognized for the D.R.C.O.G. and is now vacant. Applications, stating age, qualifications and experience, together with three recent testimonials, to be forwarded to the Secretary. (8500)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE SURGEON
to the Gynaecological and Abnormal Maternity Department
Required to commence duties on April 1, 1952. Salary in accordance with terms and conditions of service for hospital medical and dental staff, with full residential emoluments. Applications, together with copies of three recent testimonials, to be addressed to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (8082)

INVERNESS, ROYAL NORTHERN INFIRMARY
Inverness Hospitals Board of Management
HOUSE SURGEON to the Gynaecologists
Required from April 1, 1952. Applications, with references, to Medical Superintendent. (8818)

LIVERPOOL ROYAL INFIRMARY
United Liverpool Hospitals
Applications are invited for an appointment as **RESIDENT HOUSE SURGEON (Gynaecological)** for the period of six months from April 1 to September 30, 1952. The person appointed will be required to undertake some casualty work as part of normal duties. The appointment is in accordance with the agreed terms and conditions of service (House Officers). Applications, on forms from the undersigned, should be returned as soon as possible.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (8823)

PRESTON ROYAL INFIRMARY
The following post will become vacant on May 1, 1952:
HOUSE OFFICER to Obstetric Department
(50 beds) with antenatal and postnatal clinics
(Post recognized for D.R C O G. examinations)
Applications, stating age, qualifications and previous posts, with copy testimonials, should be forwarded to the Secretary, H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8461)

READING AREA DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
vacant April 1 for a period of six months. Salary £400 or £450 (less £100 board, residence, etc.). Applications, stating age, nationality, qualifications (with dates), present post, together with copies of recent testimonials, to Administrative Officer, Royal Berkshire Hospital. (8256)

OPHTHALMOLOGY

HILLINGDON HOSPITAL, Uxbridge, Middlesex
North-West Metropolitan Regional Hospital Board
PART-TIME OPHTHALMIC REGISTRAR
Required for five sessions per week. Appointment for one year in the first instance. This is a general hospital of 705 beds, including ophthalmic beds, adults, and children. Duties include work in the out-patient department, wards, and operating theatre. Application forms obtainable from and returnable to the Secretary, Uxbridge Group Hospital Management Committee, Kingston Lane, Uxbridge, Middlesex, by March 10, 1952. Candidates may visit the hospital by direct appointment with the Medical Director. (8670)

WOLVERHAMPTON GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
WHOLE-TIME SENIOR REGISTRAR IN OPHTHALMOLOGY
Duties at Wolverhampton Eye Infirmary (95 beds). Non-resident appointment. Experience in specialty essential. Possession of higher qualification an advantage. Appointment subject to N.H.S. (Superannuation Regulations. Ten copies of application, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 17. Candidates may visit the hospital. (8723)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952. Salary £670 a year, less £150 a year for residential emoluments. Applications should be forwarded as soon as possible to the Administrative Officer, Kent County Ophthalmic and Aural Hospital, Church Street, Maidstone. (5359)

NOTTINGHAM AND MIDLAND EYE INFIRMARY
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Ophthalmic)
Required to undertake work at the above infirmary. Salary and conditions of service in accordance with those published by the Ministry of Health. The post becomes vacant on April 1, 1952, and applications, stating age, qualifications, and experience, together with copies of testimonials, should be sent to the undersigned.—Henry M. Stanley, Secretary, General Hospital, Nottingham. (8671)

BRADFORD, ROYAL EYE AND EAR HOSPITAL
HOUSE SURGEON (Ophthalmic)
Vacant April 3. Hospital recognized for F.R.C.S. and D.O.M.S. examination. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Sec:, Bradford Royal Infirmary. (8840)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Ophthalmic)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8463)

ORTHOPAEDICS

MANCHESTER, UNITED, HOSPITALS
The Board of Governors invite applications for the post of
CONSULTANT ORTHOPAEDIC SURGEON
with charge of the Department of Orthopaedic Surgery at the Manchester Royal Infirmary (which also includes beds at Barnes Hospital, Cheadle, Cheshire). The successful applicant will be required to undertake a minimum of six sessions per week. Remuneration according to N.H.S. scale for Consultant rank. Twelve copies of application, together with the names of three referees, should be addressed to the undersigned not later than March 28, 1952.—F. J. Cable, Secretary to the Board of Governors, United Manchester Hospitals, Office of the Board, Manchester Royal Infirmary. (8764)

NEWCASTLE REGIONAL HOSPITAL BOARD
North-West Durham Hospital Management Committee Group
(Main hospitals: Shotley Bridge, 580 beds; Holmside and South Moor, 40 beds, etc.)
CONSULTANT ORTHOPAEDIC SURGEON
Whole-time or part-time for minimum of nine notional half-days. Salary scale £1,700 to £2,750 whole-time, pro rata part-time. The surgeon appointed will be required to reside within reasonable distance of Shotley Bridge Hospital. Canvassing will disqualify, but candidates are invited to see the hospitals by arrangement with the Secretary of the Group at Shotley Bridge Hospital, Co. Durham. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within 28 days. (8710)

BATH CLINICAL AREA
Board of Governors of the United Bristol Hospitals and the South-Western Regional Hospital Board
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
SENIOR REGISTRAR IN ORTHOPAEDIC AND TRAUMATIC SURGERY
Previous experience in orthopaedic and traumatic surgery is essential. The appointment will be held for one year in the first instance, but may be renewed thereafter on an annual basis. The successful applicant will be required to work for the first year mainly at the Bath and Wessex Orthopaedic Hospital and the Royal United Hospital, Bath, but will be required to visit other hospitals in the clinical area as determined by the Regional Board from time to time. Twelve copies of applications, stating date of birth, qualifications, and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than March 20, 1952. (8739)

ROMFORD, OLDCHURCH HOSPITAL
ORTHOPAEDIC REGISTRAR (Non-resident)
Post offers excellent training. The appointment is subject to review after one year. A local charge would be made for any meals or residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade, and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 15, 1952. (8740)

ALBERT DOCK FRACTURE AND ORTHOPAEDIC HOSPITAL, Alnwick Road, E.16
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE SURGEON
at £670 per annum, with authorized deductions. Applications, stating age, qualifications and experience, together with the names of three referees, should be sent immediately to the undersigned.—F. A. Lyon, Secretary, Dreadnought Seamen's Hospital, S.E.10. (8841)

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL
ORTHOPAEDIC, TRAUMATIC, AND CASUALTY SENIOR HOUSE OFFICER
Applications are invited for the above resident appointment. Hospital comprises 189 beds with large out-patient departments. Duties comprise service in the orthopaedic, traumatic, and casualty departments, and the post is recognized for F.R.C.S. Salary £670 per annum, less £100 per annum for emoluments. Applications, with two recent copy testimonials, to be forwarded to the Secretary, Barrow and Furness Hospital Management Committee, 52, Paradise Street, Barrow-in-Furness. (8741)

BLACKBURN ROYAL INFIRMARY (244 beds)
SENIOR HOUSE OFFICER
Required for Orthopaedic and Fracture Departments, which include the Casualty Department. Salary £670 per annum, less the appropriate deduction in respect of board residence if resident, but appointment may be non-resident if desired. The post is recognized for the F.R.C.S. examination. Applications, stating age, experience and qualifications, and accompanied by copies of two recent testimonials or names for reference, to be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (8655)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £670 per annum, less £130 per annum for residential emoluments.
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments.
Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8842)

BRISTOL (near), WINFORD ORTHOPAEDIC HOSPITAL (235 beds)
SENIOR HOUSE OFFICER
Applications are invited from registered medical practitioners to fill vacancy at end of April, 1952. Position tenable for twelve months. Salary £670 per annum. Apply, stating age, qualifications, and experience, with copies of testimonials, to the undersigned as soon as possible.—E. N. Roper, Secretary-Administrator. (8742)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
SENIOR ORTHOPAEDIC HOUSE SURGEON
Applications are invited for the above appointment, which is tenable for one year. Salary £670 per annum and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (5468)

Orthopaedics—contd.

CHERTSEY, SURREY, ST. PETER'S HOSPITAL (Late Botley Park War Hospital) (430 beds)
SENIOR HOUSE OFFICER
Orthopaedic Department
Previous orthopaedic experience not essential. Appointment very suitable for candidate reading for a higher qualification and is recognized by the Royal College of Surgeons for the F.R.C.S. Salary in accordance with terms and conditions of National Health Service. Applications, together with names and addresses of referees, to Physician Superintendent as soon as possible. (7993)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds, 5 residents)
Applications are invited for the vacancy of
RESIDENT SENIOR HOUSE SURGEON
to the Traumatic and Orthopaedic Department
vacant March 1, 1952. Duties include charge of Casualty Department, under Consultant staff, care of in-patient beds, and supervision of other residents. The hospital is a peripheral centre of the Oxford Regional Orthopaedic Service based on the Wingfield Morris Orthopaedic Hospital. Salary £670 per annum, with deduction for residence. Post recognized for F.R.C.S. Applications, with reference, to the Secretary, St. Mary's Cottage, High Wycombe, Bucks. (8672)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)
Applications are invited from registered medical practitioners for the posts of
RESIDENT SENIOR HOUSE SURGEONS
The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
TWO SENIOR HOUSE OFFICERS
Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out-patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible. (6671)

MARGATE, ROYAL SEA BATHING HOSPITAL (200 beds)
SENIOR HOUSE OFFICER
Applications for the above post are invited from registered medical practitioners. The post affords special opportunities for the study of surgical tuberculosis. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, and qualifications, together with copies of three recent testimonials, should be sent as soon as possible to the Medical Superintendent, Royal Sea Bathing Hospital, Margate. (7307)

NUNEATON, MANOR HOSPITAL (139 beds)
SENIOR HOUSE SURGEON
to Traumatic and Orthopaedic Department (40 beds)
The hospital treats all accident and orthopaedic cases for an area with a population of 100,000, and is well equipped with ancillary services. Applications to the Assistant Secretary. (8743)

PLYMOUTH, MOUNT GOLD ORTHOPAEDIC HOSPITAL
Applications are invited for the appointments of
TWO SENIOR HOUSE OFFICERS
at the above hospital (120 beds). The appointments are resident and the salaries and conditions of service are in accordance with the National Health Service terms. Some experience in orthopaedics is desirable. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, should be sent to the Secretary, Plymouth Special H.M.C., 8, Nelson Gardens, Stoke, Plymouth. (8895)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
SENIOR HOUSE OFFICER (Orthopaedic)/ CASUALTY OFFICER
Required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8744)

HIGHLANDS HOSPITAL
Winchmore Hill, London, N.21
HOUSE SURGEON
for Orthopaedic and Fracture Department
Six months' appointment, vacant March 23, 1952. Application forms obtainable from Secretary, Northern Group H.M.C., Royal Northern Hospital, London, N.7. (8745)

ST. ALFEGE'S HOSPITAL
Greenwich, S.E.10 (504 beds)
Applications are invited for the post of
HOUSE SURGEON
to the Orthopaedic and Special Departments
at the above hospital for a period of six months from an early date. Salary £350 to £450, according to experience, less £100 per annum for board and lodging. Applications, together with copies of not more than three recent testimonials, should reach Secretary, Greenwich and Deptford Hospital Management Committee, at the above hospital as soon as possible. (8789)

AMERSHAM GENERAL HOSPITAL, Bucks (124 acute beds)
Applications are invited for
RESIDENT HOUSE OFFICER
(Orthopaedic and Accident Department)
Duties include charge of Casualty Department under visiting Consultant staff and care of in-patient beds. Hospital is a peripheral centre of Oxford Regional Orthopaedic Service based on Wingfield Morris Orthopaedic Hospital. Applications, with copies of three recent testimonials, to Secy., Management Committee, Amersham General Hospital. (8673)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT HOUSE OFFICER (Male)
Required for wards taking traumatic and orthopaedic, vacant April 10. Six months' appointment. National Health Service salary and terms of service. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by March 15, 1952. (8843)

BEVERLEY, YORKS, WESTWOOD HOSPITAL
JUNIOR HOUSE PHYSICIAN
(First or second post)
With care of orthopaedic beds, required immediately. Salary in accordance with N.H.S. scale. Applications to the Secretary. (8327)

BRADFORD ROYAL INFIRMARY
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (8844)

BRIGHTON GENERAL HOSPITAL (721 beds)
Brighton and Lewes Hospital Management Committee
HOUSE SURGEON IN ORTHOPAEDICS
Applications are invited for the above appointment, which is tenable for a period of six months, vacant now. Salary according to national scales. Applications, stating age, qualifications, and experience, together with copies of recent testimonials, should be forwarded to the Physician-Superintendent, Brighton General Hospital, Elm Grove, Brighton. (8431)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
ORTHOPAEDIC HOUSE SURGEON
Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (5801)

DARTFORD, SOUTHERN HOSPITAL,
HOUSE SURGEON (Specialty Orthopaedics)
Required for April 1. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications, and experience, together with the names of two persons to whom reference may be made for testimonials, should be sent to the Medical Supt., The Southern Hospital, Dartford, Kent, immediately. (8374)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Vacant now. National scales and conditions. Six-monthly appointment, terminable at any time by one month's notice on either side. Forms of application from the Administrative Officer. (7138)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
Applications are invited for the following post:
HOUSE SURGEON
in the Fracture and Orthopaedic Department
Salary £350 to £450, less £100 for residence. Applications, with full particulars, to the Secretary, Hospital Management Committee. (8810)

NEWPORT, MON, ROYAL GWENT HOSPITAL (259 beds)
(Base Hospital for the Newport and East Monmouthshire Group—10 residents)
Applications are invited for the post of
HOUSE OFFICER (Orthopaedics)
vacant April 1. The post is recognized for the Fellowship of the Royal College of Surgeons. The fracture and orthopaedic department is a self-contained unit of 36 beds, and affords a good opportunity for gaining experience in this speciality. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (8695)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the post of
HOUSE SURGEON (Orthopaedic)
commencing April 1, 1952. Applications, stating age, experience, and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8328)

NORTHAMPTON GENERAL HOSPITAL (487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
FRACTURE AND ORTHOPAEDIC HOUSE SURGEON
vacant on April 1, 1952. Recognized for the F.R.C.S. N.H.S. salary scale and conditions of service for House Officers. Six months' appointment. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Superintendent. (8329)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE HOUSE SURGEON
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
ORTHOPAEDIC HOUSE SURGEON
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting Ref. No. A/825, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (8896)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8464)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant March 1. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Administrative Officer. (8817)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)
Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6675)

PAEDIATRICS

BIRMINGHAM (SELLY OAK) GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
WHOLE-TIME REGISTRAR IN PAEDIATRICS
Duties at Sorrento Maternity Hospital and Premature Baby Unit (112 beds), and other maternity and children's hospitals. Resident appointment at Sorrento Hospital. Experience in diseases of children essential. Preference to candidates holding higher qualification. Appointment, subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 17. Candidates may visit the hospitals concerned. (8724)

LIVERPOOL, ROYAL CHILDREN'S HOSPITAL
United Liverpool Hospitals
Applications are invited for a temporary appointment as
MEDICAL REGISTRAR
for the period to September 30, 1952. The post is assessed in the Registrar grade. Applications, on forms from the undersigned, should be returned by March 14, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (8824)

Paediatrics—contd.

BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
SENIOR HOUSE OFFICER (Paediatrics)
Applications are invited for the above post, with duties mainly at Blackburn Royal Infirmary, Queen's Park Hospital, Victoria Hospital, Accrington, and Park Lee I.D. Hospital, Blackburn. Applications, stating age, experience and qualifications, together with names of two referees, should be forwarded to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (8653)

BRADFORD CHILDREN'S HOSPITAL
(102 beds)
HOUSE OFFICER (Female)
Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Hospital recognized for D.C.H. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8845)

CARSHALTON, SURREY, QUEEN MARY'S HOSPITAL FOR CHILDREN
Applications are invited for the post of
HOUSE SURGEON
(First, second or third post)
for general surgical duties and for duties in the E.N.T. department. Salary first post £350 per annum, second post £400, third post £450, less £100 per annum for residential emoluments. Applications, stating age, qualifications and experience, together with copies of three testimonials, should be sent to the Secretary by March 15, 1952. Appointment subject to medical exam. (8846)

DERBYSHIRE HOSPITAL FOR SICK CHILDREN, Derby (84 beds)
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered, medical practitioners for the post of
HOUSE PHYSICIAN
vacant April, 1952. Post recognized for D.C.H. Applications, stating age, qualifications, and experience, with copies of two testimonials, should be forwarded immediately to the Secretary, No. 1 Hospital Management Committee, Babington Lane, Derby. (8398)

EDGWARE GENERAL (formerly Redhill County) HOSPITAL, Edgware, Middlesex
RESIDENT PAEDIATRIC HOUSE PHYSICIAN
Post vacant April 17, 1952. Salary £400 to £450 per annum, according to experience. Deduction of £100 per annum for board, lodging, etc. Six months' appointment. Post recognized for D.C.H. Applications, stating age, qualifications, experience, and enclosing copies of up to three recent testimonials, to Medical Director of hospital by March 15, 1952. (8746)

GUILDFORD, ST. LUKE'S HOSPITAL
Guildford Group Hospital Management Committee
Applications are invited for the post of
PAEDIATRIC HOUSE OFFICER (Resident)
for a period of six months commencing April 2, 1952. The post is recognized for the D.C.H. Applications, with copies of three testimonials, should be forwarded to the Physician Superintendent as soon as possible. (8641)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
Applications are invited for the post of
HOUSE SURGEON
with duties in the Paediatric Department. Salary £350 to £450, according to previous posts held, with deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications, and experience, together with names of two referees, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible.—A. Ashworth, Secretary to the Committee. (4813)

MIDDLESBROUGH GENERAL HOSPITAL
Tees-side Hospital Management Committee
PAEDIATRIC HOUSE PHYSICIAN
Applications are invited for the above post, vacant April 1, 1952. This is an active unit of 60 beds and cots for acute cases, with a busy out-patients' department. Applications, stating age, qualifications, and accompanied by copies of three testimonials, to be sent to the Secretary Superintendent, Middlesbrough General Hospital, Ayresome Green Lane, Middlesbrough. (7738)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
PAEDIATRICS HOUSE OFFICER
vacant on April 1, 1952. Post recognized for the D.C.H. The person appointed will be required to reside, in conjunction with another paediatric House Officer, alternately for three months at the Northampton General and at the Harborough Road Hospitals, Northampton, and whilst at the latter hospital, to be responsible to the consultants for the supervision of all the beds, allocated as follows: sub-acute paediatric 16, dermatological 6, general medical 22, infectious diseases 41 (mostly children but including polio). National Health Service salary scale and conditions of service for House Officers. Six months' appointment. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible addressed to S. G. Hill, Secretary to the Management Committee. (8331)

PONTYPRIDD (near), EAST GLAMORGAN HOSPITAL, Church Village
(316 beds—Committee's Base Hospital serving population of 177,000 and recognized for D.C.H.)
Applications are invited for the post of
HOUSE OFFICER (Paediatrics)
(First or second post)
which becomes vacant in March. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary, Pontypridd and Rhondda Hospital Management Committee, Courthouse Street, Pontypridd. (8432)

SHEFFIELD, UNITED, HOSPITALS
The Children's Hospital
Applications are invited from registered practitioners for the post of
HOUSE PHYSICIAN
to the Professorial Unit, to commence April 16. Salary in accordance with National Health Service scale. Applications within ten days of the first appearance of this advertisement, to the Superintendent, The Children's Hospital, Western Bank, Sheffield, 10. (8552)

SOUTHAMPTON CHILDREN'S HOSPITAL
(Recognized by Conjoint Board for D.C.H.)
HOUSE OFFICER
Post vacant April 4, 1952. Salary, etc., as nationally advocated. Preference given to candidates intending to specialize in paediatrics. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group H.M.C., Bullar Street, Southampton. (8503)

PATHOLOGY

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time, non-resident post of
CONSULTANT GROUP PATHOLOGIST
to the Macclesfield and District Hospitals and Parkside Mental Hospital, near Macclesfield. Candidates must be of high professional standing with good training and experience in all branches of hospital pathology. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than March 17, 1952. (8598)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified practitioners for the whole-time, non-resident post of
ASSISTANT PATHOLOGIST (S.H.M.O. scale)
for duties at hospitals in the Halifax Group. The successful candidate will work under the general guidance of the Consultant in charge of the department and will be required to reside in Halifax or within such distance of that town as the Board may approve. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than March 29, 1952. (8696)

LIVERPOOL REGIONAL HOSPITAL BOARD
Applications are invited for two posts of
WHOLE-TIME ASSISTANT PATHOLOGISTS
with duties at (a) Broadgreen Hospital (603 beds), (b) Fazakerley Group of hospitals, which includes Aintree Hospital (Sanatorium of 505 beds) and Fazakerley Hospital (352 beds). The appointments are vacant from October 1, 1952, and the salary is within the scale £1,300 (at age 32) by £50 to £1,750. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 15, 1952.—Vincent Collinge, Secretary to the Board. (8847)

COLCHESTER, ESSEX COUNTY HOSPITAL
Applications invited for post of
SENIOR REGISTRAR (Temporary)
in Area Laboratory. Good training in general medicine and pathology desirable. Salary in accordance with N.H.S. scale. Applications, with names of three referees, to Group Secretary, Hospital Management Committee, 14, Pope's Lane, Colchester. (8747)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL
South-West Metropolitan Regional Hospital Board
Applications are invited for the post of
REGISTRAR in Pathology
The duties may entail visits to other hospitals in the Group. Candidates may, if they so desire, visit the hospital by arrangement with the Director of Pathology. Forms of application, which should be returned by March 15, will be forwarded by the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton, on receipt of a stamped addressed envelope. (8897)

LIVERPOOL, ROYAL SOUTHERN HOSPITAL
United Liverpool Hospitals
Applications are invited for a temporary appointment as
PATHOLOGICAL REGISTRAR
for the period to September 30, 1952. The post is assessed in the Registrar grade. Applications, on forms from the undersigned, should be returned by March 14, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (8825)

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:
REGISTRAR in Pathology
based at Glasgow Royal Infirmary
Applications (twelve copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than March 18, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (8813)

ST. MARY'S HOSPITAL, W.2
Applications are invited for the post of
RESIDENT CLINICAL PATHOLOGIST
(Whole-time)
at St. Mary's Hospital, W.2. The grading for this post is Senior House Officer. Applicants should have held two house appointments at this hospital or another general hospital approved by the Board of Governors, and preference will be given to those intending to specialize in pathology. Applications, stating nationality, date of birth, permanent address, qualifications, with dates, and details of previous and present appointments, together with the names and addresses of three referees, should reach the undersigned by March 21, 1952.—Alan Powditch, House Governor. (8773)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
TWO SENIOR HOUSE OFFICERS
for Pathological Laboratory
Previous clinical experience essential, but pathological experience not essential. National Health Service salary and terms of service. Posts vacant April 1, 1952. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by March 8, 1952. (8555)

READING AREA HOSPITALS
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Pathology)
vacant near future. Deduction if resident £100. Previous experience in pathology desirable but not essential. Apply, stating age, qualifications (with dates), nationality, present post, together with copies of recent testimonials, to Chief Administrative Officer, 3, Craven Road, Reading, Berks. (8098)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
SENIOR HOUSE OFFICER (Pathologist)
Salary £670 per annum. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (6653)

PLASTIC SURGERY

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL
Applications are invited for the appointment of
SENIOR REGISTRAR IN PLASTIC SURGERY
(Part-time, one session a week)
Duties to commence on April 15. Applications, with names of three referees, to be addressed to the House Governor, 234, Great Portland Street, London, W.1, by March 15, 1952. (8765)

SCOTLAND, SOUTH-EASTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for appointment as a
SENIOR REGISTRAR
in the Plastic Surgery Unit in the South-Eastern Region of Scotland, based on Bangour Hospital. Experience in burns is desirable. The post is available on July 1, 1952. The appointment is for a period of two years in the first instance. The post is superannuable, and the conditions of service are in accordance with the regulations. Applications (ten copies), giving particulars of age, previous experience, and qualifications, together with the names of two referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, within thirty days. (8748)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 17

PSYCHIATRY

CROWTHORNE, BERKSHIRE, BROADMOOR INSTITUTION (900 beds)
Board of Control

Applications are invited for the post of
WHOLE-TIME MEDICAL SUPERINTENDENT (Consultant)

The Institution accommodates persons of unsound mind of criminal tendencies. Applicants must be registered medical practitioners, having a wide experience in psychiatry and possessing the Diploma in Psychological Medicine. The post is a clinical one, but experience in hospital administration is also necessary. The duties may involve attendance at out-patient clinics. The appointment will be in accordance with the terms and conditions of service of hospital medical and dental staffs (England and Wales) dated June 7, 1949, as amended, and will be subject to the National Health Service (Superannuation) Regulations, 1950. A house on the Institution estate will be provided at an appropriate rental. Applications, stating name, date and place of birth, nationality, details of education, professional qualifications, war service (if any), and present and previous appointments, with names and addresses of three referees, should reach the Secretary, Board of Control, 32, Rutland Gate, Knightsbridge, London, S.W.7, not later than March 21, 1952. Envelopes, enclosing applications, should be clearly marked A/MS. Candidates may visit the Institution by direct appointment with the Medical Superintendent. (8898)

MIDDLESEX HOSPITAL, W.1

Applications are invited for the post of
Full-time MEDICAL OFFICER (Senior grade) to Psychiatric Department

tenable at St. Luke's-Woodside Hospital, N.10. Candidates must hold higher qualification. Salary scale £1,300 to £1,750. Unfurnished house available. Further particulars from Deputy Superintendent, to whom applications should be sent, naming three referees, by March 15. (8790)

BASINGSTOKE, HANTS, PARK PREWETT HOSPITAL (1,400 beds)
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of a whole-time
ASSISTANT PSYCHIATRIST

to work under Consultant Psychiatrists. Salary scale £1,300 by £50 to £1,750 per annum. Candidates should possess the D.P.M. and have considerable experience in psychiatry. Residential accommodation, for which an appropriate charge would be made, is available for a single man. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than March 22, 1952. Applicants may visit the hospital by local arrangement. (8674)

EAST ANGLIAN REGIONAL HOSPITAL BOARD
ASSISTANT PSYCHIATRIST
Little Plumstead Mental Deficiency Colony (near Norwich) and Child Guidance Clinics in Norfolk

The Colony (800 beds) is being expanded and is the centre for much out-patient work, including child guidance clinics. Child psychiatry experience more important than mental deficiency experience. Small house available. Salary on scale £1,300 to £1,750. Eight copies of application, stating date of birth, qualifications and details of present and previous appointments, with names of three referees, to Secretary of Board, 117, Chesterton Road, Cambridge, by March 10, 1952. Candidates invited to visit Colony by arrangement with Medical Superintendent. (8654)

EXETER CLINICAL AREA
South-Western Regional Hospital Board

Applications are invited from registered medical practitioners for the appointment of a
WHOLE-TIME MEDICAL OFFICER
on the Senior Hospital Medical Officer scale at the Royal Western Counties Institution, Starcross, Devon

The Institution, with ancillary units in Devon and Cornwall, contains approximately 1,900 beds. Applicants should have had previous experience in mental deficiency work, and possession of a Diploma in Psychological Medicine or equivalent degree would be considered an advantage. The successful applicant will be required to work under the general direction of the Medical Superintendent. Accommodation, suitable for a married man, is available at Starcross. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than March 20, 1952. (8781)

LIVERPOOL, WALTON HOSPITAL
Liverpool Regional Hospital Board

Applications are invited for the post of
WHOLE-TIME ASSISTANT PSYCHIATRIST (Non-resident)

with duties at the above general hospital. Applicants should possess the D.P.M. or an equivalent qualification and have reasonable experience in psychiatry, including practical knowledge of out-patient work. This appointment is vacant from October 1, 1952. Salary £1,300 (at age 32) by £50 to £1,750. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 15, 1952.—Vincent Collinge, Secretary to the Board. (8848)

MANCHESTER, SPRINGFIELD (MENTAL) HOSPITAL (700 beds)
Manchester Regional Hospital Board

Applications are invited for whole-time post of
DEPUTY MEDICAL SUPERINTENDENT

Residential accommodation is not at present available. Candidates should have had wide experience in psychiatry, and possess the D.P.M. Salary £1,300 (at age 32) by £50 to £1,750. Forms of application can be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned to be received not later than March 15, 1952. (8766)

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified medical practitioners for the following appointment:
WHOLE-TIME ASSISTANT PSYCHIATRIST at the Royal Scottish National Institution, Larbert

Salary on the scale £1,300 by £50 to £1,700. Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted, not later than thirty days after the publication of this advertisement, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (8814)

ST. THOMAS HOSPITAL, London, S.E.1
SENIOR REGISTRAR

Required for the department of psychological medicine, which now has an in-patient unit and out-patient diagnostic and treatment clinics. One year in first instance. Applications, including names and addresses of three referees, to the Clerk of the Governors by March 10, 1952. (8849)

LEICESTER (near), CARLTON HAYES HOSPITAL, Narborough
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the whole-time post of
REGISTRAR (Psychiatry)

to the above hospital, which is a recognized training hospital for the D.P.M. A house is available. The appointment is for one year in the first instance, and may be renewed for a further year, and will become vacant on April 21, 1952. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 10, 1952. (8375)

SHEFFIELD, MIDDLEWOOD HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the whole-time post of
REGISTRAR (Psychiatry)

to the above hospital, which is a recognized training hospital for the D.P.M. Residential accommodation is available. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 10, 1952. (8376)

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for an appointment as
WHOLE-TIME REGISTRAR in Psychiatry
to the St. Francis and Lady Chichester Group of hospitals. Previous experience in general medicine is desirable. The appointment will be for one year in first instance and in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales). The post will provide opportunities for gaining further experience in a wide range of psychiatry, including regular attendances at the observation ward at Brighton General Hospital. Applications, giving particulars of age, qualifications and experience, with relevant dates, together with the names and addresses of three referees, should be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1, not later than March 14. (8656)

BIRMINGHAM, RUBERY HILL HOSPITAL (950 beds)
Birmingham No. 6 Group (Mental B) Hospital Management Committee

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER (Male or female) (Resident or non-resident)

Out patient clinic held at Selly Oak Hospital, Birmingham. Valuable experience provided in the diagnosis and treatment of all forms of neurosis and psychosis. Previous postgraduate psychiatric experience not essential. Appointment in accordance with the National Health Service terms and conditions of service. Applications, stating full name, age, nationality, qualifications and experience, and providing the names of three referees, to be sent within fourteen days of this advertisement to the Secretary, Offices of the Group H.M.C., Rubery Hill Hospital, Birmingham. (8657)

BLACKBURN (near), CALDERSTONES HOSPITAL (for Mental Defectives), Whalley
Calderstones Hospital Management Committee

Applications are invited for the appointment of
JUNIOR HOSPITAL MEDICAL OFFICER

Salary scale £700 by £50 to £1,000 per annum, and other conditions of service in accordance with the terms and conditions of service for hospital medical and dental staff under the National Health Service. The appointment is subject to the provisions of the National Health Service (Superannuation) Regulations, 1947-49. An unfurnished flat is available for a married man at a weekly rental to be fixed by the Committee, and residential quarters are available for a single man at a charge to be fixed by the Committee. Applications, stating age, qualifications and experience, together with the names of three referees, to be submitted to the Medical Superintendent, Calderstones Hospital, Whalley, near Blackburn, as soon as possible. (8791)

BURY, FAIRFIELD GENERAL HOSPITAL (Comprising 175 Mental, 203 Chronic and 133 Obstetric and Gynaecological beds)
Bury and Rossendale Hospital Management Committee

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER

at the above hospital. This post is mainly for the mental and chronic sick beds, and the successful applicant will be required to work in the main under the direction of the Consultant Psychiatrist. Salary will be at the rate of £700 per annum, rising by annual increments to £1,000 per annum. Conditions of service in accordance with national recommendations. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (8434)

DORCHESTER, DORSET, HERRISON MENTAL HOSPITAL

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER

Salary range £700 to £1,000 per annum, according to experience. Accommodation is available for a single man, for which a charge will be made. All forms of modern treatment including leucotomy and insulin. Out-patient clinics are held in three general hospitals. Attractive country with Bournemouth and Weymouth in the hospital area. Applications, with names of two referees, to the Medical Superintendent before March 22. (8697)

MENSTON HOSPITAL, Menston, near Leeds
Menston (Mental) Hospital

Applications are invited from registered medical practitioners for whole-time appointments as follows:
JUNIOR HOSPITAL MEDICAL OFFICERS
SENIOR HOUSE OFFICERS

Facilities will be available for training in all branches of psychiatry in conjunction with the University of Leeds Department of Psychiatry. Salaries in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales). Residential accommodation is available for single applicants. Applications, stating age, marital state, qualifications, full details of experience, together with the names and addresses of two persons to whom reference may be made, and indicating which post is applied for, to be sent to the Medical Superintendent, Menston Hospital, near Leeds, as soon as possible.—C. C. Morgan, Secretary, Menston H.M.C. (8792)

PERTH, SCOTLAND, MURRAY ROYAL HOSPITAL
JUNIOR HOSPITAL MEDICAL OFFICER

Salary in accordance with recognized scale. Applications, stating age, sex, nationality, qualifications, experience, and present appointment, together with names of three referees, should be forwarded immediately to D. W. Strudley, Secretary and Treasurer, Board of Management, Perthshire Mental Hospitals. (8749)

WATFORD (near), HERTS, LEAVESDEN HOSPITAL, Abbots Langley

Applications are invited for the post of
ASSISTANT MEDICAL OFFICER (Junior H.M.O. grade)

Salary £700 to £1,000, less charge for accommodation if resident. Married quarters available. General hospital and mental deficiency experience necessary. The hospital, of 2,176 beds, has modern X-ray and pathological departments and is visited regularly by consultants in surgery, gynaecology, ophthalmology, etc. Applications, stating age, experience and qualifications, together with the names of two referees, should be sent to the Physician Superintendent within ten days of the appearance of this advertisement. (8851)

BEVERLEY, YORKS, BROADGATE HOSPITAL (600 Mental beds)

RESIDENT SENIOR HOUSE PHYSICIAN

Salary £670 per annum.

RESIDENT HOUSE PHYSICIAN

Salary £350 to £450, according to previous posts held.

Applications to the Secretary, Westwood Hospital, Beverley, Yorks. (8333)

Psychiatry—contd.

HAILSHAM, SUSSEX, HELLINGLY MENTAL HOSPITAL
Hailsham Hospitals Management Committee
SENIOR HOUSE OFFICER
Single residential accommodation available. Salary £670 per annum. Applications, stating age, qualifications, and appointments held, to the Medical Superintendent, Hellingly Hospital, Hailsham, Sussex. (8851)

LIVERPOOL (near), RAINHILL HOSPITAL
Rainhill
Rainhill Mental Hospital Management Committee
SENIOR HOUSE OFFICER
Applications are invited from registered medical practitioners, male or female, for the above post. This mental hospital of 2,800 beds provides excellent opportunities for postgraduate experience in all branches of psychiatry. All forms of modern treatment are given. Salary £670 per annum, less £150 for residential emoluments. Applications, with copies of testimonials, or names of two referees, to be sent to the Medical Superintendent as soon as possible. (8435)

MAIDSTONE, OAKWOOD HOSPITAL
SENIOR HOUSE OFFICER
Required immediately for the above Mental Hospital of 2,200 beds. Full residential accommodation is available for single officers. Applications, in writing, giving details of experience and the names of two persons to whom reference can be made, to be sent to the Medical Supt. (8721)

WINTERTON HOSPITAL MANAGEMENT COMMITTEE
THREE SENIOR HOUSE OFFICERS
Required at the above Mental Hospital. Applications, in writing, should state full name, age and qualifications, to be addressed to the Medical Superintendent, Winterton Hospital, Sedgefield, Stockton-on-Tees, within fourteen days of the appearance of this advertisement.—C. W. Gill, Secretary to the Hospital Management Committee. (8600)

RADIOLOGY

LIVERPOOL, WALTON HOSPITAL
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME ASSISTANT RADIOLOGIST
with duties mainly at the above hospital and with some duties at other nearby hospitals and the Static Mass Radiography Unit. Applicants should possess a Diploma in Radiology and have wide experience in Radiology. This appointment is vacant from October 1, 1952. Salary £1,300 (at age 32) by £50 to £1,750. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 15, 1952.—Vincent Collinge, Sec. to the Board. (8852)

NOTTINGHAM GENERAL HOSPITAL (441 beds)
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners possessing the D.M.R.(D.) for the post of
WHOLE-TIME ASSISTANT RADIOLOGIST
The successful candidate will work under the direction of the Consultant in charge of the department, and will be required to undertake occasional sessions at other hospitals in the Nottingham area. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than March 22, 1952. (8389)

ST. MARY'S HOSPITAL, W.2
Applications are invited for the post of
WHOLE-TIME REGISTRAR
to the Diagnostic Radiological Department of St. Mary's Hospital. Candidates must hold a Diploma in Radiology. The grading of this post is Registrar, and the appointment will be for a first period of twelve months. Applications, stating nationality, date of birth, permanent address, qualifications, with dates, and details of past and present appointments, together with the names and addresses of three referees, should reach the undersigned by March 21.—Alan Powditch, House Governor. (8750)

BRISTOL, UNITED HOSPITALS
(Joint appointment with the South-Western Regional Hospital Board)
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
REGISTRAR in Radiology (Diagnostic)
The appointment will be subject to the terms and conditions of service of hospital medical and dental staff negotiated between the Minister and the profession. The successful applicant will be appointed to work in the first instance for one year in the United Bristol Hospitals, the teaching hospital for Bristol University. Applications, stating age, qualifications, experience and giving the names of two referees, should be sent not later than March 10, 1952, to Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (8467)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the post of
SENIOR REGISTRAR (in Diagnostic Radiology) to the Withington, Wythenshawe and Baguley Hospitals, Manchester
D.M.R.D. essential. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names of three referees, to be received by March 10, 1952. (8437)

RADIOTHERAPY

ST. THOMAS' HOSPITAL, London, S.E.1
ASSISTANT RADIOTHERAPIST
on scale £1,300 by £50 to £1,750. Temporary post. Applications, twelve copies, including names and addresses of three referees, to the Clerk of the Governors by March 15, 1952. (8774)

ROYAL CANCER HOSPITAL
Fulham Road, London, S.W.3
Applications are invited for the post of
FULL-TIME SENIOR REGISTRAR
in the Radiotherapy Department
to commence duty as soon as possible. Candidates must hold a Diploma in Medical Radiology. Forms of application are obtainable from the House Governor, to whom applications, together with copies of three recent testimonials, should be sent not later than March 26. (8468)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
South-West Metropolitan Regional Hospital Board
Southampton Group Hospital Management Committee
Applications are invited for the post of
WHOLE-TIME REGISTRAR
in the Radiotherapy Department
This department is a fully equipped self-contained unit, having its own beds and serving a wide area. Candidates are invited to visit the hospital if they so desire. Forms of application, which should be returned to the undersigned not later than March 15, will be forwarded on receipt of a stamped addressed envelope.—Frank Jennings, Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8853)

RHEUMATOLOGY

BATH, ROYAL NATIONAL HOSPITAL FOR RHEUMATIC DISEASES
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER in Rheumatology
Salary, terms and conditions of service in accordance with those published by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to the undersigned as soon as possible. The hospital is recognized for Part II of the Diploma of Physical Medicine.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (8699)

BATH, ROYAL NATIONAL HOSPITAL FOR RHEUMATIC DISEASES
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Salary, terms and conditions of service in accordance with those published by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to the undersigned as soon as possible. The hospital is recognized for Part II of the Diploma of Physical Medicine.—J. Lawrence Mears, Sec., Manor Hospital, Combe Park, Bath. (8698)

UROLOGY

EDINBURGH NORTHERN HOSPITALS, BOARD OF MANAGEMENT
Western General Hospital, Crewe Road, Edinburgh, 4
RESIDENT HOUSE OFFICER (Urological Unit)
(Second or subsequent post)
Appointment for six months commencing April 1, 1952. Salary £400 or £450 per annum, according to previous posts held, less £100 for residential emoluments. Applications as soon as possible to Medical Superintendent. (8854)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Urological)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8470)

VENEREOLOGY

SOUTH-WESTERN REGIONAL HOSPITAL BOARD
Cossham-Frenchay Hospital Management Committee
ASSISTANT VENEREOLOGISTS
Applications are invited from registered medical practitioners for the whole-time appointments of Assistant Venereologists (one Senior Hospital Medical Officer and one Junior Hospital Medical Officer) in the Bristol, North Gloucestershire, Bath and South Somerset Clinical Areas. The successful candidates will be required to live in or near Bristol.

SENIOR HOSPITAL MEDICAL OFFICER
The successful applicant will have charge of beds at Frenchay Hospital, Bristol, under the general supervision of the Consultant in Venereology, and will be required to visit other clinics and hospitals in the above-mentioned clinical areas as determined by the Regional Board from time to time.

JUNIOR HOSPITAL MEDICAL OFFICER
The successful applicant will be attached to Frenchay Hospital, Bristol, and will be required to undertake duties in the various Bristol area clinics.

Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent, not later than March 20, 1952, to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, from whom further details may be obtained. (8780)

MEDICINE

LIVERPOOL, WALTON HOSPITAL (1,301 beds)
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME CONSULTANT PHYSICIAN SUPERINTENDENT
to the above hospital. The post is mainly clinical with a small proportion of time devoted to medical administration. The salary will be at the consultant level, in accordance with the terms and conditions of service of hospital medical and dental staff. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 15, 1952.—Vincent Collinge, Secretary to the Board. (8899)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for the appointment of a temporary
WHOLE-TIME REGISTRAR (Medical)
at the above hospital, which includes duties in connection with an active T.B. Unit. Salary at the rate of £775 to £890 per annum, less £130 per annum for residential emoluments. Appointment for a period up to one year. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent to the Administrative Officer. (8751)

BRISTOL, UNITED, HOSPITALS
(Joint appointment with the South-Western Regional Hospital Board
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
MEDICAL REGISTRAR
The appointment will be subject to the terms and conditions of service of hospital medical and dental staff negotiated between the Minister and the profession. The successful applicant will be appointed to work in the first instance for one year in the professorial unit in the Bristol Royal Hospital. Normally the holder of this post is appointed Tutor in the Department of Medicine in the University of Bristol. Applications, stating age, qualifications, experience and giving the names of two referees, should be sent not later than March 10, 1952, to Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (8471)

COVENTRY GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
REGISTRAR IN GENERAL MEDICINE
Duties mainly at Gulson Hospital, Coventry (106 medical beds), and O.P. Department, Coventry and Warwickshire Hospital. It is desirable that the successful candidate be resident. Post provides scope for wide experience, and candidates should possess higher medical qualification. Appointment subject to N.H.S. (Superannuation) Regulations. Ten copies of application, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 17. Candidates may visit the hospitals concerned. (8725)

CROYDON, MAYDAY HOSPITAL (619 beds)
South-West Metropolitan Regional Hospital Board
Croydon Group Hospital Management Committee
Applications are invited for the appointment of
MEDICAL REGISTRAR
Candidates should be experienced medical officers and possession of higher qualification in medicine an advantage. Application forms obtainable from George A. Paines, Secretary, Hospital Management Committee, General Hospital, Croydon, to be returned not later than March 15. (8700)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 17

Medicine—contd.

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
REGISTRAR to a General Medical Unit combining Neurology and General Medicine

Now vacant. Whole-time, non-resident post, tenable for twelve months, renewable. Applicants must possess a higher qualification and preference will be given to those interested and desirous of training in neurology. Applications, to be made on forms obtainable from the undersigned, and to be returned not later than March 19, 1952.—F. J. Cable, Sec. to the Board of Governors. (8855)

MANCHESTER, UNITED, HOSPITALS
Manchester Royal Infirmary, Manchester, 13
REGISTRAR to a General Medical Unit

Required to commence as soon as possible. Whole-time appointment, for twelve months, renewable. Applicants must possess higher qualifications. Applications to be made on forms obtainable from the undersigned and to be returned not later than March 12, 1952.—F. J. Cable, Secretary to the Board of Governors. (8557)

WORKSOP, KILTON HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the resident whole-time post of

MEDICAL REGISTRAR

to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 17, 1952. (8701)

LLANELLY HOSPITAL (164 beds)
Glantawe Hospital Management Committee

Applications are invited from medical practitioners for the resident appointment of

JUNIOR HOSPITAL MEDICAL OFFICER

at the above hospital, for work in the medical and anaesthetic units. Applications, stating age, qualifications and experience, with the names of three referees, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helens Road, Swansea. (8856)

ST. LEONARD'S HOSPITAL
Nuttall Street, London, N.1 (General—176 beds)
Central Group Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

SENIOR (MEDICAL) HOUSE OFFICER

which falls vacant on March 8, and is tenable for one year. Salary £670 per annum, less £130 for full board and lodging. Applications, stating age, qualifications, experience, etc., together with copies of three testimonials, should be addressed to the Assistant Secretary without delay. (8439)

BEVERLEY, E. YORKS, WESTWOOD HOSPITAL
SENIOR HOUSE PHYSICIAN

Post vacant end of March. Salary £670. Charge of £140 for board and lodging. Applications to the Secretary. (8362)

BOLTON, ROYAL INFIRMARY (237 beds)
Bolton and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER in Medicine

Post tenable for twelve months. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (8702)

BRISTOL, UNITED, HOSPITALS

Applications are invited for three posts of

SENIOR HOUSE OFFICER (Medical)

one of which will become vacant on May 1, and two on June 1. Salary £670. In addition to the normal duties of a Senior House Officer (Medical) one of the successful applicants will be required to undertake the duties of Senior Resident Officer and will be resident in the Royal Infirmary. An honorarium of £50 per annum will be paid to the holder of this post. Applications, giving full details of age, qualifications, experience, etc., together with the names and addresses of two referees, and stating whether or not the combined post would be preferred, should be sent by March 15, 1952, to the Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (8857)

BURNLEY GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
SENIOR HOUSE OFFICER (Medical)
(Resident or non-resident)

The post offers good all-round experience under Consultant staff. Salary £670 per annum. Conditions of service in accordance with the National Health Service terms. The post is tenable for one year. Applications, giving the names of three referees, should be sent to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (8507)

CHESTERFIELD ROYAL HOSPITAL (322 beds)
Chesterfield Hospital Management Committee
SENIOR HOUSE PHYSICIAN
(Senior House Officer)

Required immediately. National salary and conditions. Apply, in detail, to M. H. Boone, Secretary. (8703)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds, 5 residents)
RESIDENT HOUSE PHYSICIAN

Required from April 1, 1952, to take charge of two acute Medical Wards. Salary £670 per annum, less deduction of £150 for board residence. One-year tenure in first instance. Busy out-patient department with full Consultant staff. Applications, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (8676)

KETTERING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE

Applications are invited from registered general practitioners for the post of

SENIOR HOUSE OFFICER IN MEDICINE
(Non-resident)

There are five House Officers and full Consultant staff. The post, for one year in the first instance, involves out-patient clinics in general medicine and paediatrics, with overall responsibility for the wards, and electro-cardiographic department and assistance in the formation of an acute Geriatric Unit at one of the associated hospitals in the area. Applications, stating age, nationality, qualifications, past experience, and enclosing copies of two recent testimonials, should be forwarded as soon as possible to the Assistant Secretary, Kettering General Hospital, Kettering, Northants. (8752)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee

Applications are invited from registered medical practitioners for the following post, which is vacant on March 31, 1952:

SENIOR HOUSE OFFICER (General Medicine)

The appointment will be for twelve months at a salary of £670 per annum, less £130 per annum for residential accommodation and services. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8472)

SOUTHEND-ON-SEA, GENERAL HOSPITAL

Applications are invited for the position of

RESIDENT SENIOR (MEDICAL) HOUSE OFFICER

for one year from April 1, 1952, for duties in a modern general hospital with a large out-patients department. Applications, etc., should reach the undersigned not later than March 5, 1952.—J. C. Field, Secretary. (8445)

SUNDERLAND (near), GENERAL HOSPITAL, SUNDERLAND, AND RYHOPE GENERAL HOSPITAL
RESIDENT SENIOR HOUSE PHYSICIAN
at Ryhope General Hospital (52 acute medical beds)

Junior House Physician also resident. The beds are under supervision of two consultant physicians who visit the hospital regularly. Required to assist at Sunderland Out-patient Department. Appointment tenable for twelve months. Salary £670 per annum, less £120 emoluments. Apply to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (8786)

WEST HARTLEPOOL GENERAL HOSPITAL

Applications are invited for the appointment as

SENIOR HOUSE OFFICER (Medical)

at the above hospital, vacant March 15, 1952. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (8260)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds)
CITY HOSPITAL, York
(General hospital of 265 beds)
YEARSLEY BRIDGE HOSPITAL, York
(Infectious diseases hospital of 86 beds)

Applications invited for post of

SENIOR HOUSE OFFICER
in Paediatrics and Infectious Diseases

to spend approximately half time on paediatric duties at County Hospital (22 paediatric beds), City Hospital (32 paediatric beds) and other hospitals of the Group, and approximately half time at Yearsley Bridge Hospital. Candidates should have had previous experience of paediatrics and infectious diseases. Preference given to holders of D.C.H. Post vacant from April 1, 1952, for one year in first instance. Salary £670 per annum, less £170 for residence at Yearsley Bridge Hospital. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (8858)

BOLINGBROKE HOSPITAL
Wandsworth Common, S.W.11
RESIDENT HOUSE PHYSICIAN

Required for six months from March 23. Apply, enclosing copies of three recent testimonials, to Administrative Officer, by March 8. (8518)

PLAISTOW HOSPITAL
Samson Street, London, E.13

Applications are invited from registered medical practitioners for the appointment of

RESIDENT HOUSE PHYSICIAN (Male or female)
(House Officer, second or third post)

for six months in the Chest and Infectious Diseases Wards. The position offers valuable experience in both groups of diseases. Candidates should send applications to the undersigned, together with copies of recent testimonials, by March 15, 1952.—M. J. Huntley, Secretary, West Ham Group H.M.C., Stratford, London, E.15. (8890)

ST. ANDREW'S HOSPITAL, Bow, E.3

Applications are invited from registered medical practitioners for the post of

HOUSE PHYSICIAN

vacant on March 1. Post is tenable for six months. Applications, stating age and qualifications, with copies of at least one testimonial, should be sent to the Medical Superintendent, St. Andrew's Hospital, Bow, E.3. (8753)

ACCRINGTON, VICTORIA HOSPITAL
(112 beds)
HOUSE PHYSICIAN

Salary £350 to £450 per annum, less £100 per annum board and lodging. Applications, with copies of two testimonials, to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (8658)

ALTRINCHAM GENERAL HOSPITAL (130 beds)
near Manchester
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Physician and Casualty)

Required, to commence duties as soon as possible. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (8645)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT HOUSE OFFICER (Male)

Required for wards taking general medical, vacant April 3, 1952. Six months' appointment. N.H.S. salary and terms of service. Applications, stating age, nationality, qualifications, and experience, with copies of up to three recent testimonials, to Medical Director of hospital by March 15. (8859)

ASHFORD (near), KENT, WILLESBOROUGH HOSPITAL, Willesborough
South-East Kent Hospital Management Committee

Applications are invited from registered practitioners for the appointment of

RESIDENT HOUSE PHYSICIAN

at the above hospital. The person appointed will be required for duty in the medical wards and busy out-patient department under the supervision of consultants visiting four times weekly. Fully equipped cardiographic unit. Salary £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash Eton, Radnor Park West, Folkestone. (8820)

AYLESBURY, STOKE MANDEVILLE HOSPITAL
HOUSE PHYSICIAN
(First or second post)

For 20 general medical beds and a small number of special beds, which include dermatology. Vacant now. Applications, stating age, nationality, qualifications, and experience, with two recent testimonials, to the Administrative Officer. (8704)

BANGOR, CAERNARVON AND ANGLESEY GENERAL HOSPITAL
Caernarvon and Anglesey Hospital Management Committee

Applications are invited for the appointment of

HOUSE PHYSICIAN (Resident)

at the above hospital. The appointment is for a period of six months. Applications, stating age, experience, and qualifications, together with copies of three testimonials, should be forwarded within ten days of the appearance of this advertisement to Secretary, Plas Gwyn, Ffriddoedd Road, Bangor. (8726)

BARNET GENERAL HOSPITAL, Barnet, Herts
HOUSE PHYSICIAN

Applications, stating qualifications, experience and names of two referees, to be sent to the Medical Director. (8793)

Medicine—contd.

BINGLEY HOSPITAL, Bingley (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton (64 beds) Yorkshire, West Riding
(Full Consultant staffs)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
at each of the above hospitals. First, second or third appointments. Now vacant. Six months' appointments. Salary in accordance with National Health Service terms and conditions. Applications, stating age, qualifications, experience, and nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, as soon as possible. (8705)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for the following resident appointment:
HOUSE OFFICER (Medical) (Male)
(First or second post held)
Salary £350 to £400 per annum, less £100 per annum for residential emoluments. Appointment to commence April 1, 1952, for period of six months. Applications, stating nationality, age, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent to the Administrative Officer as soon as possible. (8860)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
HOUSE PHYSICIAN
to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry (346 beds)
HOUSE PHYSICIAN
Required March 30, 1952. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (8861)

CUCKFIELD HOSPITAL, near Haywards Heath
Mid-Sussex Hospital Management Committee
Applications are invited for the posts of
TWO RESIDENT HOUSE OFFICERS
Now vacant. This hospital is being up-graded, there is a maternity limit of 51 beds, and duties would be mainly in the Medical and Obstetric Departments. National salary scale and conditions. Applications, stating age, qualifications, and experience, accompanied by copies of two recent testimonials, should be sent immediately to the Secretary, Mid-Sussex Hospital Management Committee, Cuckfield Hospital, Cuckfield, Haywards Heath, Sussex. (8706)

DARLINGTON MEMORIAL HOSPITAL (210 beds)
Darlington District Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN (J.H.O.—Resident)
Salary in accordance with national scale. Apply, giving age and references, to the undersigned at once.—G. W. Beckwith, Secretary. (7237)

DARTFORD, SOUTHERN HOSPITAL
HOUSE PHYSICIAN
A six-month appointment to commence April 1, 1952. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications, and experience, together with the names of two persons to whom reference may be made, should be sent to the Medical Superintendent, The Southern Hospital, Dartford, Kent. (8675)

DEWSBURY, GENERAL HOSPITAL
Moorlands Road, Dewsbury (119 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
now vacant. This is a modern general hospital with a large out-patient department. Excellent experience available. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (8047)

DRIFFIELD, YORKS, EAST RIDING GENERAL HOSPITAL
HOUSE PHYSICIAN
Post now vacant. Duties to include medical wards, out-patients and some anaesthetics. Salary £350 to £450 per annum. Applications to Secretary, Westwood Hospital, Beverley, Yorks. (8337)

ENFIELD, MIDDLESEX, CHASE FARM HOSPITAL
Enfield Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE PHYSICIAN (First post)
Vacant April 9, 1952. General medical duties. Six months' appointment. Applications, stating age, qualifications, experience and nationality, with the names of two referees, to the Acting Medical Director of the hospital by March 14, 1952. (8900)

GRIMSBY GENERAL HOSPITAL (200 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
The post is now vacant, and is tenable for six months. Applications, together with the names of two referees, should be sent to the Administrative Officer, Grimsby General Hospital. (6688)

GUILDFORD, ST. LUKE'S HOSPITAL
Guildford Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE PHYSICIAN
for duties in Medical Unit with acute and chronic beds. Post vacant March 19, 1952. Applications, with copies of three testimonials, should be forwarded to the Physician Superintendent as soon as possible. (8399)

HALIFAX GENERAL HOSPITAL (425 beds)
HOUSE PHYSICIAN
Salary according to experience. Applications, stating age, sex, nationality, qualifications, experience and enclosing copies of three testimonials, to be forwarded to the Secretary at the Royal Halifax Infirmary. (8473)

HALIFAX, ROYAL INFIRMARY (301 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
at the above busy acute general hospital. Salary according to experience. Applications, stating age, nationality, qualifications and experience, together with copies of three testimonials, to be forwarded to the Secretary. (8508)

HARROGATE AND DISTRICT GENERAL HOSPITAL (253 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Vacant early April. Salary, according to experience, on the National Health Service scale. Applications as soon as possible to the Assistant Secretary. (8794)

HUDDERSFIELD ROYAL INFIRMARY (321 beds)
Huddersfield Hospital Management Committee
HOUSE PHYSICIAN
Required to commence duty on March 4. Salary in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, together with copies of three recent testimonials, should be addressed to the undersigned.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (8795)

HUNTINGDON COUNTY HOSPITAL
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (Medical)
to the above hospital. The selected candidate will be required to look after medical and paediatric cases under the direction of the consultants concerned, and may be required to give emergency anaesthetics. Apply, with full particulars and names of two referees, to Secretary, H.M.C., Newmarket General Hospital, Newmarket. (8796)

INVERNESS, ROYAL NORTHERN INFIRMARY
Inverness Hospitals Board of Management
HOUSE PHYSICIAN
Required from April 1, 1952. Applications, with references, to Medical Superintendent. (8819)

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
commencing April 1, 1952. Applications, stating age, experience and qualifications, with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street Leicester. (8339)

LOUTH, LINCS, COUNTY INFIRMARY (240 beds)
Grimsby Hospitals Management Committee
HOUSE OFFICER (Medical)
Applications are invited for the above post, now vacant, at this busy general hospital. Salary £350 to £450 per annum. Applications, giving details of age, experience, nationality, together with names of two referees, to be addressed to the Administrative Officer at the hospital. (8050)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Applications are invited for the post of
HOUSE PHYSICIAN
vacant March 11, 1952. The appointment will be for six months in the first instance. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (8361)

MANSFIELD AND DISTRICT GENERAL HOSPITAL
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
(First, second or third appointment)
Applications, stating age, qualifications, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (8391)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)
For the care of both medical and surgical cases. Appointment for six months. Duties to commence immediately. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NEWPORT, MON, ST. WOOLOS HOSPITAL (379 beds)
Applications are invited for the post of
HOUSE OFFICER (Medical)
who will work under the directions of the Consultant Physician and the Paediatrician, and will also attend the Out-patient Department of another hospital with the Consultants. Post vacant April 1. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, 17, Cardiff Road, Newport, Mon. (8400)

NORTHALLERTON, FRIARAGE (GENERAL) HOSPITAL (300 beds)
Northallerton Hospital Management Committee
HOUSE PHYSICIAN
Required for April 1, 1952. Conditions of service six months. Salary in accordance with national scale. Applications, together with the names of two referees, to be sent to the Secretary, Friarage Hospital, Northallerton, Yorks. (8474)

NUNEATON, MANOR HOSPITAL (139 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
(32 general medical beds)
Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (8797)

OLDHAM, BOUNDARY PARK GENERAL HOSPITAL (390 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
becoming vacant on April 2, 1952. Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference No. A/827, should be forwarded to the undersigned immediately.—F. W. Barnett, Sec., Central Offices, Rochdale Rd., Oldham (8901)

OTLEY, YORKS, GENERAL HOSPITAL
(260 beds, with full consultant staff who are members of the teaching staff of Leeds University)
Ilkley and Otley Hospital Management Committee
HOUSE PHYSICIAN
Required immediately at above hospital. £350 a year if first post held, £400 second, and £450 if third or subsequent post. Deduction of £100 a year for residential emoluments. Applications, stating particulars of previous hospital appointments, to the undersigned as soon as possible.—E. W. Best, Sec., General Hospital, Otley, Yorks. (8440)

PONTYPOOL AND DISTRICT HOSPITAL
Pontypool, Mon (115 beds)
Applications are invited for the post of
HOUSE OFFICER (Medical)
vacant about April 15, who will work under the directions of the Consultant Physician and the Paediatrician. The resident staff consists of a Junior Hospital Medical Officer (surgical); a House Officer (Surgical), and this post. The post carries an increment of £50 per annum above national scale, in view of extra responsibilities. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8707)

PRESTON ROYAL INFIRMARY (400 acute beds)
HOUSE PHYSICIAN (J.H.O. Grade)
(Medical Department)
The successful candidate will be required to work in the medical out-patient clinics and will have charge of 40 acute medical beds under one of the two Consulting Physicians. Apply, stating experience and qualifications, together with copies of recent testimonials, to J. Gibson, Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston. (8475)

ROMFORD, ESSEX, VICTORIA HOSPITAL (91 beds)
RESIDENT HOUSE PHYSICIAN
Applications are invited from registered medical practitioners (male) for the above post, vacant now. Six months' appointment. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (8051)

Medicine—contd.

RUGBY, HOSPITAL OF ST. CROSS
HOUSE PHYSICIAN
Required March 25, 1952, for adult medical unit and children's ward. Applications, stating age, qualifications and experience, with copy testimonials to Assistant Secretary. (8579)

SHREWSBURY (near), CROSS HOUSES HOSPITAL (183 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT MEDICAL OFFICER
Vacant immediately. Preference will be given to those applicants with previous obstetrical experience. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (6063)

SOLIHULL HOSPITAL
Lode Lane, Solihull, near Birmingham
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Vacancy immediately available for
HOUSE PHYSICIAN
This is a General Hospital and offers good experience. Five other Resident Medical Officers. Applications, giving qualifications, age and experience, with copies of two recent testimonials or names of two referees, to the Medical Superintendent. (8563)

SOUTH SHIELDS GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
(First or second post) (General Medicine)
Vacant April 1, 1952, in a busy, well-equipped hospital. There are three House Physicians in the Medical Department. Applications, with copies of not more than three recent testimonials, to be addressed to the Medical Superintendent, General Hospital, Harton Lane, South Shields. (8775)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL (96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Medical)
Post vacant mid-March. Apply, with copy testimonials, stating age, nationality, and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8401)

SUNDERLAND (near), RYHOPE GENERAL HOSPITAL (208 beds)
HOUSE PHYSICIAN (Male or female)
Required immediately. Apply to Secretary, Sunderland Area Hospital Management Committee, General Hospital, Sunderland. (8784)

SWINDON AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Swindon Hospitals (500 beds)
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
in acute medical unit of 64 beds at St. Margaret's Hospital. Full details, together with copies of three recent testimonials, to Secretary, 7, Okus Road, Swindon, Wilts, as soon as possible. (8646)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the above hospital. Resident. The appointment will be for six months in the first instance and the post is now vacant. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (7963)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6770)

WOKING, VICTORIA HOSPITAL (74 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
Salary and conditions of service as published by Ministry of Health. Apply to Assistant Secretary, Victoria Hospital, Woking, Surrey. (6977)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY
Wigan and Leigh Hospital Management Committee
HOUSE PHYSICIAN
Required at the above hospital. Resident House Officer grade post. Applications, stating age, qualifications, and details of previous hospital appointments, should be forwarded to the undersigned as soon as possible, together with the names of two referees.—T. W. Hurst, Secretary, Knowsley House, Wigan. (8476)

SURGERY

LIVERPOOL REGIONAL HOSPITAL BOARD
North Liverpool
Applications are invited for the post of
WHOLE-TIME CONSULTANT GENERAL SURGEON
to the North Liverpool Group of hospitals, with duties mainly at Walton Hospital. The successful candidate will work with the existing Senior Surgeons at the hospital. Applicants must have wide experience in the specialty, and possession of a higher qualification in General Surgery is essential. This appointment is vacant from October 1, 1952. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 15, 1952.—Vincent Collinge, Secretary to the Board. (8902)

ST. ANDREW'S HOSPITAL
Dollis Hill, London, N.W.2 (130 beds)
(Not under State control)
Applications are invited for the appointment of
SURGICAL REGISTRAR
Candidates (male) should possess the F.R.C.S. (Eng.) or an equivalent higher qualification. Duties will commence on April 1, 1952, and the gentleman appointed will be required to live in, or very close to, the hospital. Salary £500 to £700 per annum, according to experience and qualifications. Applications, with the names of three referees, must be sent not later than March 17, 1952, to the Secretary at the hospital. (8798)

CROYDON, GENERAL HOSPITAL (200 beds)
South-West Metropolitan Regional Hospital Board
Croydon Group Hospital Management Committee
Applications invited for appointment of
ASSISTANT PRINCIPAL SURGICAL OFFICER
(Registrar status)
Candidates should be experienced in surgery, and possession of higher surgical qualifications an advantage. Application forms obtainable from George A. Paines, Secretary, Hospital Management Committee, General Hospital, Croydon, to be returned not later than March 15. (8708)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL
East Anglian Regional Hospital Board
RESIDENT SURGICAL OFFICER
(Registrar Grade)
The appointment will be for one year, renewable for second year. Applications, stating age, qualifications, and details of present and previous appointments, together with the names of three referees, should reach the undersigned not later than March 10, 1952. Candidates are invited to visit the hospital by arrangement with the H.M.C. Secretary at the hospital.—K. V. F. Morton, Secretary, 117, Chesterton Road, Cambridge. (8377)

NEWCASTLE REGIONAL HOSPITAL BOARD
Wansbeck Hospital Management Committee Group
(Main hospitals: Ashington, 55 beds; Thomas Knight Memorial, 36 beds, etc.)
REGISTRAR SURGEON (Whole-time)
Required, temporarily in first instance, up to August 31, 1952. A house will be available near the hospital for a married man. Salary £775 to £890, according to experience. Applications, together with names and addresses of one to three referees and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (8677)

NEWPORT, MON, ST. WOOLOS HOSPITAL
Welsh Regional Hospital Board
Applications are invited from registered medical practitioners for the appointment of
SURGICAL REGISTRAR
at the above hospital. There are 68 general surgical beds in charge of a full-time Consultant. The hospital is recognized by the Royal College of Surgeons for preparation for the Fellowship. There are opportunities for major operative work, but there is no Casualty Department. Applicants should have held the post of House Surgeon, and preferably in a teaching hospital. The post is non-resident and will be subject to review at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (8754)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge. Main Line Railway from Liverpool Street)
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER (Surgical)
Salary £670 per annum, less £130 per annum in respect of residential emoluments. The appointment is due to commence April 1 for a period of one year. Applications, stating nationality, age, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Secretary, Hertford Group H.M.C., Hertford County Hospital, Hertford, Herts. (8564)

BOLTON DISTRICT GENERAL HOSPITAL (521 beds)
Bolton and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
Required for general surgical duties. Post vacant immediately and tenable for twelve months. Applications, stating age, nationality, qualifications, and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (8709)

CHICHESTER, ROYAL WEST SUSSEX HOSPITAL
(General acute 202 beds—6 Residents)
RESIDENT SENIOR HOUSE SURGEON
Post vacant March 15, 1952. Six months' appointment, renewable for further six months. Salary £670 per annum, less deduction for resident emoluments. Post includes surgical work under R.S.O., casualty duties, and acting as Deputy R.S.O. Applications, stating age and experience, with copies of up to three recent testimonials, to be sent to Senior Administrative Officer as soon as possible. (8478)

EPPING, ST. MARGARET'S HOSPITAL (485 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgery)
for casualty duties, orthopaedic and fracture work at the above hospital, at a salary of £670 per annum, less a deduction of £130 per annum for board and lodging and other services provided. Applications, in writing, with copies of two recent testimonials, to reach the Secretary, Epping Group Hospital Management Committee, St. Margaret's Hospital, Epping, Essex, by March 15. (8642)

HOVE GENERAL HOSPITAL, Sussex
(75 beds, 3 Resident Medical Officers)
Brighton and Lewes Hospital Management Committee
Applications are invited for the following resident posts, vacant mid-March, 1952:
SENIOR HOUSE SURGEON
(preference will be given to candidates with previous experience). Duties chiefly ward and theatre work.
HOUSE SURGEON
for casualty and with charge of surgical beds.
Salaries and conditions of service in accordance with national scale (£350 to £450, less £100 per annum for residential emoluments). Applications, with full details of experience, etc., and enclosing names and addresses of two referees, should be sent to the Administrative Officer at the hospital within ten days of the appearance of this advertisement. (7782)

KENDAL, WESTMORLAND COUNTY HOSPITAL (82 beds)
SENIOR HOUSE OFFICER (Surgical)
The post will be vacant in March, 1952, and normally tenable for one year. Applications, stating age, qualifications, experience, and nationality, with two recent references, should be sent to Secy., Royal Lancaster Infirmary, Lancaster. (8755)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
SENIOR HOUSE OFFICER
(Genito-Urinary Surgery)
at the above hospital. The person appointed will attend the Cystoscopic Clinic at the above hospital and the Out-patient Clinic at the Teaching Hospital. The appointment will be for a period of one year and the salary will be in accordance with the agreed terms and conditions of service of hospital medical and dental staff, namely, £670 per annum, with an appropriate deduction in respect of board, lodging and other services provided. Forms of application, available from the undersigned, should be completed and returned as soon as possible.—J. Folkard, Secretary to the Committee, Administrative Offices, St. James's Hospital, Leeds, 9. (8363)

MORECAMBE, QUEEN VICTORIA HOSPITAL (100 beds)
SENIOR HOUSE OFFICER (Surgical)
The post is normally tenable for one year, and the successful candidate will be expected to relieve the Senior House Officer (Obstetrics and Gynaecology) during absence. Applications, stating age, qualifications, experience, and nationality, with two recent references, should be sent to Secretary, Royal Lancaster Infirmary, Lancaster. (8756)

NOTTINGHAM CITY HOSPITAL (833 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER (General Surgery)
The post is approved for F.R.C.S. Salary £670 per annum, less £130 for residential emoluments. The appointment is for one year. Post vacant April 1, 1952. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be submitted immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (8778)

Surgery—contd.

LEIGH INFIRMARY, Leigh, Lancs
Wigan and Leigh Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE SURGEON
at the above hospital, which is a busy general hospital of 102 beds. The person appointed will be attached to the surgical and orthopaedic wards and will be required to undertake some duties in the casualty department along with other members of the resident staff. Applications, stating age, nationality, qualifications, and previous hospital appointments, together with the names of two referees, should reach the undersigned as soon as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (8479)

LLANDUDNO GENERAL HOSPITAL, Llandudno
Caernarvon and Anglesey Hospital Management Committee
Applications are invited for the following appointment:
SENIOR HOUSE SURGEON (Resident)
Salary £670 per annum. The appointment is for a period of six months. Applications, stating age, experience, and qualifications, together with copies of three testimonials, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Friddoedd Road, Bangor. (8727)

REDRUTH, CAMBORNE-REDRUTH HOSPITAL
(159 beds, 4 residents)
West Cornwall Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Post now vacant. Salary £670 per annum, less £100 per annum for residential emoluments. Applications, stating age, experience and nationality, together with names of two persons to whom reference can be made, should be submitted to the Administrative Assistant. (8011)

SCUNTHORPE, WAR MEMORIAL HOSPITAL
(269 beds)
Scunthorpe Hospital Management Committee
Vacancy in March for
HOUSE SURGEON
(Senior House Officer Grade)
with duties in general surgery, gynaecology and some radiotherapy. Applications, with full details of qualifications, experience, and naming two referees; to Secretary, War Memorial Hospital, Scunthorpe, Lincs. (8364)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
(96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8403)

STOKE-ON-TRENT, LONGTON HOSPITAL
(55 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8404)

SUNDERLAND, GENERAL HOSPITAL (517 beds)
SENIOR SURGICAL HOUSE OFFICER
(Male or female)
Required, resident at the above hospital (69 surgical beds). Post recognized for F.R.C.S. examination. Successful applicant may be expected to rotate duties at six-monthly intervals with Senior Surgical House Officers at other hospitals. Salary £670 per annum, less emolument value. Apply immediately to Secretary, Sunderland Area Hospital Management Committee, General Hospital, Sunderland. (8782)

TORQUAY, TORBAY HOSPITAL
(166 General beds)
RESIDENT SENIOR SURGICAL HOUSE OFFICER (Male or female)
Required immediately. Appointment for one year. Salary £670 per annum, less £100 in respect of accommodation and services. Applications, stating qualifications, nationality, and age, with copies of testimonials, to be sent to the Secretary, Torquay District Hospital Management Committee, 62/64, East Street, Newton Abbot, S. Devon. (8263)

WOKING, VICTORIA HOSPITAL
Woking, Surrey (74 beds)
SENIOR HOUSE OFFICER
(Surgical and Medical duties)
Resident preferred. Non-resident considered. Salary and conditions of service as published by Ministry of Health, viz., £670 per annum, less emoluments. Applications, with testimonials, to Assistant Secretary, Victoria Hospital, Woking, Surrey. (7289)

BOLINGBROKE HOSPITAL
Wandsworth Common, S.W.11
RESIDENT HOUSE SURGEON
Required for six months from March 16. Apply, enclosing copies of three recent testimonials, to Administrative Officer, by March 8. (8519)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1
Applications are invited from registered women medical practitioners for the post of
HOUSE SURGEON/CASUALTY OFFICER
with charge of general surgical ward. Post recognized for F.R.C.S. examination. Appointment for six months. Salary according to National Health Service scales for House Officers. Duties to commence April 1, 1952. Applications, with copies of three recent testimonials, should be sent to the Secretary as soon as possible. (8903)

HIGHLANDS HOSPITAL
Winchmore Hill, London, N.21
HOUSE SURGEON
Six months' appointment. Now vacant. Application forms obtainable from Secretary, Northern Group H.M.C., Royal Northern Hospital, London, N.7. (8757)

LAMBETH HOSPITAL, Brook Drive, S.E.11
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE SURGEON
The appointment is for six months commencing April 1, 1952. Forms of application may be obtained from the Physician Superintendent at the hospital. (8679)

MANOR HOUSE HOSPITAL
Golders Green, N.W.11
(Exempted from National Health Service)
HOUSE SURGEON
Required. Salary £350 to £450 per annum, less £100 per annum deducted for emoluments. Six months' appointment, renewable. Post suitable for a candidate studying for a higher degree. Applications, stating age, nationality, qualifications and experience, with copies of testimonials, to the Secretary, Manor House Hospital, Golders Green, N.W.11. (8799)

MILLER GENERAL HOSPITAL
Greenwich, S.E.10 (180 beds)
(Recognized by Royal College of Surgeons)
Applications are invited for the post of
HOUSE SURGEON
for six months from approximately March 31. National salary and conditions. Particulars and copies of testimonials to Secretary, Greenwich and Deptford Hospital Management Committee, St. Alfege's Hospital, Greenwich, S.E.10. (8767)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

ST. JOHN'S HOSPITAL
Lewisham, London, S.E.13 (General, 112 beds)
Lewisham Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
(Second, third or subsequent post)
Now vacant. There are four other residents at the hospital, this vacancy being the senior of two House Surgeon posts and is recognized for six months' training for the F.R.C.S. examination. Salary at the rate of £400 or £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, and experience, with copies of three recent testimonials, or names of referees, should be sent to the Secretary, Group Offices, Lewisham Hospital, London, S.E.13. (8680)

ACCRINGTON, VICTORIA HOSPITAL
(112 acute beds)
HOUSE SURGEON
Post tenable for six months. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for board residence. Applications, giving age, nationality, qualifications, etc., accompanied by copies of two testimonials, to be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (8659)

ALTRINCHAM GENERAL HOSPITAL (130 beds)
near Manchester
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Surgical)
Required, to commence duties as soon as possible. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (8647)

BATLEY, GENERAL HOSPITAL (102 beds)
Carlinghow Hill, Batley, Yorks
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This general hospital will shortly provide all the in-patient treatment for the Group in the specialties of orthopaedics, E.N.T., and ophthalmology in addition to some general surgery, together with the usual out-patient clinics. Applications, stating age, qualifications and experience, together with recent testimonials, should be submitted immediately to the Secretary, 20, Oxford Road, Dewsbury. (7971)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
for the General Surgery and Orthopaedic Departments of the above hospital. These departments of this hospital provide interesting and active traumatic experience. Resident. The post, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (8341)

BIRKENHEAD GENERAL HOSPITAL (176 beds)
TWO HOUSE SURGEONS (Resident)
For six months from April 1, 1952. Salary £350 by £50 to £450, less £100 for emoluments. Apply immediately, stating age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary to above Committee, St. James Hospital, Birkenhead. (8582)

BISHOP'S STORTFORD, HERTFORDSHIRE
HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for a
RESIDENT HOUSE OFFICER (Surgical)
(First or second post held)
Salary £350 to £400 per annum, plus special grant of £50 per annum, less £100 per annum for residential emoluments. Appointment to commence immediately. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent as soon as possible to the Administrative Officer. (8862)

BLACKBURN ROYAL INFIRMARY (244 beds)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
to the General Surgical Unit
The appointment will be for a period of six months in the first instance, and the salary, etc., will be in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, giving age, nationality, qualifications, etc., with copies of two testimonials, to be sent to the Secretary, Blackburn and District H.M.C., Royal Infirmary, as soon as possible. (8660)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (General)
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary. (8863)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON (General)
Vacant April 1. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8864)

BRISTOL, FRENCHAY HOSPITAL
(470 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee
HOUSE SURGEON (General Surgery Wards)
Two vacancies occur mid-March. Applications, with full particulars, should be addressed to the Secretary, Frenchay Hospital, quoting G.S.F. (8758)

BURNLEY, GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is vacant now, and is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. The post is recognized for the F.R.C.S. examination. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (9287)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical with beds for orthopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 17

Surgery—contd.

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. Applications, with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (8759)

BURTON-ON-TRENT, GENERAL INFIRMARY
(Acute General Hospital, 235 beds)
Burton-on-Trent Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
now vacant. This appointment is recognized for examination purposes for the Royal College of Surgeons, offering excellent general experience in a busy acute surgical unit. Applications, with all details and copies of recent testimonials, to the undersigned.—J. E. Smith, Secretary to the H.M.C. (8583)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments:
Caernarvon and Anglesey General Hospital, Bangor
HOUSE SURGEON (Resident)
HOUSE SURGEON (Resident) for Casualties and Special Department
Eryri General Hospital, Caernarvon
HOUSE SURGEON (Resident)
The appointments are for a period of six months. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, experience, and qualifications, together with copies of three testimonials, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor. (8728)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (8525)

CHESTER ROYAL INFIRMARY
Applications are invited from medical practitioners, male or female, for the posts of
TWO HOUSE SURGEONS
The appointments are for a period of six months. Applications, giving full particulars, together with copies of two recent testimonials, should be sent as soon as possible to L. V. Pollard, Secretary, 5, King's Buildings, King Street, Chester. (8480)

DARTFORD, KENT, WEST HILL HOSPITAL
HOUSE SURGEON (General)
Required at the end of March. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. The hospital is a large general one offering opportunities for wide experience and is within easy reach of London. The appointment is recognized by the Royal College of Surgeons. Applications, stating age, qualifications, experience, and the names of two persons to whom reference for testimonials may be made, should be sent to the Surgeon Superintendent of the hospital. (8681)

DERBYSHIRE ROYAL INFIRMARY, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE OFFICER (General Surgery)
Vacant April 1, 1952. Applications, stating full details, together with copies of two testimonials, should be sent as soon as possible to the Secretary, Derbyshire Royal Infirmary, Derby. (8682)

DEWSBURY, GENERAL HOSPITAL (119 beds)
Moorlands Road, Dewsbury
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy modern general hospital, with a large out-patient department and the usual ancillary services. The hospital is recognized for the F.R.C.S. and provides excellent experience. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (7972)

DEWSBURY, YORKS, STAINCLIFFE GENERAL HOSPITAL, Healds Road (316 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy general hospital with the usual out-patient and ancillary services. It is recognized for the F.R.C.S., and provides excellent experience. Salary and conditions of service in accordance with the national scales. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent to the Secretary, 20, Oxford Road, Dewsbury. (7973)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE SURGEON
at the above hospital. The post is recognized by the Royal College of Surgeons, and will become vacant at the end of March. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent, Hospital Management Committee, Ash Eton, Radnor Park West, Folkestone. (8821)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
JUNIOR HOUSE SURGEON
at the above hospital. The post will become vacant at the end of March. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash Eton, Radnor Park West, Folkestone. (8822)

GLOUCESTERSHIRE ROYAL HOSPITAL
(245 beds)
Gloucester, Stroud and The Forest Hospital Management Committee
HOUSE SURGEON
(£350 to £450 per annum.) Required to commence March 17, 1952. Post recognized for F.R.C.S. Applications, naming two referees, to the Secretary. (8683)

HALIFAX GENERAL HOSPITAL (425 beds)
Applications are invited for the post of
HOUSE SURGEON (Male or female)
(House Officer Grade)
Salary according to experience. Applications, stating age, nationality, qualifications and experience, with copies of three testimonials, to be addressed to the Secretary at the Royal Halifax Infirmary, Halifax. (8800)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)
Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
for a term of six months. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (8142)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
HOUSE SURGEON (Male)
First, second or third post held, for general surgery, gynaecology and obstetrics
Six months' appointment. Salary is at the rate of £350 to £450 per annum, less £100 per annum for residential emoluments. Duties to commence mid-March, 1952. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (8265)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds, 5 residents)
Applications are invited for two vacancies as
RESIDENT HOUSE SURGEON
at the above busy acute general hospital. Busy casualty and out-patient departments. Applications, stating age, qualifications, and experience, with copies of testimonials, to the Secretary, St. Mary's Cottage, High Wycombe. (8684)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant now. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8754)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the Sutton Branch Hospital. Vacant February. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Admin. Officer. (5757)

HUNTINGDON COUNTY HOSPITAL
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (General Surgery)
to the above hospital. This is a busy hospital staffed by consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (8801)

IPSWICH, BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)
(Post recognized for Examinations of R.C.S.)
TWO HOUSE SURGEONS (General Surgery)
Posts now vacant. House Officer grade appointments normally for six months. Applications to the Administrative Officer. (7197)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the posts of
TWO HOUSE SURGEONS
commencing April 1, 1952. Recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (8343)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
HOUSE SURGEON
for a period of six months from April 1, 1952. The post is recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8060)

LOUGHBOROUGH GENERAL HOSPITAL
(120 beds)
Applications are invited for the vacancy of
HOUSE SURGEON
commencing April 1, 1952. Applications, stating age, qualifications and experience, together with copies of recent testimonials, to the Secretary, Leicester No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8344)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham, Manchester, 8 (105 beds)
(Non-sectarian)
Applications are invited for the post of
HOUSE SURGEON
(House Officer grade)
Vacant March 13, 1952. Applications, together with copies of not less than two recent testimonials or names of two referees, to the Hospital Administrator forthwith. (7363)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy General Hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary Oak Bank, Crow Hill Drive, Mansfield, Notts. (4139)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for three posts of
HOUSE SURGEON
vacant on April 1, 1952. Recognized for the F.R.C.S. National Health Service salary scale and conditions of service for House Officers. Six months' appointment. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Superintendent. (8345)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence immediately. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (General)
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting Ref. No. A/826, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (8904)

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (Male or female)
Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6702)

PRESTON ROYAL INFIRMARY (400 beds)
GENERAL HOUSE SURGEON
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8481)

Surgery—contd.

PONTYPOOL AND DISTRICT HOSPITAL
Pontypool, Mon. (115 beds)

Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant April 1, 1952, who will work under the directions of the Consultant Surgeons. The resident staff consists of a Junior Hospital Medical Officer (Surgical), a House Physician, and this post. Opportunities exist for visiting other hospitals with the Consultants. The post carries an additional increment of £50 above national scale in view of special responsibilities. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8405)

PORTSMOUTH, ST. MARY'S HOSPITAL
(General hospital with 150 Acute Surgical beds)
Portsmouth Group Hospital Management Committee

Applications are invited for the appointment of
HOUSE SURGEON
The hospital is recognized for F.R.C.S. Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (8711)

ST. HELENS HOSPITAL (183 beds)
Marshalls Cross Road, St. Helens
St. Helens and District Hospital Management Committee

Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
Six months' appointment. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, and experience, and giving two names for reference, should be forwarded to the undersigned as soon as possible.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (8768)

SALISBURY GENERAL HOSPITAL
Salisbury Group Hospital Management Committee

Applications are invited for the post of
RESIDENT HOUSE SURGEON
for a period of six months. Post now vacant. Apply immediately, naming two referees, to Secretary, Hospital Management Committee, Odstock Hospital, Salisbury. (8511)

SCARBOROUGH HOSPITAL, Yorks (163 beds)

Applications are invited from registered medical practitioners, male or female, for the post of
RESIDENT HOUSE SURGEON (Surgical)
The salary is in accordance with the national scale, and the appointment will be for six months. Applications, stating age and qualifications, together with testimonials, should be sent to the Sec. (8605)

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S. England)

Applications are invited for the resident appointment of
HOUSE SURGEON (General Surgery)
and certain extra duties, vacant April 1, 1952. Applications, giving full details of age, nationality, qualifications, present and past appointments (with dates), and the names of two persons for reference, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (8346)

SHOTLEY BRIDGE GENERAL HOSPITAL
(582 beds)
Shotley Bridge, Consett, Co. Durham

Applications are invited for the posts of
TWO HOUSE OFFICERS (Surgical) (Resident)
now vacant. The appointments will be for six months in the first instance. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, should be sent immediately to the Secretary. (8865)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group 15 Hospital Management Committee

Applications are invited from general registered practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SOLIHULL HOSPITAL
Lode Lane, Solihull, near Birmingham
Group 25, Birmingham (Selly Oak) Hospital Management Committee

Vacancy immediately for
HOUSE SURGEON
This is a General Hospital and offers good experience in general and traumatic surgery. There are five other Resident Medical Officers. Applications, within fourteen days of this advertisement, giving qualifications, experience and age, with copies of recent testimonials (or names of two referees), to the Medical Superintendent, Solihull Hospital, Lode Lane, Solihull, near Birmingham. (8143)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
HOUSE SURGEON

Required immediately. Post tenable for six months. Applications, with copies of testimonials, to be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8866)

SOUTHEND-ON-SEA, GENERAL HOSPITAL

Applications are invited for the post of
RESIDENT HOUSE SURGEON
vacant on or about April 3, 1952. Salary according to previous appointments held, less a deduction at the rate of £100 a year for residential emoluments. Applications, etc., should reach the undersigned at the hospital by March 5, 1952.—J. C. Field, Secretary. (8446)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 32 beds)
Stafford Hospital Management Committee

Applications are invited from registered medical practitioners (male or female) for the post of
HOUSE SURGEON
vacant March 15, 1952. First, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Sec. to Committee, 13 Foregate Street, Stafford (7365)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
(96 beds)

Applications are invited for the post of
RESIDENT HOUSE OFFICER (Surgical)
Post vacant mid-March. Apply, with copy testimonials, stating age, nationality, and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8406)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of
RESIDENT HOUSE OFFICER (General Surgery)
The post is recognized for F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality, and full details of previous appointments, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8407)

STOKE-ON-TRENT, NORTH STAFFS ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of
HOUSE OFFICER (General Surgery)
Post recognized for F.R.C.S. examination. Applications, with copy testimonials, should be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8408)

SUNDERLAND, GENERAL HOSPITAL
(517 beds)
HOUSE SURGEON (Male or female)

Apply immediately to the Secretary, Sunderland Area Hospital Management Committee, General Hospital, Sunderland. (8783)

SUTTON-IN-ASHFIELD, NOTTINGHAMSHIRE KING'S MILL HOSPITAL

Applications are invited for the post of
HOUSE SURGEON
The hospital contains 115 surgical beds and the post offers facilities for practical training in general surgery and E.N.T. surgery. The hospital is situated on the main road between Mansfield and Sutton-in-Ashfield approximately two miles from each town. Salary £350 to £450, according to previous posts held, with a deduction of £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield.—A. Ashworth, Secretary to the Committee (4818)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
at the above hospital. Resident. The appointment will be for six months in the first instance, and the post becomes vacant on March 15, 1952. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Sec., Thurrock Hospital, Grays, Essex. (7966)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL (350 beds)
Tunbridge Wells Group Hospital Management Committee

Applications invited for post of
RESIDENT HOUSE SURGEON (Male or female)
vacant April 12, 1952, for six months in first instance, or locum duties. Applications, stating age, qualifications, with copies of recent testimonials, to Administrative Officer. (8867)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY
South-East Northumberland Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
Applications, with two testimonials, should be sent to the Secretary, South-East Northumberland H.M.C., Preston Hospital, North Shields, as soon as possible. (8868)

WARRINGTON INFIRMARY (172 beds)

Applications are invited for a vacancy at the above hospital, for a
RESIDENT HOUSE SURGEON
Salary will be £350 to £450 per annum, less a deduction of £100 for full residential emoluments. Applications should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8584)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 17

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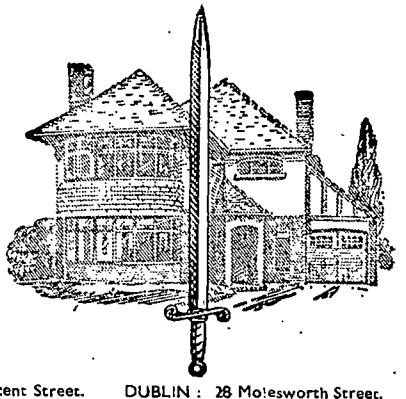

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LEEDS: 20/21 Norwich Union Bldgs., City Sq. MANCHESTER: 33 Cross Street. GLASGOW: 234 St. Vincent Street. DUBLIN: 28 Molesworth Street.
BIRMINGHAM: 154 Great Charles Street. EDINBURGH: 6 Drumsheugh Gardens. CARDIFF: 195 Newport Road. NEWCASTLE-UPON-TYNE: 16 Saville Row.

Surgery—contd.

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointments:
TWO RESIDENT HOUSE SURGEONS
(vacant April 1, 1952)
Post is/are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL
Watford, Herts (189 beds)
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Second or third post)
Salary according to National Health Service scale. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent to the undersigned.—Cyril Hopkinson, Administrator. (5862)

WESTON-SUPER-MARE GENERAL HOSPITAL (110 beds)
Applications are invited from registered medical practitioners for the resident appointments of
TWO HOUSE OFFICERS (House Surgeons)
Duties to commence as soon as possible. Salary at the rate of £350 to £400 per annum, according to previous posts held, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be addressed to the Secretary, Weston-super-Mare Hospital Management Committee, c/o The General Hospital, Weston-super-Mare. (8268)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications invited for the following appointments:
HOUSE SURGEON
(General Surgery/Gynaecology) Now vacant
HOUSE SURGEON
(General Surgery/Orthopaedics) Vacant March 24
In both appointments the division of duties between specialties is approximately equal; each is tenable for six months and is subject to the terms and conditions of service of hospital medical staff. Applications, with copies of testimonials, should be sent as soon as possible to the Sec., from whom further particulars can be obtained. (8760)

WREXHAM, MAELOR GENERAL HOSPITAL (513 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the above hospital to commence at the beginning of March. The appointment is recognized for the Diploma of F.R.C.S. (Eng. and Edin.). Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (7974)

CASUALTY

WARRINGTON INFIRMARY (172 beds)
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident Casualty Officer)
The commencing salary is in accordance with the scale £700 by £50 to £1,000, less a deduction of £130 for residential emoluments. Applications, stating age, experience and qualifications, should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8585)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
JUNIOR HOSPITAL MEDICAL HOSPITAL
Required for the Casualty Orthopaedic Department of the above hospital. The post will become vacant on March 17, 1952. Salary £700 by £50 to £1,000 per annum (for an officer appointed not less than two years after registration). Application forms may be obtained from the undersigned and should be returned as soon as possible to William Jones, Secretary, Wrexham, Powys and Mawddach H.M.C., Maelor General Hospital, Wrexham. (8661)

MEMORIAL HOSPITAL, Woolwich, S.E.18
SENIOR HOUSE OFFICER
(Casualty Department)
Six months' appointment and may be renewed for a further period. Salary £670 per annum, less £150 per annum for residence. Apply to Secretary. (8802)

WANSTEAD HOSPITAL
Wanstead, E.11 (192 beds)
Applications are invited for the post of
CASUALTY OFFICER
(Graded as Senior House Officer)
Vacant April 5, 1952. Salary £670 per annum. Applications, giving full particulars, together with copies of two recent testimonials, to be sent immediately to the Secretary, Forest Group H.M.C., Langthorne Road, E.11. (8393)

BIRMINGHAM 18, DUDLEY ROAD HOSPITAL
Birmingham (Dudley Road) Group of Hospitals
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Casualty Department
This is a six or twelve months' appointment and is now vacant. Applications, stating age, qualifications and experience, accompanied by copies of three recent testimonials, to the Secretary, J. Preston. (8586)

DARTFORD HOSPITAL MANAGEMENT COMMITTEE
RECEIVING ROOM OFFICER (Resident)
(Hospital admissions and casualties)
Candidates should have held House Officer appointments. Salary £670 a year, less £150 a year for residential emoluments. Six months' appointment, with possible renewal up to one year. Applications, stating age, qualifications, experience, nationality, and the names of two persons to whom reference may be made, to the Secretary, Dartford Hospital Management Committee, The Bow Arrow Hospital, Dartford, Kent, immediately. (8685)

FARNBOROUGH HOSPITAL
Farnborough, Kent (800 beds)
Applications are invited for the post of
CASUALTY OFFICER
(Senior House Officer Grade)
The appointment commences on April 18, 1952, and is for a period of one year. Salary £670 a year. Applications, stating age, qualifications (with dates) and experience, together with the names and addresses of three referees, should be sent to the Administrative Officer. (8815)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (8523)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary. (5418)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of either
RECEIVING ROOM OFFICER
Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or
CASUALTY OFFICER
Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant.
Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

MEXBOROUGH, MONTAGU HOSPITAL (123 beds)
SENIOR HOUSE OFFICER
(Casualty and Orthopaedics)
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience, and nationality, with names of three referees, to the Secretary, Hospital Management Committee, "Fern Bank," Doncaster Road, Rotherham, Yorks, as soon as possible. (8648)

POOLE GENERAL HOSPITAL, Poole, Dorset
Bournemouth and East Dorset Hospital Management Committee
CASUALTY OFFICER (S.H.O. £670)
Required immediately. Post suitable for person reading for higher diplomas. Applications to the Assistant Secretary of the hospital. (7652)

NORTHAMPTON GENERAL HOSPITAL (487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
CASUALTY SENIOR HOUSE OFFICER
vacant on April 1, 1952. National Health Service salary scale and conditions of service for Senior House Officers with a deduction at the rate of £100 a year for residential emoluments. Six months' appointment in the first instance. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Supt. (8348)

NOTTINGHAM, GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Casualty)
Duties to commence as soon as possible. Salary £670 per annum, less £150 emoluments. Terms and conditions of service as published by the Ministry. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary, General Hospital, Nottingham. (4819)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
CASUALTY OFFICER
Applications are invited from registered medical practitioners for above post, vacant March 1, 1952. Post offers good experience with fractures and emergency surgery, and is tenable for twelve months. Salary £670 per annum. Applications, stating age, nationality, qualifications, and experience, together with recent testimonials, to be addressed to the Administrative Officer. (8816)

ROTHERHAM, DONCASTER GATE HOSPITAL (155 beds)
SENIOR HOUSE OFFICER
duty in Casualty, E.N.T. and Eye Departments
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (8382)

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S. England)
Applications are invited for the resident post of
SENIOR HOUSE OFFICER
in the Casualty Department
vacant April, 1952. Facilities also for experience in orthopaedic department if desired. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (8349)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
CASUALTY OFFICER
(Resident or non-resident)
(Senior House Officer status)
Duties to be from 9 a.m. to 5 p.m. each day, except Saturday, which should be 9 a.m. to 1 p.m., and the applicant may be required to do one week-end's duty in each month. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7123)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
SENIOR HOUSE OFFICER
(Casualty Officer/House Surgeon)
Required immediately. Applications, with copies of testimonials, to be submitted as soon as possible to the Secy., Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8879)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the post of
CASUALTY OFFICER
The post is of Senior House Officer status, becomes vacant on May 23 and is tenable for one year. Conditions are in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of three testimonials, to be sent as soon as possible to the Secretary, from whom further particulars can be obtained. (8512)

Casualty—contd.

WALSALL GENERAL HOSPITAL (181 beds)
Walsall Hospital Management Committee
CASUALTY OFFICER (S.H.O. grade)
Required immediately. Apply Secretary. (7527)

BATTERSEA GENERAL HOSPITAL
Battersea Park, S.W.11
CASUALTY OFFICER (Resident)
(House Officer grade)
Required immediately for six months. Apply, enclosing copies of two recent testimonials, to Administrative Officer. (8776)

HACKNEY HOSPITAL, E.9 (797 beds)
Applications are invited for the post of
CASUALTY HOUSE OFFICER
also to act as House Physician to the Skin Department. Post vacant immediately and tenable for six months. Applications, with copies of three testimonials, to be sent to the Group Secretary, Hospital Management Committee, Hackney Hospital, E.9, by not later than March 10, quoting reference HH/CHO. (8880)

PUTNEY HOSPITAL, Lower Common, S.W.15
CASUALTY OFFICER AND FRACTURE HOUSE SURGEON (House Officer Grade)
(Non-resident)
Vacant April 1. Apply, enclosing copies of three recent testimonials, to Administrative Officer by March 8. (8520)

BOOTLE GENERAL HOSPITAL
Liverpool, 20 (119 beds)
North Liverpool Hospital Management Committee
Applications are invited for the post of
CASUALTY OFFICER (House Officer grade)
to commence April 1, 1952. Resident post. Salary and conditions of service in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, on forms obtainable from the undersigned, should be submitted as soon as possible.—F. J. Watkins, Secretary to the Committee, c/o Walton Hospital, Liverpool, 9. (8769)

CHESTERFIELD ROYAL HOSPITAL (322 beds)
Chesterfield Hospital Management Committee
CASUALTY OFFICER (House Officer)
Required immediately. National salary and conditions. Apply M. H. Boone, Secretary. (8649)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
CASUALTY OFFICER AND SECOND HOUSE PHYSICIAN (Male) (Joint post)
(First or second post held)
Six months' appointment. Salary at the rate of £350 to £400 per annum, less £100 per annum residential emoluments. Duties to commence March 15, 1952. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (8270)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for residential emoluments. The post will be tenable for six months and terminable by one month's notice either side. Forms of application from the Administrative Officer. (6325)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN
Busy casualty department. Applications immediately to the Secretary, H.M.C. (8811)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
CASUALTY OFFICER and HOUSE SURGEON
for a period of nine months from April 1, 1952. The first three months will be served as Casualty Officer and Deputy House Surgeon to future chief. The post of House Surgeon recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (8350)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Casualty and Orthopaedic)
Applications are invited from registered medical practitioners for the above post, which is vacant now. The post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8076)

PRESTON ROYAL INFIRMARY (400 beds)
CASUALTY OFFICER (House Officer Grade)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8482)

SOUTH SHIELDS, INGHAM INFIRMARY
(158 beds)
Applications are invited from registered medical practitioners for the post of
CASUALTY OFFICER "SPECIALS" HOUSE SURGEON (First or second post)
which is now vacant. The hospital is an acute general hospital with the usual special departments, staffed by whole-time and visiting consultants. The appointment will be for a period of six months. Applications to be addressed to the House Governor and Secretary (7205)

STOURBRIDGE, CORBETT HOSPITAL
(106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Casualty)
Post now vacant and will be tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (5384)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL, Watford, Herts
(189 beds)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
The Traumatic and Orthopaedic Department consists of 24 beds, and is integrated with the Royal National Orthopaedic Hospital. Salary according to N.H.S. scale. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent to undersigned.—Cyril Hopkinson, Administrator. (7573)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY
Wigan and Leigh Hospital Management Committee
CASUALTY OFFICER (Male or female)
House Officer grade post recognized for the F.R.C.S. examinations. Post vacant March 3, 1952. Applications, stating age, qualifications, etc., together with the names of two referees, should be received by the undersigned as early as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (8881)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 17

PUBLIC HEALTH

(See Important Notice page 19)

BRADFORD, CITY OF
Health Department
Applications are invited from registered medical practitioners for the whole-time post of
SENIOR MEDICAL OFFICER
whose duties will be mainly concerned with the Mental Health Service. Candidates should preferably hold the D.P.M. or equivalent qualification. The person appointed will be responsible to the Medical Officer of Health for the medical direction of the Mental Health Service provided under Section 51 of the National Health Service Act, 1946. He will also be required to undertake such other duties in the Health Department as may be decided by the Medical Officer of Health from time to time. Salary £1,250 by £50 to £1,650. The post is subject to the terms of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. Forms of application may be obtained from the Medical Officer of Health, Town Hall, Bradford, and should be returned to the undersigned not later than March 15, 1952.—W. H. Leathem, Town Clerk, Town Hall, Bradford. (8882)

BRADFORD, CITY OF
Health Department
ASSISTANT MEDICAL OFFICERS OF HEALTH
Applications are invited from registered medical practitioners, male or female, for the above-mentioned posts. The duties will be mainly concerned with school medical and child welfare work. The persons appointed will also be required to undertake such other duties in the Health Department as may be decided by the Medical Officer of Health from time to time. Preference will be given to candidates holding the Diploma in Public Health or the Diploma in Child Health. Salary £850 by £50 to £1,150. The posts are subject to the terms of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination. Forms of application may be obtained from the Medical Officer of Health, Town Hall, Bradford, and should be returned to the undersigned not later than March 15, 1952.—W. H. Leathem, Town Clerk, Town Hall, Bradford. (8807)

GLAMORGAN COUNTY COUNCIL
Applications are invited from registered medical practitioners for an appointment as
ASSISTANT MEDICAL OFFICER
in the Rhondda Health Division at a salary of £850 rising by annual increments of £50 to £1,150 per annum. Preference will be given to candidates holding the D.P.H. or D.C.H., and experience in paediatrics or obstetrics will be an advantage. Application forms, together with particulars of conditions of service, can be obtained from the County Medical Officer, County Hall, Cardiff, to whom completed forms must be returned within fourteen days of the publication of this advertisement.—D. J. Parry, Clerk of the County Council, Glamorgan County Hall, Cardiff. (8883)

HAMPSHIRE COUNTY COUNCIL
Applications are invited from duly qualified medical practitioners for the mixed whole-time appointment of
ASSISTANT COUNTY MEDICAL OFFICER
Hampshire County Council, and
MEDICAL OFFICER OF HEALTH
to the Alton Urban District Council and the Alton Rural District Council
The salary will be in accordance with the Industrial Court award. The Diploma in Child Health is desirable. The Diploma in Public Health is essential. The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937. Forms of application, giving details of appointment, which can be obtained from the County Medical Officer, The Castle, Winchester, should be returned to him not later than March 1, 1952.—G. A. Wheatley, Clerk of the County Council, The Castle, Winchester. (8808)

NOTTINGHAMSHIRE COUNTY COUNCIL
The County Council invite applications for the appointment of
COUNTY MEDICAL OFFICER OF HEALTH
at a salary of £2,450 per annum, rising by three annual increments of £100 to £2,750 per annum. Candidates must possess the qualifications prescribed by the Local Government Act, 1933, have wide knowledge and experience of the duties of a Medical Officer of Health and possess sound administrative and organizing ability. Full particulars of the appointment may be obtained from my office, and completed applications should reach me by March 5, 1952. Canvassing, directly or indirectly, will be a disqualification.—K. Tweedale Meaby, Clerk of the County Council, Shire Hall, Nottingham. (8351)

SOUTHPORT, COUNTY BOROUGH OF
Applications are invited from registered medical practitioners (male or female) for the half-time appointment of
MEDICAL OFFICER FOR THE MENTAL HEALTH SERVICE
Salary scale £425, rising by annual increments of £25 to a maximum of £575, the commencing salary to be fixed within this grade in accordance with the qualifications and experience of the successful candidate. The person appointed will be responsible for the administration and organization of the Council's Mental Health Service under the general direction of the Medical Officer of Health, and candidates should have experience in mental illness and mental deficiency. A motor-car allowance on the "Casual Users" scale is payable, and the appointment is terminable by one month's notice. Application forms and conditions of appointment may be obtained from the Medical Officer of Health, 2, Church Street, Southport. Completed applications to be sent to the undersigned so as to arrive not later than March 22, 1952.—R. Edgar Perrins, Town Clerk, Town Hall, Southport. (8770)

SUNDERLAND EDUCATION COMMITTEE
Applications are invited from qualified medical practitioners, male or female, for full-time appointment as
ASSISTANT SCHOOL MEDICAL OFFICERS
at a salary at the rate of £850 per annum, rising by annual increments of £50 to £1,150 per annum. Preference will be given to applicants who hold a Diploma in Public Health or a Diploma in Child Health. The appointments are subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination. Application forms, to be returned not later than March 19, may be obtained from the undersigned on receipt of a stamped addressed foolscap envelope.—W. Thompson, Director of Education, Education Offices, 15, John Street, Sunderland. (8809)

WALSALL, COUNTY BOROUGH OF
ASSISTANT MEDICAL OFFICER OF HEALTH
Applications are invited from qualified medical practitioners for this post, and must be received not later than March 22, 1952. Preference will be given to applicants holding the D.P.H. Salary £850 by £50 to £1,150, commencing salary according to qualifications and experience. Canvassing is prohibited. Candidates must disclose relationship to any member or officer of the Council. Further particulars can be obtained from me.—W. Staley Brookes, Town Clerk, The Council House, Walsall. (8869)

Public Health—contd.

WORCESTERSHIRE COUNTY COUNCIL
BOROUGH OF OLDBURY
OLDBURY BOROUGH MEDICAL OFFICER OF HEALTH AND WORCESTERSHIRE COUNTY DIVISIONAL MEDICAL OFFICER AND SCHOOL MEDICAL OFFICER

Applications are invited from qualified and duly registered medical practitioners, men or women, holding the Diploma in Public Health and possessing the requisite experience. The salary will range from a minimum of £1,491 13s. 4d. to a maximum of £1,858 6s. 8d. (namely the Borough Medical Officer of Health post will be on the scale of £516 13s. 4d., rising by annual increments of £16 13s. 4d. to a maximum of £583 6s. 8d., and the Divisional Medical Officer post on the scale £975 by annual increments of £37 10s. to a maximum of £1,275 per annum). The post is superannuable, subject to medical examination and determinable by three months' notice. The successful candidate will be required to reside in the Divisional Area. He will be required to undertake such duties as may be assigned to him and will be precluded from undertaking any other duties except with the Councils' previous consent. Travelling allowance for the use of the officer's own car will be paid in accordance with the County scale. Application forms from County Medical Officer, County Buildings, Worcester, to be returned not later than March 12, 1952.—Kenneth Pearce, Town Clerk, Municipal Buildings, Oldbury; W. R. Scurfield, Clerk of the County Council, Shirehall, Worcester. (X104). (8606)

GOVERNMENTAL

TREASURY MEDICAL SERVICE

Applications are invited from medical practitioners, practising in the districts detailed below, for appointment, in a part-time and mainly advisory capacity, as

LOCAL TREASURY MEDICAL OFFICER

for each of the places or groups of places shown. The town shown in brackets after the place-names indicates the Head Post Office Area in which the place, or group of places, is situated. Successful applicants will be required to examine and report on the condition of certain Government officers, teachers, candidates for appointment, etc., who may be referred to them from time to time; and to attend when summoned to an emergency case of accident or sudden illness occurring in a Government office in the neighbourhood. Fees for this work, and mileage allowance where necessary, will be paid on a scale agreed with the British Medical Association. Intending applicants should write, within fourteen days, to Treasury Medical Adviser, Treasury Chambers, Whitehall, S.W.1, for a form on which application may be made. Applicants should be not more than 60 years of age.

The places for which applications are invited are as follows:

England and Wales

Plymstock (Plymouth).
Rotherham (Rotherham).
Sale (Manchester).

Northern Ireland

Pomeroy (Dungannon).
Coleraine (Coleraine). (8884)

SERVICES

ROYAL NAVAL MEDICAL SERVICE

Candidates are invited for service as

MEDICAL OFFICERS

in the Royal Navy—preferably below 28 years. They must be British subjects whose parents are British subjects, and be medically fit. No examination will be held, but an interview will be required. Initial entry will be for four years' short service, after which gratuity of £600 (tax free) is payable, but permanent commissions are available for selected short service officers. Officers entered on or after January 1, 1951, will be eligible to be considered for antedates of seniority up to two years for service in recognized civil hospitals, etc. For full details apply Medical Director-General, Admiralty, S.W.1.

COMMERCIAL APPOINTMENTS

IMPERIAL CHEMICAL INDUSTRIES, LIMITED, requires a woman graduate to undertake maintenance and development of a scientific bureau of medical, toxicological and technical information in their Industrial Hygiene Department at Welwyn. Useful subject, chemistry and biology. Knowledge of medical terminology and some languages an advantage. Post is graded Assistant Technical Officer. Write for application form to Personnel Officer, I.C.I. Ltd., The Frythe, Welwyn, Herts.

INDUSTRIAL APPOINTMENTS

FACTORY DOCTORS
FACTORIES ACTS, 1937 and 1948

The following appointments as Appointed Factory Doctor under the Factories Acts, 1937 and 1948, are vacant: Plymstock, in the County of Devon; Rotherham, in the County of York. Applications, which should be received not later than March 15, 1952, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

MAJOR U.K. OIL COMPANY REQUIRES TWO full-time Medical Officers—one to be located in London, and the second in Manchester. The London post will involve mainly clinical work, and the doctor appointed should have good clinical experience and be well qualified. The Manchester post, in addition to clinical duties, will include some general industrial work, and experience and interest in organization and preventive medicine will be an advantage. Commencing salary in both cases within the B.M.A. scale for Industrial Medical Officers, and dependent upon experience, qualifications, etc. Apply as soon as possible, giving full details of qualifications, experience, and names of two referees, to Box 809, B.M.J.

MONSANTO CHEMICALS, LIMITED, INVITE applications from registered medical practitioners (male) for the full-time post of **Medical Officer** at the Ruabon factory. The duties will embrace the normal functions of an industrial medical officer, and the successful candidate will be responsible for the medical and first-aid services in the factory. Candidates should have a good standard of clinical medicine and an interest in preventive and industrial medicine. Previous industrial experience not essential. Commencing salary, according to age, experience, and qualifications, but not less than £1,100 per annum. Generous pension and superannuation scheme. Applications in the first instance should be made in writing to the Chief Personnel Officer, Monsanto Chemicals, Ltd., Allington House, Allington Street, London, S.W.1. (8870)

EIRE

GALWAY COUNTY COUNCIL

Applications are invited for the following posts in Galway Central Hospital:

(a) SENIOR RESIDENT MEDICAL OFFICER
(b) SENIOR RESIDENT OBSTETRICAL OFFICER

for a period of six months in the first instance as from April 1, 1952. Remuneration in each case at the rate of £200 per annum, with rations, apartments, fuel, light, laundry and attendance, together with temporary bonus of £41 18s. per annum. Applicants must be not less than 24 years of age on March 1, 1952, and must have had twelve months' experience in a hospital as a Resident Medical Officer, six months of which must be gained in the post of Resident House Physician in a general hospital. In the case of (b) candidates should possess the L.M. Diploma (postgraduate) granted by one of the Dublin Maternity Hospitals, or qualifications equivalent thereto.

(c) JUNIOR RESIDENT HOUSE PHYSICIAN

for six months as from April 1, 1952.

(d) JUNIOR RESIDENT HOUSE PHYSICIAN

for six months as from May 1, 1952.

Remuneration in each case at the rate of £150 per annum, with rations, etc., plus temporary bonus of £41 18s. per annum. Applicants must be not less than 23 years of age on March 1, 1952.

Applications, stating date of birth, together with certificate of registration, testimonials and certificates of experience, should be lodged with the Secretary, Galway County Council, County Buildings, Galway, on or before March 8, 1952. (8906)

JOINT COMMITTEE OF MANAGEMENT OF CORK SANATORIA

Applications are invited for the temporary post of

RESIDENT SURGICAL OFFICER

at Mallow Chest Hospital. Remuneration will be at the rate of £350 per annum, together with board, residence, laundry, and emergency bonus, which at present is at the rate of £60 per annum. Completed forms should be lodged not later than 12 noon on Tuesday, March 11, 1952, with the undersigned, from whom application forms and further particulars may be obtained.—D. O'Donovan, Secretary, Monument Buildings, 42, Grand Parade, Cork. (8871)

LOCAL APPOINTMENTS COMMISSION

Application forms and particulars from the Secretary, 45, Upper O'Connell Street, Dublin.

MEDICAL SUPERINTENDENT

Sub-Regional Sanatorium, Ardkeen, Co. Waterford
Minimum age limit, 30 years. Salary £1,390 by £30 to £1,600.

ASSISTANT MEDICAL OFFICER

Sub-Regional Sanatorium, Ardkeen, Co. Waterford
Salary £1,000 by £30 to £1,210.

Latest time for receiving completed application forms, 5 p.m. on March 11, 1952. (8905)

OVERSEAS

SARNIA, Ontario

Obstetrician, gynaecologist wanted for expanding Southern Ontario border city. Sound practical experience needed. Irish or Scot preferred. Six thousand ($6,000) a year, prospect partnership later. Air mail with photo and reference copies to Drs. Bennett and Thorp, 322, Wellington Street, Sarnia, Ontario.

SOUTH GEORGIA

Wanted immediately, **Doctor for a Whaling Station at South Georgia.** Higher qualifications necessary. Salary £100 per month, board and lodging provided. Applications to Medical Superintendent, Chr. Salvesen and Co., 29, Bernard Street, Leith.

WINNIPEG, MANITOBA, Canada

Applications are invited for the post of

PAEDIATRICIAN at the Winnipeg Clinic

Preference will be given to those with a higher qualification (M.R.C.P. and D.C.H.). Work is with a group of specialists actively engaged in private practice. Starting salary $5,000.00 to $6,000.00 per annum. Applications, stating age, qualifications, experience, names of two referees, should be sent to the Director, Winnipeg Clinic, Winnipeg. (8907)

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

ALBANY HOSPITAL, Albany, N.Y.

Internships and residencies available in Albany Hospital, Albany, New York. 750-bed general hospital, directly associated with Albany Medical College. House officers receive appointments in medical school. Salaries range from a minimum of $300 a year for interns to $1,400 a year for residents. Details on request. (9695)

HER MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom with one or more years' experience after qualification are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH
for General Medical and Health duties

Appointment is available (a) on probation for permanent establishment; (b) on employment from the National Health Service; and (c) on short-term contract with gratuity. (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in Her Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g., F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malaya salary on leaving Malaya at the end of their engagements. Emoluments as under (a), including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a) including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e., those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/242/51). (5187)

Overseas—contd.

AUCKLAND HOSPITAL BOARD, N.Z.

Applications are invited from those with the necessary qualifications for the status of Junior or Senior Specialist for the position of

RADIOLOGIST, Board's Institutions

Applicants must be qualified medical practitioners of the British Commonwealth, and the appointee shall be registered in New Zealand before taking up duty. Salary, Junior Specialist £1,260 per annum, rising to £1,560 per annum by annual increments of £50. Senior Specialist £1,660 per annum, rising to £1,910 per annum by annual increments of £50. Commencing salary within these scales will be in accordance with qualifications and experience in the specialty. The amounts quoted are in New Zealand currency and are living out rates. Living accommodation is not provided. Particulars regarding payment by the Board of travelling expenses are set out in the conditions of appointment which, together with an application form, may be obtained from the Office of the High Commissioner for New Zealand, 415, Strand, London, W.C.2. Applications, addressed to the Secretary, close at the office of the Board, Kitchener Street, Auckland, New Zealand, at noon on Monday, April 7, 1952. (8487)

FREMANTLE GENERAL HOSPITAL (200 beds) Western Australia

Applications are invited from registered medical practitioners for the non-resident appointment of

ANAESTHETIC REGISTRAR

Successful applicants must have had at least two years' experience since graduation. Preference will be given to applicants holding the Diploma in Anaesthetics. The term of appointment will be by mutual arrangement, but it is desired that the term be not less than three years. The salary range will be from £A.1,183 to £A.1,433, according to experience. An allowance of a maximum of £120 (Sterling) will be made available towards the cost of transport. Applications, in duplicate, stating full name, date, and place of birth, qualifications, and experience, conjugal conditions, and indicating the earliest date upon which the applicant could take up duty, should reach the Agent General for Western Australia, Savoy House, 115, Strand, London, W.C.2, from whom further particulars may be obtained, not later than March 15. (8806)

PRINCESS TSEHAI MEMORIAL HOSPITAL AND SCHOOL

P.O. Box No. 1377, Addis Ababa, Ethiopia

Applications are invited from British-born medical practitioners for the following appointments:

ANAESTHETIST (D.A.)

Three years' contract with the Ethiopian Government at a salary of Ethiopian dollars 15,000 per annum (E.$.7 equals £1 sterling). Return air passage provided for self and wife. Half month's salary as travelling allowance and two cubic metres baggage by sea route. Partially furnished quarters free. Successful candidate will be expected to serve other hospitals in Addis Ababa, the necessary transport being provided. Leave, one month per annum accumulative and two weeks' per annum local leave. Schooling is adequate for young children. Climate temperate at 8,500 feet.

RADIOLOGIST (D.M.R.)

Conditions of service, salary, etc., as for the above appointment.

Applications for either appointment, stating age and experience, together with copies of three recent testimonials and health certificate, should be sent immediately by air mail to Colonel W. Byam, O.B.E., Director. (8805)

UNIVERSITY COLLEGE OF KHARTOUM

Applications are invited for appointment to the following Chairs created on the incorporation of the Kitchener Medical School in the University College of Khartoum.

CHAIR OF MEDICINE
CHAIR OF SURGERY
CHAIR OF OBSTETRICS AND GYNAECOLOGY
CHAIR OF PATHOLOGY
CHAIR OF PUBLIC HEALTH

Salary £E.2,437 per annum. Cost-of-living allowance £E.142 to £E.352 per annum, according to personal circumstances. Annual leave with assisted passages after twelve to eighteen months' service. £E.1 equals £1 0s. 6d. No income tax at present payable in Sudan. Applications (six copies), giving full details of qualifications and experience, and the names of three referees, should be sent to the Secretary, Inter-University Council for Higher Education in the Colonies, 1, Gordon Square, London, W.C.1, from whom further information may be obtained. Closing date April 19. (8885)

UNIVERSITY COLLEGE OF KHARTOUM

Applications are invited for appointment to the following Chairs created on the incorporation of the Kitchener Medical School in the University College of Khartoum.

CHAIR OF ANATOMY
CHAIR OF PHYSIOLOGY

Salary £E.2,234 per annum. Cost-of-living allowance £E.142 to £E.352 per annum, according to personal circumstances. Annual leave with assisted passages after twelve to eighteen months' service. £E.1 equals £1 0s. 6d. No income tax at present payable in Sudan. Applications (six copies), giving full details of qualifications and experience, and the names of three referees, should be sent to the Secretary, Inter-University Council for Higher Education in the Colonies, 1, Gordon Square, London, W.C.1, from whom further information may be obtained. Closing date April 19, 1952. (8886)

UNIVERSITY COLLEGE OF KHARTOUM

Applications are invited for appointment to the following posts created on the incorporation of the Kitchener Medical School in the University College of Khartoum.

LECTURESHIPS IN PHYSIOLOGY
LECTURESHIPS IN PATHOLOGY
LECTURESHIPS IN PUBLIC HEALTH
LECTURESHIPS IN MEDICINE
LECTURESHIPS IN SURGERY

Salary scales as follows: Physiology, £E.1038 to £1,319 per annum (Lecturer); £E.1,422 to £E.1,812 per annum (Senior Lecturer): all other posts, £E.1,126 to £E.1,411 per annum (Lecturer); £E.1,526 to £E.1,953 per annum (Senior Lecturer). Status and point of entry in scale according to qualifications and experience. Cost-of-living allowance £E.142 to £E.352 per annum, according to personal circumstances. Appointment on up to seven years' contract, with bonus on completion of one month's salary for each year of service. Annual leave with assisted passages after twelve to eighteen months' service. £E.1 equals £1 0s. 6d. No income tax at present payable in the Sudan. Applications (six copies), giving full details of qualifications and experience, and the names of three referees, should be sent to the Secretary, Inter-University Council for Higher Education in the Colonies, 1, Gordon Square, London, W.C.1, from whom further information may be obtained. Closing date April 19, 1952. (8887)

UNIVERSITY APPOINTMENTS

ROYAL VETERINARY COLLEGE AND HOSPITAL (University of London)

Applications are invited for a

SENIOR LECTURESHIP OR LECTURESHIP IN HISTOLOGY AND EMBRYOLOGY

in the Department of Veterinary Anatomy. The successful applicant will be responsible for administration of the Division of Histology and Embryology, for supervision of research within the Division, and for the conduct of lectures and practical and tutorial classes required for preparation of students for registrable qualifications in veterinary medicine and surgery. Salary scales: Senior Lecturer, £1,000 to £1,250; Lecturer, £600 to £850 to £1,150. Superannuation under F.S.S.U. Children's allowances. Application forms (obtainable from the Secretary) should reach him not later than March 14, 1952, at Royal Veterinary College and Hospital, Royal College Street, London, N.W.1. (8888)

UNIVERSITY OF LONDON

The Senate invite applications for the

GOLDSMITHS' COMPANY'S CHAIR OF BACTERIOLOGY

tenable at the London Hospital Medical College (salary within the range £2,250 to £2,750 a year). Applications (ten copies) must be received not later than April 7, 1952, by the Academic Registrar, University of London, Senate House, W.C.1, from whom further particulars should be obtained. (8872)

UNIVERSITY OF LONDON KING'S COLLEGE

Will require on April 23, 1952, a

LECTURER IN PHYSIOLOGY

on the Junior Lecturer scale of £600, rising by annual increments of £50 to £750, with family allowances and F.S.S.U. benefits. Particulars and application forms should be obtained from the Registrar, King's College, Strand, W.C.2, whom completed applications should reach by March 22. (8588)

UNIVERSITY OF LIVERPOOL

Applications are invited for the post of

LECTURER

(salary scale £900 by £100 to £1,500 per annum), or

ASSISTANT LECTURER

(salary scale £600 by £100 to £800 per annum) in Pathology. The status and salary of the successful candidate to be fixed according to qualifications and experience. Applications, stating age, academic qualifications and experience, together with the names of three referees, should be received not later than April 5, 1952, by the undersigned, from whom further particulars may be obtained.—Stanley Dumbell, Registrar. (8804)

PERSONAL

FIRST-CLASS HOTEL FOR ELDERLY PEOPLE. Happy home, every comfort. Special diets. Ample staff. Nursing staff in attendance. All inclusive £12 12s. per week.—Eversleigh Court Hotel, 109, Cromwell Road, Kensington, S.W.7. Frobisher 0588.

NEW CARS STAY NEW IF THE UPHOLSTERY is protected by loose covers. Write or 'phone the Specialists, Car-Coverall, Ltd., 168, Regent Street, London, W.1. MONarch 1601-3.

TRAVEX. THE TRAVEL/THEATRE SERVICE catering especially for doctors and dentists. Theatre, rail, sea or air tickets without trouble. Just 'phone LANgham 6941/5. Travex, Ltd., 17, Wigmore Street, W.1.

CLASSIFIED ADVERTISEMENTS
For Charges, Please See Inside Back Cover, February 23 issue

NOTICES

PRIVATE BEDS AT ITALIAN HOSPITAL (NOT nationalized), Queen Square, W.C.1. Single room, 12 gns.; sharing, 8 gns. Open to patients of consultants of recognized standing.—Ring Secretary, Holborn 6191.

PREGNANCY DIAGNOSIS BY THE XENOPUS METHOD. 24-hour service. Send specimen of urine and £1 1s. fee to Welbeck Biological Laboratories, 26, Park Crescent, Portland Place, W.1. MUS. 5386-7.

UNIVERSITY OF OXFORD

Election of one member of the Board of the Faculty of Medicine by the General Medical Electorate

An election of one member of the Board of the Faculty of Medicine (vice Mr. E. A. Crook, who is re-eligible) will be held on Wednesday, June 4, 1952. The member elected will hold office for two years from the first day of Michaelmas Term, 1952. The General Medical Electorate consists of all Oxford Graduates in Medicine who are members of Convocation. The Board of the Faculty of Medicine includes two members elected by the General Medical Electorate who must be members of that body and of whom one at least must be a person engaged in teaching one or more of the clinical subjects of the Faculty. The other member elected by the General Medical Electorate is Sir J. J. Conybeare, K.B.E. Nominations of duly qualified candidates for election will be received by the Secretary of Faculties at the University Registry up to 10 a.m. on Wednesday, May 7, 1952. Each nomination must be signed by six members of the General Medical Electorate, and no candidate will be eligible whose nomination has not been received by that date. (8771)

PREGNANCY DIAGNOSIS

PREGNANCY DIAGNOSIS (HOGBEN TEST). Family Planning Association Laboratories, 64, Sloane Street, London, S.W. (Sloane 0451). Specimens of urine accepted from doctors and hospitals anywhere. Result available within 24 hours of receipt of specimen. Cost 25s. (hospitals and clinics at special rates). Telephone or write for details.

EDUCATIONAL

WANTED, ADDITIONAL TUTORS FOR postal tuition in pathology, ophthalmology and physical medicine. Address, The Secretary, U.E.P.I., 17, Red Lion Square, London, W.C.1.

GENERAL MEDICINE (M.R.C.P.). EVENING Course. March 10 to 14, 7 to 9 p.m. daily. Connaught Hospital, Walthamstow. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

PRIMARY F.R.C.S. COURSE IN APPLIED physiology and pathology will start on March 11. Also, tuition to suit individuals arranged.—Box 801, B.M.J.

NORTH LONDON POSTGRADUATE MEDICAL INSTITUTE

Bearsted Memorial Hospital, N.16
Chase Farm Hospital, Enfield
North Middlesex Hospital, Edmonton, N.18
St. Ann's General Hospital, Tottenham, N.15
The Prince of Wales's General Hospital, Tottenham, N.15

A Course in Advanced Medicine, in preparation for the M.R.C.P. examination, will be held from April 21, 1952, to June 13, 1952, including lectures, clinical and pathological demonstrations, and tutorials. Fee 25 guineas. Application forms from the Dean, The Prince of Wales's General Hospital, N.15 (not later than March 17). (8874)

POSTGRADUATE STUDY. Diploma in Anaesthetics; Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Laryngology; Diploma in Child Health; F.R.C.S.Eng., and all Surgical Examinations; M.R.C.P.Lond. and all Medical Examinations; M.D. Thesis of all Universities; Courses for all qualifying Examinations. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested. Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1.

RHEUMATIC DISEASES (WEEK-END). ALL day Saturday and Sunday, March 29 and 30. Rheumatic Unit, St. Stephen's Hospital. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

INSTITUTE OF DISEASES OF THE CHEST

A SHORT COURSE IN THORACIC SURGERY AND ANAESTHESIA

A Short course in Thoracic Surgery and Anaesthesia will be held at the Institute of Diseases of the Chest from March 24 to April 5, 1952. The course will consist of lectures and demonstrations each evening and on Saturday mornings. Fee 5 guineas.

Further information can be obtained from, and applications should be made to, the Surgical Sub-Dean, Institute of Diseases of the Chest, Fulham Road, London, S.W.3.

PROGRAMME

MONDAY—MARCH 24		
5 p.m.	Cardio-respiratory Physiology	DR. B. G. B. LUCAS
6 ,,	Injuries to the Chest	MR. W. P. CLELAND
TUESDAY—MARCH 25		
5 p.m.	Carcinoma of the Bronchus	MR. C. DREW
6 ,,	Mitral Stenosis	MR. T. HOLMES SELLORS
WEDNESDAY—MARCH 26		
3–4.30 p.m.	Anaesthetic Demonstration	DR. I. ENGLISH
5 ,,	Controlled Respiration	DR. M. D. NOSWORTHY
6 ,,	Subphrenic Abscess	MR. J. R. BELCHER
THURSDAY—MARCH 27		
5 p.m.	Patent Ductus Arteriosus	MR. N. R. BARRETT
6 ,,	Collapse Therapy in Pulmonary Tuberculosis	MR. L. L. BROMLEY
FRIDAY—MARCH 28		
5.30 p.m.	Constrictive Pericarditis	MR. V. THOMPSON
SATURDAY—MARCH 29		
9.30 a.m.	Carcinoma of the Oesophagus	MR. W. P. CLELAND
10.30 ,,	Demonstration—Anaesthesia	DR. PARRY BROWN
	Demonstration—Surgery	MR. W. P. CLELAND
MONDAY—MARCH 31		
5 p.m.	Post-operative Complications	DR. B. G. B. LUCAS
6 ,,	Bronchial Obstruction	MR. V. THOMPSON
TUESDAY—APRIL 1		
5 p.m.	Resection for Fulmonary Tuberculosis	MR. O. S. TUBBS
6 ,,	Local Anaesthesia in Thoracic Surgery	MRS. R. MANSFIELD
WEDNESDAY—APRIL 2		
3–4.30 p.m.	Anaesthetic Demonstration	DR. I. ENGLISH
5 ,,	Anatomy of Bronchial Tree	MR. R. C. BROCK
6 ,,	Cyanotic Heart Disease	MR. I. HILL
THURSDAY—APRIL 3		
5 p.m.	Bronchiectasis	SIR CLEMENT PRICE THOMAS
6 ,,	Lung Abscess	MR. J. R. BELCHER
FRIDAY—APRIL 4		
5.30 p.m.	Injuries to the Heart	MR. N. R. BARRETT
SATURDAY—APRIL 5		
9.30 a.m.	The Problem of Secretions	DR. R. MACHRAY
10.30 ,,	Demonstration—Surgical	MR. L. L. BROMLEY
	Demonstration—Anaesthesia	DR. R. MACHRAY (8873)

CONFERENCE-COURSE ON THE TECHNIQUE OF MEDICAL TEACHING

to be held at

THE LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE,
KEPPEL STREET, W.C.1.

PROGRAMME

FRIDAY, MARCH 28		
2 p.m.	Teaching Teachers	SIR GEOFFREY JEFFERSON
2.45 ,,	The Influence of Examinations on Teaching	PROFESSOR HAROLD RODGERS
3.30 ,,	The Clinical-Pathological Conference	PROFESSOR J. H. DIBLE
SATURDAY, MARCH 29		
9.30 a.m.	The Training of the Research Worker	PROFESSOR E. J. WAYNE
10.30 ,,	Visual Methods	DR. R. G. W. OLLERENSHAW
11.30 ,,	Clinical Methods	
2 p.m.	Practical Clinical Instruction	PROFESSOR C. BRUCE PERRY
3 ,,	The Education of the General Practitioner	DR. G. O. BARBER

Admission by ticket only. Tickets, by application, from The Postgraduate Medical School, Du Cane Road, W.12. (8889)

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes, 1938-1951; M.D.Lond., 65; M.B., B.S.Lond., Final, 152; F.R.C.S.Eng., Primary, 197; F.R.C.S.Eng., Final, 185; M.R.C.P.Lond., 204; M.R.C.S., L.R.C.P., Final, 331; D.A., 181; D.C.H., 139; M. and D.Obst.R.C.O.G., 221; D.O., C.P.H., D.P.H., D.L.O., D.P.M., F.R.C.S.Edin., many successes. Assistance with M.D. Thesis. Prospectus, list of tutors, etc., on application to Dr. G. E. Oates, University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

RESEARCH SCHOLARSHIP

A Leverhulme Research Scholarship will shortly be awarded by the Royal College of Surgeons of England. The Scholarship is of the annual value of £400, with an allowance not exceeding £100 for expenses of research, tenable for one year in the first instance, but renewable at the discretion of the Council. Scholars may be male or female, and must hold a medical qualification registrable in the United Kingdom or a university degree. Scholars must devote themselves to the investigation of some biological or clinical problem of disease as it occurs in man, with a view to the extension of surgical knowledge. Facilities for research will be provided in the Bernhard Baron laboratories of the Royal College of Surgeons in Lincoln's Inn Fields, or at the Buckston Browne Farm, Downe, Kent. In special circumstances Leverhulme scholars may work elsewhere. Applications, stating the nature of the proposed research and accompanied by a recommendation from a member of the staff of the applicant's medical school or university, should be sent to the Secretary, Royal College of Surgeons, Lincoln's Inn Fields, W.C.2, on or before March 12, 1952.—Kennedy Cassels, Secretary. (8876)

ROYAL COLLEGE OF SURGEONS OF ENGLAND

SURGERY LECTURES AND CLINICAL CONFERENCES, APRIL AND MAY, 1952

A Course of 24 Surgery Lectures, with ten clinical conferences at certain selected hospitals, will be held from April 15 to May 2, 1952. Only a limited number of students can be accepted for the conferences. Fees: Whole Course, £12 12s.; Lectures only, £8 8s. Applications, accompanied by a cheque for the appropriate fee, should be sent to W. F. Davis, Esq., Deputy Secretary, Royal College of Surgeons of England, Lincoln's Inn Fields, W.C.2, from whom further information may be obtained (HOLborn 3474). (8875)

SOCIETY OF APOTHECARIES OF LONDON.—Surgery: April 15, May 12, June 9. Medicine and Pathology: April 21, May 19, June 16. Midwifery: April 22, May 20, June 17. Mastery of Midwifery: May and November. Diploma in Industrial Health: July and December. For regulations apply Registrar, Apothecaries' Hall, Black Friars' Lane, London, E.C.4.

SURGICAL REVISION (F.R.C.S.). MONDAY, Thursday and Friday mornings, March 10 to April 26. Royal Cancer Hospital. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

TUBERCULOSIS EDUCATIONAL INSTITUTE

A three-day Clinical Course will be held at the Red Cross Sanatoria of Scotland (Tor-na-Dee and Glen o'Dee) on March 19, 20, and 21. Fee £3 3s. Applications to the Secretary, Tuberculosis Educational Institute, Tavistock House North, Tavistock Square, London, W.C.1. (8488)

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The Council invite applications for the following Annual Examinerships:

	No. to be elected	No. who seek Re-election
FOR THE FELLOWSHIP		
*Anatomy	4	4
*Applied Physiology and Pathology	4	4
*Associate Examiner in Ophthalmology	1	1
FOR THE LICENCE IN DENTAL SURGERY		
Board of Examiners in Dental Surgery (Surgical Section)	6	6
Examiners must be Fellows of the College, and will be required to examine in General Surgery (including Surgical Pathology), Medicine, General Pathology, and Bacteriology.		
FOR THE FELLOWSHIP IN DENTAL SURGERY		
Board of Examiners for the Fellowship in Dental Surgery	2	2
Examiners must be Fellows of College and will be required to examine in General Surgery.		
UNDER THE EXAMINING BOARD IN ENGLAND		
Elementary Biology	4	2
*Anatomy	3	2
*Physiology	2	2
†Midwifery	4	4
Pathology (for M.R.C.S., L.R.C.P.):		
Surgeons	2	2
Pathologists	2	2
Public Health:		
Preliminary	1	0
Final	1	0
Tropical Medicine and Hygiene:		
Pathology and Tropical Hygiene	1	1
Tropical Medicine and Surgery	1	0
Ophthalmology	7	7
Psychological Medicine:		
Part I (Neurologist)	1	1
Laryngology and Otology:		
Part I	2	2
Part II	1	0
Medical Radio-Diagnosis:		
Part I	1	1
Part II	1	1
Medical Radiotherapy:		
Part I	1	1
Part II	1	0
Anaesthetics:		
Part I	2	2
Part II	2	2
Child Health	3	2
Physical Medicine:		
Part I	2	2
Part II	2	2
Industrial Health	1	1
Pathology (for Diploma in Pathology)	2	1

* Candidates must hold a medical qualification registrable in this country.

† Candidates must be Fellows or Members of the College.

Forms of application can be obtained from the Secretary, and these must be completed and returned by Friday, March 21, 1952.

KENNEDY CASSELS,
Secretary.

Lincoln's Inn Fields, London, W.C.2.
March, 1952.

LECTURES

UNIVERSITY OF LONDON.—A LECTURE ON "Interactions of Proteins with Ions and Neutral Molecules" will be given by Dr. J. T. Edsall (Harvard) at 6 p.m. on March 12, 1952, at the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1. Admission free, without ticket.—James Henderson, Academic Registrar. (8877)

UNIVERSITY OF LONDON.—A LECTURE ON "The Cerebellum and its Connections in the Light of Recent Investigations" will be given by Professor J. Jansen (Oslo) at 5 p.m. on March 6, 1952, at St. Mary's Hospital Medical School (Wright Fleming Institute Lecture Theatre), Paddington, W.2. Admission free, without ticket.—James Henderson, Academic Registrar (8878)

SITUATIONS VACANT

North Devon Hospital Management Committee.—Pathological Laboratory, Boutport Street, Barnstaple.—Applications are invited for the post of **Technician** or **Junior Technician** in a new laboratory serving the North Devon District. Considerable experience in haematology is essential. Salary and conditions in accordance with Whitley Council scales. Applications, stating age, qualifications and experience, together with the names of two referees, to the Pathologist at the above address. (8108)

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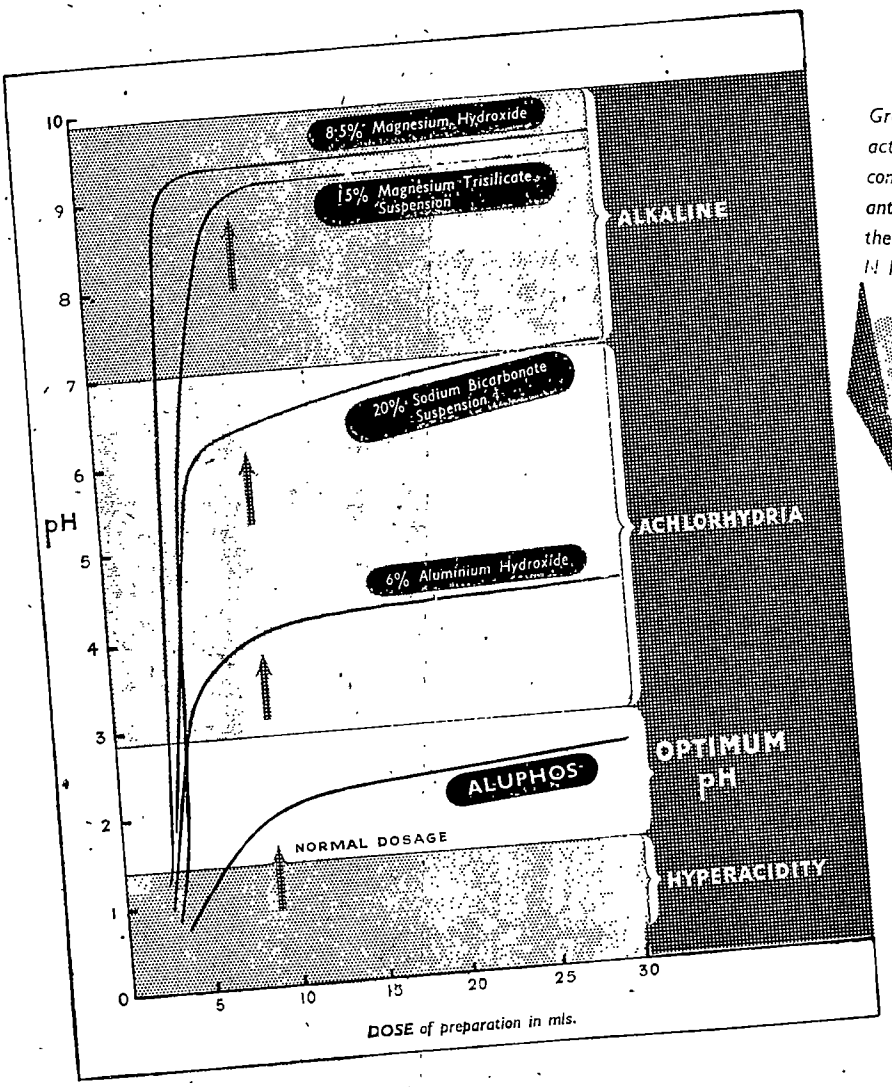

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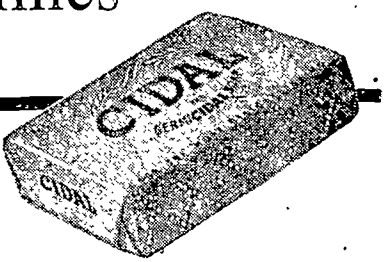

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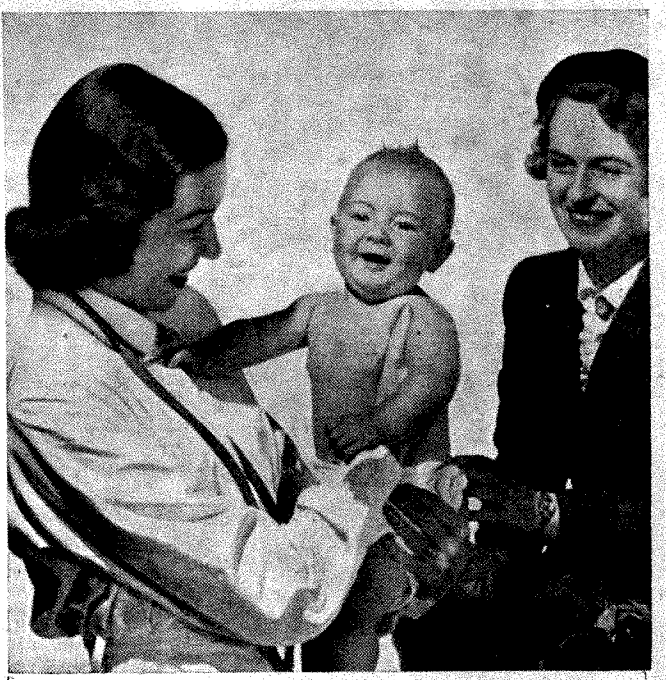

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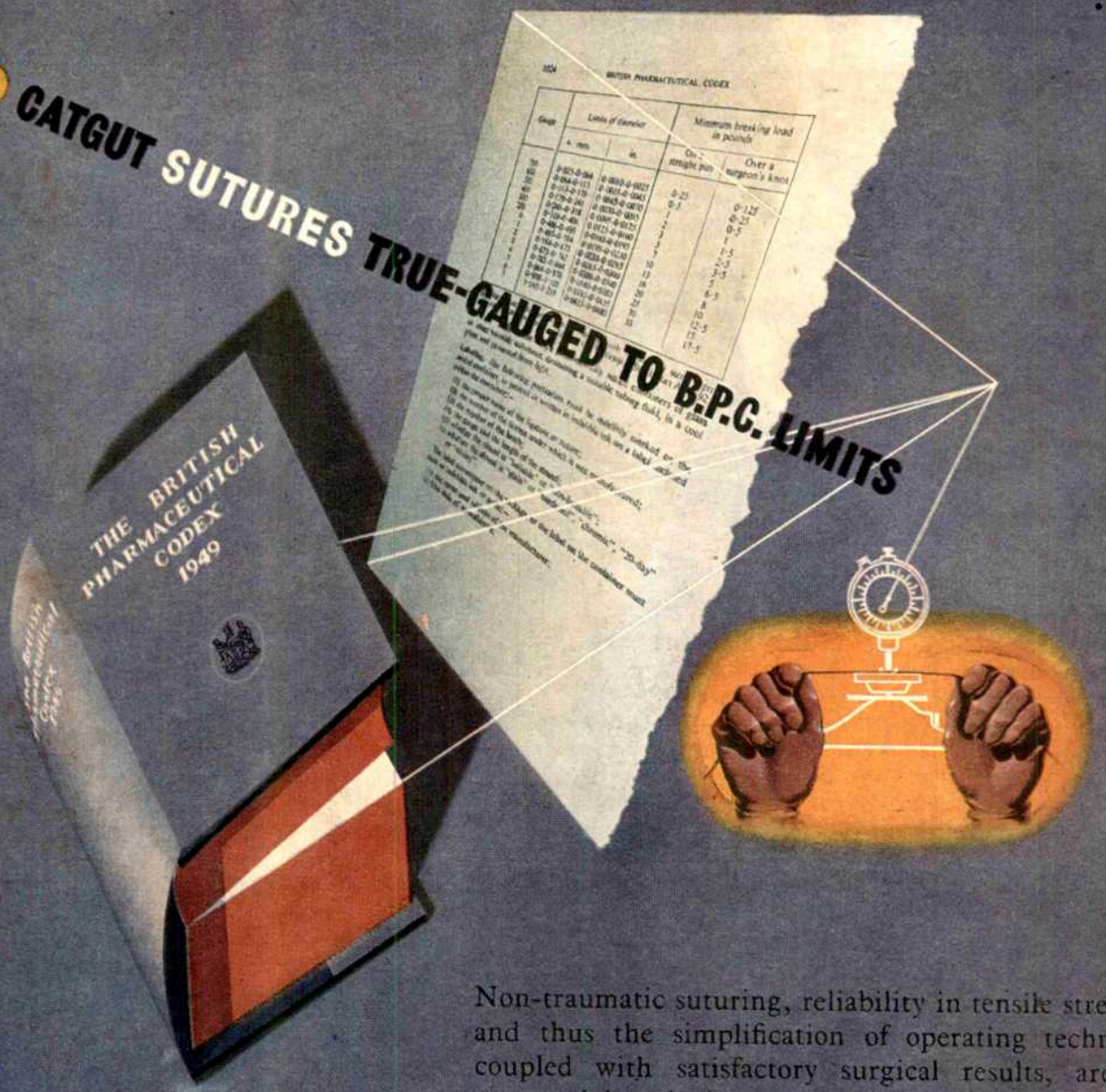

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY MARCH 8 1952

CORONARY HEART DISEASE IN MEDICAL PRACTITIONERS

BY

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In a previous paper some aspects of the recent history of coronary disease were examined. The evidence given there supported the widely held view that there has been some true increase of coronary thrombosis and coronary heart disease during the present century, apart from the effect of the ageing of the population, and it was suggested also that this increase may not have been due to an increase of the underlying chronic atheroma (Morris, 1951). The present report turns to the contemporary situation, and gives some results of an inquiry on coronary heart disease carried out in various occupations.

There is no doubt that coronary heart disease is a major problem of the public health, and, however the certified causes of death are regarded, coronary heart disease must now be among the commonest. Little is known about its causes, and experience of other conditions suggests that examination of the epidemiology may well be rewarding. There are indications, also, from clinical experience and the figures of the Registrar-General, of social factors in coronary heart disease, in work and mode of life, and these clues must be followed up. If coronary heart disease is in fact commoner than it used to be, environmental *changes* with which the increase may be associated must be sought, however indirectly such changes may seem to operate.

An investigation has been conducted in several occupational groups; and the results of this study in one group, medical practitioners, are now being given because the information was obtained in a special way and because it is likely to be exceptionally reliable. There is some general feeling, too, that doctors may suffer more than others from coronary heart disease, and the present figures may give some idea, at least, of the "ceiling" of this disease in the population. This occupation, moreover, though of particular interest, is amongst the least studied.

Material and Methods

The present study was made from the records of the Medical Sickness, Annuity and Life Assurance Society, Ltd. (after this called "the Society"), a mutual benefit organization which has several thousand doctors on "non-cancellable" sickness and accident policies (Heath, 1939). "Non-cancellable" indicates a form of insurance in which renewal is not subject to annual review by the Society, and continuance of the policy is thus independent of morbidity experienced while holding the policy. The Society's records of the later attacks of a disease, therefore, are as representative as its records of the first attacks. Most policies issued provide for payment of a weekly benefit from the outset of any sickness, or accident, causing total incapacity to carry out the member's occupation for seven days or longer. The inquiry was limited to the records of members holding these "immediate benefit" policies, since the records of other policies providing "deferred benefit" do not give full information concerning the early part of a period of incapacity. The Society's policies in general terminate at age 60 or at age 65 years, and the present inquiry is restricted to ages 35–64 years, inclusive. Males only were studied because of the small number of women in the Society in the age groups most important to this inquiry. Throughout the report, therefore, when "medical practitioners" or "doctors" are mentioned, reference is intended to male members of this Society, of the ages stated, holding the relevant insurance—and to no others.

The "population" being studied, although it is substantial and may include about a quarter of the country's doctors in the ages considered, is *selected*, because a full medical examination is given to all applicants. It is possible, therefore, for instance, that doctors who know they have diabetes or material hypertension may hesitate even to apply for insurance. The great majority of policy-holders, however, join in their late twenties and early thirties—that is, before coronary heart disease, or the conditions with which it may be associated, can usually be recognized. Such selection as this is likely to be in the "safe direction" for the present inquiry, for it will reduce the number of cases found, and not exaggerate it. There is no information on which to base discussion of the more subtle selective factors. Is it the more anxious personality who applies for a policy? Or the more careful? Or the man who is less careful but who knows himself to be so, and wishes to protect his dependants from the risks he cannot stop himself taking? Does an unhealthy family history prompt the taking out of insurance? There is even less basis on which to discuss the unconscious motivation involved. The mortality of members of this Society cannot be compared with that of all "physicians and surgeons, etc.," reported in the Registrar-General's occupational

mortality supplement for 1930–2 (Registrar-General, 1938), because the age structure of the Society's membership during those three years is unknown.

Payment of benefit is on the basis of medical certificates which involve at least two doctors—the patient and his medical attendant. Although a "specialist opinion" is not of course necessary, examination of a large proportion of the records of first illness from coronary heart disease showed that such confirmation of the diagnosis had, in fact, been recorded in three-quarters of the cases, often with copies of electrocardiographic findings, etc. As a routine precaution all the certificates for each illness were considered and the final diagnosis was used. The recording was carried out with a combination of serial numbers and names, which permitted the fullest use of the available information, and at the same time preserved the confidential nature of the records. All deaths of members are known to the Society, including coroners' cases, and a copy of the death certificate is obtained.

Coronary heart disease in the present inquiry includes the following disorders arising on atheroma of the coronary arteries, with thrombosis, obstruction, occlusion: the clinical syndromes usually called "*coronary thrombosis*" (*sudden deaths* and *myocardial infarction*); *angina pectoris* (or of effort); and occasional cases described as "*coronary insufficiency*," etc. Cases diagnosed as "angina pectoris," without a pathology being stated, were also included. "Ischaemic heart disease" is the more accurate term, but "coronary heart disease" is convenient and in too common use to be discarded. Throughout the paper reference is intended only to the above *clinical* manifestations of the disease, together with their complications and consequences, and not at all to the natural history of the disease in *pathological* terms. "First attack," for example, and "first clinical attack" are used interchangeably.

Apart from the main statements on the certificates, referring in the present instance to coronary heart disease, further information was often given—for example, on hypertension and other associated conditions. No particular attention, however, can here be paid to these. The present type of study, moreover, is not suitable for the consideration of such clinical matters as the site of infarction. The mortality analysis, similarly, deals only with coronary heart disease as the certified cause of death; often there was evidence of necropsy, but this aspect had also to be ignored.

In summary, therefore, information about the male members of the Society aged 35–64 years who hold immediate benefit non-cancellable sickness insurance, and are absent from work because of coronary heart disease, is available as follows: *Where the absence lasts less than a week:* Information only about *deaths*, from death certificates (and, often, other reports). *Where the absence lasts a week or longer:* Information on medical certificates about the *illness*, from the *first* day of the absence. Date of ending of *absence*, as well as its beginning. Information about *deaths* as above.

Figures will be presented for *morbidity* and *mortality*. The annual rates of occurrence of various manifestations of the disease at different ages will be worked out in the usual way, by reference to the total number of men concerned—for example, if over a given period there is an average of 12 cases a year (the "numerator") in men aged 50–54 years, and over the same period an average "population" of 1,500 doctors of that age with non-cancellable insurance (the "denominator"), the *average annual rate* is 8 per 1,000.

Since *comparison of rates* in two population groups can be misleading if one group includes more old people than the other, the rates in this paper which summarize the experience of men over a wide age range—for example, 40–59 years—will be *standardized* for age. The "standard" population that will be used here is the civilian population of England and Wales in mid-1949, the latest figures available at the time from the Registrar-General.

PART I: THE DISEASE IN MEDICAL PRACTITIONERS

Incidence

The "incidence" gives the number attacked by coronary heart disease for the first time, so far as is known, in 1,000 of these medical practitioners per year. The number of new cases is a basic figure to have in studying disease in any "population," whether it is this group of doctors or one doctor's practice. As used here, the "incidence" is the rate of all first manifestations of coronary heart disease, regardless of the form taken, that (*a*) were recognized and diagnosed among these medical practitioners, and (*b*) led to absence from work lasting a week or more, or to death. The attack was regarded as a first attack if there had been no previous claim for benefit for coronary heart disease.*

Column 1 of Table I shows the ages; column 2 the average number of practitioners holding the relevant insurance

TABLE I.—*Incidence of Coronary Heart Disease in Medical Practitioners, 1947–50. Men Aged 35–64 Inclusive. Average Annual Rates per Thousand*

Ages Last Birthday (Years)— (1)	Mean Population (2)	No. of First Attacks (3)	Incidence—First Attack Rate p.a. (4)
35–39	1,155	2	—
40–44	1,367	12	*2·2*
45–49	1,549	21	*3·4*
50–54	1,006	28	*7·0*
55–59	696	33	*11·9*
60–64	407	27	*16·6*
All ages 35–64 incl.	6,180	123	*5·0*
Standardized rate at ages	40–59 incl.		*5·5*
" " " "	40–64 "		*7·1*

Ages.—All recording was based on year of birth. Ages are therefore in fact ages attained at the beginning of the calendar year.

Mean Population.—This was calculated from annual counts of the Society's membership, as on January 1 of the five years 1947–51. All men included held non-cancellable sickness and accident insurance, at the date of the count, of a type providing benefit from the beginning of periods of absence from work because of sickness which lasted seven days or more. The members of the Society are mostly resident in the United Kingdom, though there are a few elsewhere.

First Attacks.—These are men clinically attacked by coronary heart disease (as defined) for the first time between January 1, 1947, and December 31, 1950, who, at the time of this attack, held insurance of the type above. The figures are made up of (*a*) non-fatal first attacks causing absences from work for seven days or more, and (*b*) *all* fatal first attacks.

Incidence.—First attacks per 1,000 living, per annum.

Standardized Rates.—These are based on the civilian population of England and Wales in mid-1949.

*It is not possible to be absolutely certain that first claims for coronary heart disease always represented first absences for this condition, or that first absences always coincided with the first diagnosis, or first diagnoses with first clinical attacks. Diagnoses may be missed, and atypical and premonitory cardiac pain, for instance, may be overlooked. It is conceivable, too, that angina pectoris, even when diagnosed for the first time, and even among medical practitioners, did not always lead to as much as a week's sick leave. It is not possible, however, to check this kind of matter, and since it is unlikely that such reservations could be common enough to affect the age or other trends being investigated, they will be ignored. The further possibility that practitioners may have taken time from work, and not troubled to claim the benefit to which they were entitled, is also not likely to have modified the results. The Society's experience of claims made retrospectively is that such claims have rarely to be made for illnesses which have lasted any length of time. Eighty per cent. of observed first absences for angina pectoris, and 97% of observed first absences for "coronary thrombosis" (that was not rapidly fatal) lasted more than a month. The *average* first absences were, of course, much longer. In brief, it is considered that the chain of events, first diagnosis of coronary heart disease—sick absence for a week or longer—claim for benefit, is reasonably complete. The "sudden" deaths are in a different category, and are covered.

in each age group over the four years 1947–50; column 3 is the number of first attacks recorded in the four years; and column 4 gives the "incidence"—the annual rate of first attack per 1,000 in each age group. Column 4 shows a steep incline from the late thirties to 16.6 per 1,000 among men in their early sixties (Fig. 1).

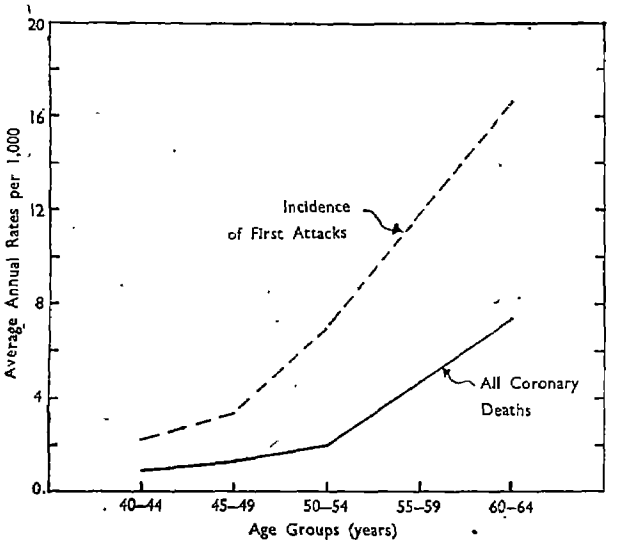


FIG. 1.—Incidence and mortality in coronary heart disease, 1947–50. Male medical practitioners aged 40–64 inclusive. (See notes to Tables I and II for information about the Society's membership, etc.)

Mortality Rates

Coronary heart disease is the main "cause of death" in the Society after 35 years of age, about one-third of all mortality among members being ascribed to it, and this fraction does not vary with age. Under, say, 50 years this fraction will be influenced by the Society's policy of selection, but after about 50 it may represent a more complete picture of the experience of medical practitioners. Table II includes all the "coronary" deaths in the population described in Table I. Columns 2, 4, and 6 give the number of deaths; columns 3, 5, and 7, in italics, the relevant rates.

TABLE II.—*Mortality from Coronary Heart Disease in Medical Practitioners, 1947–50. Men Aged 35–64 Inclusive. Average Annual Rates per Thousand*

Ages Last Birthday (Years) (1)	Deaths in First Six Days of First Attack		Deaths in First Month of First Attack		All "Coronary" Deaths	
	No. (2)	Rate (3)	No. (4)	Rate (5)	No. (6)	Rate (7)
35–39	1	—	1	—	2	—
40–44 ..	9	*0·8*	5	*0·9*	5	*0·9*
45–49 ..			6	*1·0*	8	*1·3*
50–54 ..	14	*2·1*	5	*1·2*	8	*2·0*
55–59 ..			12	*4·3*	13	*4·7*
60–64	5	*3·1*	9	*5·5*	12	*7·4*
35–64 incl. ..	29	*1·2*	38	*1·5*	48	*1·9*
40–59 ,, ..	23	*1·4**	28	*1·7**	34	*2·0**
40–64 ,, ..	28	*1·6**	37	*2·2**	46	*2·8**

* *Standardized rates.*

For notes on ages, the Society's population, and standardized rates, see Table I.

Columns 4 and 5: Lengths of sick absences were calculated in years to 2 decimal places. Deaths in the first "month" were taken to be those occurring in 0·08, or less, of a year.

Columns 6 and 7: All deaths ascribed to coronary heart disease, as defined. The rates of column 7, Table II, may be compared with the American rates for 1938–42:

Mortality From Coronary Heart Disease in Medical Practitioners of U.S.A.

Age		Age	
35-39 ..	0.37 per 1,000	50-54 ..	3.76 per 1,000
40-44 ..	1.02 ,, ,,	55-59 ..	5.92 ,, ,,
45-49 ..	1.79 ,, ,,	60-64 ..	8.03 ,, ,,

(Dublin and Spiegelman, 1947; Dublin, 1951).

Columns 2 and 3 deal with the deaths occurring quickly and referred to throughout this report as "sudden." The exact duration of the illness in the present series of "sudden" deaths cannot be specified. No benefit is paid for absence lasting less than seven days; and in these cases, since the question of a claim for sickness benefit does not arise, there is no obligation on the relatives or executors to state how long the illness lasted, or on the Society to ask for the information. Though it is known that in the majority the death occurred very quickly, it can only be stated of them all that they occurred within six days of the onset of illness causing incapacity to work. The "sudden" death rate, column 3, rises to 3.1 per 1,000 at 60–64 years of age. Columns 4 and 5 of Table II include all deaths occurring in the first month of the clinical disease; the rate rises to 5.5 at 60–64 years. Columns 6 and 7 represent all deaths certified as due to coronary heart disease in these practitioners (Fig. 1). This rate reaches 7.4 per 1,000 at 60–64 years.†

The main fact that emerges from Table II is the predominance of the first clinical attack, even as represented here only by the first month of absence from work, in the total mortality from coronary heart disease in these men under 65 years of age. About 80% of the mortality at 40–64 from coronary thrombosis, myocardial infarction, and their consequences, in 1947–50, occurred in the first month (cf. columns 5 and 7 of Table II). Sixty per cent. of the total coronary mortality rate represented the deaths occurring, as described, very quickly in the first few days of the first clinical attack—standardized rates of 1.6 per 1,000 in column 3 and 2.8 per 1,000 in column 7. (The Society's experience of 1940–6 was similar enough to that of 1947–50 for the deaths of the 11 years 1940–50 to be amalgamated in Fig. 2.) If this figure of 55 or 60% is at all typical of

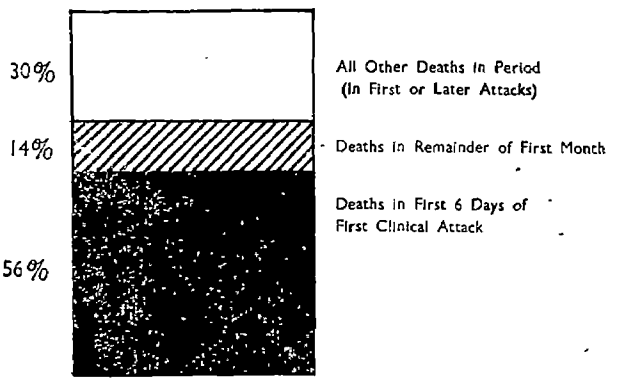


FIG. 2.—Deaths from coronary heart disease occurring in 1940–50. Male medical practitioners aged 40–64, inclusive. There were 104 coronary deaths in these members during the 11-year period.

what is happening in the general population in the coronary heart disease of middle age, it sharply focuses the gravity of the "acute" phases of this "chronic" disease, and points very clearly to the time of greatest need for therapy—the first few days of the first clinical attack of "coronary thrombosis." The size of this figure is interesting for two other reasons: it reinforces the conviction formed during the earlier investigation (Morris, 1951) that cardiac pathology cannot be studied properly to-day unless there is the closest relationship between the hospital and the coroner's court, especially if the hospital cannot, or does not, provide

†Gosse (1942) made a study of material from the same source, in which he paid attention to the mortality from coronary heart disease among the medical profession. In wartime conditions it was not possible for the Society to construct the considerable subsidiary recording system necessary to produce the results here published. In particular, the Society's normal records in some respects concern *policies* rather than *lives*, and many members have more than one policy. Much of the labour involved in the present inquiry has been spent in ensuring that information based on policies has been properly allocated to lives. It follows that the analyses in this paper cannot be compared directly with the broader figures given by Gosse, and no attempt has been made to do so.

facilities for the B(rought) I(n) D(ead). The size of this fraction may also explain some of the variation in the mortality rates reported in hospital series of "coronary thrombosis" (McCain, Kline, and Gilson, 1950; Tulloch and Gilchrist, 1950). If hospitals have an open door for all types of "emergencies" they are more likely to admit these men who will die in the first few days, with consequences in their statistics. Hospitals having a different-admission policy may see few such patients, and show much "better" mortality rates, though the general practitioners and coroner's pathologists of the district may find the rates surprising.

Before leaving these morbidity and mortality figures it may be mentioned that there was no particular concentration of first attacks or of deaths in any part of the year, though the April–June quarter had the lowest numbers.

The Individual Practitioner's Chances

What are the chances that members of the Society will develop coronary heart disease, and die of it, should current attack and mortality rates continue? The numbers in the present inquiry are small, but the rates (Tables I and II) progress with sufficient regularity to justify an attempt to answer these questions. Appendix 1 sets out the details of the methods adopted: here it need only be said that a "life table" approach was made. To estimate the chances of *getting* the disease before age *x*, the rates of first clinical attack at different ages under *x* are used, and the resulting numbers attacked at each age are summed. These rates, however, are not quite the same as in Table I, because the present calculations are concerned only with the incidence among those who have not yet had the disease, and are thus "eligible" for a first attack, whereas Table I deals with all who are alive at particular ages. Moreover, there is some evidence in the four years' material of an increase in the occurrence (or recognition) of non-fatal first attacks in 1949–50, compared with 1947–8, and, as the basis of the probabilities being estimated is the *current* frequency of the disease, the incidence rates were therefore recalculated for 1949–50. To estimate the chances of *dying* from coronary heart disease before any particular age *x*, the chances at individual ages under *x* are similarly calculated and brought together. In this instance the "eligibles" are all those who are alive, because those who have had the disease before are very much exposed to the risk of dying of it; and the mortality rates of Table II were used because there was little difference in the mortality experience of 1947–8 and of 1949–50.

Table III shows the probability that these medical-practitioner members of the Society, not as yet suffering from clinical coronary heart disease, will be attacked before particular ages. If present rates of incidence continue, it can be seen by reading horizontally along the bold figures that, of 1,000 men aged 35, three may be expected to develop the disease in the next five years—that is, before they are 40, another seven by 45, and so on. Of 1,000 aged 60, 90 will be likely to get it in the next five years—that is, before they are 65. The cumulative "chances" up to age 65 are shown in the last column of Table III, and indicate, for example, that, of 1,000 at 35 or 40, 200, or one in five, are likely to get the clinical disease before age 65; and the proportion is little different at 45. Since the probability of getting the clinical disease *under* 35 years of age is extremely small, it may be said, roughly speaking, that the chances at 35 represent the chances from the beginning, and that they continue about the same till 45—that is, these medical practitioners under 45 years of age who have not so far been attacked by coronary heart disease have approximately a 20% chance of being attacked before they reach 65. The estimates for intermediate periods can easily be read from Table III—for example, of 1,000 at 50 years of age the chances are that 110 will get coronary heart disease before 60.

TABLE III.—*Chance of Getting Coronary Heart Disease*

The number of male medical practitioners who, not having previously been clinically attacked by it, would get coronary heart disease before reaching certain ages.

Age *x* (Years)	Of 1,000 Men Aged *x*, the Number Indicated Below Would Get Clinical Coronary Heart Disease Before Age					
	40	45	50	55	60	65
35	**3**	**10**	**27**	**67**	**130**	**200**
40		7	24	65	129	200
45			18	59	124	196
50				43	110	184
55					72	152
60						90

Coronary heart disease refers to the clinical manifestations of "coronary thrombosis," angina pectoris, etc., as defined.

Rates of first attack used in calculating the table are based on the Society's experience in 1949–50; rates of death are based on data for 1947–50. The table is constructed on the assumption that both these rates will continue indefinitely.

The "population" is as described in Table I, but excludes in each age group those who have already been attacked by coronary heart disease.

Technical details may be found in Appendix 1.

Table IV provides similar estimates for the chances of dying. It shows, for instance, reading again along the bold figures, that, of 1,000 men alive at 35, 75, or 7.5%, will be likely to die of coronary heart disease before they reach 65, should current death rates in the Society continue. Of 1,000 at 60, 38 may be expected so to die before 65.

TABLE IV.—*Chance of Dying from Coronary Heart Disease*

The number of male medical practitioners who would die of coronary heart disease before reaching certain ages.

Age *x* (Years)	Of 1,000 Men Aged *x*, the Number Indicated Below Would Die of Coronary Heart Disease Before Age—					
	40	45	50	55	60	65
35	**3**	**6**	**12**	**23**	**42**	**75**
40		3	9	20	39	73
45			6	17	37	71
50				11	31	66
55					20	56
60						38

Rates of mortality used in calculating the table are based on the Society's experience in 1947–50, and the table is constructed on the assumption that these rates will continue indefinitely.

The "population" is as described in Table I.

Technical details may be found in Appendix 1.

Fig. 3 summarizes both tables in terms of a hypothetical 15 male practitioners aged 35.

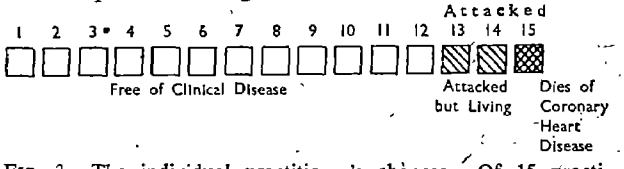


FIG. 3.—The individual practitioner's chances. Of 15 practitioners aged 35, 12 can expect to be free of clinical coronary heart disease up to the age of 65, two to suffer from the disease without dying, and one to die of it before that age. These figures are based on the current experience of the members studied. They are less precise than the figures in Tables III and IV, from which they are derived.

Prevalence of Coronary Heart Disease

The probability among these medical practitioners of developing coronary heart disease before 60 years of age is about one in eight, before 65 about one in five; but that does not mean that 12 to 20% of them at 60–64 years of age will have the disease: many will die beforehand. It is worth trying to get some idea of the *prevalence* of coronary heart disease in these medical practitioners, of how many of them are *affected* during a particular time, whether by a first attack of the disease or any later manifestation of it. No corresponding figures seem to be available for any other population group. The following methods were used.

Consider, for simplicity, the population born, say, in 1890, who are alive at some time during 1950. This population could be divided as follows:

(*a*) Men who have an attack starting in 1950 which is the first clinical manifestation of coronary heart disease.

(*b*) Men who have an attack starting in 1950 which is a second or later clinical episode of coronary heart disease, but who do not have a first attack in 1950.

(*c*) Men who had an attack before the beginning of 1950; who continue to be incapacitated for part or all of that year, but have no attack starting in 1950.

(*d*) Men who have had an attack of coronary heart disease in an earlier year but, having returned to work, do not have an attack starting in 1950.

(*e*) Men who have never been attacked by the clinical disease, and do not suffer from it during 1950.

(In the present paper, of course, "attack" means "absence" for at least seven days or death.) These classes are mutually exclusive and make up the total of these medical practitioners or, indeed, of any "population." Class *a*, it will be remembered, gives the *incidence* and has already been considered. Class *b* together with Class *a* gives what may be called a *total attack rate* of all persons attacked in a period. This is not a particularly interesting statistic and has not been considered in this report.† Classes *a*, *b*, and *c*

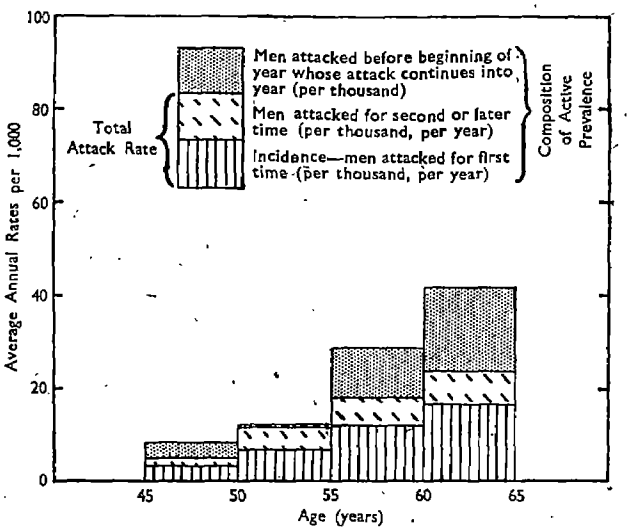


FIG. 4.—Active prevalence of coronary heart disease, 1950. Male medical practitioners aged 45–64 inclusive. The active prevalence figures refer to 1950 only (Table V); the total attack rates are averages for 1949 and 1950 (see text), and the incidence rates for 1947–50 (Table I).

together, in the present material, form the total number of men disabled from work during the year for as much as a week, or who die—a figure that may be called the "*active prevalence*" of the disease. Columns 2 and 3 of Table V describe this in the present population, in the year 1950.

TABLE V.—*Prevalence of Coronary Heart Disease in Medical Practitioners, 1950. Men Aged 35–64 Inclusive. Average Annual Rates per Thousand*

Ages Last Birthday (Years) (1)	"Active Prevalence" No. (2)	"Active Prevalence" Rate (3)	"Latent" Disease No. (4)	"Latent" Disease Rate (5)	"Total Prevalence" per 1,000 (6)
35–39	2	—	—	—	—
40–44	2	—	5	*3·7*	*5·2*
45–49	13	*8·3*	13	*8·3*	*16·7*
50–54	14	*11·9*	20	*17·0*	*28·9*
55–59	21	*28·7*	19	*26·0*	*54·7*
60–64	19	*41·6*	22	*48·1*	*89·7*
35–64 incl.	71	*11·1*	79	*12·4*	*23·5*
40–59 ,,	50	*10·6**	57	*12·4**	*23·5**
40–64 ,,	69	*15·2**	79	*17·6**	*33·2**

* *Standardized rates.*

"Active prevalence" = men disabled from work for at least seven days because of coronary heart disease, during any part of 1950. (The sum of Classes *a*, *b*, and *c* in the text.)

"Latent" disease = men who had an attack of coronary heart disease during 1940–9 inclusive, but who were not disabled from work for at least seven days on that account during 1950. (Class *d* in the text.)

"Total prevalence" = the sum of "active prevalence" and "latent" disease.

The mean of the counts of the relevant part of the Society's membership as on January 1, 1950, and January 1, 1951, was used for the population.

†The relevant rates per 1,000 in 1949–50 were: at 35–39 years, 0.9; at 40–44, 1.1; at 45–49, 5.1; at 50–54, 11.8; at 55–59, 18.1; and at 60–64 years, 23.7 (see Fig. 4.)

The "active prevalence" rate climbs with age to about 40 per 1,000, or 4% of all alive at 60–64 years (Fig. 4).

This "active prevalence" rate, however, tells only part of the story, as can be seen from Fig. 1, where the total coronary mortality (column 7 of Table II) is plotted against the incidence of new cases (column 4 of Table I). It is at once obvious that there must be a steady and substantial build up of non-fatal cases which is seriously understated in the "active prevalence." In clinical terms it is clear why this rate is an inadequate picture of the total burden of the disease. The "active prevalence" measures the disability to work; but many who have an attack of "coronary thrombosis" return to work (it may be very modified work), and thus may not appear in a complete disability rate in any particular year, however much their mode of life is otherwise changed by the disease. These are the Class *d* cases, and quite a number of them may in fact have manageable angina of effort. What is required, therefore, is a measure of all who have been attacked by coronary heart disease, have survived it, and in whom the disease is "latent," though *potentially* it can become very "active" at any time and lead to complete disability to work—Class *d*.

The records were therefore searched for all men born in 1885–1914 (corresponding to ages 35–64 years in 1950) who had suffered from coronary heart disease in the period 1940–9 and who were alive in 1950, but not absent from work in that year on account of it, and thus included in the "active prevalence." The present material is particularly suitable for this kind of study because men can be observed till they reach 60 or 65: they cannot be written off the books for ill-health (as in a factory), nor do they lapse from follow-up study (as may happen in a cardiac clinic), and it is rare for any man to give up all his non-cancellable sickness policies.

The result of this search was to add to the "active prevalence" (column 3 of Table V) a "latent" prevalence of less active disease (column 5) slightly larger than the "active prevalence" itself, and reaching almost 50 per 1,000, or 5%, at 60–64. These figures, moreover, may slightly underestimate the true position, as the experience before 1940 was not examined, and this might have yielded a few further survivors to add to the totals with "*latent*" *disease* in 1950.

The "active prevalence" and "latent" disease can be added together to give an estimate of the total clinical prevalence, or the cumulative burden of the disease, in this population group (Fig. 5). The "*total prevalence*" of coronary heart disease in these medical practitioners in 1950, at 50–54 years of age, was about 3% in all. In those

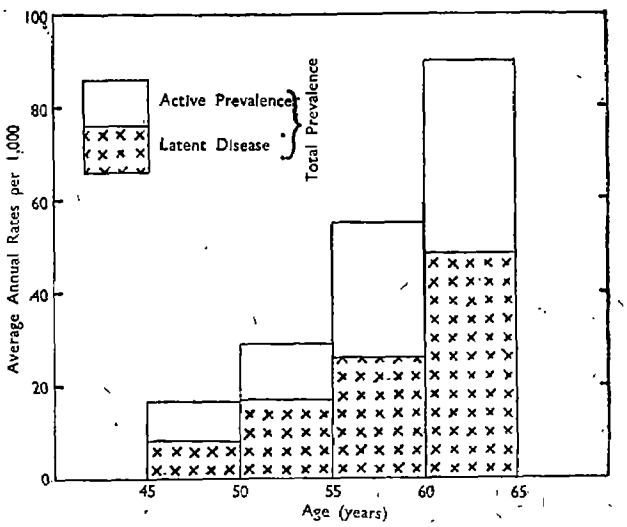


FIG. 5.—Total prevalence of coronary heart disease, 1950. Male medical practitioners aged 45–64, inclusive (see Table V). Latent disease = men attacked in a previous year who are not absent on account of the disease during the year.

surviving to 60–64 years of age the "total prevalence" was about 9%. In the light of such figures terms like "epidemic" may be justified.

Prognosis

Up to this the main problem has been, What proportion of men are attacked by coronary heart disease?—for example, as in Tables I, III, and V. Attention will now be turned to prognosis, and the questions that will be asked can be expressed as, What happens to men so attacked? The present series of questions, that is, deals only with the *cases* of the disease, and not with the *population* in which these occur; the approach will be the usual one of the clinician, not that of the epidemiologist. It is therefore possible to make use of cases occurring in the Society before 1947, even though details of the membership at different ages in those years are not available in a form suitable for calculation of rates. The records of first attacks of coronary heart disease in 1940–6 were therefore extracted, and the information was added to that already available for 1947–50. (Medical papers relating to most of the deaths before the war were lost by enemy action in 1940.) The Society's experience is a useful basis for studies of prognosis because, as stated, regular contact is kept with all members until they reach the age limit or die. On the other hand, the fact that the data deal only with men under 65 years of age is a serious limitation in discussing the prognosis for life, though not of course for work. The present inquiry was stopped on June 30, 1951, an arbitrary date on which it was convenient to cease observation of the men. Appendix 2 describes the methods adopted in drawing up Tables VI and VII.

TABLE VI.—*Prognosis for Life and Death in "Coronary Thrombosis." Experience of Medical Practitioners from the Onset of the First Clinical Attack, 1940–51. Men Aged 40–64 Inclusive*

(A) Percentage of men dying and surviving at various periods from onset of first attack.

Time	First 6 Days	Rest of 1st Month	Rest of 1st Year	2nd and 3rd Years	4th and 5th Years	6th and 7th Years
Dying in period	30	8	2	6	3	3
Cumulative mortality*	30	38	40	46	49	52
Surviving period	70	62	60	54	51	48

* Up to end of period specified.

(B) Percentage of men dying and surviving, by age.

Ages Last Birthday (Years)	Dying in First 6 Days	Dying in 1st Month	Dying in First 3 Years	Surviving First 3 Years
40–49	29	33	39	61
50–64	31	40	50	50
40–64 incl. ..	30	38	46	54

These tables are based on the experience of 192 medical practitioners, who had a first attack of "coronary thrombosis" between January 1, 1940, and December 31, 1950. Observation was continued till June 30, 1951, except for men who died or whose policies terminated before. The total number followed in the fifth year was 46, and in the seventh, 26. In the third year there were 35 men aged 40–49, and 39 aged 50–64 inclusive. Men whose first presentation of coronary heart disease was not as an attack of "coronary thrombosis" were excluded from these tables. Details of the methods of calculation used may be found in Appendix 2.

TABLE VII.—*Absence from Work on Account of Coronary Heart Disease After the First Attack of "Coronary Thrombosis." Experience of Medical Practitioners who Survived Their First Illness, 1940–51. Men Aged 40–64, Inclusive*

(A) Second Absences		(B) Working Time Lost	
No. of Years After the End of First Attack = t (1)	% Survivors of First Attack Absent from Work Again, Because of Coronary Heart Disease, Within t Years (2)	No. of Year After the End of the First Attack (3)	Average Time Lost per Man Because of Coronary Heart Disease During the Year (4)
1	14%	1st	0·6 month
2	30%	2nd	1·1 months
3	33%	3rd	0·9 month
4	35%	4th	0·8 ,,
5	45%	5th	0·8 ,,
6	49%	6th	0·9 ,,

The first absence for "coronary thrombosis" was taken to represent the first attack.

Columns 1 and 3: The date of return to work was taken as the "end of the first attack."

Column 4: "Time lost" is calculated from the number of days of total disability to work. No attempt is made to estimate the number of working hours lost, by distinguishing working days from Sundays and public holidays; and no allowance could be made for periods of absence lasting less than a week, or for periods of part-time work.

There were 107 survivors of the first attack. For Table A observation was continued until June 30, 1951, or until the second absence (or death without further absence), except for men whose policies terminated. The number under observation in each year diminishes from the original 107 to 35 in the fourth year and 21 in the sixth year. For Table B the only difference was that observation did not cease with a second absence. The numbers under observation in any year are therefore slightly greater.

Details of the methods used in calculating the proportions and averages in these tables are given in Appendix 2.

Prognosis in "Coronary Thrombosis"

Without arguing the unitary pathology and, in particular, functional pathology of coronary heart disease associated with atheroma, this discussion falls naturally into two parts —the prognosis in "coronary thrombosis" (myocardial or cardiac infarction), and that in angina pectoris (angina of effort). The level of diagnosis in a group like this is probably high enough to justify the division. The prognosis in "coronary thrombosis" will be dealt with first.

Prognosis for Life and Death

It is already clear from Table II that the crucial period for life and death, at any rate in the ages being considered, is the first few days of the first clinical attack.

First Days of First Clinical Attack.—In the 11 years 1940–50 inclusive there were 192 first diagnoses of "coronary thrombosis," as defined, in men aged 40–64 who held the relevant insurance. These men may be regarded as a cohort to be followed through. The proportion who died in the first six days of the first clinical attack (Fig. 6) was 30% (Table VI,A). It varied a little with age—from 28% at 40–44 years, to 34% at 55–59 years—and the relative stability of this fraction through middle age was not altogether expected. There was no change in the fraction from 1940–6 to 1947–8; in 1949–50 it was rather lower, which may be an indication, possibly, of an increasing diagnosis of less classical and milder cases.

Rest of the First Month.—The next column in Table VI,A shows the mortality in the remainder of the first month. It is still heavy—8% of the original number of men (and 11% of those surviving)—but not nearly so heavy as in the first few days (Fig. 6). In total, therefore, about 38% of these medical practitioners who were first attacked by coronary heart disease in the form of a "coronary thrombosis" in 1940–50 died in the first month of their illness; about 62% survived the first month. It is not known whether any of these men received anticoagulant treatment. It is unlikely that the deaths in the first few days could have been much affected by this form of therapy, and the number of deaths in the remainder of the first month, both in 1940–6 (when there must have been little such treatment) and in 1947–50 (when there may have been much), is impossibly small for

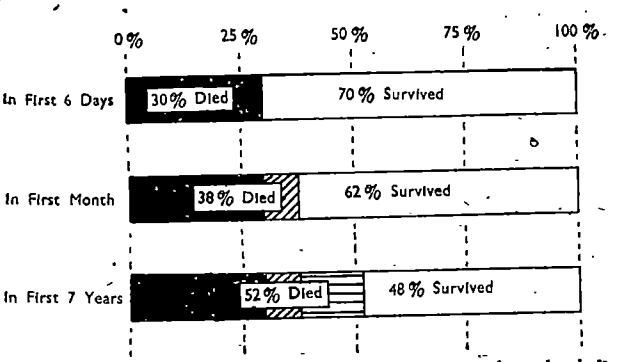


FIG. 6.—Prognosis for life and death in "coronary thrombosis." Experience of medical practitioners from the onset of the first clinical attack, 1940–51. Men aged 40–64 inclusive (see Table VI,A).

any comparisons; all the more since other changes in the same period, such as an improvement in diagnosis, need to be considered.

Attention is now turned to the survivors of the first month, whose passage, it may be said at once, is decidedly less stormy than heretofore.

In Following Years.—In the remaining 11 months of the first year another 2% of the original cohort died from coronary heart disease, or its complications, and this figure is typical of the annual experience in the next six years. Table VI,A gives some detail—in the second and third years from the onset, for example, a further 6% died, making a total mortality up to the end of the three years of 46% (30%+8%+2%+6%); 54% of the original cohort who could be followed survived the three years.

In Younger and Older Men.—Table VI,B gives a simple analysis by age. There is little difference in the outlook during the first six days; thereafter, for the three years which can be adequately followed, the prognosis seems to be better in the younger men. By the end of the third year there is a difference of 11%, with 61% of the men aged 40–49 at onset of first attack of "coronary thrombosis" surviving, but 50% of those who were aged 50–64 years. This conforms with the general experience on the deterioration of prognosis with age (Friedberg, 1949; Eckerström, 1951). However, the numbers are too small to exclude the possibility that we may be dealing with a chance effect.*

Prognosis for Further Sick Absence

Analysis of the further absences from work on account of coronary heart disease among those who have survived their first illness is worth while in clinical and social terms, if not in pathological terms. The frequency of such further absences is high in the two years following the return to work, Table VII,A, with 30% of the men having a second bout of absence. The cumulative proportion of those who have had a further sick absence for coronary heart disease, or its complications, reaches about 50% by the end of the sixth year. No differences with age were discernible in these further absences—that is, the younger men seemed to have as many second absences as the older, though, as was noted before, their mortality on the whole may be less. Numbers, however, are small in the different age groups.

Prognosis for Work

The point of view here is rather different: in the formulation of any policy for, say, the future employment of men with coronary heart disease it is necessary to know their capacities as well as their needs. In practical terms, how much time may men who have survived their first attack (as reckoned by their return to work after the first illness) expect to lose in the years thereafter? The present material contains some evidence on this, and its restriction to ages under 65 does not matter so much. The length of each absence is known, and it is therefore possible to calculate the average amount of time lost by each man per year. It is of course likely that some of the men who did not claim sickness benefit were in fact partially disabled and on less than full duty; but this partial disablement cannot be included in Table VII,B. The figures in that table indicate that, on average, the survivors of the first clinical attack of "coronary thrombosis" missed only about one month's work in each of the next six years because of coronary heart disease (Fig. 7). Some of these men, as shown above, died during the years following the first attack; they are included in the present account until the year in which they went absent because of their final illness. More precisely, therefore, Table VII,B indicates, for instance, that the men who survived *to* the beginning of the fifth year from the end of the first attack lost an average of 0.8 month (or about four weeks) *in* the fifth year because of coronary heart disease.

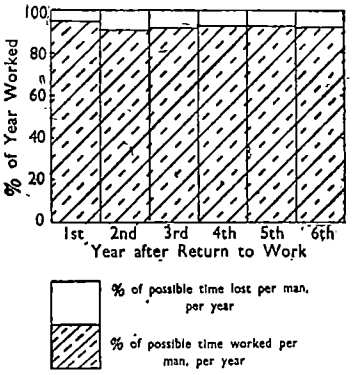


FIG. 7.—Prognosis for work. Experience of medical practitioners who survived their first illness, 1940–51. Men aged 40–64 inclusive. Sick absence for other than coronary heart disease, its complications and consequences, has been ignored (see Table VII,B).

Prognosis in Angina Pectoris

There were 42 first attacks of angina pectoris (or "of effort") during 1940–50 which were ascribed to coronary atheroma—or in which no underlying pathology was stated—in comparison with the 192 first attacks of "coronary thrombosis"; (and nine, which have been ignored, of "coronary insufficiency" and the like). Presentation with angina pectoris became commoner with age (Fig. 10). The first absence in these cases of angina lasted on average for about three months compared with about five months for "coronary thrombosis." Later absences of men who initially were absent with angina were increasingly ascribed to "coronary thrombosis," of course, and lasted longer.

With such small numbers examination of prognosis is less profitable, but one fact did emerge clearly: the outlook for life among the cases first presenting as angina pectoris is

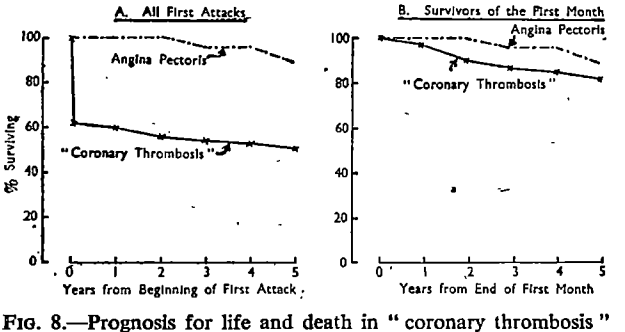


FIG. 8.—Prognosis for life and death in "coronary thrombosis" and angina pectoris, 1940–51. Male medical practitioners aged 40–64, inclusive.

**Prognosis in the First Attack and Second Attack.*—Clinically it is even more important to know the outlook in the various attacks of "coronary thrombosis." The present material, however, is not very suitable for this type of analysis. These records are only of sick absence and death, and a *further* attack supervening during the convalescence from a *first*, for example, would not necessarily be recorded separately, if the patient had not yet returned to work from the first illness. Nevertheless, figures for the first month do probably refer to the first attack of "coronary thrombosis," and probably include most of the deaths *in* the first attack. The only indication that can be given of the mortality in second attacks is the experience in second *absences*. Many of these very likely refer to second attacks; but a few may refer to even later attacks (if more than one attack was included in the first absence); and a few may be due to relapses of the first attack; or complications and cardiac failure; or to external factors aggravating the cardiac condition. Following are the relevant figures; they show the trend with age, particularly after the first week:

Ages Last Birthday (Years)	Experience	First Attack/Absence. First 6 Days	First Attack/Absence. Rest of 1st Month	Second Absence (and ? Attack)
40–49 incl.	No. of men followed through	63	45	16
	No. dying	18	3	2
50–64 incl.	No. of men followed through	129	89	17
	No. dying	40	12	6

Third absences are too few for analysis.

very different from that of the men first presenting as "coronary thrombosis." In angina it is similar, in the five years that can be studied, to the prognosis in men who have *survived* their first critical month of "coronary thrombosis" (Fig. 8). About 11% of the men first presenting with angina pectoris died in the next five years. About 16% of those who survived the first month of "coronary thrombosis" died in the next five years, but this figure has to be added to the 38% who had already died *in* the first month. In terms of a "severity" spectrum of the natural history of coronary heart disease, therefore, the more slowly developing, relatively benign, cases of angina pectoris seem to be at one end, the "sudden" deaths from "coronary thrombosis" as first clinical manifestation, at the other, with a wide range of severity between.

Summing-up of Prognosis in Middle Age

If the figures in this series are at all representative, "coronary thrombosis," as regards its mortality, belongs to the most "acute" diseases rather than to the "chronic" diseases. It is clearly unwise to consider the prognosis for life of men first presenting with "coronary thrombosis" except in terms of the first days of the first attack (30% mortality in six days, in this series), the rest of the first month (8% mortality), and the years thereafter (about 2% of the original cohort died annually in each of the next seven years) (Fig. 9). About 80% of those who survived the first month were

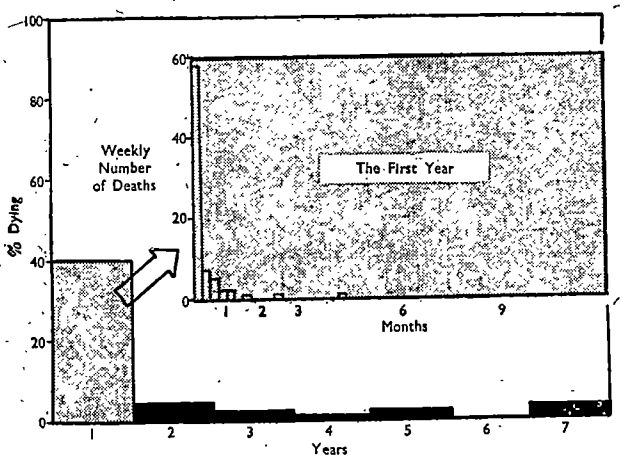


FIG. 9.—Prognosis for life and death in "coronary thrombosis." Experience of medical practitioners from the onset of the first clinical attack, 1940–51. Men aged 40–64 inclusive. Distribution of deaths by time from onset of first attack (see Table VI,A).

Number of Deaths in Each Week in the First Year

Week	Deaths	Week	Deaths
1	58	7	1
2	7	8–10	0
3	5	11	1
4	2	12–18	0
5	2	19	1
6	0	20–52	0

alive at the end of five years. This improvement after the first month was due not so much to mortality in later attacks being less than in the first—though this also may be so—as to the fact that a second attack does not necessarily occur at all for some years. On the present evidence, about half the men who survived their first illness and returned to work did not have as much as a week's further sick absence for coronary heart disease in the six years following. In consequence the work record, for whole-time or part-time work, of men who survived their first attack is good: they may each lose on average only about four weeks a year for coronary heart disease in the six following years. The prognosis for life of men first presenting as angina pectoris seems to be better than that of men first presenting as "coronary thrombosis." Indeed, they seem to miss the early crises altogether, and their outlook, for a few years at any rate, is similar to that of the men with "coronary thrombosis" who have survived the first terrible month.*

This discussion of prognosis deals only, of course, with middle-aged medical practitioners. The evolution of coronary heart disease in the elderly may be quite different.

Mode of Presentation of Coronary Heart Disease

Fig. 10 illustrates the fraction at each age that the cases of "sudden" death form of all presenting coronary heart disease in these medical practitioners. It can now be stated

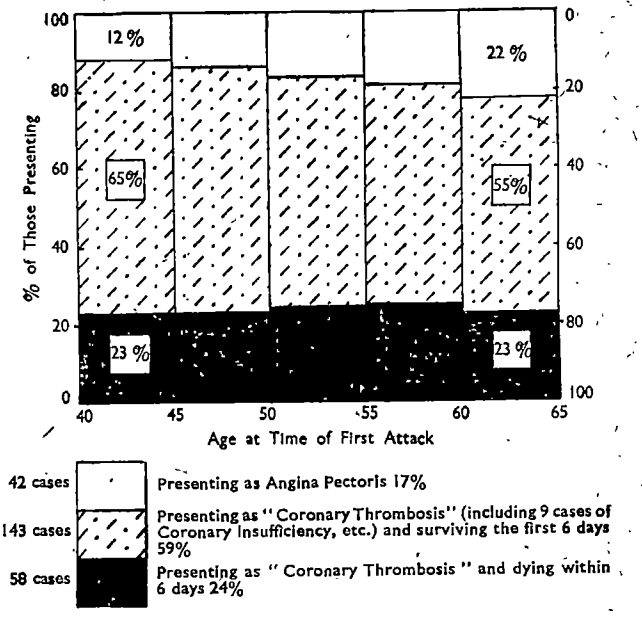


FIG. 10.—Mode of presentation of coronary heart disease, 1940–50. Male medical practitioners aged 40–64, inclusive.

in round numbers that at 40–44 years of age coronary heart disease presents as "sudden" death (within six days) in about a quarter of the cases, as less severe "coronary thrombosis" in about 60%, and as angina pectoris in somewhat over 10%. At 60–64 years of age the fractions are again about a quarter as "sudden" deaths, somewhat over 50% as not so severe "coronary thrombosis," and somewhat over 20% as angina pectoris. These three manifestations

*It is perhaps worth while to stress here the difference between two fractions which are discussed in this paper. The first, mentioned previously under "Mortality Rates," gives the proportion of deaths within six days of the onset of the first attack—that is, "sudden" deaths—formed of *all deaths* from coronary heart disease (whenever these deaths occurred, whether in the first or later attacks). At *ages 40–64*, in the 11-year period 1940–50, this fraction was 56%. The second fraction, discussed in the present section on prognosis, is the proportion of "sudden" deaths among all the *first attacks* of "coronary thrombosis." In the same period, and in men of the same age, this second fraction was 30%. Since it is probably true that most people who have coronary heart disease, especially "coronary thrombosis," will eventually die of it, there is at first sight an apparent contradiction here. Closer examination shows, however, that the first fraction—that is, of the observed deaths—depends on the ages studied; whereas the second—that is, of first attacks—does not appear to vary much, at least within the age range 40–64. During 1940–50 "sudden" deaths, as said, formed 56% of all "coronary" deaths: but this 56% was made up of 62% at ages 40–49, 58% at 50–59, and 44% at 60–64 years. It is easy to account for this variation. At early ages there will be few people who have been previously attacked by the disease and who are therefore likely to die at long intervals after the first attack. The fraction, therefore, falls with age, and quite possibly at greater ages than 65 it will be even lower than 44%. The fraction which "sudden" deaths form of all coronary deaths *at all ages* is thus likely to be considerably lower than 56%, and the contradiction between this figure and that of 30% may well be a result of the particular age range studied, and the limited period under observation. However that may be, the first and higher fraction of 56%, applying as it does to men aged 40–64, brings into prominence the fact that more than half of the deaths that do occur in middle age, when the problems of the disease are at their most serious, are in fact "sudden."

accounted for all but nine of the 243 "first presentations" of coronary heart disease in the years 1940–50, inclusive. The nine were variously described as "coronary insufficiency," etc.

PART II: THE DISEASE IN GENERAL PRACTITIONERS AND IN OTHER DOCTORS

In a social medical inquiry, concerned eventually with possible relationships between health and ways of living, "medical practice" is rather a wide social category to be assumed homogeneous in its experience of a disease. The general practitioner, the consultant, and the medical officer of health may lead professional lives at least as disparate as many "occupations" usually distinguished in this type of study. The practical difficulty is how, without personal inquiry, to decide which of a large group of doctors are G.P.s, consultants, etc., so that the experience of different sections of the profession can be compared. The only readily available source of information on what doctors do is the *Medical Directory*; and study of its contents showed that it is practicable to classify doctors into the following broad categories:

Category 1.—This comprises those who, it may reasonably be presumed, are full-time *general practitioners* (or almost so)—doctors with no appointments and merely a name and address in the *Directory*; or with certain types of appointment, such as Post Office medical officer or appointed factory doctor, and no other appointments.

Category 2.—This, so far as can be determined, is composed of full-time clinical *consultants/specialists*—men on the staff of teaching hospitals, or certain other major hospitals; and men with at least two specialist appointments at non-teaching hospitals (in certain cases having particular diplomas). Any indications of general practice, such as the mention of a partnership, would exclude a man from this category.

Category 3.—An intermediate group, fairly well defined outside the university centres, of general-practitioner specialists—that is, men who are both; who are in general practice and also do some specialist work, usually having one appointment, such as surgeon or physician (but not "clinical assistant" or "medical officer") at the local non-teaching hospital; doctors recorded as being merely "on the staff" of cottage hospitals are not included. Men in this category will be referred to as *G.P.-Specialists* in contrast to full-time general practitioners (Category 1), and full-time consultants/specialists (Category 2).

Category 4.—A number of small groups of various full-time *public officials*—medical officers of health, doctors in Government departments, regular officers in the armed Forces; and to these may be added a small number of full-time staff of mental and fever hospitals and tuberculosis sanatoria who are not of consultant status; and men holding academic non-clinical posts.

Category 5.—Retired practitioners; those of "address unknown"; and those who could not be classified.

This seemed a useful grouping, and it was decided to apply it in the next stage of the inquiry—an attempt to find whether any of the major sections of the profession, as these were represented in the Society, had more or less coronary heart disease than any other. There is good reason to believe that there is a high level of diagnosis among all the members, and that in a condition of such duration and gravity extraneous factors that might affect the sick-absence rates for minor ill-health will not apply. The attempt necessarily involved three steps: (1) to determine the total number in the various categories among the relevant members of the Society, at different ages, by sampling; (2) to identify the occupational category in each recorded case of coronary heart disease; and (3) to calculate the incidence of the disease in the various categories. It was decided to make a pilot test of the experience of 1949 and 1950.

Ten per cent. of the relevant membership at each year of age over 45 was taken (a strictly random sample using random sampling numbers); and the "first attacks" of 1949–50 in members aged 45–64 were shuffled in with this sample. First attacks only were included because men may change their jobs on account of their health, and if the possible effects of work on disease are the object of study, not the possible effects of disease on the work that men do, first attacks are likely to give the most reliable information. The cases were included with the sample to preserve the ignorance of the unit's staff of individual identity, and thus to eliminate any possible bias, as well as to preserve the confidential nature of medical records. All these persons—the 10% sample plus those attacked for the first time—were then marked in the *Medical Directory*. The two authors of this report who were ignorant which of the names represented a man with a first attack and which did not independently categorized all the names, discussing together and agreeing on the doubtful ones; there was no particular difficulty in allocation, and the great majority sorted themselves at once. The third author, who held the key to the names, then placed each person appropriately, by age and category, as a "first attack" or as a member of the sample population (as a matter of fact four "first attacks" were also drawn in the sample). Finally, rates of incidence of coronary heart disease were calculated for the various categories, on the assumption that the occupations in the whole of the relevant membership were distributed in the same way as those in the sample. The results, which were surprising, are summarized in Table VIII, for the general-practitioner group and the rest.

TABLE VIII

Findings	Category	
	1 General Practitioners	2+3+4+5 The Rest
No. of first attacks of coronary heart disease in 1949–50 at 45–64 years	46	21
No. in 10% sample of "population"	213	197
Annual incidence per 1,000 at 45–64 years (standardized for age) ..	11·8	6·2
Standard error of this rate	±2·1	±1·5

Since it is unlikely that there is much difference in the level of diagnosis among different sections of the profession, or in the extent to which they would claim benefits in such serious and prolonged illness, these figures were suggestive of a true excess among the general practitioners. Critical examination of the data failed to upset this trend, which was evident in all five-year age groups, in each of the major geographical regions of the United Kingdom, and when the general practitioners were compared with each of the other categories taken by itself—all evidence of that "internal consistency" of the material so important in dealing with small numbers. Various manipulations had no effect—for example, the reallocation of "marginal" occupations among the various categories, the exclusion of all who were classified as general practitioners on *negative* grounds (that is, because they had no more than their names and addresses in the *Directory*), and the separation of fatal from non-fatal attacks. It did appear that the members designated as full-time general practitioners had a higher incidence than the other members of the Society.*

There are three major possible sources of weakness in the above trial: (1) the limitations of sampling; (2) the difficulties, and possibly the "fluke" effect of the small number of attacks, whereby one or two might materially alter the rates; and (3) the allotment of occupation on the basis of the *Medical Directory*. These weaknesses had to be dealt with so far as possible, and this is what we did. The first problem was met by drawing a further, and quite separate, 10% sample of the relevant membership; the occupational

*It may be mentioned that there was no material difference in the *ages* at which the general-practitioner members and the men in the other categories took out their first immediate benefit policies with the Society. The average age of this among the "*cases*" of coronary heart disease was 34.6 years in the general practitioners and 32.6 in the remainder; among the "sample" it was 32.6 years in the general practitioners and 31.4 in the others.

distribution of this sample was very similar to that of the first. The number of cases of coronary heart disease was increased by including the first attacks of 1947–8. (A further "trial" was then carried out by shuffling these 1947–8 cases in with the *new* sample, and the results were similar to those tabulated above.) The third problem, the allotment to type of work, was more troublesome. It was decided to ignore Category 5—the "retired," etc.—which left the following categories of membership:

Category 1 .. .. (the full-time) General Practitioners
Categories 2, 3, and 4 the Other Doctors

All in these four categories who were resident outside the United Kingdom were also excluded. The number of cases in 1947–50 was thus reduced by five, and the size of the sample by about 4%. The small changes in the occupational distribution of the membership from January 1, 1947, to January 1, 1951, were assessed, and the sample of the total relevant membership finally set up was an average for the whole four-year period 1947–50. On the main issue, however, it was clear that some quite independent check of the occupational allotment was necessary. We therefore decided to classify sufficient of the two samples and sets of cases again, and on this occasion from the official National Health Service lists. Only such a procedure, it was felt, would adequately test the categorization already made from the *Medical Directory*. It can be said straight away that the result of this check showed a surprising degree of conformity between the findings from the National Health Service lists in mid-1951 and the allocations already made from the *Directory*; surprising in view of the changes introduced by the N.H.S., the fact that a certain proportion of doctors did not join it, and because a number of men must have retired or died between the date of the *Medical Directory* used for categorization and that of the lists used for checking (see Appendix 3).

The final analysis can now proceed with some confidence. The two 10% samples were pooled, giving a one-in-five sample; as were also the first attacks of 1947–50. In addition, further to increase the numbers, the first attacks at ages 40–44 in the years 1947–50 were now included, and a one-in-five sample of the relevant membership in that age group also was drawn and categorized, making now a grand total of just over 1,100 names. Tables IX, X, and XI assemble the results by age and category, so far as is reasonable with the small numbers involved. Table IX sets out the

TABLE IX.—*Incidence of Coronary Heart Disease in Medical Practitioners—Occupational Comparison, 1947–50. Men Aged 40–64 Inclusive. Average Annual Rates per Thousand*

Ages Last Birthday (Years)	General Practitioners, Category 1	Other Doctors, Categories 2+3+4
	Incidence	Incidence
40–49	*4·3*	*1·3*
50–54	*8·1*	*5·0*
55–59	*14·4*	*7·2*
60–64	*18·4*	*11·1*
40–64 incl.	*8·8**	*4·4**

* Rates standardized for age on the civilian population of England and Wales in mid-1949.

Occupation categories: The classification adopted was intended to distinguish:

Category 1 General Practitioners: Full-time general practitioners.
" 2 Consultants/Specialists: Full-time clinical (including academic) specialists.
" 3 "G.P.-Specialists": Doctors who are both.
" 4 Public Officials: Full-time officials in central and local government; regular serving officers, etc.

Incidence is the rate of first clinical attack of coronary heart disease, per 1,000.

For further details, including number of cases involved, see Tables X and XI.

All data are for men in the Medical Sickness, Annuity and Life Assurance Society, Ltd., resident in the United Kingdom, with non-cancellable sickness insurance. (Retired practitioners, etc., have been excluded.)

TABLE X.—*Incidence of Coronary Heart Disease in Medical Practitioners—Occupational Comparison, 1947–50. Men Aged 40–64 Inclusive. Figures in Roman Type=First Clinical Attacks; in Italics=Average Annual Rates per 1,000*

Ages Last Birthday (Years)	Occupation						
	(1) General Practitioners. Category 1	(2) Consultants/ Specialists. Category 2	(3) "G.P.-Specialists." Category 3	(4) Public Officials. Category 4	(5) All Except General Practitioners. Categories 2+3+4	(6) General Practitioners and "G.P.-Specialists." Categories 1+3	(7) Consultants/Specialists and Public Officials. Categories 2+4
40–44	9 *3·0*	4 *1·7*	1	1	6 *1·3*	27 *3·6*	5 *1·5*
45–49	17 *5·5*						
50–54	19 *8·1*	7 *4·7*	7 *7·1*	3 *6·7*	9 *5·0*	24 *8·0*	4 *3·4*
55–59	23 *14·4*				8 *7·2*	25 *12·8*	6 *7·9*
60–64 incl. ..	14 *18·4*	5 *12·5*	3 *10·7*	2	10 *11·1*	17 *16·4*	7 *11·3*

See notes to Table IX.
Rates per 1,000 were calculated from the number of first attacks (numerator), and the total numbers corresponding by age and occupation in the Society (denominator). These total numbers were estimated from the sum of two independent 10% samples drawn by single years of age from the relevant membership. No rates are calculated for less than three cases.

TABLE XI.—*Incidence of Coronary Heart Disease in Medical Practitioners—Occupational Comparison, 1947–50. Men Aged 40–64 Inclusive. Average Annual Rates per 1,000—Standardized*

Ages Last Birthday (Years)		Occupation						
		(1) General Practitioners. Category 1	(2) Consultants/ Specialists. Category 2	(3) "G.P.-Specialists." Category 3	(4) Public Officials. Category 4	(5) All Except General Practitioners. Categories 2+3+4	(6) General Practitioners and "G.P.-Specialists." Categories 1+3	(7) Consultants/ Specialists and Public Officials. Categories 2+4
40–59 incl.	No. of first attacks	68	11	8	4	23	76	15
	Average membership	2,510	960	630	340	1,930	3,140	1,300
	Incidence ..	*7·1*	*3·1*	*3·2*	*3·9*	*3·3*	*6·3*	*3·3*
	Standard error ..	±1·0	±1·0	±1·3	±2·1	±0·74	±0·81	±0·88
40–64 incl.	No. of first attacks	82	16	11	6	33	93	22
	Average membership	2,700	1,060	700	395	2,155	3,400	1,455
	Incidence ..	*8·8*	*4·5*	*4·3*	*4·7*	*4·4*	*7·8*	*4·4*
	Standard error ..	±1·2	±1·2	±1·5	±2·1	±0·85	±0·96	±1·0

See notes to Tables IX and X.
Average membership estimated from the 20% sample.
The standard errors of the rates quoted above allow for the standardization.
Standardized rates are based on the civilian population of England and Wales in mid-1949. (The standardized rates at 45–64 inclusive were Category 1, *10·8* per 1,000; and Categories 2+3+4, *5·5* per 1,000.)

main findings, Table X gives the details, Table XI is a summary table.

Three things stand out:

(1) In this Society, during 1947–50, the full-time general-practitioner members aged 40–64 had about twice as high an incidence of coronary heart disease as the other members (Table IX). The inclusive figures of 8.8 and 4.4 per 1,000 are standardized to take into account the differences of age composition in these two large groups. If Categories 1 and 3, the only ones in which general practitioners are at all likely to be classified, are merged and compared with the remainder (columns 6 and 7 of Tables X and XI), the incidence for this all-inclusive general-practitioner group is still about 1.8 times that of the others.

(2) The excess among general-practitioner members is seen at all ages studied, but is greater at 40–49 years than at 50–64 (Table IX, and columns 1 and 5 of Table X), the ratio of the incidence being:

	General Practitioners (Category 1) :	Other Doctors (Categories 2+3+4)
At 40–49 years	3·3 :	1
„ 50–59 „	1·8 :	1
„ 60–64 „	1·7 :	1

(3) There is, unexpectedly, no indication of an occupational gradient with the intermediate group of "G.P.-Specialists" between the general practitioners and the specialists. Table XI shows that the standardized incidence at 40–59 and 40–64 years of age among general practitioners is different from the rest—the specialists, G.P.-specialists, and public officials; and the composite rate for these three categories as shown in column 5 of Table XI is a fair account of them all (Fig. 11). The numbers, however, in Categories 2, 3, and 4 are very small, so that no conclusions can be drawn about them individually.*

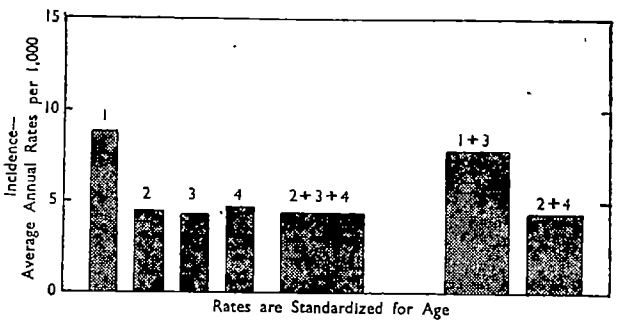


FIG. 11.—Incidence of coronary heart disease in general practitioners and other doctors, 1947–50. Men aged 40–64, inclusive. Category 1, general practitioners; Category 2, consultants/specialists; Category 3, G.P.-specialists; Category 4, public officials. (See Tables IX, X, and XI for further details of membership of Society, etc.)

**Statistical "significance" of the differences in the rates.*—The main difference—that is, that between the rate for Category 1 and the combined rate for Categories 2, 3, and 4, at ages 40–64 inclusive—might appear by chance, if in fact there is *no* occupational difference, less than once in 1,000 times. The significance of the differences between the rate for Category 1 and the rates for Categories 2, 3, and 4, taken separately, is also indicated below:

Ages	Category 1 and			
	Category 2	Category 3	Category 4	Categories 2+3+4
p at 40–59 incl. ≃	0·002	0·003	0·04	0·001
p „ 40–64 „ ≃	0·003	0·003	0·02	0·0007

The differences among Categories 2, 3, and 4 are not significant by any standard.

p for the difference between Categories 1+3 and Categories 2+4 is 0·004 both for ages 40–64 and ages 40–59; for the difference between Categories 1+3 and Category 2 alone it is 0·009 for ages 40–64, and 0·006 for ages 40–59.

These values of p allow for the facts that the population was estimated from a sample, and that for each comparison the sign of the difference is consistent in each age group. Consequently, these values of p cannot be deduced directly from the standard errors of the *standardized* rates quoted in Table XI.

The cases are too few to quote many special rates that would be of interest. But it can be said that the findings were rather stable, and the general-practitioner members did have an excess in each of the four years 1947–50; in fatal as well as in non-fatal cases; in angina pectoris as well as in "coronary thrombosis," in diagnoses with and without "specialist confirmation"; and in the different parts of the United Kingdom taken separately. Recalculation of Tables III–VII in terms of general practitioners and other doctors has not yet been undertaken.

New or Old?

Clearly the next question is, When did this higher incidence of coronary heart disease among the general-practitioner members appear; is it a new or an old phenomenon? Adequate records of the Society for dead members are available only as far back as 1940, and the question therefore becomes, Is the higher incidence among these general practitioners a post-war development, or was the experience of 1940–6 similar to that of 1947–50? Unfortunately, though there are some interesting pointers, it is not possible to answer even this question at all satisfactorily.

To obtain such an answer two sets of facts would be needed about the experience of 1940–6, just as they were needed for 1947–50: (1) the number of first attacks at different ages in each occupational category during 1940–6; and (2) the number of members at different ages in each category during those years. The first attacks of 1940–6 are already known from the study of prognosis, and these can be categorized from the *Medical Directory* of the year preceding the attack. But for various reasons it is quite impracticable to reconstruct the age and occupational structure of the Society in the war years, so that rates comparable with those of Tables IX, X, and XI may be calculated. An idea of the main characteristics of the wartime membership can be obtained, however, if two assumptions may be made: (*a*) if it can be assumed that the occupational distribution of the Society's members in the years 1942–5 was similar to that found *five years later* in 1947–50, in men *five years older*—that is, if it can be assumed that the proportion of general practitioners to other doctors, aged 40–59, in 1942–5 was similar to the proportion observed in the members aged 45–64 in 1947–50; and (*b*) if it can be assumed, further, that the occupational distribution of the members in 1942–5 was reasonably typical of the longer period 1940–6. In defence of these assumptions it may be stated that the membership of the Society is a very stable one, especially over 40 years of age, and it remained particularly stable during the war; the ratio of general practitioners to other doctors, moreover, was found to be similar in each five-year age group during the years 1947–50 except in the oldest age group.

The assumptions are therefore fairly reasonable: nevertheless, with such hypothetical information about the "population," all that can be expected are estimates, rather than facts, about what took place during the war.

In Table XII the 1940–6 material is analysed, so far as the nature of the information permits. The occupational *distribution* of the members in 1940–6 is estimated, as described, by projection backwards; the average *number* of first attacks of coronary heart disease, per year, in men aged 40–59, is given; and the annual averages of cancer deaths at the same ages have been added for comparison. The *ratios* between these average annual numbers are given in parentheses and in italics.

TABLE XII.—*Findings in Men Aged 40–59 Years*

	1940–6		1947–50	
	General Practitioners	Other Doctors	General Practitioners	Other Doctors
Occupational distribution of membership (Ratio)	*1·2* :	*1*	*1·3* :	*1*
Average no. of first attacks of coronary heart disease per year .. .. (Ratio of averages)	6·9 (*1·1* :	6·3 *1*)	17 (*2·9* :	5·8 *1*)
Average annual number of first attacks of coronary heart disease fatal in the first month .. .. .. (Ratio of averages)	1·9 (*0·9* :	2·0 *1*)	5·3 (*3·5* :	1·5 *1*)
Average no. of deaths from malignant disease per year .. .. (Ratio of averages)	1·6 (*0·9* :	1·7 1)	2 (*0·9* :	2·3 *1*)

N.B.—There are no *rates* in this table, but merely *numbers* of cases per year in two groups, and *ratios* of these numbers to each other.

There are several points of interest in this table. The *ratio* of the first attacks of coronary heart disease (general practitioners: other doctors) is different in 1940–6 from that in 1947–50 (1.1:1 and 0.9:1, in 1940–6, as against 2.9:1 and 3.5:1 in 1947–50). The ratios in 1940–6, when compared with the ratio of the numbers in the two occupational groups in those years (1.2:1), suggest that there was little, if any, excess coronary heart-disease among general practitioners during the war.† If the experience of the "G.P.-Specialists" is added to that of the general practitioners the findings are again unaffected. These figures are interesting in light of the American observation that there was no material difference in the coronary mortality rates of medical specialists and non-specialists in the years 1938–42 (Dublin and Spiegelman, 1948).

Table XII also suggests that the excessive number of first attacks of coronary heart disease among the general-practitioner members in 1947–50 was due more to an increase of first attacks in them than to a reduction in the "other doctors." The relevant figures, as given in the table, are 6.9 and 17 (per annum) for general practitioners, compared with averages of 6.3 and 5.8 for the other doctors. The occupational changes in the membership during 1947–50 are known to be very small, and there is nothing in this, or in the increase even of the *total* number of members with non-cancellable insurance between 1940–6 and 1947–50, or in the ageing of the members within the range 40–59 years, that could possibly account for this more than doubling of the number of first attacks of coronary heart disease among the general practitioners.

Furthermore, Table XII suggests that this increase of first attacks among general practitioners in 1947–50 may represent a real increase, and is not merely the result of improving *diagnosis* with readier recognition of milder, or atypical cases. The average numbers of fatal and non-fatal first attacks among the general practitioners have increased in step. The proportion, therefore, of first attacks which were soon fatal—a proportion that may be used as a crude index of the severity of the cases being recognized—did not change materially in the two periods (1.9/6.9, 27%, almost equals 5.3/17, 31%).‡ The similarity of this fraction in 1940–6 and 1947–50 suggests that there was little change in the level of diagnosis in the two periods. The similarity of these early case-fatality ratios in the general practitioners and other doctors (in the other doctors the ratios in the two periods were 32% and 26%) supports, also, the proposition that the level of diagnosis in these two groups was similar.§

Finally, it may be remarked that the stability of the cancer mortality figures suggests that there has been no general breakdown in the Society's recording system, or any major "experimental error" affecting in particular one section of the membership. This stability, moreover, strengthens the previous impressions of the stability of the membership of the Society.

Such confirmatory arguments, however, cannot substitute for the absence of needed facts. An attempt had to be made to deal with the problem, and this is the best we have been able to do. It will be remembered (Fig. 12; Josiah Macy Jr. Foundation, 1951) that there is some evidence of a diminution of coronary heart disease during the recent war in several European countries, and of a rise after the war. Possibly there was some general factor that operated to produce an "abnormal" occupational distribution among the membership during the war. At the most it may here be said that there seems to have been little, if any, excess of coronary heart disease among general-practitioner members during the war. It appears that there may have been some increase of the disease among these general practitioners since the war, and this increase may be related to the excess of the disease found among them in 1947–50. Because of the hypothetical nature of the 1940–6 "population" it is impossible to say by how much the true average *rate* of first attack among the general practitioners increased from 1940–6 to 1947–50, whether one age group was affected more than another (though the indications are that men in their fifties were affected at least as much as men in their forties), or when the increase began. The higher incidence among these general practitioners, it may be recalled, was present throughout the four years 1947–50. There is unfortunately no other evidence to appeal to for confirmation—or otherwise, and it is a particular pity that analysis of the pre-war situation is impossible.

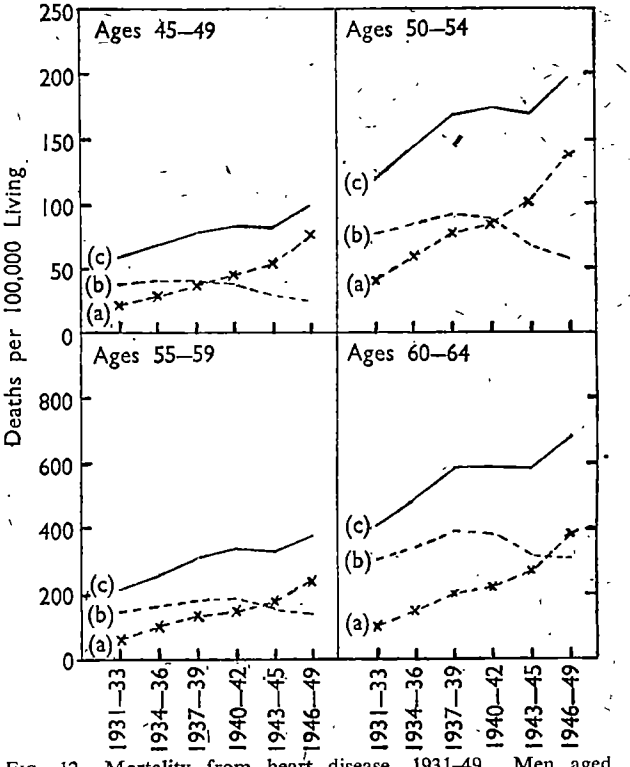


FIG. 12.—Mortality from heart disease, 1931–49. Men aged 45–64, inclusive. England and Wales. (Registrar-General.) (*a*) ×--×--× Diseases of Coronary Arteries, Angina Pectoris. (Int. List No. 94) (*b*) ------ Chronic Myocardial Disease, excluding those specified as Rheumatic, but including Myocardial Infarction. (Int. List Nos. 93 *c*, *d*; 162 *a*, *c*.) (*c*) ——— The sum of (*a*) and (*b*).

Part II, above, is an example of simple epidemiology (Gordon, 1950)—the exploration of rates of incidence in different social groups. This step may of itself make an immediate contribution to aetiology, but its main value is usually to raise questions rather than to answer them, and at the same time to provide an economical "way in" to further study, through comparison, for instance, of the circumstances of high and low incidence. In epidemiological inquiries large-scale hypotheses can often be formulated and tested, supplementary to those of the bedside and laboratory; and hypotheses framed in clinical and laboratory study can often be independently validated. Finally, as an experimental science, epidemiology can try to apply its notions "in the field"—for example, by correcting faults that appear to be relevant and observing the subsequent incidence.

If the situation in this Society is at all representative, interesting and important questions must arise about the health of doctors, and about the possible contribution which doctors might be able to make, through their own health and sickness, to the better understanding of coronary heart disease, and, eventually, to the development of a rational preventive programme. But *is* the experience of the Society true of the whole profession? We are quite unable to answer this question. A great deal of effort could be spent in an attempt to estimate how typical the members of the Society are of all the doctors in the country. For instance,

†The same indication arises if the men *first* attacked by coronary heart disease in 1940–6, who had a *second* absence for this in 1947–50, are categorized. There were 26 such men, aged 40–59, in the four years 1947–50—13 general practitioners and 13 other doctors; that is, an average of 3.3 per year in both groups, and a ratio of 1.0:1. These *further* absences, it should be noticed, occurred in exactly the same population, and in the same period, that showed occupational group averages of 17 and 5.8 for *first* attacks, with a ratio of 2.9:1 (see Table XII).

‡There were, in fact, as already mentioned, some signs of an improvement in this early case-fatality ratio during 1949–50, but this is too slight to affect the argument, the more particularly as better treatment may have contributed to the reduction in fatality.

§Another indication of the level of diagnosis is the number of such less definite diagnoses as "myocardial degeneration," "myocarditis," etc., compared with the definite diagnoses alone accepted as coronary heart disease for the purposes of this investigation. These less definite diagnoses were few in either period, or in either group. The average annual number of "first attacks" of "myocardial" disease in 1940–6 was 1.1 both for general practitioners and other doctors; while in 1947–50 the figures were 1.5 and 1.0, respectively.

a superficial examination of the available statistics indicates that rather more than a quarter of all general practitioners aged 40–64 years appear to be members included in this inquiry, rather less than a quarter of the consultant/specialists. We do not, however, consider this to be the correct kind of approach to the problem. The first thing that should be done is to estimate the incidence of the disease *directly, in the profession as a whole.* Only this could prove how typical are the occupational differences—and apparent similarities—demonstrated here among the *members of this Society.* And only in this way could the relevant associations and relationships of the disease be adequately investigated.

An appropriate field survey would be necessary, and this could conveniently do more than determine the incidence rates in different sections of the profession. Questions could be designed to explore such differences of incidence as may be discovered, in terms of current thinking on the pathogenesis of coronary heart disease, and in terms of the structure of the profession and the different roles within it. To be most fruitful, of course, such a survey should also be based on *ad hoc* case study—for example, of the work, habits, and social relations of general practitioners, of different ages, in different types of practice, recently recovered from "coronary thrombosis," and of "controls." The opportunity should be taken to disentangle the antecedents of coronary heart disease among doctors, whether or no it is confirmed to be commoner in one group of them; it is important enough in all.

Various methods of inquiry are open. It may not be practicable (though it need not be entirely ruled out) to compare the prevalence of the chronic atheroma and the acute thrombosis in different sections of the profession, a study that would be particularly valuable for the understanding of the fundamental processes of coronary heart disease (Morris, 1951). Nor would doctors make easy subjects for investigations of the psychological components of the disease; though such matters as hours of sleep, load of work and responsibility, and the response to upsetting situations are "psychological" as well as "physical." (It is remarkable how little study has been reported on the nature, predispositions, and consequences of medical practice, and on such matters as the emotional satisfactions and stresses involved in different types of professional life.) The distribution of the disease in town and country, and different types of town and different parts of the country, should be examined. The influence of "constitution," of family history in different sections of the profession, and of physique (Gertler, Garn, and White, 1951) could be investigated, together with their possible relation to the "environmental" factors. Considerably more clinical detail than is presented here can be collected. Records of the war history (both wars), as well as post-war experiences of patients and "controls," are needed. Studies of the blood lipids, at present so promising, though where they are leading is still clouded in mystery, may be possible, with a long-term follow-up; and assessments of diet and nutrition. The association and dissociation of other disorders and coronary heart disease might be investigated (see Gregg, 1950). Analogous studies might be carried out on the incidence among doctors of such conditions as "essential" hypertension, duodenal ulcer, and of course cancer. In brief, the occasion might be taken for the profession to examine itself, medically and socially.

Finally, before leaving this discussion of coronary heart disease in medical practitioners, it may be worth pointing out that this study has been made with simple methods and in a small—though well-defined—"population." The number of men studied, in fact, might be found in a town of 30,000 or 35,000 people, a town the size of Hereford, or Taunton, or Airdrie. In view of the growing interest of the medical officer of health in epidemiological inquiries on the non-infectious diseases, it is reassuring to see that they may well be usefully carried out with modest resources, as is already well known to be possible in the acute infections (Paul, 1950). The present inquiry, by its reference to a well-defined "population," by its study of a "cohort," and by its use also of some clinical approaches, has yielded elementary information on the incidence and prevalence of one of the most serious diseases in the population. It has raised questions on the natural history in middle age, and has provided some facts on the life of its victims. It has given some indication of what would be involved in a field survey of the principal cardiovascular diseases, and has suggested one approach to the investigation of causes, through its uncovering of what may be an "experiment of opportunity."

PART III: THE DISEASE IN MEDICAL PRACTITIONERS AND IN OTHERS

There is a widespread impression that doctors suffer more from coronary heart disease than the rest of the population, though the papers on the subject have been divided (Osler, 1910; Boas and Boas, 1949). This impression is based on clinical experience and mortality rates from England and Wales and the United States (Registrar-General, 1938; Dublin and Spiegelman, 1947). The clinical evidence is of doubtful value. Quite simply, in order to determine whether there is any difference in the experience of doctors and others, it is necessary to know, for a definite period of time, the ratio

$$\frac{\text{No. of cases of coronary heart disease in doctors}}{\text{No. of doctors among whom these cases are occurring}}$$

and it must be possible to compare this with the corresponding ratio

$$\frac{\text{No. of cases in other people}}{\text{population in which these are occurring}}$$

In both it is necessary to know the sex and ages of those in the numerator and denominator. (The problem is exactly the same as in comparing the experience of one group of doctors with that of another.) Many of these facts are not usually available in clinical work, and impressions based on the numbers of doctors seen by any individual or in any clinic are apt to be quite inaccurate. Probably the least reliable impressions are those of distinguished physicians who may have a quite disproportionate number of doctors in their personal practice, and generalize from that. The mortality rates present other kinds of problem: in particular, the latest from this country are for 1930–2, as the war prevented the holding of the 1941 census and the publication of the traditional Decennial Supplement on Occupational Mortality based upon it. The clinical recognition of "coronary thrombosis" was not yet very common in this country in 1930–2. Moreover, as indicated in Part II of this paper, it may not be sufficient to group all medical practitioners together as was done in those death rates.

Since the present inquiry forms part of a wider investigation which includes a number of non-medical groups, it provides an opportunity for reconsideration of this question which has caught the imagination of physicians on both sides of the Atlantic. The non-medical groups include professional, scientific, technical, executive, and clerical grades of the Civil Service (established men only), a large number of schoolmasters, several grades of Post Office workers, the Metropolitan Police, building workers of the London County Council, drivers, conductors, and several other grades of the staff of London Transport Executive, and various smaller professional, clerical, and industrial groups. In all, the diagnoses made among a miscellaneous group of about 200,000 men for 1949 and/or 1950 can be considered here—that is, a number that might be found in a city of a million people or so. Between 35 and 40 years of age there are relatively few cases, and after 60 the conditions of service in the various organizations and grades differ so considerably that it is not always practicable to define who remains and why. The experience of men aged 40–59 years will therefore be considered and, as before, first attacks of the disease will provide the main material for comparison. The information was specially obtained for the purposes of

this research by the various occupational health services in their examinations of workers (especially those absent from work for any length of time), as well as from the certificates given by general practitioners, hospitals, and consultants and sent to employers. A particular check was kept so far as possible on the "suspect labels" of "myocardial" disease, etc. The main findings are presented below.

Incidence of Coronary Heart Disease

Standardized Rate per 1,000 Men Aged 40–59

General practitioners	7.1	(Table XI)
Other doctors	3.3	"
Miscellaneous, non-medical group	2.5	

Comparing, first, the experience of the "*other doctors*" and the non-medical group, it may be said that an incidence of 3.3 is little higher than 2.5. If, therefore, the experience of this non-medical group is at all typical, it would appear that doctors in this country are diagnosing first attacks of coronary heart disease about as often in the population as a whole as they are diagnosing it in those members who are not full-time general practitioners.

Here we must digress to emphasize what such figures mean. When an attempt is made to compare the incidence of a disease in one group with that in another, what is in fact being compared is the incidence of the *diagnosis* of the disease in the two groups. Now there is no justification whatever for supposing that the *level* of diagnosis of coronary heart disease is the same in the medical profession as in the public, and therefore no justification for assuming that because similar rates are here reported the true incidence is similar. These medical rates almost certainly include a high proportion of all the coronary heart disease that produced symptoms among the "other doctors." In the miscellaneous non-medical group it is not possible to say more than that the methods of diagnosis and collection adopted *may* have resulted in an equally high proportion of coronary heart disease being recognized and recorded; but quite likely it did not.* If many of the cases in the non-medical group are being wrongly called coronary heart disease, there may in fact be some real excess of it among "other doctors." On the other hand, if many cases of coronary heart disease among the miscellaneous group are being overlooked, it may well be that these "other doctors" have a *lower* incidence than the population as a whole, in so far as this is represented by the group being studied.

The fatal first-attack rates show similar trends, and so do the total mortality rates (Fig. 13). In the following, the rates for England and Wales are estimated from the pro-

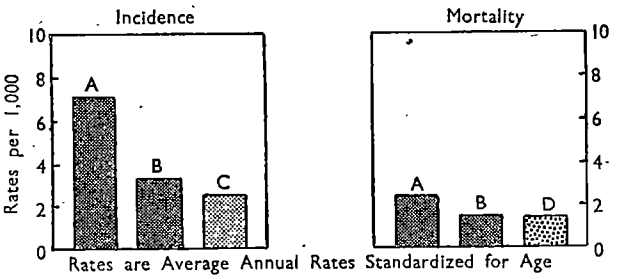


FIG. 13.—Coronary heart disease in medical practitioners and in others. Men aged 40–59, inclusive. A=General practitioners (Category 1), 1947–50. B=Other doctors (Categories 2+3+4), 1947–50. C=Miscellaneous non-medical group, 1949–50. D=England and Wales, Civilian Population, 1950 (provisional). A and B held Medical Sickness, Annuity and Life Assurance Society Immediate Benefit Policies.

visional figures for 1950, kindly supplied to us by the Registrar-General (1952, personal communication), and are based on the Sixth Revision of the International List of the Causes of Death. (One effect of this revision is that deaths from myocardial infarction are now included with coronary disease.) These national figures are used because the *total* mortality is required, and there is no means of assessing how many of the deaths from coronary heart disease that do not occur in the first clinical attack will be recorded by employers in the above non-medical group, since the first (non-fatal) attack may result in a change of employment. The rates of medical practitioners are for the Society's members in 1947–50, and they include deaths in later as well as in first attacks.

Mortality from Coronary Heart Disease

Standardized Rate per 1,000 Men Aged 40–59

General practitioners	2.4
Other doctors	1.5
Males, England and Wales	1.4

It should be remembered, moreover, in comparing the 1.5 and 1.4 that even under 60 years of age there still are quite a number of deaths ascribed to "myocarditis," etc., in the Registrar-General's Tables, which are not included in the 1.4; among the medical practitioners the number so diagnosed is quite negligible.

The problem is very different when comparing the experience, and particularly the incidence, of the *general-practitioner* members with the non-medical group. If the figures presented here for the non-medical group bear any relation to reality, it may well be that these general practitioners have a higher incidence than that group. Moreover, if these miscellaneous professional, clerical, and industrial workers are at all representative of men in their age groups, and if, similarly, the general-practitioner members of this Society are typical of all general practitioners, the higher incidence reported here may be evidence in support of the common impressions on the subject. The differences noted in these total mortality rates are smaller than for the incidence, owing possibly to recent changes in the incidence of first attacks, fatal and non-fatal, among general practitioner members. If this is the reason it may be an illustration how recent variations in *incidence* rates may not appear simultaneously in the corresponding *total mortality* rates, which, in a disease that is often chronic, must show a time-lag and include deaths from illnesses originating over a long period.

Here this problem of a possible difference between medical practitioners and the rest of the population must unsatisfactorily be left. It is an interesting question, but not at present one with a great deal of meaning. Eventually it may be practicable to carry out large-scale diagnostic surveys of coronary heart disease in the population, with standardized methods, and in the course of these it may be possible to answer this particular question.

Summary and Conclusions

A study was made of clinical coronary heart disease diagnosed among over 6,000 male medical-practitioner members of the Medical Sickness, Annuity and Life Assurance Society, Ltd., aged 35–64, who held "immediate" non-cancellable sickness insurance, providing benefit, on receipt of a medical certificate, for periods of incapacity to work which last seven days or more. The Society also has knowledge of all deaths in its membership, even when these occur after an illness of less than seven days. Apparently about a quarter of the male doctors of the country in the ages studied belong to the Society, and hold this type of insurance. The report deals only with these doctors, and no information is available about the doctors who do not belong to the Society (or about those who do belong but have other kinds of policy). A full medical examination is given to all applicants for membership of the Society.

The average annual *incidence* of first clinical attacks of coronary heart disease ("coronary thrombosis"—acute myocardial infarction—and angina pectoris) in

*The early case-fatality ratio—that is, the proportion of first attacks that were rapidly fatal—is higher among this miscellaneous group than among these "other doctors." But as the advantage of the "other doctors" may partly be due to better *treatment*, as well as to better *diagnosis* with the recognition of milder cases, and the relevant number of "other doctors" variously affected is small, this aspect cannot be satisfactorily discussed.

these medical practitioners during 1947–50 increased with age, to reach 16.6 per 1,000 at 60–64 years.

The coronary *death rate* in 1947–50 similarly rose with age to 7.4 per 1,000 at 60–64 years; and it accounted for about a third of all mortality in these insured medical practitioners in each five-year age group. The deaths were mainly concentrated in the first attack; in 1940-50, inclusive, 56% of all deaths from coronary heart disease among the members aged 40–64 were "*sudden*," occurring in the first six days of the first clinical attack, and another 14% took place in the remainder of the first month. Coronary deaths occurring after the first month of the first attack accounted for only 30% of the total coronary mortality among these medical practitioners in the eleven years 1940–50.

On current experience, the *probability* that the *individual practitioner* member under 45 years of age who has not yet been attacked by it will be attacked by clinical coronary heart disease before he reaches 65 are about one in five, or 20%. The chances that the individual practitioner under 45 years of age will die of it are about one in fourteen, or between 7.1% and 7.5%.

In 1950 the *prevalence* of coronary heart disease among the members aged 60–64 years was about 9%. The 9% was made up of rather more than 4% "active prevalence"—men who were disabled from work for at least a week during the year because of coronary heart disease; and rather less than 5% with "latent" disease —men who had suffered from the disease before 1950, and were alive in 1950 but not incapacitated from work on account of it during that year for as long as a week.

The *prognosis for life in "coronary thrombosis"* was examined from the onset of the first clinical attack. About 30% of all these men aged 40–64 experiencing first attacks died in the first six days of the first attack —the "sudden" deaths; another 8% died in the remainder of the first month, making 38% in all in the first month. Thereafter the picture is quite different, with 2% dying in the remainder of the first year, and an average of about 2% dying annually in the next six years. Men aged 40–49 at the date of onset of the first clinical attack had apparently a rather lower mortality during the few years that can be observed than those aged 50–64. Of the men who survived their first attack of "coronary thrombosis" about half had no further *absence* for coronary heart disease (or its complications) that lasted as much as a week during the next six years. The average *time lost from work* for coronary heart disease during the next six years by men who survived their first attack was about four weeks per man per year. This figure makes no allowance for part-time work, etc.

The outlook for life of men first presenting with *angina pectoris* was very much better than for the others. During the five years from the date of onset about 11% of them died; their prognosis for life was therefore about the same as in men first presenting with "coronary thrombosis" who had *survived* the first month, with its 38% mortality.

The *mode of first presentation* of coronary heart disease in these medical practitioners aged 40–64 was about 24% as "sudden" death; 55% as less severe "coronary thrombosis"; 17% as the relatively benign angina pectoris; and 4% of miscellaneous "coronary insufficiency," etc. The proportion of angina pectoris increased from 12% at 40–44 to 22% at 60–64; the proportion of the intermediate group of less severe "coronary thrombosis" was smaller in the older men; the proportion of "sudden" deaths as first manifestation changed little with age.

The *membership* of the Society holding these immediate sickness insurance policies was sampled and divided into *four occupational categories*: full-time general practitioners, full-time consultants/specialists, "G.P.-Specialists," and public officials. The *incidence* of first attacks of coronary heart disease in 1947–50 was twice as high among the full-time general-practitioner members aged 40–64 as in the rest. The excess incidence was seen in each five-year age group, in first attacks that were soon fatal as well as in those that were not, and in each of the four years 1947–50. When the "G.P.-Specialists" were added to the full-time general practitioners, the incidence in this composite group was 1.8 times the incidence in the remainder. There was little difference between the rates of the full-time specialists, the "G.P.-Specialists," and the public officials, but the numbers in each of these three categories were very small.

Evidence about 1940–6 is incomplete. Such information as is available suggests that there was little, if any, excess among the general-practitioner members during the war. There is no information on the situation before the war.

Finally, the experience of these medical practitioners was compared with that of a large miscellaneous group of men in the civil services, in the professions, and in industry. The incidence of coronary heart disease in this *non-medical* group was well below that of the full-time general practitioners, and resembled that of the other doctors. A comparison with the provisional mortality rates from coronary disease among the males of England and Wales in 1950 gave similar results.

We are obliged to many for helping us in this investigation: to the Directors of the Medical Sickness, Annuity and Life Assurance Society, Ltd. for allowing us free use of their existing records and for setting up the elaborate additional recording apparatus that was necessary; to Mr. E. A. J. Heath, manager and actuary of the Society, and to other members of its staff; to the Registrar-General and the various chief medical officers and their medical and lay colleagues for providing us with the information from which the non-medical rates of Part III were calculated; to the officers of the Accountant General's Department of the Ministry of Health, and in particular Mr. A. A. Greneski and Mr. H. W. Meyer; to the chief medical officers of the Department of Health for Scotland and the Ministry of Health and Local Government, Northern Ireland; to Dr. L. I. Dublin; to Messrs. J. and A. Churchill Ltd. and Mr. B. S. Stanton, Editor of the *Medical Directory*; to Professor A. Bradford Hill, for most valuable criticism and advice on Part II; to Mr. R. D. Clarke for generous help on the whole paper; to colleagues and friends for many suggestions; and to the secretarial staff of the Unit for much practical assistance.

REFERENCES

Bailey, W. G., and Haycocks, H. W. (1946). *Some Theoretical Aspects of Multiple Decrement Tables.* London.
Boas, E. P., and Boas, N. F. (1949). *Coronary Artery Disease.* Chicago.
Dublin, L. I. (1951). Personal communication.
—— and Spiegelman, M. (1947). *J. Amer. med. Ass.*, **134**, 1211.
—— —— (1948). Ibid., **137**, 1519.
Eckerström, S. (1951). *Acta med. scand.*, Suppl. 250.
Friedberg, C. K. (1949). *Diseases of the Heart.* London.
Gertler, M. M., Garn, S. M., and White, P. D. (1951). *J. Amer. med. Ass.*, **147**, 621.
Gordon, J. E. (1950). In *Epidemiology of Mental Disorder.* Milbank Memorial Fund, New York.
Gosse, A. Hope (1942). *British Medical Journal*, **2**, 567.
Gregg, D. E. (1950). *Coronary Circulation in Health and Disease.* London.
Heath, E. A. J. (1939). *J. Inst. Actuaries*, **70**, 271.
Josiah Macy Jr. Foundation (1951). J. Dedichen *et al.* *Factors Regulating Blood Pressure.* Transactions of the Fifth Conference, New York.
McCain, F. H., Kline, E. M., and Gilson, J. S. (1950). *Amer. Heart J.*, **39**, 263.
Morris, J. N. (1951). *Lancet*, **1**, 1, 69.
Osler, W. (1910). Ibid., **1**, 697.
Paul, J. R. (1950). In *Research in Medical Science.* New York.
Registrar-General of England and Wales (1938). Decennial Supplement, Part IIa., London.
—— Statistical Review, Tables, Part I, Medical, 1938-49. London.
—— Text, Vol. 1, Medical, 1940-7. London.
Tulloch, J. A., and Gilchrist, A. Rae (1950). *British Medical Journal*, **2**, 965.

APPENDIX 1

The Individual Practitioner's Chances: Methods of Calculation

To calculate the probabilities shown by Tables III and IV it was necessary to construct two life tables showing the subsequent history of a hypothetical body of 1,000 practitioners coming under observation at exactly age 35 (the lowest age in both Tables III and IV) as follows:

Chance of Getting Coronary Heart Disease (Table III)

At each age from age 35 to age 65 the life table shows:

l_x, the number at the beginning of the year of age x to $x+1$, not yet clinically attacked by coronary heart disease.

c_x, the number (out of l_x at the beginning of the year of age) clinically attacked during the year of age (these must all be first attacks on account of the definition of l_x).

d_x, the number (out of l_x at the beginning of the year of age) who die during the year of age (except on account of coronary heart disease, in which case they would be already included in c_x).

The number of "living," l_x, are thus subject to two mutually exclusive causes of reduction—and it will be seen that $l_x - c_x - d_x$ gives l_{x+1}, the number living, and not yet clinically attacked by coronary heart disease, at the beginning of the year of age $x+1$ to $x+2$.

Table III shows the probabilities of being attacked for the first time between age x and age y in the form of numbers per 1,000 at age x. These probabilities are given by the formula

$$\frac{c_x + c_{x+1} + \ldots + c_{y-1}}{l_x} \times 1{,}000$$

To construct the life table, estimates were needed of (*a*) the rate of first attack in a population of lives not yet attacked, and (*b*) the rate of death from causes other than coronary heart disease in the same population. For the reasons given in the text, the first attack rate was obtained from data for 1949–50. The number of lives attacked in any given year was estimated from the "total prevalence" figures in Table V and subtracted from the total mean population to give the number of lives not yet attacked. The "non-coronary" death rate among lives not yet attacked was assumed to be the same as the "non-coronary" death rate among the whole group investigated, no closer estimate being practicable. This rate was based on data for 1947–50, since no important changes in death rate had taken place in this period and the larger figures thus available gave a smoother progression of rates with age. This "non-coronary" death rate was thus in fact, though not in theoretical basis, the same as the "non-coronary" death rate used in the life table leading to Table IV.

The rates obtained were those for five-year age groups. To obtain rates for individual ages the group rates were plotted and a smooth curve drawn passing through or close to these points so as to estimate the trend in terms of individual ages, the rates for which were read off. The life table was then calculated.

Chance of Dying from Coronary Heart Disease (Table IV)

At each age from age 35 to age 65 the life table shows:

l'_x, the number living at the beginning of the year of age x to $x+1$, whether already clinically attacked by coronary heart disease or not.

d'_x, the number, out of l'_x at the beginning of the year of age, who die from coronary heart disease during the year of age.

d''_x, the remainder of the deaths during the year of age.

The number living at the beginning of the year of age $x+1$ to $x+2$, l_{x+1}, is thus given by $l'_x - d'_x - d''_x$.

The probabilities shown by Table IV (in the form of numbers per 1,000 at age x) of dying from coronary heart disease between age x and age y (whether already clinically attacked at age x or not) are given by the formula

$$\frac{d'_x + d'_{x+1} + \ldots + d'_{y-1}}{l'_x} \times 1{,}000$$

To construct the life table estimates were needed of (*a*) the rate of death from coronary heart disease, and (*b*) the rate of death from all other causes, in both cases in the total population, whether attacked or not. These were obtained from data of 1947–50 as mentioned in the text. The rates obtained were for five-year age groups and rates for individual ages were found by the process described above.

There is a theoretical objection to this life table, and hence to Table IV, in that the body of lives among whom rates were actually observed is subject to the addition of new entrants who have just passed a medical examination satisfactorily and who therefore have not yet been clinically attacked. The practical effect of this objection must, however, be small in this investigation because the number of new entrants above, say, age 40 is extremely small in relation to the existing membership at these ages. Furthermore, the practical effect, if any, of the existence of a small number of recently selected lives is to underestimate slightly the death rates observed, and thus Table IV cannot on this account exaggerate the position.

A further difficulty, which applies to both life tables, is that where more than one force of decrement is involved the process of passing from the observed rates to the numbers in the life table is theoretically more complex than where a life table showing the single decrement of "death from all causes" is concerned. This complexity arises from the fact that the forces of decrement considered are operating simultaneously. In the second life table, for example, a death (in d''_x) at time t between age x and $x+1$ is dependent on the same life not having died of coronary heart disease between age x and $x+t$. The details of a theoretically correct process depend on the form of the original observed rate, and the considerations involved are fully discussed by Bailey and Haycocks (1946). In the present inquiry the scale of the investigation and the progression and actual size of the rates observed made it possible to apply the original rates for individual ages directly to a radix—that is, the hypothetical body of "lives" whose subsequent history is shown by the life table—of 1,000 at age 35 without affecting the final figures presented. In other circumstances this would not necessarily be possible.

APPENDIX 2

Prognosis: Methods of Calculation

As explained in Part I of the text under "Prognosis," all calculations were based on the 243 first absences for coronary heart disease starting in the years 1940–50, inclusive, among men aged 40–64 inclusive. These 243 cases were divided into three groups: 192 which presented in the first absence as "coronary thrombosis," 42 which presented as angina pectoris, and 9 which presented as "coronary insufficiency," etc. (Some of the cases presenting as angina pectoris had further absences where the condition was diagnosed as "coronary thrombosis," but this did not affect the grouping which was determined by the diagnosis in the first absence.) Attention was mainly focused on the 192 cases of "coronary thrombosis," because the number of cases of angina pectoris gave little scope for analysis. The other nine cases were ignored in this context.

Prognosis was considered from three points of view: (1) *Prognosis for life and death*—the chance of dying of coronary heart disease in a given time, measured from the beginning of the first absence from work on account of it. (2) *Prognosis for further absence*—the chance of being absent again because of coronary heart disease in a given time after the end of the first absence. (3) *Prognosis for work*—the average amount of time lost from work because of coronary heart disease, in a given time after the end of the first absence.

All three concepts were explored with the cases presenting as "coronary thrombosis"—the second and third applying, of course, only to the men who could be followed until they returned to work after the first absence. There were 107 such men out of the original 192; 80 died in the first absence, and five could not be followed to the end of it. For angina pectoris it was only possible to attempt prognosis for life and death.

It was not possible to follow all cases for an equal length of time, if only because an arbitrary date had to be chosen at which observations ceased (June 30, 1951), and the cases arose at different times during the 11-year period. The method adopted was to measure time for each case from the beginning of the first absence, or from return to work after the first absence, according to the particular type of prognosis considered. The observation time was broken up into periods of a year (except for the first year in prognosis for life and death, which was divided into different intervals—see below), and the experience in each year was considered for all those cases which were still under observation at the beginning of the year. The proportion surviving, for instance, to the end of the first year was calculated from the first year's data. From the second year's data the proportion of these survivors who reached the end of the second year was calculated. The product of the two proportions gave the proportion of the original number who survived to the end of the second year, and so on. A cumulative product was thus obtained which gave the proportion surviving up to the end of any given number of years from the beginning of the first absence.

The principle was also adapted to calculate the proportion of those returning to work who had a further absence in a given number of years after such return, using the proportion having further absences in individual years.

It was necessary to consider the experience year by year. An alternative would have been to calculate the proportion dying before the end of a given year by dividing the number of deaths in that time by the total number of persons observed (suitably adjusted for lapses of observation). This would, however, give undue weight to the experience of the first few years, when the numbers under observation are far greater.

In any given year (or shorter period) expressions had to be found which would give good estimates of the proportion dying (and hence the proportion surviving), or the proportion having a second attack, in the year, allowing for the fact that it was not possible to observe everybody for the whole year.

Reasons for Lapse of Observation.—The reasons why men could not be observed for a whole year were as follows: (1) Their policies might terminate during the year, on reaching the age of 60 or 65. (2) The end of the observation period (June 30, 1951) might fall within the year. (3) They might die from (*a*) coronary heart disease or (*b*) another condition.

Prognosis for Life and Death

The percentage dying in the year from coronary heart disease was calculated from the following formula:

$$\frac{\text{No. of persons dying during the year from coronary heart disease} \times 100}{X+Y+Z}$$

Where X = one year each for all those alive and under observation for the whole year.

Y = the sum of the observed parts of a year for those in 1, 2, or 3*b* above.

Z = one year each for those in 3*a* above who would have been followed for the whole year had they lived; and for the rest, the sum of the parts of a year for which they would have been followed had they lived.

The formula had to be slightly modified in the first year, which was divided into three unequal periods—the first six days, the remainder of the first month, and the rest of the year. This decision was adopted because by far the greatest part of the mortality in the first year (and indeed in the whole natural history of the disease under 65 years of age) occurs in the first few weeks—in fact, in the first few days.

In the first six days Y = 0 because no absence occurred within six days of the policy terminating, and, since no absences starting in 1951 were considered, could not occur within six days of June 30, 1951. For the same reason Z is all deaths from coronary heart disease. In this case, then, X + Y + Z is simply all absences starting in the period.

Similarly, for mortality in the rest of the first month, no absences started within a month of termination of the policy and could not occur within a month of June 30, 1951. X + Y + Z here is all survivors of the first six days.

In the rest of the first year it was necessary to convert all periods of observation, which had been calculated in decimals of a year, to decimals of eleven months.

After the first year there were no special difficulties.

Calculations were made for each 5-year age group from 40–64, age always being reckoned from the start of the first absence.

Prognosis for Further Absence

This applies, of course, only to those who returned to work after the first absence, and there is no problem of unequal periods in the first year. Numbers were not large enough to attempt the calculation for the men with angina pectoris.

In each year after return to work the percentage of survivors who, not having had a further absence, started one in that year was calculated according to the formula:

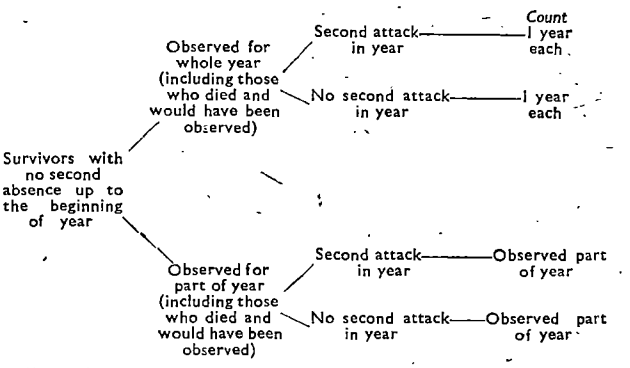
$$\frac{\text{No. of persons starting a second absence in the year} \times 100}{U+V+W}$$

Where U = one year each for all those who, not having had a second absence before the year in question, were alive and under observation for the whole year, *whether or not* they started a second absence during the year.

V = for those who, not having had a second absence before the year in question, were alive but could not be followed for the whole year for reasons 1, 2, or 3*b* above—the sum of the observed parts of a year, *whether or not* they started a second absence during the year.

W = for those in 3*a* above who did not have a second absence before the year in question, and who died during the year from coronary heart disease—one year each for those who would have been followed to the end of the year had they lived and, for the rest, the sum of those parts of the year for which they would have been followed had they lived.

Schematically the matter may be presented thus:



"Further absence" includes all cases in which death occurred after return to work from the first absence, even when the fatal illness lasted less than seven days, and was therefore not recorded as an absence.

Prognosis for Work

As for "Prognosis for Further Absence," this applies only to those who returned to work after the first absence and to the "coronary thrombosis" group.

In each year after return to work the percentage of time lost from coronary heart disease was calculated according to the following formula:

$$\frac{\text{Total time lost from work on account of coronary heart disease in the year} \times 100}{\text{Total possible time at work in the year}}$$

where the "total time lost" is the sum of all periods of absence during the year from coronary heart disease among those under observation at the beginning of the year (including the remainder of the year for those who died during the year); and "possible time" is what would have been possible if there had been no absence—that is X+Y+Z of "Prognosis for Life and Death" if calculated from return to work.

"Time lost" does not refer to the actual working hours. The data merely give the days lost, and these are converted to fractions of a year.

Throughout these calculations exact dates at which absence began and ended, and policies terminated, permitted accurate calculations of the periods of exposure to risk and time off work. The methods would of course not be applicable without adjustment where such complete information was not available. All fractional periods were worked in decimals of a year correct to two decimal places.

The fact that in "coronary thrombosis" a very large proportion of deaths occur in the first few days of the first absence means that what at first seemed a considerable body of data did not give as much information about prognosis for life and death as had been hoped. The information about how prognosis varied with age, for instance, was disappointing. Thirty per cent. of all first attacks result in death within six days and 38% within a month, but, of the 91 *recorded* deaths amongst the 192 cases presenting as "coronary thrombosis," 74, or about 80%, occurred within the first month.

A disease, like pulmonary tuberculosis, in which the chance of early death is relatively small, and in which the deaths are more evenly spaced in time, would give greater scope for the methods used.

APPENDIX 3

Independent Categorization of Samples of Membership, and of Men having First Attacks of Coronary Heart Disease, from the Records of the National Health Service

The following are the results of the two checks that were applied to test the validity of the categorizations already made (and summarized in Table XI) from the *Medical Directory* of 1946, 1948, and 1949.

Category from *Medical Directory*	General Practitioners		Hospital Staff	
	No. Checked on N.H.S. Lists for General Medical Services	Proportion Found on N.H.S. Lists	No. Checked on N.H.S. Lists for Hospital Service	Proportion Found on N.H.S. Lists
(1)	(2)	(3)	(4)	(5)
General practitioners, Category 1	485	91%	122	1·6%
Consultants/specialists, Category 2	186	1·6%	87	85%
G.P.-Specialists, Category 3 ..	123	88%	123	66%
Public officials, Category 4 ..	68	13%	68	2·9%

Column 1—The four main categories as described in the opening of Part II of this report.

Column 2—All in the samples aged 45–64, and all cases of first attack alive and at work after July 5, 1948, were checked on the general medical services lists of N.H.S.

Column 3—The proportions of those in column 2 who were found to be providing general medical services under the N.H.S. Act. Most of the public officials who were providing such service were clearly doing so for other members of their own staffs.

Column 4—It was impracticable to classify hospital service as "specialist" or otherwise. The following general practitioners are included in the 122 categorized from the *Medical Directory* as general practitioners who were now checked for hospital service: all in the samples who were not found in the general medical services lists; all in the samples who were resident in Scotland and Northern Ireland; all G.P.s who had first attacks of coronary heart disease in 1947–50 and who were alive and at work after July 5, 1948. The 87 consultants/specialists whose names were now checked included all so categorized who were *not* on the staff of teaching hospitals; and all the relevant cases of coronary heart disease.

Column 5—The proportions of those in column 4 now found to be rendering N.H.S. hospital service. The 2 of the 122 categorized as general practitioners who were found to be under contract for hospital service were also rendering general medical services. 12 of the 41 "G.P.-Specialists" not found in the N.H.S. lists seemed to have lost their hospital appointments very recently, judging from the changes in the *Medical Directory* between 1946–9 and 1951; 27 still record these appointments in the 1951 *Medical Directory*; 2 had retired. Two "public officials" now found to be clinical specialists were also clearly continuing as public health officers: 2 of 68 is 2·9%.

HERPES ZOSTER VARICELLOSUS

BY

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In 1892 von Bókay, of Budapest, described the simultaneous appearance of herpes zoster and varicella in the same patient, and he advanced the theory that the two conditions were caused by the same virus. Seiler (1949) has estimated that the yearly incidence of herpes zoster in Edinburgh is 2 per 1,000 of the population, and that 3.8% of these zoster cases are complicated by a varicelliform eruption.

Most uncomplicated zoster cases in this region are dealt with by local practitioners, and few are referred to the Infirmary. During the period under review (1947–50 inclusive) the number of zoster cases seen was 79, of which 67 were uncomplicated, 6 suffered from involvement of the eye, and the remaining 6 cases were complicated by a generalized varicelliform eruption. Five of the cases are summarized in the Table on the opposite page, and the sixth is described in greater detail below.

Case Reports

Case 6.—A man aged 69 was suffering from haemorrhagic herpes zoster in the distribution of the ophthalmic division of the fifth cranial nerve on the right side. The condition had been present for seven days. Before the attack of zoster his health had been excellent and there was no history of his having taken drugs of any sort. Blood examination showed no abnormality. He had never had herpes zoster or varicella previously. The day after the appearance of the zoster lesions a generalized varicelliform eruption developed suddenly. This eruption reached its maximum distribution within 24 hours, and thereafter no fresh lesions developed. He was photographed on the day he first reported, and a biopsy of a vesico-pustule on the right forearm was done by one of the doctors in the department.

Case 7.—The doctor who had done the biopsy on Case 6 complained of general malaise, anorexia, and headache 13 days later, and on the following day a typical varicella eruption developed, beginning in the scalp and on the fauces, and appearing in crops on the trunk, back, face, and arms during the subsequent three days. At its height two days later the rash was profuse, especially on the back, but by this time the constitutional symptoms had subsided. There was no previous history of herpes zoster or of varicella, although the patient had often been in contact with both diseases. He was clear of varicella lesions in 16 days.

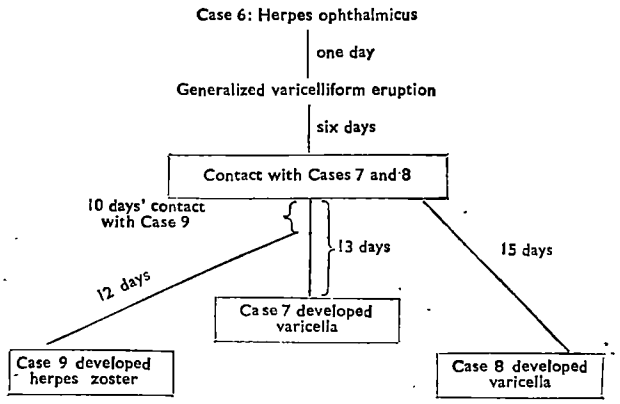
Case 8.—The technician who had photographed Case 6 complained of general malaise and had the typical features of varicella 15 days after his one and only contact with Case 6—that is, two days after Case 7 had developed varicella.

FIG. 1.—Case 3, showing haemorrhagic herpes zoster of L1 and L2 and the varicelliform eruption of trunk and limbs.

The technician did not touch Case 6 nor did he handle his clothing. Here again there was no previous history of herpes zoster or of varicella. The rash cleared in three weeks.

Case 9.—A doctor, with whom Case 7 had lunched on several occasions between the first and tenth days of the incubation period of his varicella, developed severe neuralgic pains in the right lumbo-sacral region two days after Case 7 developed varicella — that is, 15 days after Case 7 had been in contact with Case 6. Seven days later an eruption of herpes zoster appeared over the area of distribution of the twelfth thoracic and first lumbar nerves on the right side. There was no actual contact by touch between Cases 7 and 9. The doctor in question had often been in contact with cases of herpes zoster and of varicella in the past without contracting either disease, but had not recently been in contact with any other known possible source of infection.

The Diagram illustrates the relationship between the primary zoster and the secondary varicelliform eruption in Case 6 and the spread of infection to three other individuals.



Summary of Five Cases of Concurrent Herpes Zoster and Varicella

	Case 1	Case 2	Case 3	Case 4	Case 5
Sex and age ..	Male; 67	Male; 82	Male; 75	Male; 64	Male; 79
Distribution of zoster	C3, 4, and 5 on left side	Trigeminal nerve on left side	L1 and L2 on left side (Fig. 1)	7th nerve rt. side. Ramsay Hunt syndrome	C3 on left side
Interval between development of zoster and varicella	2 days	1 day	2 days	1 day	Less than 4 days
Previous history of zoster or varicella	Nil	Nil	Nil	Nil	Nil
History of contact with cases of zoster or varicella	"	"	"	"	15 days' contact with a convalescent zoster case
General health	Suffered from chronic lymphatic leukaemia	Diabetic patient	Chronic lymphatic leukaemia treated with x rays	Good	Very good
Duration of zoster eruption	6 weeks	15 days	7 weeks	Residual facial palsy 7 months later	15 days
Duration of varicella eruption	14 days	12 "	18 days	15 days	8 "

Laboratory Investigation

Histology.—Biopsies were taken from the edge of the zoster eruption and from a secondary vesicle on the trunk in Case 3 and from a secondary vesicle on the forearm in Case 6 (Figs. 2 and 3). The histological features in all

FIG. 2.—Case 6. Histopathology of a varicelliform lesion from the anterior aspect of the left forearm. The stratum corneum is intact, and immediately subjacent to it and to the stratum granulosum a thin layer of degenerated rete cells is visible. The basal layer has disintegrated, with the result that balloon cells, giant cells, and cellular debris lie directly on the upper dermis. H. and E. (× 60.)

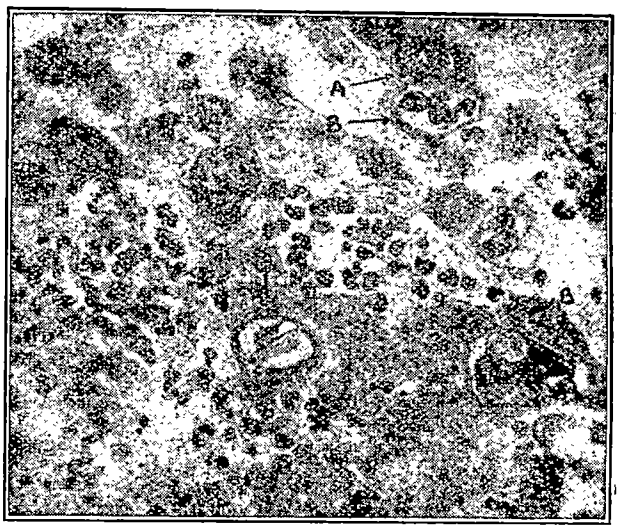


FIG. 3.—Case 6. Histopathology of a varicelliform lesion from the anterior aspect of the left forearm. The cells forming the floor of the bulla show varying degrees of degeneration. Intracellular oedema gives rise to the appearance of ballooning of the cells (A); several so-called giant cells (B), consisting of aggregations of degenerated nuclei surrounded by a variable quantity of cytoplasm, are prominent. The infiltrate consists of polymorphs and, to a less extent, of lymphocytes. H. & E. (×450.)

three sections show an intra-epidermal bulla, the roof of which is formed by stratum corneum, stratum granulosum, and the upper part of the degenerated rete mucosum. It is clearly demarcated laterally from the adjacent epidermis by a few rows of flattened degenerated rete cells. The base is composed of degenerated and disorganized rete and basal cells, around which there is an infiltration of polymorph leucocytes and lymphocytes. In this area there is intercellular and intracellular oedema, giving rise to the appearance of ballooning of the cells, and several so-called "giant cells," consisting of aggregations of degenerated nuclei surrounded by the remains of the cytoplasm of these cells, are apparent. The bulla fluid contains some of these balloon cells, giant cells, and leucocytes. In the upper part of the dermis there is oedema, with a well-marked polymorph and lymphocytic infiltrate, particularly in the perivascular situation.

Bacteriology.—On admission 10 ml. of blood was withdrawn and fluid was collected from bullae on the groin and thigh in Case 3. Large numbers of elementary bodies were demonstrated in the bulla fluid by the methods of Weiss and of Paschen. The bulla fluid was diluted and set up for complement fixation against three sera derived from known severe cases of herpes zoster, including serum from Case 2, and against three normal sera. The antigens in the vesicle fluid combined with the antibodies in the known positive sera to fix 2 M.H.D. of complement when the sera were diluted 1/16. No fixation took place with the normal sera. No antibodies were demonstrated in the patient's serum, against his own bulla fluid, or against fluid from another case of herpes zoster, indicating that the patient had not at that stage produced antibodies to the herpes zoster virus.

Comment on Case Reports

In each of the six cases of herpes zoster complicated by a varicelliform eruption the herpes zoster eruption developed first, and the interval between the appearance of the zoster and the development of the secondary rash was 24 hours to four days. None of the patients had previously suffered from herpes zoster or varicella. The herpes zoster and the secondary eruptions both healed with scarring; the duration of the zoster eruption varied within wide limits, from 15 days to 7 weeks, whereas the secondary eruption, which developed to its maximum extent in 24 hours, cleared within 8 to 21 days. In each instance the secondary eruption had cleared before the primary zoster lesions. In Cases 7 and 8 the incubation period of the varicella was 13 and 15 days, respectively—that is, within the normal incubation period of varicella. The incubation period of herpes zoster is said to lie between 9 days (Kundratitz) and 21 days (Siegl); in Case 5 it was 15 days or less, and in Case 9 it lay between 12 and 22 days.

Although epidemics of zoster have been described the actual mode of spread has not yet been established. In 1900 Haslund noted that herpes zoster was often ushered in with nasal or pharyngeal symptoms, and he regarded the tonsils as the probable portal of entry. He thought that the virus was then carried by the blood stream to a posterior root ganglion and thence via a sensory nerve to the skin. Fenner (1948) has described the mode of spread of the virus causing ectromelia in mice. He has proved experimentally that the virus multiplies at the source of infection—normally minor trauma on the skin surface—and spreads thence to infect the associated lymph nodes, where further reproduction results in a blood infection or viraemia. This primary viraemia is controlled by the phagocytic action of the cells of the liver, spleen, and other tissues. When these cells have been overcome by the virus a secondary and more profound viraemia develops, resulting in the clinical condition. It is possible that a similar sequence of events occurs in zoster and varicella, the virus being neurotropic in the former disease and dermotropic in the latter.

Montgomery (1921) considers that the more probable route of entry is via the sensory nerve endings in the skin, and this view is upheld by van Rooyen and Rhodes (1940). It is difficult to conceive how this theory can find acceptance, as prior to the onset of zoster there is rarely any history of trauma over the area affected, and the application of vesicle fluid to the unbroken skin has failed to produce either local or generalized reactions or to stimulate the development of immunity. Furthermore, aberrant vesicles are seen quite often in herpes zoster, and their presence would be difficult to explain on the basis of this theory. Case 7 had been in close contact with Case 6 while doing the biopsy, but infection in Cases 5, 8, and 9, where contact was not close, was in all probability by droplet infection; and the portal of entry may well have been the nasopharynx.

Two cases in this series suffered from chronic lymphatic leukaemia, one of them having been treated with wide-field *x*-ray therapy six months before the zoster attack. A series of 45 such cases developing zoster following irradiation is described by Ellis and Stoll (1949).

Brief Review of the Literature

The following clinical observations have been advanced in support of the theory that herpes zoster and varicella are caused by the same virus: (*a*) Varicella often occurs in children in contact with cases of herpes zoster. Adults who have not previously had chicken-pox or herpes zoster are also liable to infection. (*b*) Herpes zoster is occasionally followed, within five days of the vesicular phase, by a generalized varicelliform eruption (see Cases 1–6). (*c*) Cases of herpes zoster associated with a varicelliform eruption are not infrequently followed by cases of varicella in contacts, the incubation period being 12–16 days (Cases 7 and 8). (*d*) A few cases have been reported in which varicella has been followed by herpes zoster in contacts (Case 9).

A common origin for the two diseases is supported by the experimental work of Lipschütz and Kundratitz (1925) in Vienna and of Bruusgaard (1932) in Oslo. These authors reported that when infants or young children were vaccinated with zoster vesicle fluid varicelliform lesions developed locally around the site of inoculation; in a few cases a generalized varicelliform eruption made its appearance, and some of the contacts of these cases developed varicella. Cross complement-fixation reactions have been demonstrated between the serum of convalescent herpes zoster cases and the vesicle fluid or crusts of varicella cases, and vice versa, important work in this respect being that of Netter and Urbain (1924) in France and that of R. T. Brain (1933) in this country. Hassko *et al.* (1938) were unable to confirm these findings, and Thomsen (1934) failed to demonstrate any fixation between zoster serum and varicella antigen in 83 cases, the converse reaction with varicella serum and zoster antigen being also negative.

R. T. Brain considers that zoster may be regarded as a neurotropic modification of the dermotropic virus of chicken-pox. He points out that the virus in question most readily attacks young children who have no natural immunity, giving rise to the characteristic eruption of chicken-pox in varying degrees of severity, some of the milder cases passing unnoticed as subclinical infections. In either event the virus is widely disseminated throughout the body and must reach the central nervous system, where it may persist, without causing symptoms, for many years. After a short or long interval the dormant virus is provoked to activity by some autogenous factor or as the result of trauma, a toxic drug, or other infection.

Chicken-pox is a common disease and herpes zoster is relatively common, and those who uphold the dualistic theory contend that their association is not more frequent than might be expected in the case of any two diseases whose aetiology is quite distinct. In favour of this view the following points have been advanced: (*a*) Herpes zoster has often been described in patients who have had varicella

at an earlier date, and it does not therefore appear that a high degree of immunity exists between the two diseases. (*b*) The experiments of Lauda and Stöhr (1926) did not support those of Lipschütz and Kundratitz. They inoculated 55 children with herpes zoster vesicle fluid, but failed to obtain a positive local reaction in a single case. Nevertheless, three of the children developed varicella 14 days after the inoculation. (*c*) Zoster has been described in isolated communities where varicella is unknown, as in Cantor's (1921) report on Christmas Island and Woolley's (1946) report on three cases on Tristan da Cunha. The numbers involved in both these instances were very small, and so the reports should be treated with reserve.

It is still undecided whether the two conditions are due to the same virus, to distinct but antigenically similar viruses, or to a mutation of a reversible nature in the structure of the organism. Under the electron microscope the virus of herpes zoster is indistinguishable from that of varicella; from the clinical and pathological viewpoints this organism has an affinity for skin and nerve tissue. In children and in adults who have not previously had either disease or have not been exposed to subinfection of the virus, the tendency is for an infective dose of the virus to result in varicella, as a result of which a high degree of immunity to the organism is usually established. In the majority of adults repeated exposure to and subinfection by the virus seem to result in partial immunity of the individual. W. Russell Brain (1931) considered that the sensory neurone had a tissue immunity feebler than that of other parts of the body, or that its immunity might be temporarily diminished by a preceding lesion, so that an infective dose of the virus in adult life tended to produce herpes zoster.

Summary

Six cases of herpes zoster varicellosus are described. In one of these cases two contacts developed varicella within the incubation period of that disease, and during the incubation period one of these two varicella cases was responsible for conveying the infective agent of herpes zoster to another contact. The literature on the subject is briefly reviewed. It is concluded that herpes zoster and varicella are very closely allied; the definition of the exact relationship of the organisms must be left to the bacteriologist.

I wish to thank Professor G. H. Percival for helpful advice in preparing this paper. Thanks are also due to Dr. R. H. A. Siwain for the bacteriological investigations and to Mr. T. C. Dodds for the histological preparations and photographs.

BIBLIOGRAPHY

Amies, C. R. (1934). *Brit. J. exp. Path.*, 15, 314.
Barker, L. P. (1939). *Arch. Derm. Syph., Chicago*, 40, 974.
Brain, R. T. (1933). *Brit. J. exp. Path.*, 14, 67.
Brain, W. R. (1931). *British Medical Journal*, 1, 81.
Bruusgaard, E. (1932). *Brit. J. Derm. Syph.*, 44, 1.
Cantor, S. J. (1921). *British Medical Journal*, 2, 508.
Epidemics in Schools (1938). *Spec. Rep. Ser. med. Res. Coun. Lond.*, No. 227. H.M.S.O.
Ellis, F. and Stoll, B. A. (1949). *British Medical Journal*, 2, 1323.
Fenner, F. (1948). *Lancet*, 2, 915.
Ferriman, D. G. (1939). Ibid., 1, 930.
Grindon, J. (1939). *Arch. Derm. Syph., Chicago*, 39, 865.
Hassko, A., Vamos, L., and Thoroczkay, M. (1938). *Z. ImmunForsch.*, 93, 80.
Lauda, E., and Silberstern, E. (1925). *Klin. Wschr.*, 4, 1871.
—— and Stöhr, D. (1926). *Mschr. Kinderheilk.*, 34, 97.
Le Feuvre, W. P. (1917). *Brit. J. Derm. Syph.*, 29, 253.
Lipschütz, B., and Kundratitz, K. (1925). *Wien. klin. Wschr.*, 38, 499.
Netter, A. (1920). *Bull. Acad. méd., Paris*, 83, 588.
—— and Urbain, A. (1924). *C.R. Soc. Biol., Paris*, 90, 461.
Ronaldson, G. W., and Kelleher, W. H. (1938). *Brit. J. Child. Dis.*, 35, 22.
Ruska, H. (1943). *Klin. Wschr.*, 22, 703.
Seiler, H. E. (1949). *J. Hyg., Camb.*, 47, 253.
Stocks, P. (1930). *Proc. roy. Soc. Med.*, 23, 1360.
Taylor, F. J. (1945). *British Medical Journal*, 2, 385.
Thomsen, O. (1934). *Z. ImmunForsch.*, 82, 88.
Van Rooyen, C. E., and Rhodes, A. J. (1940). *Virus Diseases in Man*, Oxford Univ. Press, London.
Von Bókay, J. (1892). *Arch. f. Med.*, 1, 159.
—— (1909). *Wien. klin. Wschr.*, 22, 1323.
—— (1928). *Jb. Kinderheilk.*, 119, 127.
Woolley, E. J. S. (1946). *British Medical Journal*, 1, 392.

PULMONARY ASPERGILLOSIS FOLLOWING POST-INFLUENZAL BRONCHOPNEUMONIA TREATED WITH ANTIBIOTICS

BY

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The association of fungus infections with antibiotic therapy is now well recognized. Although many references are to be found in the American literature, few examples have been recorded in this country. We therefore think the following case of pulmonary aspergillosis is of interest.

Case Report

A housewife aged 51 was admitted on February 9, 1951, during an influenza epidemic, with a diagnosis of post-influenzal bronchopneumonia and toxic purpura. Her symptoms, which began three weeks previously, were typical of the prevalent influenza. The cough became worse, though the sputum was scanty, mucopurulent, and never blood-stained. She remained febrile, and three days before admission developed a purpuric rash.

Clinical Examination.—The patient was slightly cyanosed, dyspnoeic, and febrile—temperature 99.5° F. (37.5° C.), with a dry mouth—and obviously very ill. There were petechiae and haemorrhagic bullae on her face, arms, and legs which were considered to be typical of a "sedormid" eruption. She had taken three tablets before this rash appeared. There was slight impairment of the percussion note at the right base, and diffuse moist sounds were heard over both lower lobes. She had a regular tachycardia of 120, slight venous engorgement, and a little oedema of the ankles suggesting mild congestive failure. The blood pressure was not recorded because of bullae on the arms. A radiograph of the chest on February 9 showed obliteration of the right costophrenic angle with heavy lung shadows and only slight mottled opacities in both lower zones.

Special Investigations.—A blood count showed: Hb, 94% (Haldane); white cells, 18,000 (neutrophils 95%, lymphocytes 1.5%, monocytes 3%, metamyelocytes 0.5%); platelets, 230,000 per c.mm.; clotting-time, 5 minutes (capillary tube); bleeding-time, 3½ minutes (Duke). The urine contained: albumin, a trace; sugar, a trace on occasions; pus cells, 1–4, and red cells, 0–3, per ⅙ field. Blister fluid was sterile. Direct examination of the sputum on February 12 showed numerous pus cells and a few yeast forms; no acid-fast bacilli were seen. Culture yielded a heavy growth of *Bact. coli* sensitive to streptomycin and chloramphenicol, and a heavy growth of *Candida albicans*.

Progress and Treatment.—Treatment was begun at once with crystalline penicillin, 500,000 units eight-hourly. Two days later the patient was afebrile, the pulse rate had fallen, and she was much improved. On the fifth day, however, despite the absence of fresh physical signs in her chest, the temperature rose, penicillin was discontinued, and chloramphenicol was given, 3 g. initially and 0.5 g. six-hourly. By the tenth day her temperature was 100° F. (37.8° C.); she had a pleuritic pain in the right chest, auricular fibrillation had developed, and the sputum, still scanty, became purulent and streaked with blood.

FIG. 1.—Radiograph of chest (February 19) showing opacities in left upper and mid-zones.

A chest radiograph on the eleventh day (February 19) showed extensive mottled opacities in the left upper and mid-zones containing what appeared to be irregular thin-walled cavities. Streptomycin, 0.5 g. twice daily, was now given in addition to chloramphenicol. On February 20 the sputum contained numerous pus cells, with occasional yeast forms and filaments suggestive of *C. albicans*; no acid-fast bacilli were seen. Culture yielded a predominant growth of *C. albicans*. From that time the patient's condition deteriorated, and she died in coma 16 days after admission.

Post-mortem Findings

The body was that of a thin elderly woman. There were several bullae on the arms, face, and feet which did not appear infected. Both lungs were emphysematous and oedematous. The left upper lobe contained a thin-walled cavity 5 cm. in diameter which had a trabeculated lining dusted with fine white and grey particles. The rest of this lobe showed bronchopneumonic consolidation, as did the right lower lobe to a lesser extent. The pancreas showed a haemorrhagic area in the tail, with several areas of softening elsewhere. The kidneys were pale and their capsules stripped easily. On the right side there were two large recent infarcts, and on the left several smaller less recent areas of infarction.

FIG. 2.—Section through lining of cavity in left upper lobe, showing fungal mycelium typical of aspergillus. H. & E. (×320.)

Histology.—Sections from the left lung showed the cavity to be lined with a densely felted layer of fungal mycelium and occasional conidia. The structure of the mycelium and conidia was typical of aspergillus (Fig. 2). Neither mycelium nor yeast forms of *C. albicans* were seen in the lung tissue. The adjacent lung showed consolidation, with a haemorrhagic fibrinous exudate. Fragments of mycelium were found in the lung tissue throughout the upper lobe and to a less extent in the lower lobe, where there was a less-pronounced exudate. Sections from the right lung showed some bronchopneumonic consolidation in the lower lobe, with fragments of mycelium in the exudate filling some bronchioles. In the pancreas there were irregular areas of haemorrhage and necrosis. One artery showed necrosis of all coats and scanty cellular infiltration with polymorphs, lymphocytes, plasma cells, and reticulo-endothelial cells, together with surrounding fibrosis. Several blocks from the kidneys showed a number of small arteries with areas of medial fibrosis. No fungal mycelium was seen in the sections from the pancreas or kidney.

Bacteriology.—Material from the lung cavity showed conidia typical of the *Aspergillus* genus. Cultures yielded a heavy growth of *Aspergillus fumigatus* Fresenius, together with a scanty growth of *C. albicans*, coagulase-negative staphylococci, and haemolytic streptococci, not of Lancefield groups A, C, or G.

In view of these findings the cause of death was considered to be toxaemia due to post-influenzal bronchopneumonia complicated latterly by aspergillus infection. Neither the purpura nor the presence of *C. albicans* seemed to contribute significantly.

Discussion

The occurrence of primary aspergillus infection of the lungs is well recognized, particularly in France and America. It occurs most often in patients who are in contact with fungus-contaminated grain, such as agricultural workers and pigeon-feeders. The clinical manifestations of this disease may briefly be said to fall into three groups: the bronchitic, the acute bronchopneumonic, and the chronic granulomatous types, the latter simulating tuberculosis (Virchow, 1856; Renon, 1897; Van Ordstrand, 1940; Cooper, 1946).

Secondary infection associated with other lung diseases is also described, and may occur in tuberculous cavities, bronchiectasis, and even bronchogenic carcinoma (Lapham, 1926; Kampmeier and Black, 1934; Donaldson *et al.*, 1942). Sometimes a blood-borne dissemination gives rise to endocarditis, granulomatous lesions in many organs, meningitis, and even brain abscess (Geiger *et al.*, 1945; Cawley, 1947; Grekin *et al.*, 1950).

The interest of our patient lies in the rapid development of a cavitating bronchopneumonia while massive doses of antibiotics were being administered. The extent of the lung disease shown radiologically was greater than expected from the physical signs, but was in keeping with her progressively deteriorating condition. The necropsy findings confirmed the presence of bronchopneumonic consolidation and of cavitation in the left upper lobe, the wall of which was lined with mycelium. Mycelium was also found in other parts of the lung.

Recent reports have shown the frequent association of fungus infection with antibiotic therapy. Thus Woods *et al.* (1951) describe a series of 25 cases of moniliasis apparently a direct sequel of the use of antibiotics. Of these, 20 had oro-pharyngeal, 3 intestinal, and 2 broncho-pulmonary moniliasis. They suggest that suppression of bacteria usually competing for food with the coexisting *C. albicans* is probably the most important factor in the development of these infections. The disturbance of vitamin synthesis due to alteration of bacterial flora in the gastro-intestinal tract may also be of importance. Harris (1950) reports some success with vitamin-B complex in the prevention and treatment of moniliasis following antibiotic therapy. Foley and Winter (1949) suggest that penicillin may actually enhance the growth and pathogenicity of *Candida* species.

Tomaszewski (1951) recently analysed the side-effects of 126 cases treated with chloramphenicol and "aureomycin"; he remarks on the frequency of a fungal flora in the oral cavity, with a disappearance of the normal bacterial flora. Of particular relevance to our case is the report by Zimmer-

man (1950) of three cases of mycotic endocarditis, two of which were due to aspergillus infection, following antibiotic therapy.

We would suggest that in this case, also, the use of penicillin and chloramphenicol predisposed the damaged lung to infection with *Aspergillus fumigatus*, and that the terminal condition was due to the fungus rather than to any pathogenic bacteria. The case has been presented, therefore, to illustrate one of the dangers of antibiotic therapy—a subject of considerable interest at the present time. With the increasing use of antibiotics, similar cases may be seen more often in the future.

Summary

A middle-aged woman was treated with penicillin, streptomycin, and chloramphenicol for post-influenzal bronchopneumonia. At post-mortem examination the presence of *Aspergillus fumigatus* infection of the lungs was discovered. The relation of the infection to antibiotic therapy is discussed.

We are indebted to Dr. R. S. Bruce Pearson, Professor H. A. Magnus, and Dr. A. C. Cunliffe for advice in the preparation of this paper; and to Major H. A. Dade, of the Commonwealth Mycological Institute, Kew, for confirming the species of *Aspergillus* isolated.

REFERENCES

Cawley, E. P. (1947). *Arch. intern. Med.*, 80, 423.
Cooper, N. S. (1946). *Arch. Path.*, 42, 644.
Donaldson, J. M., Koerth, C. J., and McCorkle, R. G. (1942). *J. Lab. clin. Med.*, 27, 740.
Foley, G. E., and Winter, W. D. (1949). *J. infect. Dis.*, 85, 268.
Geiger, A. J., Wenner, H. A., Axilrod, H. D., and Durlacher, S. H. (1945). *Yale J. Biol. Med.*, 18, 259.
Grekin, R. H., Cawley, E. P., Zheutlin, B. (1950). *Arch. Path.*, 49, 387.
Harris, H. J. (1950). *J. Amer. med. Ass.*, 142, 161.
Kampmeier, R. H., and Black, H. A. (1934). *Amer. Rev. Tuberc.*, 30, 315.
Lapham, M. E. (1926). *J. Amer. med. Ass.*, 87, 1031.
Renon, L. (1897). *Etude sur l'Aspergillose chez les Animaux et chez l'Homme.* Paris.
Tomaszewski, T. (1951). *British Medical Journal*, 1, 388.
Van Ordstrand, H. S. (1940). *Cleveland clin. Quart.*, 7, 66.
Virchow, R. (1856). *Virchows Arch.*, 9, 557.
Woods, J. W., Manning, I. H., and Patterson, C. N. (1951). *J. Amer. med. Ass.*, 145, 207.
Zimmerman, L. E. (1950). *Arch. Path.*, 50, 591.

PERIPHERAL NEURITIS IN SYSTEMIC LUPUS ERYTHEMATOSUS

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Peripheral neuritis has not been described as a feature of systemic lupus erythematosus, although it is well known in the closely related condition of polyarteritis nodosa.

The course of systemic lupus erythematosus has been fully described by many authors, notably Libman and Sacks (1924), Keil (1933), Baehr, Klemperer, and Schifrin (1935), Klemperer, Pollack, and Baehr (1941), and Cluxton and Krause (1943), but none of these makes reference to peripheral neuritis, nor do the case reports of Kaposi (1872), Goeckerman (1923), Keefer and Felty (1924), Jarcho (1936), Fergusson, Milne, and Shand (1949), Beare (1949), or Gold (1951). Ginzler and Fox (1940) report bilateral wrist-drop in their patient twenty-four hours before death, but without investigation into its cause, clinical or pathological.

No mention of systemic lupus erythematosus is made by Richards (1951) in a comprehensive review of ischaemic lesions of peripheral nerves.

The following case is therefore put on record.

Case Report

A housewife aged 34 was originally admitted to the Maida Vale Hospital for Nervous Diseases on June 23, 1949, with a five-weeks history of weakness of the legs and paraesthesiae in her hands and feet. In March she had had a febrile illness, associated with a rash, mainly on the face, that had been diagnosed as rubella. A right-sided pleurisy in 1947 was the only past medical history of note, and she had no recollection of having taken any drugs. There was no significant family history of illness.

Examination revealed a persistent pyrexia of 102 to 103° F. (38.9 to 39.4° C.), with a tachycardia of 100 to 120 a minute associated with marked malaise and wasting. An erythematous maculo-papular eruption was seen on the cheeks, bridge of the nose, angles of the jaw, and wrists. The mucous membranes were generally pale, but there was inflammation of the mouth, tongue, and pharynx. The lymph nodes were not enlarged and neither the liver nor the spleen was palpable. No abnormality was found in the respiratory system, abdomen, or cardiovascular system, and the blood pressure was 135/85 mm. Hg.

In the nervous system, the upper limbs showed a bilateral motor weakness, most marked peripherally, and all the tendon reflexes were absent. Sensation was normal apart from slight loss of two-point discrimination in each hand. A generalized flaccid weakness of the lower limbs was again most noticeable in the periphery, knee-jerk and ankle-jerks were absent, and there was a bilateral flexor plantar response. Light-touch sensation was absent in both legs up to the knees, and vibration sense, while impaired up to the knee on the right side, was completely absent on the left. Pin-prick sensation was unaffected. Calf tenderness was marked in both legs.

The urine showed a heavy cloud of albumin, a large number of erythrocytes, and a few pus cells but no casts. Numerous investigations were negative, including agglutination reactions, the blood W.R. and Kahn test, and an *x*-ray film of the chest. A blood examination revealed: haemoglobin, 73% (Haldane) (10.8 g. per 100 ml.); red cells, 4,300,000 per c.mm.; white cells, 4,420 per c.mm. (neutrophil polymorphs 2,800, eosinophils 360, lymphocytes 1,260 per c.mm.). Lumbar puncture showed a pressure of 170 mm., with no block, 120 mg. of protein and 695 mg. of chlorides per 100 ml., and 5 lymphocytes per c.mm.

Owing to the development of occasional pulmonary crepitations, a course of penicillin and "sulphatriad" was given, but there was no clinical improvement. Vitamin B was administered by injection and later by mouth with nicotinamide and ascorbic acid, but, beyond relieving the stomatitis to some extent, did not appear to have any effect.

Blood culture was negative on admission, but on three subsequent occasions *Bact. faecalis alkaligenes* was grown, sensitive to streptomycin *in vitro*. A week's treatment with this antibiotic (0.5 g. six-hourly) and a further course in August brought no improvement.

A slight generalized lymph-node enlargement developed at this time, but the spleen remained impalpable throughout. Lymph-node biopsy from the left axilla and a sternal marrow examination by direct smear showed no significant abnormality.

Anaemia and leucopenia developed slowly, and by July 27 the haemoglobin was 45% (Haldane) (6.6 g. per 100 ml.), and there were 2,400 white cells per c.mm. (neutrophil polymorphs 1,600, lymphocytes 600, monocytes 200 per c.mm.). On this day 3 pints (1.7 litres) of Group A Rh-negative blood was given, raising the haemoglobin to 70% and improving the general condition, but not reducing the temperature.

By now some improvement in the peripheral neuritis was apparent, although the tendon reflexes were still absent and

the wasting was no less obvious. A further blood transfusion of 3 pints (1.7 litres) was given on August 19, when the haemoglobin had fallen to 60%.

On the following day five epileptiform seizures occurred with loss of consciousness and movements of the head and eyes to the left. For the remainder of the illness bilateral extensor plantar responses were present and bilateral retinal exudates were also noted. Lumbar puncture on August 22 showed 90 mg. of protein per 100 ml. and 12 lymphocytes per c.mm.

The skin lesions had gradually disappeared and by August 25 there was only a slight scaling in the affected areas. The blood pressure now was 120/90 and the urine showed a heavy precipitate of albumin. The heart was not enlarged and there were no significant murmurs and no pericardial rub. Her general condition remained grave, with a pyrexia of 100 to 102° F. (37.8 to 38.9° C.) and a tachycardia of 110 to 130 a minute. On August 25 she was transferred to St. Mary's Hospital.

The relevant investigations thereafter included: Plasma proteins 4.8 g. per 100 ml. (albumin 2.1 g., globulin 2.7 g.); E.C.G., low voltage in all leads with flat or absent T waves. Muscle biopsy showed no evidence of polyarteritis nodosa.

A course of chloramphenicol was given (0.25 g. six-hourly for six days), and a further course of penicillin (500,000 units twice daily), but with no effect. Late in November the temperature fell to normal, but the tachycardia persisted and her general condition deteriorated. Oedema developed, with a large ascites and a right pleural effusion, and the blood pressure rose steadily to 170/120. Severe abdominal pain occurred on December 16, and on the 18th there was evidence of acute generalized peritonitis. A laparotomy was undertaken, but the patient died on December 18 while on the operating table.

Necropsy Report

Necropsy was performed on December 19. *Cardiovascular system:* The visceral pericardium had a patchy gelatinous appearance and the myocardium was pale brown in colour with scattered paler areas throughout its substance. The endocardium, valves, and coronary arteries appeared normal. The heart weighed 375 g. *Respiratory system:* There was a small right hydrothorax and both lungs were very oedematous. *Digestive system:* The peritoneal cavity contained a large amount of turbid fluid. *Haemopoietic system:* The spleen was of normal size, firm, and congested, and had a small infarct. The Malpighian bodies and trabeculae were prominent. *Genito-urinary system:* The kidneys, each weighing 220 g., were pale in colour, and prominent glomeruli and small scattered haemorrhages were visible in the cortex, which was of normal width. *Nervous system:* No macroscopic changes were noted.

Microscopical Examination

Cardiovascular System.—The pericardium was thickened and showed a diffuse cellular infiltration, the main components of which were lymphocytes and plasma cells. Organization was occurring and capillary loops and fibroblasts were conspicuous. In the adipose layer of the epicardium there were granular eosinophilic areas, probably representing changes in the ground substance. The myocardium showed scattered areas where muscle fibres had disappeared. There were no distinctive connective-tissue changes. The endocardium and valves showed no abnormalities.

Respiratory System.—There was a generalized oedema, but neither vascular nor connective-tissue changes were observed.

Digestive System.—The small intestine showed several small vessels with eccentric intimal thickening; similar changes were seen in the mesenteric vessels.

Haemopoietic System.—The spleen showed the typical concentric periarterial fibrosis found in systemic lupus erythematosus (Fig. 1).

Genito-urinary System.—In the kidneys, the glomeruli showed both "wire loop" lesions and patchy necrotic areas, often associated with crescents. The interstitial tissue was diffusely infiltrated with lymphocytes and plasma cells. Fibrinoid necrosis was present in afferent arterioles and interlobular arteries. Cellular reaction in relation to these was minimal.

Central Nervous System.—No vascular changes were found in the brain, although numerous sections were examined. Examination of peripheral nerves in the leg showed that some fibres had disappeared but most of them remained, showing no abnormality with a myelin stain. The endoneurium was increased in amount, varying from bundle to bundle. Abnormalities of the blood vessels in the epineurium were noticed. There were no active lesions such as were seen in the kidney, but numerous vessels showed evidence of previous damage. The arteriole in Fig. 2 shows evidence of old obliteration of the lumen with recanalization, and in relation to it is a group of chronic inflammatory cells. The small artery seen in Fig. 3 shows an eccentric fibrotic thickening in the intimal zone with thinning of the muscular wall over it. The internal elastic lamina is intact and new elastic is present in the fibrous tissue. This vessel has been followed in serial sections, but there was no evidence of previous complete rupture of the wall with loss of elastica and fibrous replacement of the media such as one normally sees in healed periarteritis nodosa. In discussing peripheral neuritis in polyarteritis nodosa, Kernohan and Woltman (1938) described healed vessels in which regeneration of the internal elastica had taken place, and the vessel in Fig. 3 may represent either an organized thrombus or a healed necrotizing lesion with regrowth of the internal elastica lamina. The distribution of the vascular lesions was patchy. Sections taken at certain levels showed completely normal vessels, while those taken at others showed lesions such as have been described.

FIG. 1.—Spleen. Concentric layers of collagen surrounding small artery. Haematoxylin and van Gieson. (×110.)

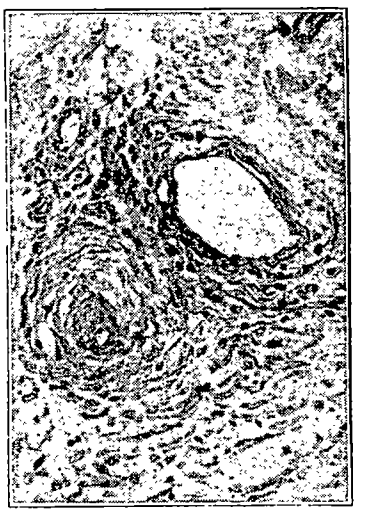

FIG. 2.—Peripheral nerve. Arteriole has been obliterated and recanalized. Chronic inflammatory cells in relation to it. Haematoxylin and eosin. (×180.)

Discussion

The combination of a prolonged pyrexial illness, renal dysfunction, serous effusions, and central nervous involvement of sudden onset suggested the diagnosis of either systemic lupus erythematosus or polyarteritis nodosa. The skin lesions and the progressive neutropenia were in favour

FIG. 3.—Peripheral nerve. Artery with gross intimal thickening and thinning of muscularis over it. New elastic-tissue formation. Hart–Sheridan method for elastic. (×420.)

of the former diagnosis, as was the female sex of the patient. On the other hand, the peripheral neuritis which gave rise to the presenting symptoms suggested polyarteritis nodosa, particularly when no previous account of this lesion in systemic lupus erythematosus could be found.

That this was a case of systemic lupus erythematosus could not be doubted after the post-mortem examination, although there is no satisfactory explanation for the repeatedly positive blood cultures.

The diagnosis of peripheral neuritis is established by the combination of a lower motor-neurone lesion, paraesthesiae, and sensory loss in all four limbs, together with bilateral calf tenderness.

From the histological evidence already given, it is postulated that the neuritis was of a similar nature to that described in polyarteritis nodosa by Wohlwill (1923), due to ischaemic changes in the nerves produced by an obliterative arteritis of the arteria nervorum. In view of the now generally accepted belief that systemic lupus erythematosus is a widespread disease of collagen it is not surprising to find these vessels involved. Indeed, rather is it to be wondered why polyneuritis is not a more frequent manifestation of this disease process.

Summary

A case of systemic lupus erythematosus in a woman aged 34 is described in which the presenting picture was one of peripheral neuritis.

It is considered that the peripheral neuritis was due to ischaemia consequent on vascular lesions in the vessels supplying the nerves.

We wish to record our indebtedness to Dr. J. W. Litchfield and Dr. P. H. Sandifer, the physicians in attendance on the patient, for their permission to report this case and for the interest they have shown in this paper; to Dr. J. F. Taylor, who carried out the necropsy; and to Mr. A. Beasley for the preparation of countless serial sections. We are most grateful to Professor W. D. Newcomb and Professor G. W. Pickering for their help and advice.

REFERENCES

Baehr, G., Klemperer, P., and Schiffrin, A. (1935). *Trans. Ass. Amer. Phys.*, **50**, 139.
Beare, J. M. (1949). *Brit. J. Derm.*, **61**, 233.
Cluxton, H. E., and Krause, L. A. M. (1943). *Ann. intern. Med.*, **19**, 843.
Fergusson, A. G., Milne, J. A., and Shand, W. N. (1949). *Glasg. med. J.*, **30**, 385.
Ginzler, A. M., and Fox, T. T. (1940). *Arch. intern. Med.*, **65**, 26.
Goeckerman, W. H. (1923). *J. Amer. med. Ass.*, **80**, 542.
Gold, S. (1951). *Lancet*, **1**, 268.
Jarcho, S. (1936). *Johns Hopk. Hosp. Bull.*, **59**, 262.
Kaposi, M. (1872). *Arch. Derm. Syph., Wien.*, **4**, 36.
Keefer, C. S., and Felty, A. R. (1924). *Johns Hopk. Hosp. Bull.*, **35**, 294.
Keil, H. (1933). *Arch. Derm. Syph., Chicago*, **28**, 765.
Kernohan, J. W., and Woltman, H. W. (1938). *Arch. Neurol. Psychiat., Chicago*, **39**, 655.
Klemperer, P., Pollack, A. D., and Baehr, G. (1941). *Arch. Path.*, **32**, 569.
Libman, E., and Sacks, B. (1924). *Arch. intern. Med.*, **33**, 701.
Richards, R. L. (1951). *J. Neurol. Neurosurg. Psychiat.*, **14**, 76.
Wohlwill, F. (1923). *Virchows Arch.*, **246**, 377.

A FOLLOW-UP STUDY OF 238 LEUCOTOMIZED PATIENTS*

BY

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This follow-up study was undertaken to assess the results of standard prefrontal leucotomy in 238 patients who underwent the operation at Crichton Royal between 1943 and 1948. Although it may be accepted that the value of the operation is established for chronic obsessional states and chronic affective psychoses, unexpected failures and unexpected successes are often met with. It was hoped that from a study of our own patients there would emerge criteria that would help us to select those individuals likely to respond to the operation. A special interest was taken in schizophrenics because they made up more than three-quarters of the series and because they form the great therapeutic problem. Partridge (1950) has published a valuable book on his personal follow-up of 300 patients over a period of one and a half to three years after operation; he was more interested in the clinical appearances than in the tabulation of results. We, on the other hand, to avoid being influenced by clinical impressionism have made a detailed examination of our material and results.

Material

TABLE I.—*Composition of the Clinical Material*

Diagnosis	No. of Cases	Percentage of Cases
Schizophrenia	194	81·1
Affective psychoses	21	8·9
Obsessional neurosis	14	6·3
Mainly organic psychoses	9	3·7
Total ..	238	100

Important features of our series were that all the patients were diagnosed and selected for operation according to the uniform standards of our hospital, while with the exception of the first 16 patients all operations were carried out by the same surgeon. The diagnosis in the 238 cases is shown in Table I. Most of the patients received the standard coronal cut of Freeman and Watts, but in 52 chronic cases

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the incision was varied so as to isolate the orbital lobes and to spare the upper quadrants; this modification was abandoned because the results were less good (Egan, 1949).

The mortality rate from the operation in our series was 3%. There were none of the "delayed post-operative deaths" described by Meyer and McLardy (1948). The incidence of post-operative epilepsy, including single fits, was 8%, most of these being male catatonic schizophrenics. There were no other serious organic complications, and persistent enuresis was not encountered.

Selection of Patients.—Our criteria of selection have always been conservative, so that only 13 of our patients had been ill for less than two years. The operation is not considered until full courses, often repeated courses, of the appropriate physical treatments have failed to induce a sustained remission. Each case was discussed pre-operatively at a staff conference, and if we thought there was any reasonable hope of remission without operation then leucotomy was avoided. Our criteria for selection included a good pre-psychotic personality, good retention of personality, and the presence of emotional tension.

Method of Follow-up

The method of follow-up we adopted for discharged patients was by personal letter to informants whom we knew to be reliable. These informants were either the relatives, the family physician, a psychiatric social worker, or, in the case of hospital patients, the appropriate medical superintendent. In some cases we also wrote to the patient himself. Our letter put the following specific questions: (1) Is the patient fully and satisfactorily occupied? (2) Is he happy and his old self again? (3) Is he easy to get on with and does he take part in social life? (4) Are there any special difficulties? (5) Do you find him a different person from what he was before his illness began?

The first inquiry elicited satisfactory information in a great majority of cases, and at the end of our investigation only one of the 238 patients was untraced. A postal follow-up has disadvantages; so has a personal interview, because the patient can give a deceptive impression of normality, and this has to be corrected by more objective opinions from relatives and doctors. We are satisfied that our study gives an accurate picture of the leucotomized patient's place in society, and, after all, criteria of success or failure after leucotomy are mainly social criteria. It was found that the patients' own letters reflected an uncritical self-satisfaction and lack of judgment, while they were prone to describe ease of social relations when in fact their social adaptation was impaired.

The average time between operation and our inquiry was four and a half years; the shortest was one year four months and the longest seven years two months. There is no doubt that follow-up studies made less than one year after operation give a deceptive picture of the results of leucotomy.

Results

The patients' condition during the first four months of 1950 is indicated in Table II. From this we see that, broadly speaking, of these prognostically hopeless cases almost one-third are living a normal or almost normal family life, and more than one-fourth are usefully and gainfully employed. Of those who remained in hospital almost half are much improved; they are happier and are easier to nurse. Our findings over a lengthy period confirm, therefore, the findings of those workers who have followed their cases for only a short time.

Apart from assessment of the therapeutic results of the operation, an attempt was made to discover which factors influenced these results.

Factors Influencing Results

Sex.—Although, like other workers, we have found a greater number of good results in females, our figures are not significant. However in schizophrenia this same trend has been found by others in spontaneous remissions (Guttmann, Mayer-Gross, and Slater, 1939) and also in those who received insulin coma treatment (Mayer-Gross, 1951, unpublished observations). It may in part be correlated with the greater ease with which a female can be again accepted into family life.

TABLE II.—*Graded Condition of Patients at Time of Investigation*

Grade	Condition	Definition	No.	%
I	Recovery	Social life as before illness. Working at old job or at one at the same occupational level as before illness. Minimum of any form of symptoms	41	17·2
II	Social recovery	Relatively normal social life. Lower standard of work; may or may not be gainfully employed. Some symptoms of psychosis or marked post-leucotomy symptoms present	31	13·0
III	Social defect	Deterioration in social behaviour, sometimes even antisocial. May or may not be gainfully employed. Symptoms as with social recovery	15	6·3
IV	Home invalid	Require care and observation in their daily life, and in any simple occupation which they may do at home. Not otherwise employed. Marked symptoms still present	15	6·3
Va	Hospital invalid	Generally improved—i.e., able to work in hospital and take part in entertainments. Have some form of parole	21	8·8
Vb	Hospital invalid	Easier nursing problems; no longer so aggressive and impulsive. Some may have a simple occupation in the ward	20	8·4
Vc	Hospital invalid	No change since operation	22	9·3
Vd	Hospital invalid	Deteriorated	28	11·8
VR	Readmitted to hospital, and in at April, 1950		35	14·7
VI	Dead	As a result of operation	7	3·0
		From other causes	2	0·8
VII	Untraced		1	0·4
		Totals	238	100

Age at Operation.—Good results occurred equally in our three age groups: (*a*) those under 30 years; (*b*) those of 30–39; and (*c*) those of 40 and over. However, the oldest age group had the smallest number of relapses.

Pre-morbid Personality.—By examining the case records and social histories we classified our patients into those who had been well adapted to life and society before the psychosis appeared and those whose pre-morbid adaptation had been poor and unstable. Of those who had a well-adapted pre-morbid personality 68% made grade I or grade II recoveries. Of those who were poorly adapted before their illness only 35% made grade I or II recoveries.

Time Spent in Hospital.—By this we mean the total of time in hospital since the illness began. Our total of grade I and II recoveries was 50% of those who had been in hospital under one year and only 11.5% of those who had been in hospital more than five years.

Duration of Illness.—By this we mean the total time since symptoms first became apparent. Here our findings were unexpected and we think important. In the group of patients who had been ill for 10 years and over there were almost as many grade I and II recoveries as there were in the group who had been ill less than five years (see Table III).

TABLE III.—*Relationship Between Duration of Illness and Condition at Time of Investigation*

Duration of Illness (years)	Grade (see Table II)										
	I	II	III	IV	Va	Vb	Vc & Vd	VR	VI	VII	Totals
Under 5 ..	14	11	2	6	6	4	12	18	3	1	77
5–9	14	9	8	3	6	7	15	11	3	0	76
10 and over ..	13	11	5	6	9	9	23	6	3	0	85
Totals ..	41	31	15	15	21	20	50	35	9	1	238

The conclusion is that, by itself, long duration of illness should not weigh against performance of the operation. Freeman and Watts (1950) make this same point. The apparent discrepancy between the effects of length of illness and length of stay in hospital is probably to be explained by the view that the patient who is able to remain outside hospital, even though ill, does so because of his good retention of personality and his social adaptability.

Retention of Personality.—By this we understand that, despite his psychosis, the patient retains an interest in his appearance, in personal and topical affairs, and in social intercourse. Of those patients with good pre-operative retention of personality 46% made grade I or II recoveries. Of those who seemed deteriorated before operation 21%, less than half, made grade I or II recoveries. Even this 21% is quite a respectable figure, but then it is notoriously difficult, especially in schizophrenia, to determine the presence or absence of deterioration. We found that probably the best test is the response to electric convulsion treatment (E.C.T.), and we would now hesitate to stigmatize a patient as too deteriorated for operation until we had seen the response he made to a course of electroplexy.

Response to Electric Convulsion Therapy.—Of those who had made a good, albeit transient, response to E.C.T. given before leucotomy 22% made grade I recoveries, while of those who had shown no response to E.C.T. only 3.5% made grade I recoveries. Table IV illustrates these results.

TABLE IV.—*Relationship Between Response to E.C.T. and Condition at Time of Investigation*

Clinical Response to E.C.T.	Grade (see Table II)										
	I	II	III	IV	Va	Vb	Vc & Vd	VR	VI	VII	Totals
No improvement	2	11	6	2	5	5	16	8	2	0	57
Temporary improvement	33	19	8	13	13	13	23	22	6	1	151
No E.C.T. given	6	1	1	0	3	2	11	5	1	0	30
Totals ..	41	31	15	15	21	20	50	35	9	1	238

Response to Insulin Coma Therapy.—On the other hand, we found no significant differences after leucotomy between those schizophrenics who had made some response and those who had made no response to insulin coma therapy.

Emotional Tension.—It is generally agreed that the best results of leucotomy occur in those patients who still show a strong affective reaction to their psychosis. As the presence of this affective reaction or emotional tension was one of our main criteria of selection, there were only 16 patients in the series who showed no obvious tension: the figures are therefore too small for comparison. It is interesting, however, that even of these 16 patients five made grade I or II recoveries.

Diagnostic Categories.—The series included 35 cases of affective psychosis and obsessional neurosis and 194 cases of schizophrenia. In the former group 60% made grade I or II recoveries, while only 27% of the schizophrenics reached these grades. Surprisingly, all our five cases of mania made grade I or II recoveries.

Relapses.—It was found that of 115 patients who had improved enough to be discharged from hospital 22 relapsed after an average period of two and a quarter years free from symptoms. When this group of relapsed cases was compared with those who had maintained their recoveries the only significant factor found was that the pre-operative personality was more often intact in the recovered cases than in the relapses (Gillies and Mayer-Gross, 1950).

Summary and Conclusions

A follow-up study was made of 238 chronic psychiatric patients who had undergone the standard leucotomy operation some one to seven years previously. The best results occurred in those whose pre-operative personality was more or less intact, who had well-adapted pre-psychotic personalities, and who had been only a short time in hospital. If these factors were present, long duration of illness did not worsen the prognosis.

In schizophrenia the best test for pre-operative deterioration is afforded by the response to electric convulsion treatment.

Of the psychiatric patients who have hitherto been regarded as hopeless hospital invalids the standard leucotomy can return one-third to a normal or almost normal social life and can fit one-quarter for gainful employment.

Broadly speaking, the prognostic criteria for leucotomy are still those well-tried criteria that hold for the untreated psychosis.

We are indebted to Dr. P. K. McCowan for his advice and for permission to publish the material; our thanks are also due to Mr. R. L. Beveridge, who operated on most of our patients.

REFERENCES

Egan, G. (1949). *J. ment. Sci.*, 95, 115.
Freeman, W., and Watts, J. W. (1950). *Psychosurgery*, 2nd ed. Springfield, Illinois.
Gillies, H., and Mayer-Gross, W. (1950). Paper read to the International Congress of Psychiatry, Paris.
Guttmann, E., Mayer-Gross, W., and Slater, E. T. O. (1939). *J. Neurol. Psychiat.*, 2, 25.
Meyer, A., and McLardy, T. (1948). *J. ment. Sci.*, 94, 555.
Partridge, M. (1950). *Pre-frontal Leucotomy*. Oxford.

FAMILIAL ERYTHEMA NODOSUM

BY

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(From a General Practice)

Erythema nodosum is a clinical entity with a characteristic skin eruption, usually accompanied by a general constitutional upset. Diagnosis of the eruption is easy, but there is still some uncertainty with regard to the aetiological aspects of this condition. The general consensus of opinion is that it is a non-specific reaction in a sensitive subject in response to a number of various allergens. These are best discussed under separate headings.

Tuberculosis.—It is probable that erythema nodosum is most often associated with the primary tuberculous complex, particularly in children and adolescents. In these cases the eruption occurs when the patient first develops hypersensitivity to tuberculin. The time-interval for this to happen has been estimated at three to eight weeks from the time of infection. The frequency with which erythema nodosum is associated with primary tuberculosis apparently varies individually and also nationally. Thus Wallgren (1938) estimated that 30% of primary infections in Scandinavia were associated with the eruption; Dunlevy (1949), in Eire, found only a 2.8% incidence. In Scandinavia the average age of primary infection is much higher than that in Eire. Wallgren, in a series of 800 cases, reported that 95% had a positive tuberculin skin reaction. This is significant, because these Scandinavian children could normally have been expected to have a negative reaction. He also describes a number of cases in which the change of the skin response from negative to positive was definitely associated with the eruption.

Punch (1941) was able to show that in student nurses the change from a tuberculin-negative to a tuberculin-positive skin reaction was often accompanied by an eruption of erythema nodosum. Bruce Perry (1944), in a series of 112 cases, found a positive Mantoux reaction in 54%. In those under 15 the incidence was 75% and in those over 15 it

was only 25%. Doxiadis (1949) found 88% tuberculin-positives out of 100 children under 15 who developed erythema nodosum. There are relatively few reports on series of adult cases. Löfgren (1946) considers that a non-tuberculous cause is more frequent in adults.

Acute Rheumatism.—The usual view held in this country, until recently, was that erythema nodosum was a frequent accompaniment of acute rheumatism. All the latest papers discussing the aetiology of erythema nodosum stress the rarity of this association (Wallgren, 1938; Bruce Perry, 1944; Löfgren, 1946; Doxiadis, 1949). The points against the rheumatic theory are the absence of any signs of carditis in erythema nodosum, the different sex and age incidence, and the lack of response to salicylates. Although rheumatic fever as a common cause is discredited, it is certain that erythema nodosum may occasionally be a manifestation of acute rheumatism.

Streptococcal Infection.—It was Collis (1932) who first drew attention to the fact that tuberculin-negative cases of erythema nodosum had a markedly higher sensitivity to streptococcal nucleoprotein at the time of the eruption. It seems probable that erythema nodosum may be an expression of streptococcal allergy in certain cases. It is from this cause that cases of recurrent attacks occur. Rotnes (1936) reported a case in which there had been 14 attacks, usually after a pharyngitis or tonsillitis.

Sarcoidosis.—Erythema nodosum is occasionally met with as a sign of sarcoidosis (Kerley, 1942, 1943; Löfgren, 1946; Crawley, 1950).

Sulphonamide Hypersensitivity.—In the early days of sulphonamide therapy skin rashes of diverse types were common. At the present time, with compounds of lower toxicity, these rashes are much less frequent. Occasionally an eruption indistinguishable from erythema nodosum is found in these circumstances, and it disappears rapidly when the drug is stopped. It is difficult to know whether the eruption is the result of the primary condition or whether it is a complication of the treatment.

Coccidioidomycosis.—For many years a chronic granulomatous condition, due to infection by *Coccidioides immitis*, has been prevalent in the San Joaquin Valley in California. This condition has a number of features akin to tuberculosis. There is a mild primary stage of infection which is sometimes followed by a general blood-stream spread and a possible late occurrence of chronic granulomata in the lungs and other organs. About 5% of these cases have a typical eruption of erythema nodosum associated with the primary stage of infection.

Miscellaneous.—There are a number of other conditions with which erythema nodosum has been associated—for example, meningococcal, gonococcal, and staphylococcal septicaemias; lymphogranuloma inguinale; syphilis; lymphadenoma; and intoxication with bromides and iodides.

Question of Specificity.—The recognition of small epidemics of erythema nodosum gave rise to the theory that it is a specific disease (J. O. Symes, 1921; Lendon, 1925). The causal organism has, however, never been convincingly isolated. Further studies of these epidemics suggested that in the majority there was evidence of a recent simultaneous contact with the tubercle bacillus.

Three cases of erythema nodosum which occurred simultaneously in one family are described.

Case Reports

The family, in October, 1950, comprised the parents and three young children: Mary aged 7½, Janet 5, and Roger 3½. They lived in a house of three bedrooms on the outskirts of South-east London. The parents slept in one bedroom, the two girls shared a double bed in the second, and Roger had a small room to himself. The father, a builder's decorator aged 30, had been unwell for some weeks with a cough, and on October 21 bilateral open pulmonary tuberculosis was diagnosed. He was at once ordered to bed. The mother then slept with her two daughters in their double bed, and the father had a separate room. He remained there until November 29, when he was admitted to a sanatorium. When tuberculosis was diagnosed the rest of the family were investigated at the local chest clinic. Chest radiographs showed no signs of any disease, and tuberculin tests on the children were all negative.

On December 1 the mother was seen on account of a sore throat, of three days' duration, and a painful eruption on her legs, which she had noticed for 12 hours. She was a healthy young woman of 28. She had a clean medical record, and was at this time four months pregnant. There were no cough, joint pains, or any digestive upset. The whole family had had a meal of prawns on the previous day. Examination at this stage revealed a normal temperature—98.2° F. (36.8° C.)—and pulse rate 81. The fauces were hyperaemic, but there was no exudate. On the extensor aspects of both legs there were about a dozen typical areas of erythema nodosum. Over the next four days her general condition became a little worse, with a fever up to 100° F. (37.8° C.), and increasing pain in the legs. On the fifth day she began to improve, and the eruption had disappeared by the tenth day. She received no specific treatment.

On December 1 Mary, aged 7½, began to feel unwell with vague dull mid-abdominal pain and fever—99.5° F. (37.5° C.)—and a pulse rate of 92. She showed no abnormal physical signs at this stage. There was no sore throat, no vomiting or diarrhoea, or any joint pains. On December 4 the characteristic eruption of erythema nodosum appeared on the anterior aspects of both legs. By this time she felt better and there was no abdominal pain or other constitutional upset. The eruption persisted for eight days. She, too, had no specific therapy.

Janet, aged 5, was quite well in spite of the appearance of typical areas of erythema nodosum on her legs on December 6. There was no fever or tachycardia. Her eruption had disappeared within seven days.

Roger, aged 3½, had during all this time remained in his usual good health and continued to do so.

All four were further investigated. Chest radiographs of the mother, Mary, and Roger on December 21 were considered to be within normal limits. Janet's radiograph showed a slight degree of left hilar enlargement. Further radiographs on June 4, 1951, were all regarded as within normal limits. A tuberculin patch test was performed on all four on December 15, and Janet showed a positive response. A Mantoux, 1/1,000, however, resulted in a positive reaction in the other three. The family has remained well since December, 1950, until the time of writing (July, 1951). The mother was delivered of a normal healthy boy in April, 1951; he is Mantoux-negative (1/1,000), and is about to have B.C.G. vaccinations. Janet and Roger had measles in March, but have otherwise remained well. The father is still in a sanatorium, but is due for discharge soon.

Discussion

It seems certain that in the two girls the development of a positive tuberculin skin reaction accompanying a primary tuberculous infection was associated with an eruption of erythema nodosum. This is also likely to be the case in the mother, but it is inconclusive, as a previous skin test was not done.

A number of previous reports describe similar series of cases. The most remarkable of these was an "epidemic" which occurred in the Welsh town of Mynyddislwyn in the summer of 1920. It is reported by J. O. Symes (1921), quoting R. E. Roberts, who was then the local M.O.H. Over a period of five weeks 50 cases of erythema nodosum were seen in an area enclosing three streets. There had been no cases in this town for the previous 15 years. There is no mention of any search for a tuberculous cause. W. L. Symes (1907) reported 12 cases occurring over a period of four weeks in a girls' residential school of 100 pupils.

Robinson (1926) described three cases. Lendon (1925), in a survey, quoted 10 instances of outbreaks of erythema nodosum; in two of these there was a subsequent tuberculous infection. Demole (1933) reported three cases in a dressmaking school where a tuberculous source was found. He also states that in the nineteenth century there were widespread epidemics of erythema nodosum in Bosnia, Jutland, and Turkey.

Wallgren investigated an outbreak which occurred in a class of 34 girls: 18 suffered simultaneously from a febrile condition. On follow-up 12 of these subsequently developed erythema nodosum within 6 to 10 weeks. Three months previously there had been an open case of pulmonary tuberculosis in the class. Further small series with a tuberculous aetiology are reported by Lannois (1892), Ledoux (1932), Parisot and Saleur (1933), Bertoye and Bernheim (1935), and Mouriquand and Weill (1937). Cibils Aguirre (1933) has collected a number of series of "familial erythema nodosum" cases with a probable tuberculous cause.

It seems likely that most of these multiple cases of erythema nodosum have been associated with a primary tuberculous infection. It is true that a definite tuberculous contact has not been found in some of these, but perhaps the contact was of a transient and elusive nature.

Summary

The possible aetiology of erythema nodosum is discussed. It is a non-specific reaction to a variety of allergens. The most important of these is the association of erythema nodosum with a primary tuberculous infection.

A report is given of three cases occurring simultaneously in one family. In these there was a definite tuberculous cause.

Previous reports of similar cases are reviewed.

REFERENCES

Bertoye and Bernheim (1935). *Lyon méd.*, **155**, 177.
Cibils Aguirre, R. (1933). *Prensa méd. argent.*, **20**, 1119.
Collis, W. R. F. (1932). *Quart. J. Med.*, **25**, 141.
Crawley, F. E. (1950). *British Medical Journal*, **2**, 1362.
Demole, M. J. (1933). *Rev. méd. Suisse rom.*, **53**, 633.
Doxiadis, S. A. (1949). *British Medical Journal*, **2**, 845.
Dunlevy, M. (1949). Ibid., **2**, 1114.
Kerley, P. (1942). *Brit. J. Radiol.*, **15**, 155.
—— (1943). Ibid., **16**, 199.
Lannois, M. (1892). *Ann. Derm. Syph., Paris*, **3**, 585.
Ledoux, E. (1923). *Rev. Méd., Paris*, **40**, 321.
Lendon, A. A. (1925). *British Medical Journal*, **1**, 651.
Löfgren, S. (1946). *Acta med. scand.*, Suppl. 174.
Mouriquand and Weill (1937). *Lyon méd.*, **159**, 597.
Parisot, J., and Saleur (1933). *Rev. Tuberc., Paris*, 4S. **1**, 126.
Perry, C. B. (1944). *British Medical Journal*, **2**, 843.
Punch, A. L. (1941). *Lancet*, **1**, 10.
Robinson, D. G. (1926). *British Medical Journal*, **2**, 1049.
Rotnes, P. L. (1936). *Acta derm. Venereol, Stockh.*, **17**, Suppl. 3.
Symes, J. O. (1921). *British Medical Journal*, **2**, 741.
Symes, W. L. (1907). *Brit. J. Child. Dis.*, **4**, 281.
Wallgren, A. (1938). *Lancet*, **1**, 359.

According to the Hungarian News and Information Service the first Congress of the Hungarian Microbiological Society was held in Budapest during January, and was attended by 250 Hungarian scientists, and 26 scientists from eight other countries, including the Soviet Union, China, and Korea. Eighteen lectures were delivered to plenary sessions of the Congress, and nearly 150 to meetings of its eight sections. The society was formed during 1951, and the congress was the first public presentation of the work of Hungarian microbiologists. Dr. Károly Rauss is engaged on research into a preventive vaccine for dysentery. Professor Rezsö Manninger is working on vaccines against fowl pest, swine fever, and other animal diseases. Typhoid fever carriers, antibiotics, and the manufacture of penicillin are all being investigated. The Parasite Section of the National Institute of Public Health is working on the prophylaxis of malaria. Messrs. Kardos, Kiss-Bagoly, and Deutsch discussed the question of the formation of bacteria from non-cellular protein.

A NEGATIVE BENZODIOXANE TEST IN PRESENCE OF A PHAEOCHROMOCYTOMA

BY

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Four cases of phaeochromocytoma have been reported which gave a negative response to the benzodioxane (piperoxane) test before operation. Prunty *et al.* (1950) described the case of a man, under the care of Professor Pickering, in whom a large phaeochromocytoma was removed at operation, despite a pre-operative negative benzodioxane test. Smithwick's case, described by Goldenberg and Aranow (1950), was that of a middle-aged woman with persistent hypertension and a negative benzodioxane reaction who was found to have a large phaeochromocytoma at operation. Calkins and Howard (quoted by Goldenberg and Aranow) described a similar case. Beyer *et al.* (1951) reported a negative benzodioxane test in a woman aged 40 in whom a phaeochromocytoma of the left adrenal was removed at operation.

The following case report concerns a woman with sustained hypertension and a negative benzodioxane reaction, who at necropsy was found to have a phaeochromocytoma.

Case Report

A woman aged 25 was admitted in September, 1950, for gynaecological investigation following a prolonged history of menstrual disturbances, anorexia, and loss of weight, with associated attacks of blurred vision and frequent night sweats. Routine examination revealed a sustained hypertension ranging from 240/130 to 220/120 and a persistent tachycardia (88–120), although she was a psychologically stable patient. She had a large hypertensive heart but no congestive lung changes. Retinoscopy revealed gross papilloedema with haemorrhages, exudates, and attenuated arteries.

Investigations.—Sodium amytal test (see Fig. 1). The benzodioxane test, carried out as described by Goldenberg, with a calculated dose of 17 mg., gave a negative result (Fig. 2). An electrocardiogram showed gross left ventricular stress. Renal function tests showed a normal blood urea; albumin, red cells, and granular casts in all urine specimens; and imperfect function. An intravenous pyelogram was normal.

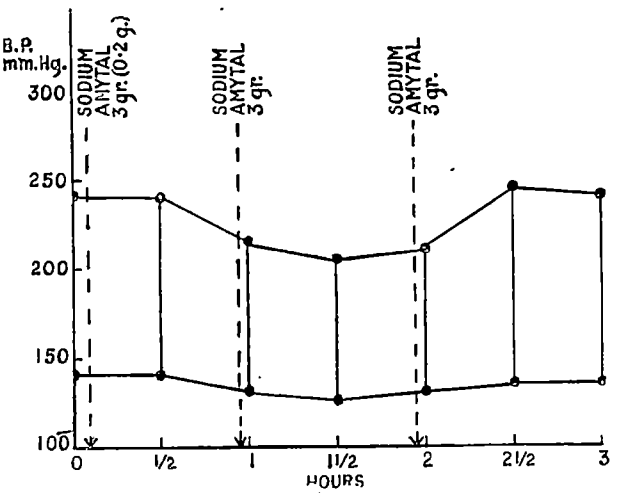

FIG. 1.—Graph showing results of the sodium amytal test.

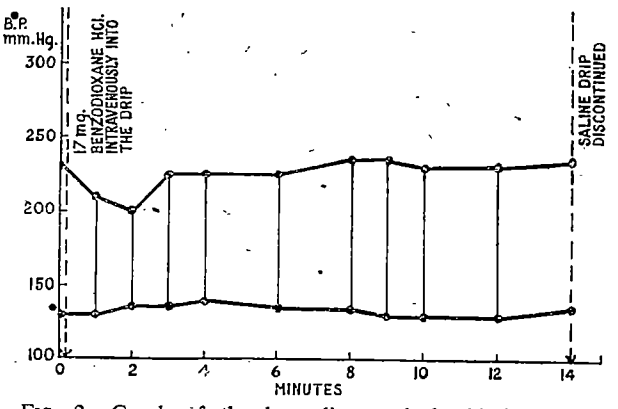

FIG. 2.—Graph of the benzodioxane hydrochloride test.

The patient was given a course of intramuscular hexamethonium bromide without result, and subsequently a bilateral lumbo-dorsal sympathectomy was carried out by Mr. J. R. Ratcliffe. No tumour was palpated at operation. A week after the second stage of the operation she developed total blindness, with gross retinal oedema, and her blood pressure remained persistently high. The blood urea never rose above 40 mg. per 100 ml. Death occurred five weeks after the operation. Necropsy, performed by Dr. Ian Mackenzie, showed a large hypertensive heart, with renal changes consistent with chronic nephritis. A large phaeochromocytoma of the right adrenal was found, hidden deep under the right lobe of the liver.

Discussion

The use of the benzodioxane test was first described by Goldenberg *et al.* (1947), who stated that if the hypertension is due to an adrenaline- and *nor*adrenaline-producing tumour, a drop of 20–50 mm. in both systolic and diastolic pressures occurs within four minutes, with a return to normal in 15 minutes. The result in the above case was therefore taken to be negative.

Certain features of the case suggested the necessity for a benzodioxane test. There was no history of pregnancy toxaemia or chronic nephritis, though the latter is an admittedly difficult differential diagnosis in the presence of signs of renal disease. Malignant hypertension is uncommon at this age in the absence of these two causes. The attacks of nocturnal sweating, persistent hypertension, tachycardia, and gross retinal changes aroused suspicion of a phaeochromocytoma.

It is suggested by Beyer *et al.* that *nor*adrenaline is the immediate precursor of adrenaline in the body, and that in phaeochromocytoma there is an impairment of the transmethylation reaction, so that, as other observers have found also, the content of *nor*adrenaline in the tumours may be 50 to 90% of the total pressor substances. The greater the preponderance of *nor*adrenaline the greater the probability of a negative benzodioxane reaction.

Several theories have been put forward by Goldenberg and Aranow to account for a negative benzodioxane test. They assume that a "secondary mechanism" is set in motion by the effect of persistently excessive amounts of adrenaline or *nor*adrenaline in the blood, which fails to be affected by the adrenergic blocking action of benzodioxane. Alternatively, this "secondary mechanism" may represent the "vicious circle" of experimental hypertension, and the phase of sustained hypertension, as in the above patient, is not entirely due to circulating adrenaline and *nor*adrenaline, but to another pressor substance not blocked by benzodioxane. Goldenberg and Aranow suggest that at the time of the test there may be a lack of these pressor substances in the circulation, or that the standard dose of benzodioxane is quantitatively inadequate to deal with the circulating amines.

In Smithwick's case, chemical assay of the tumour showed no abnormal pressor substance which would be resistant to the effects of benzodioxane. These occasional negative responses to benzodioxane in the presence of a phaeochromocytoma should not diminish the use of the test at the bedside.

If the test is negative or doubtful it should be repeated, particularly when other investigations suggest a tumour. It is unfortunate that the most reliable test—that by the injection of histamine intravenously as suggested by Roth and Kvale (1945)—is too hazardous for routine use. Repeated straight radiographs of the abdomen are a valuable procedure in certain cases. The insufflation of perirenal air, while a satisfactory procedure in some cases, can be dangerous in other than expert hands.

Whether such a procedure in the above case would have shown up the tumour is doubtful because of its position deep under the right lobe of the liver. Urinary assays of adrenal medullary hormone derivatives, as introduced by Engle and von Euler (1950; see also von Euler, 1951), are not yet readily available for use in diagnosis, though, if confirmed, their methods will provide considerable diagnostic certainty.

When a lumbo-dorsal sympathectomy is being performed the kidneys and adrenals should be palpated for a tumour, though in my case no tumour was detected.

A diagnostic laparotomy may be necessary occasionally, but hyperadrenalism may develop when the tumours are palpated, with acute cardiac failure supervening on an already overstrained cardiovascular system for hyperadrenalism. Thus the tumour should be removed at the initial operation (Hubble, 1951).

Summary and Conclusion

A case of phaeochromocytoma is described in a young woman of 25, in which a negative result to the benzodioxane test was obtained. Four similar cases from the literature are briefly reviewed, and the possible reasons for failure of the test are discussed. If the test is doubtful or negative when a phaeochromocytoma is strongly suspected it should be repeated, and other diagnostic measures undertaken.

I am indebted to Dr. Douglas Hubble, physician, Derbyshire Royal Infirmary, for much helpful and constructive criticism in preparing this report. I would also like to thank Dr. Ian Mackenzie for his most valuable necropsy report.

REFERENCES

Beyer, K. H., Ross, C. A., Wiebelhaus, V. D., Waller, W. S., and Schuchardt, G. S. (1951). *Ann. intern. Med.*, 35, 117.
Engle, A., and Euler, U. S. von (1950). *Lancet*, 2, 387.
Euler, U. S. v. (1951). *British Medical Journal*, 1, 105.
Goldenberg, M., and Aranow, H. (1950). *J. Amer. med. Ass.*, 143, 1139.
—— Snyder, C. H., and Aranow, H. (1947). Ibid., 135, 971.
Hubble, D. V. (1951). *Arch. Dis. Childh.*, 26, 340.
Prunty, F. T. G., Swan, H. J. C., and Wilson, G. M. (1950). *Lancet*, 1, 759.
Roth, G. M., and ad Kvale, W. F. (1945). *Amer. J. med. Sci.*, 210, 653.

Under Service conditions there is a demand by military patrols for a convenient method of sterilizing small quantities of water in individual water-bottles. During the 1939–45 war when necessary a white tablet of "halazone" (*para*-sulphon-dichloramido-benzoic acid) was placed in the water-bottle filled with water and shaken vigorously to form chloramine. After 30 minutes one blue tablet (coloured sodium thiosulphate) was added and the bottle again shaken to remove the taste of the halazone tablet. It was found that these tablets deteriorated in humid tropical climates, becoming adherent to one another, and producing only small amounts of chloramine. New tablets have been produced using chloramine B (sodium-chlorobenzene-sulphonic acid amide), which has stored well for over two years in various theatres overseas, though unfortunately the tablet becomes hard and takes a long time to dissolve. With the new tablet detasting will be unnecessary, and the contact time for sterilization will be reduced to 15 minutes.

Medical Memorandum

Parkinson's Syndrome following Severe Herpes Ophthalmicus

A number of papers have recently appeared in various journals on the complications of herpes zoster. These are lesions of motor neurones, myelitis and meningitis, and encephalitis. Alajouanine and Griffith (1931) record a case of a girl of 17 who developed typical signs of disseminated sclerosis two years after a "herpes myelitis." The following case of Parkinson's syndrome occurred after severe herpes ophthalmicus.

CASE REPORT

A flight lieutenant aged 48 had a healthy Service record of nearly 30 years, apart from gastric symptoms spread over a number of years. He first noticed slowness of movement and marked general tremor in January, 1949. There was no history of varicella, but he thought he had had measles and mumps. In 1941 he was bombed, and his hands and face were burnt; a duodenal ulcer developed about four weeks later. He had no residual effects. In May, 1947, he contracted severe left herpes ophthalmicus with corneal ulceration, from which he took a long time to recover. He had felt ill and thought he had been febrile. The left side of his face was "dead" for some months, and an operation had been performed on the left lower lid. There was no history of any illness like encephalitis lethargica. He was not vaccinated or immunized either before or after his attack of herpes.

In November, 1949, he gave the typical picture of Parkinson's syndrome—mask-like facies, slow movement, festinant gait, tremor of both hands, stiffness of face and neck muscles, and slow speech. Rigidity of arms and legs with increased tendon-jerks was present. Examination of the central nervous system, chest, and abdomen showed nothing abnormal.

Investigations.—A radiograph of the skull and lumbar puncture were normal, and the Wassermann reaction was negative. Psychometric tests showed signs of cortical atrophy due to arteriosclerosis. His blood pressure was 138/86. His urine was normal.

The patient had had belladonna and hyoscine hydrobromide and then was given "artane" (trihexyphenidyl), 15 mg. daily at first, finally increased to 17 mg. daily. Relief of depression was the first symptom alleviated, then diminution of sialorrhoea; tremor was not so pronounced, but spasticity was not greatly relieved. He was to have had other drugs, when he was found dead in bed on September 14, 1950.

At necropsy no definite lesion was found that could account for death. His coronary and cerebral vessels showed no evidence of arteriosclerosis, but were in a state compatible with that of any other man of his age. Analysis of organs was negative. Death was recorded as cardiac failure due to Parkinson's syndrome. Sections of the brain stem and basal ganglia were not helpful.

COMMENT

There appeared to be three possibilities: (1) That herpes ophthalmicus was in no way connected with the subsequent lesion. (2) That herpes ophthalmicus was a precipitating factor. (3) That the subsequent lesion or lesions were due absolutely to the effects of the virus. Obviously, the second and third possibilities must be examined before accepting or rejecting the first. There was no history of any condition following the herpes ophthalmicus which would suggest a zoster encephalitis or encephalitis lethargica. The virus responsible for herpes belongs to the group which produce degenerative changes in the nerve cells, and has also been termed the sensory analogue of anterior poliomyelitis. In the latter, encephalitis, myelitis, and brain-stem lesions may occur; in the former, encephalitis and cord lesions have occurred; brain-stem lesions are therefore within the realms of possibility.

Instead of regarding the virus as acting locally Head and Campbell (1900) put forward the view that the initial febrile phase indicated a general systemic infection; the evidence now accumulating suggests that there is a stage in which the virus is disseminated throughout the nervous system. Magnusson and Wohlfart (1942), on anatomical examination in a case of herpes zoster ophthalmicus, found slight general meningitis and herpetic changes in the Gasserian ganglion on *both* sides, though they were most pronounced on the side of the vesicles. Lhermitte and his colleague have shown that even in uncomplicated cases herpes zoster produces lesions in the posterior root ganglia and also causes inflammation of the anterior horns of the segments of the cord relative to the affected ganglia. Again, Lhermitte and Vermès (1930) describe lesions in the brain stem and basal ganglia which they found themselves and which were due to the virus of herpes zoster. In these the vessels are tortuous and distended with blood, there are scattered haemorrhages which, though small, are numerous, and areas that appear translucent on section owing to the presence of lacunae, particularly in the region of the pyramidal tracts. Although the patients were advanced in age the authors consider that the lesions are directly due to the herpes virus, since they are similar in type to lesions in the cord, and do *not* resemble lesions due to arteriosclerosis or thrombosis.

Gordon and Tucker (1945) mention a case in which a right hemiplegia with an aphasia developed three weeks after herpes of the ophthalmic division of the trigeminal nerve. The patient, aged 26, had no evidence of arteriosclerosis elsewhere. They suggested a lesion in the brain stem or basal ganglia rather than a localized haemorrhagic or destructive focus affecting the left pyramidal tract in its course between the cortex and mid-brain. Denny-Brown, Adams, and Fitzgerald (1944) support the observation that herpes zoster in the course of generalized invasion may lead to inflammatory thrombosis or haemorrhage.

While the patient remained alive it could be argued that his Parkinson's syndrome was due to arteriosclerosis; this was supported by a psychometric test. The post-mortem examination removed this objection.

In the absence of definite histological findings the evidence presented allows a reasonable assumption that the virus or effects of the virus were responsible: his age; the absence of cerebral arteriosclerosis; the absence of any illness like encephalitis lethargica; and the knowledge that herpes zoster is not necessarily a benign infection, and the relatively high dosage of artane while he was alive.

My thanks are due to Ministry of Pensions Medical Services Division for the results of investigations, and to Dr. R. B. H. Tierney, pathologist.

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BIBLIOGRAPHY

Alajouanine, T., and Griffith, B. (1931). *Rev. neurol.*, 38, 84.
Biggart, J. H., and Fisher, J. A. (1938). *Lancet*, 2, 944.
Denny-Brown, D., Adams, R. D., and Fitzgerald, P. J. (1944). *Arch. Neurol. Psychiat., Chicago*, 51, 216.
Gordon, I. R. S., and Tucker, J. F. (1945). *J. Neurol. Neurosurg. Psychiat.*, 8, 40.
Head, H., and Campbell, A. W. (1900). *Brain*, 23, 353.
Lhermitte, J., and Vermès, V. (1930). *Rev. neurol.*, 31, 1231.
Magnusson, and Wohlfart, G. (1942). *Dtsch. Z. Nervenheilk.*, 153, 225.
Parkinson, Thomas (1948). *British Medical Journal*, 1, 8.
Whitty, C. W. M., and Cooke, A. M. (1949). *J. Neurol. Neurosurg. Psychiat.*, 12, 152.
Wolman, Lionel (1949). *Lancet*, 2, 985.

Reviews

TEXTBOOK OF OBSTETRICS

Textbook of Obstetrics. By John F. Cunningham, M.D., M.A.O., F.R.C.P.I., F.R.C.O.G. (Pp. 499; 297 illustrations. £2.) London: William Heinemann. 1951.

Professor John Cunningham, of University College, Dublin, has written this textbook for students and young graduates. The book is well printed, with many clear headings, and profusely illustrated; yet with its 487 pages of text it is small enough to be easily handled. The writing is clear and to the point, yet gives the reader no impression of being deliberately condensed. A remarkable amount of material is contained in the pages. The author mentions Sheehan's work on anterior pituitary necrosis; Weiner's, Race's, and Fisher's contributions to the subject of erythroblastosis foetalis; the use of penicillin and streptomycin; and much recent work. He finds space for brief historical notes on subjects such as the history of the obstetric forceps, but gives no references to literature.

The illustrations by Dr. T. MacDonald and Dr. O. J. Murphy deserve special mention. Most are crude line drawings, yet they undoubtedly convey the exact impression intended, no more and no less—a merit not always found in more ambitious artistry.

The teaching, although orthodox, is free from the trammels of tradition. In discussing the treatment of eclamptic fits the author states that "chloroform, although much used in the past, is now discarded as too toxic." The puerperal patient is to be "treated as a convalescent from the second day. She may be allowed out of bed to use the commode (placed conveniently to the bed) even when there are many sutures in the perineum." Exercises for the puerperal woman are commended, and "should be done gracefully and gently."

When so wide a field is covered with such commendable brevity criticism is inevitably invited; but in this case criticism can only be benign. More emphasis might be laid on the possibility of rupture of the uterus after classical caesarean section and particularly on the fact that rupture in these cases is often "silent," or nearly so, in its early stages. The advice on the management of breech delivery on p. 321 might be questioned:

> "If the breech, whether complete or frank, fails to enter the pelvis, after the second stage of labour has been in progress for a reasonable time with good uterine contractions, disproportion due either to a small pelvis or to a large foetus is the most likely cause . . . . If the disproportion is slight or absent, one or more legs should be brought down and labour allowed to proceed."

To the inexperienced practitioner faced with a case in which labour has advanced into the second stage, and in which the breech has still not engaged in the pelvic brim, this counsel might well lead to danger.

The illustrations have already been favourably mentioned. Fig. 150 might usefully be redrawn—or a new figure included—to show the retroverted gravid uterus in the incarcerated state; the existing illustration does nothing to impress on the student the essential features of elevation of the cervix, elongation of the urethra, and distension of the bladder. Figs. 280 and 288 might both be improved; in the first it is doubtful if the "light" grip of the head would enable the operator to rotate the occiput to the front; in the second the positions of the head and of the forceps in relation to the lower-segment caesarean incision are misleadingly oversimplified.

Professor Cunningham has been at pains to present the methods of treatment in obstetrics "in accordance with the Ethical Standards of the Roman Catholic Church." Thus, in discussing the treatment of hydrocephaly, he advises that the head should be tapped with a spinal or long serum needle. "There is no ethical objection," he states, "to employing this treatment as the operation does not kill the infant." This counsel may not be understood or accepted by all readers, but the ethical considerations will be respected by all. Needless to say, the operation of sterilization receives no mention on any page.

This book is a short and eminently readable exposition of the essentials of the theory and practice of obstetrics. I like it.

J. CHASSAR MOIR.

HOW TO USE THE MICROSCOPE

The Intelligent Use of the Microscope. By C. W. Olliver, A.M.I.E.E., F.R.M.S., M.R.P.S. Second edition. (Pp. 192; 59 figures. 15s.) London: Chapman and Hall. 1951.

This is an excellent introductory handbook for beginners, and the author, with every justification, claims that it combines thoroughness with order and simplicity. He has been at pains to strike the happy mean between "too much theory divorced from its practical implications and the rule-of-thumb type of instruction which remains unexplained." The basic theory underlying magnification, numerical aperture, resolution, and the methods of illumination is discussed at length and in simple terms. There is a valuable chapter on the critical illumination required for photomicrography.

In this edition a special chapter on phase contrast has been included. This method of illumination has entirely done away with some of the most awkward limitations of the microscope because of its capacity clearly to reveal remarkably fine detail in the almost transparent and unstained living cell. The apparatus required for the technique is neither elaborate nor very costly, and the general optical principles underlying this notable advance in microscopical science are clearly explained.

GEOFFREY HADFIELD.

PRAYERS IN HOSPITAL

A Collection of Prayers for Use in Hospitals. (Pp. 218. 4,000 copies free of cost except for postage and packing.*) The General Hospital, Nottingham.

From the General Hospital, Nottingham, comes this book of collected prayers. In addition to the many inspired and varied prayers, this small book sets out, in modified form, suggestions for a set service for each day of the calendar month. Wisely, much has been left to the individual choice of our hospitals. Certain hymns and certain psalms are suggested, certain prayers listed day by day, and the choice is a wide one.

There are prayers for use on special days, there are prayers for cheerfulness, for serenity of mind, prayers too for our hospital staff. Each day has its prayer for thanksgiving, but here let it be noted that, while it is desirable that our patients should give thanks to God, it is asking rather much for the seriously ill patient to give thanks for "health and strength" as worded in the first prayer of the book. Otherwise the prayers are comprehensive, helpful, and imbued with sincere simplicity.

Surely to all our hospitals this book should prove of infinite value. Where daily prayers are customary in the wards, the sister in charge would find this collection of prayers of great help. Alternatively, the service, wherever possible, could be broadcast from a central point in the hospital, reaching every patient at the same time and uniting them in an act of worship.

To many patients may come the wish to study the book at other times, thus drawing to themselves comfort and inspiration during days of enforced inactivity. Indeed, to all patients this book must bring in some degree that spirit of healing which is of such immeasurable importance in helping the work of doctors and nurses.

H. GUY DAIN.

*Obtainable from Messrs. Derry and Sons Ltd., Canal Street, Nottingham, at the following rates for postage and packing: 1 copy 1s.; 2 copies 1s. 3d.; 3 copies 1s. 6d.; 4 copies 1s. 7d.; 6 copies 1s. 9d.; and 12 copies 2s. 4d.

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CORONARY DISEASE IN DOCTORS

With the present decline in the importance of many of the infectious diseases of childhood—at least as causes of mortality—and with, concurrently, an ageing population, the attention of the epidemiologist is likely to turn increasingly to the ills besetting the middle-aged and old. In the modern sense of the word there is, of course, no difficulty in bringing such diseases into the "epidemiological" net. When taken to comprise always the *group* as opposed to the *individual* aspects of a disease, an epidemiological picture can be drawn of every sickness to which mankind is exposed, just as a clinical picture can be drawn. In diseases of an unknown aetiology such a picture, revealing perhaps an incidence varying in space or in time, in the age of attack or in the occupations of the victims, may well provide a vital clue. The variations, for instance, in the incidence of cancer of certain sites in specific occupations—a group characteristic of the disease—have repeatedly drawn attention to extrinsic factors underlying the production of neoplasms. So far, however, much less has been done to put into an epidemiological setting the other predominant cause of adult mortality to-day—namely, heart disease in its various manifestations. Work in this field will be rewarding, and, to judge by the article in the opening pages of this *Journal*, results may be surprising: the authors have made the startling observation that the incidence of coronary disease in 1947–50 among general practitioners was almost twice as high as the figure for all the rest of the profession—a finding which bears out in a remarkable way the statement in the Spens report about the arduousness of the general practitioner's life.

Dr. J. N. Morris, Mr. J. A. Heady, and Mr. R. G. Barley, the authors of this statistical "thriller," have taken as their basic data certain records of the Medical Sickness, Annuity and Life Assurance Society, Ltd., a mutual benefit organization which has several thousand doctors on its books. Confining their attention to males of ages 35–64 (since most policies terminate at 60 or 65 and few women belong to the Society), they made it their first task to enumerate the doctors of different ages exposed to risk in the four years 1947–50, and then to relate to these age groups the number of first attacks of coronary heart disease which were recorded in the same four years. These attacks are shown in the claims to benefit which were presented either for a non-fatal attack which caused an absence from work of at least a week or for a fatal attack irrespective of duration. The incidence rate thus computed reveals its expected steep rise with age from an almost negligible figure under age 40 to one of 12 cases per 1,000 doctors living at ages 55–59 and to almost 17 per 1,000 per annum at ages 60–64—or approximately, in this experience, one first attack a year in each 60 men in this age group.

Turning from attack to death, the authors found that coronary heart disease was in 1947–50 the largest contributor to the mortality amongst this group of men. After 35 years of age about one-third of the total deaths were ascribed to it. The actual death rate rises from approximately one per 1,000 for men in their forties to 7.4 per 1,000 at ages 60–64, figures not very different, it seems, from those that have been published for medical practitioners in the U.S.A. A particularly notable, if not unexpected, feature is the rapidity of death. Of the 48 fatalities here recorded, 29 took place in the first six days of the first attack and another 9 in the ensuing weeks of the first month—in other words nearly 80% of those dying did so in the first month. Therefore, as the authors point out, the greatest need for therapy is in the first few days of the first clinical attack. Such figures also emphasize the great difficulties which must be overcome if an adequate and convincing trial of any such therapy is to be made—for example, of an anticoagulant. The patients reaching hospital are only the fortunate survivors, in whom the prognosis at that stage may not be very unfavourable: it must at the very least differ profoundly from the initial prognosis. A therapeutic trial to be of any real value will call for the collaboration of the general practitioner. It is of no value merely to be "in at the death."

From these records further light could be thrown upon this question of prognosis by extending the period of observation to cover the decade 1940 to 1950. The history, up to age 65, of all cases occurring in that period of time could be extracted and utilized for this purpose, even though in the earlier years the numbers of doctors at risk was unknown. The authors found 192 such cases—that is, first diagnoses of "coronary thrombosis" in men aged 40–64; and, since division by age suggests no very material changes, it is sufficient to take them as one group. Of these 192 men, 30% died in the first six days and

another 8% in the rest of the first month. Only a further 2% died in the remaining eleven months of the first year. Subsequent fatalities were at the rate of 6% in the second and third years, 3% in the fourth and fifth years, 3% in the sixth and seventh. In short, roughly half the patients had survived three years. Of these survivors of a first attack, about one-third had a second absence from work because of coronary heart disease within the ensuing two years, and about half were attacked again within six years—or, more cheerfully, "about half the men who survived their first illness and returned to work did not have as much as a week's further sick absence for coronary heart disease in the six years following."

With angina pectoris, of which there were 42 first attacks, the outlook is very different. Only 11% died within the ensuing five years, and this is the same order of mortality as is shown by those doctors with coronary thrombosis who had had the good fortune to survive the first month.

Other figures of great epidemiological interest can be derived from the basic rates already quoted of incidence and death at different ages. Using life-table methods—in other words, *presuming that the present rates of incidence here revealed will continue unchanged*—Morris and his colleagues estimate that of 1,000 practitioners aged 35 to 45 some 20 to 25 will have a clinical attack of coronary heart disease before age 50, almost another 40 will be attacked between ages 50 and 55, another 60 between ages 55 and 60, and a further 70 between ages 60 and 65. In other words, "medical practitioners under 45 years of age who have not so far been attacked by coronary heart disease have approximately a 20% chance of being attacked before they reach 65." Similar estimates for the chance of dying give some 70 deaths by age 65 in each thousand doctors setting out from between ages 35 and 45. Though the foundation of these calculations is, admittedly, somewhat slender, it is sufficiently large and sufficiently precise for these figures to give rise to sobering reflection. With events on this scale, "epidemic" certainly does not appear to be a complete misnomer.

How, though, it will be asked, do "doctors" compare with other professional and occupational classes, and how, since their own jobs vary very widely, do they compare with one another? Neither question is fully answered in the present study, but some distinctly intriguing, if interim, figures are presented. It is quite commonly believed that doctors suffer more from coronary heart disease than the rest of the population, but very little convincing evidence has been forthcoming. Impressions based upon the number of doctors seen by an individual or in a clinic are apt to be inaccurate, and probably, as Morris and his colleagues observe a trifle acidly, "the least reliable impressions are those of distinguished physicians who may have a quite disproportionate number of doctors in their personal practice." Failing to observe the attractions of their own distinction, they make the wrong generalization. Their deductions may, however, in spite of logical imperfections, yet prove to be right, since the present figures suggest a relatively high incidence in general practitioners though not in the other sections of the medical profession.

In this latter contrast the authors are on definitely safer ground, since all the records come from the one source—the particular assurance society. This comparison, which gives some very unexpected results, was reached by a series of steps, fully described in the report, which were devised with much care and skill to ensure both accuracy and impartiality in the construction of the required rates. Having found, as already remarked, that in 1949–50 the incidence of coronary heart disease upon general practitioners was almost twice as high as the figure for all the rest of the profession and that the other subdivisions within the latter revealed no material contrasts, they sought, critically and with admirable scientific rectitude, for some flaw in their data or in their treatment of it. They failed to detect any red herring. Extension of the figures to cover the years 1947 to 1950, enlargement of the sample of doctors upon whom the occupational distribution was based, an independent check of those occupations—all left the relative incidence rates virtually unchanged. At ages 40–64 the standardized rate per 1,000 was 8.8 cases per annum in general practitioners and 4.4 in other doctors, and this excess was apparent in each age group.

That being so, is this unfavourable position of the general practitioner in 1947–50 a modern or an old-established characteristic of the "herd"? In answering that question the authors were faced with grave difficulties. The age and occupational structure of the population "at risk" in the war years, 1940–6, was not available, and it had to be assumed that it was the same as had been found for 1947–50, but of course in men some years younger. In defence of this assumption they state that the membership of the Society is a very stable one. The statistical calculations based upon it lead to the observation that there was little, if any, excess coronary heart disease among general practitioners during the war years, but that there was an increase of cases among them in 1947–50 which was not paralleled in the experience of other doctors. This increase does not appear to be due

merely to improving diagnosis in the one group compared with the other, since fatal and non-fatal attacks have equally increased. Beyond those tentatively drawn conclusions the authors cannot, and wisely do not, attempt to go. They emphasize instead the importance of further work, and its extension, beyond the records of the particular assurance society to which their study was confined, to the whole medical profession. It should be profitable, they suggest, not only to explore the antecedents of coronary heart disease among doctors and to expand the clinical picture of it, but also, through the field survey approach, to investigate the possible associations and relationships of the disease. For "Physician, heal thyself" we must perhaps substitute to-day the less euphonious "Physicians, epidemiologically survey yourselves." Dr. Morris and his colleagues have made a good start, and it is to be hoped that with the co-operation of the profession the Medical Research Council's Social Medicine Research Unit will be able to expand its work and carry out systematic studies on a large scale, with the aim of preventing a disease which numbers so many doctors among its victims.

SUPERINFECTIONS DURING ANTIBIOTIC TREATMENT

The term "superinfection" has come into use to describe fresh complicating infections arising during antibiotic therapy. An initial response to treatment marks the overcoming of the original infection, to be succeeded by a worsening of the patient's condition, accompanied by the appearance of bacteria resistant to the drug which were not found before. These bacteria may be presumed to have been present in small numbers before treatment began and to have found an opportunity to multiply in the circumstances so produced. The obvious circumstance resulting from antibiotic treatment, apart from action on any specific pathogen, is the suppression of the general flora of certain areas of the body. Penicillin exerts this suppressive action mainly in the mouth, owing to its excretion in the saliva, and it is well recognized that in patients receiving heavy doses of this drug streptococci and other bacteria in the mouth are largely replaced by coliform bacilli. Superinfections during penicillin treatment are for the same reason chiefly liable to involve the air passages. The newer antibiotics affect in this way not merely the mouth but the entire alimentary tract, since they are not only administered by this route but also incompletely absorbed. From studies such as those of Bierman and Jawetz[1] it is known that in a patient taking "aureomycin" (chloramphenicol has a less pronounced effect) most of the normal intestinal flora are suppressed for as long as treatment continues, but to some extent replaced by *Pseudomonas*, yeasts, and staphylococci resistant to the drug.

In view of this much more widespread interference with the normal bacterial population of the body it is not surprising that superinfections occurring during the course of or after treatment with these newer drugs have excited much more attention. They are in fact quite common during prolonged treatment, taking the form of a glossitis or an affection of the anal region caused by *Candida* (*Monilia*) *albicans*. This yeast-like fungus is highly resistant to all known chemotherapeutic agents. It was because such infections may take a more serious form, spreading from the mouth to the bronchi and lungs, that the Council on Pharmacy and Chemistry of the American Medical Association decided last year that a warning statement must be printed on the packages of these drugs in the U.S.A., a somewhat startling procedure to which reference was made at the time in these columns.[2] Our comparative inexperience of such conditions in this country is due simply to the scarcity here of some of the drugs causing them, although minor manifestations such as glossitis have become familiar. What may be an example, and an unusual one, of such a superinfection is reported by Drs. J. D. Abbott, H. V. J. Fernando, K. Gurling, and B. W. Meade on page 523. A patient with post-influenzal bronchopneumonia was found to have *Bact. coli* and *Candida albicans* in her sputum: it is not stated that she had had treatment with penicillin during the preceding three weeks of the illness, although such a finding would lead one to suppose it. Despite treatment with penicillin, streptomycin, and chloramphenicol she died, and was found at necropsy to have cavitating pulmonary aspergillosis, although the presence also of *C. albicans* in the lung cavities was confirmed. It is of course possible that the *Aspergillus* infection existed before antibiotics were given and would in any case have been fatal, but when such a condition makes its appearance during the administration of drugs to which the causative organism is wholly insensitive the suspicion that the treatment was doing positive harm cannot be put aside.

More information is needed about the mechanism whereby resistant bacteria and fungi are enabled to

[1] *J. Lab. clin. Med.*, 1951, **37**, 394.
[2] *British Medical Journal*, 1951, **1**, 1196.
[3] Ibid., 1951, **1**, 205.
[4] *J. Infect. Dis.*, 1949, **85**, 268.
[5] *Arch. intern. Med.*, 1951, **88**, 729.

proliferate and cause lesions during antibiotic therapy. It may be that the suppression of the other flora of the area either upsets a balance normally holding them in check or simply provides them with more pabulum. On the other hand, there is more than a suspicion of positive stimulation to active growth by the antibiotic itself. There is much evidence, recently reviewed by Garrod[3] in this *Journal*, that sublethal concentrations of antibiotics as well as other noxious agents accelerate the growth of bacteria, particularly of resistant species. Directly bearing on the present problem are the findings of Foley and Winter,[4] who showed that treatment with penicillin increased the mortality from *C. albicans* infection in the chick embryo. Pappenfort and Schnall,[5] who reported *C. albicans* infection in 16 patients treated with aureomycin, also found that this drug stimulates the growth of the organism *in vitro*. On the other hand, its growth was also stimulated by solutions in which aureomycin had been destroyed by heat or alkali, and it was unaffected by a pure preparation intended for parenteral injection. They therefore concluded that an impurity was responsible for this effect. Evidently the full truth of this matter is not yet known. Meanwhile we shall be well advised to remember that, although the products of some species of fungi have revolutionized therapeutics, there are other species causing infections which are among the very few still quite unaffected by any form of chemotherapy.

PSEUDOCYESIS

The woman who firmly but falsely believes herself pregnant and in whom develop many of the symptoms and some of the signs of pregnancy was known to Hippocrates, while the clinical picture drawn by Sir James Simpson in 1860[1] has never been bettered. The reported cases of this medical curiosity total fewer than 500, but, as Simpson wrote, it is "of far more frequent occurrence than the comparative silence of our text-books on this malady would lead you to infer." This is because most of the cases without very remarkable features are not reported, the patient being merely informed sooner or later that she is not pregnant without any deeper search into the origin of her disorder. After being thus dismissed she may go on to trouble another doctor. Fried and his colleagues[2] have recently reported a series of 27 cases of pseudocyesis in which the women, all but one of whom were childless, were examined for endocrinological and psychiatric as well as gynaecological defects. Spurious pregnancy is generally considered commoner in women near the menopause, but Simpson often found it in younger women; and the majority of Fried's patients were in the middle twenties. These patients possess most of the usual symptoms of pregnancy, but hypomenorrhoea is more common than amenorrhoea. One of the most notable features is the appearance of characteristic signs of breast activity, including secretion, even in nulligravidae, but in none of Fried's cases were the uterine or cervical changes typical of true pregnancy. Yet women with pseudocyesis pass superficial examination for pregnancy with ease, chiefly because the possibility of the condition being spurious is not considered, and once the diagnosis of pregnancy has been made the symptoms flourish. In fact such women have been operated on for supposed ectopic pregnancy and even for placenta praevia.[3] Moreover, the symptoms may continue for years rather than months. Simpson relates that Dupuytren, when asked by a lady who insisted she had been pregnant for 14 years, what course she should follow, answered that as the boy must be tolerably well grown by that time the best thing the lady could do was to swallow a tutor, that his education be not neglected.

Fried regards pseudocyesis as a form of conversion hysteria and remarks on the frequency with which the syndrome follows an emotional strain which the patient believes can best be relieved by a pregnancy. A picture of pseudo-pregnancy can sometimes be induced by the administration of gonadotrophins, alone[4] or in conjunction with oestrogen and progesterone[5]; but this differs from pseudocyesis in that if the psychic factor and predisposition are not present the signs do not become progressive, and there are no complaints of morning sickness, enlargement of the abdomen, and "foetal movements." Fried and his colleagues concluded that the amenorrhoea in pseudocyesis is hyperhormonal, whereas most forms of psychogenic amenorrhoea are hypohormonal. In particular, evidence of progesterone activity in most of the women seemed to point to persistent corpus luteum function. This is not a new idea, for Simpson wrote 90 years earlier, "Perhaps we would find the corpora lutea tending to simulate in their development and growth the corpora lutea of pregnancy." But Fried goes further and propounds a hypothesis that the basic mental conflict which appears best solved by pregnancy affects the pituitary by way of the hypothalamus. The reaction in the anterior pituitary, he conjectures, leads to secretion of the luteotrophic hormone at the expense of follicle-stimulating hormone, and the result is persistent luteinic function in the ovary, which could account for most of the clinical features. Whether this hypothesis is correct or not, it remains a fact that, except in minor degrees of the syndrome, merely telling the patient she is not pregnant is insufficient treatment, for either the woman is unconvinced or, after an interval, further symptoms of pseudocyesis bring her again to the doctor. Fried therefore recommends psychotherapy, in order that the patient may obtain an insight into her condition. The best evidence of cure is the return of normal menstruation, the absence of recurrence, and, best of all, a true pregnancy.

1 *Clinical Lectures on Diseases of Women*, 1872, Edinburgh, pp. 363–93.
2 *J. Amer. med. Ass.*, 1951, **145**, 1329.
3 Bivin, G. D., and Klinger, M. P., *Pseudocyesis*, 1937, Bloomington.
4 Brown, W. E., and Bradbury, J. T., *Amer. J. Obstet. Gynec.*, 1947, **53**, 749.
5 Eichner, E., Goler, G. G., Reed, J., and Gordon, M. B., ibid., 1951, **61**, 253.

LONDON'S WATER SUPPLY IN WARTIME

A report[1] recently published by the Metropolitan Water Board describes the steps taken to maintain an adequate and wholesome supply of water during the war years. The author is Lieutenant-Colonel E. F. W. Mackenzie, the Board's director of water examination. Two schools of thought existed when defence plans were being prepared before war broke out: one considered that it was unnecessary to take precautions against disasters which might not occur; the other maintained that every practicable precaution should be taken to provide against any contingency. Fortunately for the people of London the second view prevailed, and how amply it was justified is set out clearly in the pages of the report. The emergency plans of the Board were concerned first with the repair of mains damaged or broken by bombing (it took some time to discover that concussion from bombs exploding some distance away could fracture water mains without affecting the ground above them); secondly, with ensuring that laboratory tests could quickly be carried out in order to estimate the purity or otherwise of the supply after damaged mains had been repaired; and, thirdly, with the purification by the quickest possible method of repaired water channels after they had been contaminated by sewage. The value of prechlorination—chlorination before filtration—in such times of emergency was proved beyond any doubt, as will be appreciated by all who read the report. So successful was this procedure that in some places the old river intakes (for instance, at Hampton) were opened, and unstored river water was led to the filters. Steps were taken to protect wells also, though fortunately none of the Board's wells was very seriously affected by bomb damage.

The policy of the Board was that no repaired main should be brought back into service without prior disinfection. The methods of disinfection were remarkably successful. Samples were examined from 807 of the 875 large mains which were fractured by bombs, and of these 801 (99.3%) were negative to *Bact. coli*. Of the six which fell below this standard, five contained fewer than 10 *Bact. coli* in 100 ml. The Board's work in fact was so efficient that even in official quarters some credence was given to a dangerous fallacy—that the non-appearance of epidemics meant that the dangers to the population from polluted water had been exaggerated. The report also describes the measures taken to guard against the contamination of water stored in reservoirs by the dropping of bombs charged with such materials as poisonous gases. Daily testing of the water was continued as a routine throughout the war, and on no occasion was there any evidence that poisonous matter had gained access to it. Apart from its technical interest the report is a tribute to the loyal devotion of the members of the team who performed a vital task under very difficult circumstances during six years of war.

[1] Thirty-fourth Report on the Results of the Bacteriological, Chemical, and Biological Examination of the London Waters for the Years 1939–1946. Published by the Metropolitan Water Board.

VITAMIN-A POISONING

When some writers are warning us of the calamitous results of over-population in a world short of food, and when vast numbers of people are unable to obtain even the minimum of food necessary for survival, it is slightly ironical to read of syndromes caused by over-dosage with vitamins in children. The increased knowledge of nutrition and the special stresses of war have led to the publication of innumerable books and papers on nutrition, both scientific and popular. Some parents, impressed by doubtful evidence of subclinical deficiencies or perhaps even more by skilful advertising, have apparently been concerned to see that their children, at least, shall be free from these preventable illnesses and have given them large and sometimes enormous doses of vitamin preparations.

Reports[1] of vitamin-A poisoning in animals appeared as early as 1933, but the first observation[2] of harmful effects in a child was not reported until 1944. A recent article[3] lists 17 recorded cases, and it is probable that many others have occurred without being diagnosed or reported. Most of the children received about 250,000 U.S.P. units of vitamin A daily for many months, and one had twice this daily dose for 16 months. All the children were more than 1 year old, perhaps because vitamin-A preparations are not very well absorbed in young infants[4] or because of the relative tolerance to large doses. The symptoms are fairly constant and include irritability, anorexia, loss of hair, pruritus, and painful extremities with tender swellings. Radiographs of the long bones show cortical thickening, especially of the ulnae. Biochemical examination of the blood is generally negative, although in some cases the alkaline phosphatase has been high. The amount of vitamin A in the plasma has been high enough for the condition to be diagnosed in all cases. The symptoms disappear within a very few days after administration of the vitamin is stopped.

The differential diagnosis is difficult, largely because of the rarity of the condition. Leukaemia, scurvy, and congenital syphilis present pictures similar in some ways, but fairly easily distinguished, and vitamin-D poisoning is also similar and may indeed coexist to some extent, since the source of the vitamin intake usually contains large amounts of vitamin D as well as vitamin A. Caffey's syndrome[5] bears most resemblance clinically, but there is no history of excessive dosage with vitamin A and the amount of the vitamin in the plasma is normal. There is usually some degree of fever, and the mandible is always involved in the periostitis. Unfortunately the published case records do not discuss the reasons which prompted the parents of these children to give such enormous doses of the vitamin; these might have thrown some light on the effect and effectiveness of methods of education of the public in medical matters.

[1] von Drigalski, W., *Klin. Wschr.*, 1933, **12**, 308.
[2] Josephs, H. W., *Amer. J. Dis. Child.*, 1944, **67**, 33.
[3] Gribetz, D., Silverman, S. H., and Sobel, A. E., *Pediatrics*, 1951, **7**, 372.
[4] Sobel, A. E., Besman, L., and Kramer, B., *Amer. J. Dis. Child.*, 1949, **77**, 576.
[5] *J. Pediat.*, 1946, **29**, 541.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

CLINICAL ASSESSMENT OF BACKACHE

BY

J. G. BONNIN, M.B., F.R.C.S.

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An ordered approach to the subject of backache is difficult to achieve. In spite of the discovery about 16 years ago of the prolapsed disk syndrome we are still left with many cases in which speculation replaces certainty, and in which there is no agreement on pathology, diagnosis, or treatment. No matter how one approaches the possible causes of backache, there remains an indefinite fringe of cases in which no certain diagnosis is possible. This group is characterized by either an absence of clinical findings or a clinical finding of painful muscular spasm for which there are alternative explanations.

FIG. 1.—*Muscle spasm but no obvious skeletal defect.*—(*a*) A typical sciatic scoliosis showing a lumbar deviation to the left. (*b*) On bending forward the scoliosis usually increases and the patient tends to flex the affected knee. In this case, which is unusual, the scoliosis has altered to the opposite side: this is a recognized occasional variant. (*c*) This shows almost complete obliteration of the scoliosis on lying down, indicating that the primary cause is muscle spasm.

Wherever the seat of the primary disorder may be, it manifests itself to the consciousness in three ways: (1) well-localized pain accompanied by areas of tenderness to pressure—for example, over the spinous processes or a muscular attachment; (2) pain due to pressure on nerve trunks which is felt at a distance over the dermatome supplied by the nerve; and (3) referred pain due to a "spread-over" at higher levels in the nervous system from sources of pain which have no cortical representation—for example, interspinous ligaments, intervertebral disks. A precise anatomical diagnosis can usually be made in the first two groups. In the third group, in which the pain is referred, difficulty arises, and often there is accompanying muscle spasm.

Muscle Spasm or Structural Deformity?

Muscle spasm usually produces a constant pattern of deformity—a flattening of the lumbar spine on standing, increased tone in one or both erector spinae with limited lumbar flexion, and a scoliosis of the spine increased by flexion. We often find that the patient with muscle spasm is reluctant to bend with both knees straight, but is able to bend with one knee flexed, and that he has a slight reduction in extensibility of the spine. This pattern is most marked in acute protrusion of an intervertebral disk with root pressure. Muscle spasm may or may not be superimposed on a structural deformity of the spine, and the first point in the clinical examination is an attempt to separate defective posture due to spasm from that due to a fixed bony deformity. This can usually be done by careful inspection of the spine while the patient is bending forward, or by noting the obliteration of the deformity when he is lying on the face completely relaxed (Fig. 1).

Fixation of the spine in a *normal* anatomical position, such as may occur in the early stage of spondylitis ankylopoietica, is easily overlooked. Likewise, muscle spasm alone may so fix the spine that there appears to be a structural rigidity. Here it is important to note a few further characteristics of the deformity produced by muscle spasm alone. The spasm is usually unequal, so that forward flexion is disproportionately limited to lateral flexion of the spine and to rotation. When the patient is placed on a couch the spine relaxes and the normal lordosis of the spine reappears or the scoliosis straightens. Such observations exclude the presence of a fixed structural deformity. Unfortunately they do not exclude the presence of spinal abnormality, and in the last resort this can be excluded only by radiography. While this is often necessary, especially in cases with significant clinical features such as recent trauma or a history of pulmonary tuberculosis, wasteful radiography can be avoided only if those cases in which an *x*-ray picture is unlikely to be helpful are excluded.

Clinical Classification

On the basis of whether muscle spasm and structural deformity are present all cases of backache can be grouped as follows: (1) Obvious skeletal defects and no muscle spasm (Fig. 2)—for example, spondylitis ankylopoietica, healed tuberculosis, and postural deformities. (2) Obvious

FIG. 2.—*Obvious skeletal defect but no muscle spasm.* (*a*) A marked thoracic kyphosis and lumbar lordosis in an elderly patient unaware of a long-standing spondylitis ankylopoietica. (*b*) On forward bending the curves of the spine remain unchanged. There was an associated gross limitation of lateral flexion and rotation of the spine.

FIG. 3.—*Muscle spasm masking a definite skeletal defect.* (*a*) Flattening of the lumbar spine due to erector spinae spasm without scoliosis. (*b*) Limitation of flexion and persistence of spasm on forward bending. (*c*) Relaxation of the spasm on recumbency, with the appearance of small kyphosis at the lumbo-dorsal junction which was confirmed radiologically to be due to early tuberculosis of the spine with destruction of a single intervertebral disk.

skeletal defects with muscle spasm (Fig. 3)—for example, active tuberculosis, and aggravated osteoarthritis. In this group the deformity is primarily bony and not caused by the spasm. The spasm may serve to show the degree of activity of the underlying disease. (3) No obvious skeletal defect and no muscle spasm—for example, referred pain from visceral causes, poliomyelitis, and hysterical spine. (4) No obvious skeletal defect and muscle spasm (Fig. 1)—for example, lumbago, and prolapsed intervertebral disk. The largest proportion of cases fall into group 4, and to begin with can be safely treated at home, where observation of their reactions to rest in bed will prove a useful guide to the necessity for further investigation.

Cases with Negative Clinical Findings

The most difficult cases to diagnose may belong to group 3, with negative clinical findings. As clinical examination is so inaccurate in the spine, supplementary radiography is needed. This may result in cases falling into group 1, although the changes in the spine are minimal and only recognizable by radiography. Spondylolisthesis and other developmental abnormalities around the lumbo-sacral junction, early tuberculosis, and localized osteoarthritic changes around a single intervertebral disk are examples of conditions which may be brought to light only by radiography.

Where no assistance is given by radiography the problem may be insoluble, or the answer may be provided only by watching the progress of the disease. It is in this type of case that the history is of primary importance to exclude the visceral causes—for example, renal, gastric, and pelvic disease; to assess the patient's personality in cases following injury in which there may be malingering or hysteria; and to elicit the relationship to pregnancy and the puerperium in the post-natal backache of young women.

Cases with Muscle Spasm Only ("Lumbago")

The cases in group 4, with muscle spasm but no deformity, are usually classed together as "lumbago." From this group must first be separated those cases due to prolapsed intervertebral disks. This can usually be done by noting the characteristic type of pain: severe aching pain, radiating over a recognized dermatome, often with sciatic pain as well as backache; aggravation of the sciatic pain on coughing, sneezing, or postural changes; complaints of numbness and tingling; and periods of sudden relief, or aggravation.

Examination may show: altered sensation—hyperaesthesia or impaired sensation over a dermatome; absence or diminution of a knee-jerk or ankle-jerk; wasting and loss of tone in the glutei, hamstring, or calf muscles; loss of muscular power in the calf, extensors of the toes, tibialis anterior, and peronei; areas of deep tenderness in the buttock and calf on the affected side; and increased pain on stretching the sciatic nerve (Lasègue's sign and its variations).

Radiological confirmation of changes in the disk space are comforting to the diagnostician, but the essential basis of diagnosis of a prolapsed intervertebral disk remains neurological. Two groups can be recognized: those with objective neurological signs, and the less satisfactory but equally common group with subjective signs only. Where these are characteristic and supported by skeletal signs the diagnosis is definite, but there may be an indeterminate group in which the distinction between acute "lumbago" and prolapsed intervertebral disk remains impossible until the case has been observed for some time, when positive neurological or radiological findings may appear.

After thus excluding prolapsed intervertebral disk as completely as possible there then remains the analysis of the other causes of muscle spasm in the back. These cases form a rather unsatisfactory group. They may be divided up into myofascial strain, paroxysmal "lumbago," and fibrositis or myofibrositis.

Myofascial Strain.—The alternative diagnosis to this is a minor disk injury, and this cannot be disproved. Myofascial strain is characterized by a history of strain either by lifting a heavy weight or by lifting in a bent position; a feeling of something snapping in the spine; localized pain on pressure to the side of the spinous processes; recurrence of pain on attempting to straighten from the flexed position; a vague radiation of pain, often bilateral, which never goes below the knee; and recovery with rest and physiotherapy in seven days or less. The diagnosis is seldom confirmed by observation of a haematoma, though there may be an occasional palpable thickening in a muscle. The tenderness is well localized, and complete temporary relief can usually be achieved by procaine infiltration.

Paroxysmal "Lumbago."—This may be related to overwork or unusual work. There is seldom any definite injury, and the condition may be recurrent in certain individuals. Repeated examinations often show osteoarthritic changes in the spine in later years of life which are disproportionate to the age of the patient and these may be the basic cause of the attacks. It is characterized by an onset when the patient is flexed and an inability to straighten up; a pain worse on attempting to straighten the back, but the patient can overcome his fears enough to bend forward; a severe pain that has some of the features of cramp, although the individual is not frightened by it and often feels he would like to laugh at himself; an immediate alteration in the quality of the pain after deep massage, with restoration of full or almost full extension; and complete recovery within a week or less.

Fibrositis or Myofibrositis.—The onset of the pain in these cases is usually more gradual. The patient may have had similar attacks elsewhere—for example, recurrent stiff neck or fibrositis of the trapezei. It is characterized by slow development sometimes associated with a cold or mild influenzal attack; a tendency for signs to be bilateral—for example, the spasm may involve both erector spinae without flattening of the lumbar spine; areas of tenderness in the muscles that may change from day to day; localized areas of thickening or tenderness over certain recognized areas, notably the twelfth ribs, the lumbo-dorsal fascia, and the iliac crests. Similar tender areas may be found in other muscles at a distance—for example, the trapezei. The recovery is slow, possibly taking two to three weeks, but is complete.

Complete recovery is characteristic of these three groups. A course of rest in bed, local heat, hot baths, and analgesics is therefore not only good treatment but a useful step in confirming the diagnosis. If recovery does not occur within a week a course of more active physiotherapy is helpful. Radiant heat followed by deep massage and extension exercises of the spine will clear up the residual pain in all but a small group of cases.

Severe Pain

Severe pain in the back may be alarming to the patient and may result in behaviour which causes a suspicion of hysteria. Assessment of the patient's personality is therefore important, remembering that, in general, severe back pain is not a common presenting symptom of hysteria. The following conditions may have to be excluded: acute disk prolapse with severe sciatica; acute prolapse of a disk into the vertebral body without nerve-root pressure; early tuberculous disease, in which the pain is sometimes nocturnal, occurring when the patient relaxes in bed; and collapse of a vertebral body due to any destructive lesion such as a secondary malignant deposit or myeloma. Severe pain unrelieved by rest demands early radiological examination, though rapid recovery with rest is the general rule.

Conclusion

While it is true that the diagnosis of many cases of backache demands radiography, this examination will be negative in almost half of the cases submitted to it. The simple lines of assessment indicated here will enable a satisfactory clinical diagnosis to be made in the first instance, and this can be modified by observing the patient's reaction to rest in bed and simple comforting domestic measures. It is better to diagnose a case as "lumbago" and treat it as such than to alarm the patient with the current bogy of disk prolapse and to send him to hospital for investigation. In most cases the first line of investigation in hospital will take the form of observing the patient's reaction to rest in bed.

Next Refresher Course Article.—"Food-poisoning," by Dr. Joan Taylor.

The Department of Health for Scotland recently issued a circular to local authorities containing suggestions for improving the welfare arrangements for old people. Many of the points made may seem rather obvious, but they have not hitherto been summarized in this way. Helpful suggestions are included on how to meet the needs of old people living at home. Briefly, the circular deals with three main problems: old people suffering from neglect in their own homes, the provision of meals for such people, and the use of hospital and residential accommodation for them. One way of meeting the first problem would be the publication locally of the name of the official to whom such cases should be reported, and those local authorities who have not already done so are advised to keep a list of old people, needing attention, who live at home in the area. Health visitors should be used as part of every welfare scheme for the old. A separate memorandum enclosed with the circular discusses the organization of meals services; these should be provided by voluntary effort supported by local authorities. No good reason is seen for charging less than 9d. for a normal meal, as the National Assistance Board can help anyone receiving meals because of special needs. The memorandum emphasizes that the aim of a meals service is not in any way to discourage relatives living within reasonable distance from fulfilling their normal family duties. Finally, the present statutory position is that responsibility for deciding the admission of an old person to hospital or local authority accommodation rests with the hospital or the local authority. Failing the one, the other must be responsible.

THE BRAIN AS A MACHINE

SIR HENRY COHEN'S ROYAL INSTITUTION DISCOURSE

The Friday evening discourse at the Royal Institution on February 29 was given before a distinguished company by Sir HENRY COHEN, who addressed himself to the theme, "The Brain as a Machine."

The history of this problem, he said, dated back to Descartes and his period, the first half of the seventeenth century, when the mechanical laws of the "physical" world were being elucidated. Descartes postulated reflex action as explaining movements in which brain and nerves played an essential part, but he realized that man was more than such an automaton, and he regarded phenomena such as memory, judgment, and decision as properties, not of the brain, but of the "spirit" or psyche. Cartesian dualism conceived the human being as body and mind; the body, which was material, could be known perceptively and obeyed the laws of physics and chemistry, while in contrast the mind was not subject to mechanical laws and was only to be known introspectively by its possessor, or, if known to others, only by behaviour, the inferences from which might be misleading. The brain was regarded as the control exchange through which the mind influenced any part of the body.

The physician, said Sir Henry Cohen, was at the outset prejudiced against this conception. He saw a patient whose memory for recent events was clouded, who was indecisive, slovenly, nervous, depressed, but whose behaviour, after a brain tumour had been removed, returned to normal. He saw a child victim of lethargic encephalitis, who before the illness was well behaved, but afterwards lost moral control and developed aberrations. These disturbances were the result of organic disease of the brain and disappeared when the structural damage was made good.

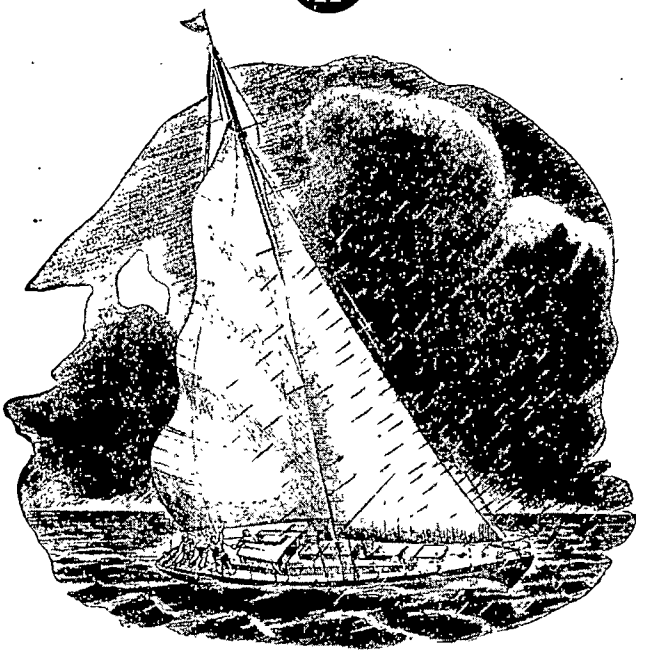
The Biological Approach

In the seventeenth century physiological phenomena were explained in terms of levers, pulleys, pumps, and the like, but, although these might be accepted as representing muscular movements and movements involved in circulation, not very much of what the brain did could be explained in that manner. The experimental biologist applied the techniques of physics and chemistry to the living organism. This approach was exemplified by Loeb's tropisms, Pavlov's conditioned reflexes, Watson's behaviourism, and Lashley's work on the localization of the "engram." But the story was far from complete, and the approach by analogy was not without its dangers.

Another approach was to see what machines could accomplish. During the last 10 or 20 years electronic computing machines had been developed and these appeared to possess many supposedly rational properties of mind. Sir Henry gave an astonishing list of what such machines could do. They could learn what they were told, apply instructions when needed, read and remember numbers, add, subtract, multiply, and divide, carry out a long chain of operations one after the other, write out the answers, and—an attribute not entirely human in these days—work unattended. They stored in some form the results of preliminary calculations, a process analogous to memory, and made use of the results at the right time. These machines might be only in their infancy. One saw them handling the routing of telephone calls, translating from one language to another, even making strategic decisions in simplified military operations. The answers they gave were not simply "yes" and "no," but more flexible.

A Clue to Brain Mechanism

The question was how far these automata afforded a clue to the mechanism of the brain. Were the structure and function of the nervous system, so far as known, consistent with the action of an electronic machine? Recent electro-



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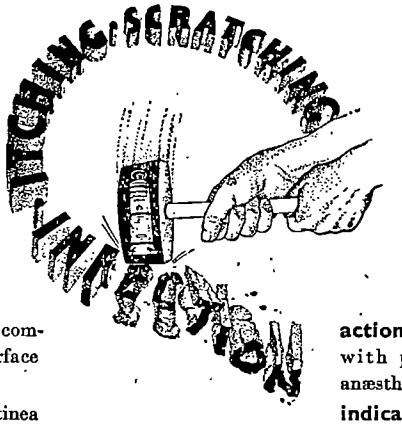

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physiology had revealed that the brain showed significant electrical changes during its activity. They had only to recall the work of Adrian to realize how beautifully these had been discovered. Electrical changes did take place in the brain, but were, of course, extremely difficult to analyse. The interconnexions of the nerve cells were of almost unimaginable complexity.

It was only right to say that as yet there was very little evidence that the central cortical mechanisms were those of an electronic machine. The evidence was incomplete, and in some respects quite easily controvertible, especially some evidence put forward by enthusiasts; nevertheless, the structure of the cortex was not inconsistent with such a supposition, and indeed by hypothesis a number of mental phenomena—memory and so forth—could be explained in that way. But, assuming that the brain did act like an artifact (in the sense of an artificial construct), what was the relationship of the brain machine to the "mind," the "thinking component" of Descartes? If it were accepted that the brain might act like an artifact, then many characteristics which had been accepted as those of abstract mind must be considered as belonging to the brain—for example, memory, recollection, purposive action, communication, prejudice, preference, the weighing of evidence, the formulation of hypotheses and universals. There were many who were prepared to believe that an artifact could do all the things claimed for it so far as mental processes decided by mathematical symbols were concerned, but that a machine could never be made which would fall in love, or enjoy a wine, or write a sonnet, or cast a vote, with all the irrational conduct that implied. But as more was learned of brain physiology more attributes formerly assigned to mind might be transferred to mechanistic abstractions. Lord Samuel had pictured a chess player cogitating whether to sacrifice a queen, and stretching out his hand to make the move, and said that the physiologist could describe the mechanistic movement but not the process which decided the choice. Yet even while that was spoken a chess machine which would play a human opponent was being completed.

In conclusion Sir Henry Cohen said that he could not hope to present such a thesis without obscurity or dogmatism; this was imposed by limitations of time. But it must be understood that there was still a long way to go in attempting to explain functions regarded as "mental" in terms of "brain" regarded as a machine. It was probable that our abstractions of brain and mind were not appropriate to solve in its modern setting this problem which had for so long been posed. Quite different abstractions were required to resolve the difficulty. Despite recent papers, he doubted whether semantic studies alone would suffice to give the clue. What were needed were not only new words but new ideas—a new "thinking cap"—if a satisfactory answer was to be found to the question: "Is the brain a machine?"

Reports of Societies

INSECTICIDES TO-DAY

A symposium on insecticides was held by the Royal Society of Tropical Medicine and Hygiene on February 21 at Manson House, W.1. The President, Sir Neil Hamilton Fairley, was in the chair. Six papers, which were not read at the meeting but had been available to persons interested, formed the basis of the discussion.

Factors Affecting Success

In the first paper Professor G. MACDONALD described the objectives of residual insecticide campaigns. In the prevention of malaria the degree of insect mortality which must be attained for success varied with the number of mosquitoes, the frequency with which the species concerned bite man, and the duration of the extrinsic cycle. Differences in these factors, and particularly in the man-biting frequency, greatly affected the degree of mortality necessary to secure control of the disease. His paper was illustrated by a nomogram which showed the interaction of the variables discussed. He also discussed briefly the factors involved in the eradication of mosquito species as distinct from eradication of malaria. Finally Professor Macdonald mentioned a few subjects in this field on which further research would be profitable.

Dr. A. B. HADAWAY and Mr. F. BARLOW described some of the physical factors affecting the efficiency of insecticides. To destroy insects protected by forest canopy aerosol particles larger than 100 μ were useless, as they did not pass the first barrier of leaves. Particles measuring 10–40 μ were more efficient. If oil solutions were applied to absorbent materials, such as the walls of the mud dwellings so often found in the Tropics, insecticide was lost by penetration. There was also a loss of insecticide when mud was sprayed with aqueous suspensions of wettable powders, though the duration of effectiveness on different muds might vary.

The resting habits of insects had to be considered when preparing insecticidal schemes. Contact with D.D.T. (dichlor-diphenyl-trichlorethane), for example, might repel a mosquito before it had acquired a toxic dose. Though mosquitoes might similarly be stimulated to flight by contact with "gammexane" (gamma isomer of benzene hexachloride), the toxicity of that substance was such that they usually acquired a lethal dose from treated surfaces.

The Newer Insecticides

Dr. J. R. BUSVINE described the newer insecticides. Of these he stated that D.D.T. analogues and "toxaphene" were unlikely to replace D.D.T., except in special circumstances where the very low toxicity of certain of the D.D.T. analogues was an important consideration. As a residual-film insecticide, "dieldrin" should be excellent, as it combined the persistence of D.D.T. with the high insecticidal power of gammexane. Though these insecticides differed in structure they could be grouped together as chlorinated hydrocarbons, and houseflies which developed resistance to one of them might be found to have also become resistant to others in the group. Among non-chlorinated hydrocarbons, "parathion" (diethyl-*para*-nitrophenyl-thiophosphate), an organic phosphorus compound, was the most promising insecticide, though it was more toxic to man than D.D.T. and less effective against bed bugs. In general, compounds of this type were highly toxic to arthropods and to vertebrates, but not very stable or persistent. They might be useful for some agricultural purposes. "Allethrin," a synthetic compound allied to pyrethrins, could be used in the same way as the natural products; it had a better residual action and was free from resinous impurities.

Resistance

Dr. C. M. HARRISON, in describing the resistance of insects to insecticides, said that within the last four years D.D.T.-resistant fly populations had developed in many parts of Europe, the Middle East, and America. Such flies might also be resistant to other insecticides of the chlorinated hydrocarbon type. Though morphological differences between D.D.T.-resistant and susceptible flies had been reported, agreement about that was lacking. Physiological differences were, however, more likely; thus resistant flies metabolized D.D.T. into the non-toxic substance D.D.E. (an ethylene derivative), whereas susceptible flies did not. This process would not, however, fully explain resistance, as living resistant flies after exposure to D.D.T. might contain enough D.D.T. to kill normal flies. Resistance was clearly inherited, since D.D.T.-resistant flies gave rise to resistant progeny in the absence of the insecticide; the

mechanism of inheritance of this character, however, was complex. There was no good evidence of resistance having yet developed in anopheline mosquitoes.

For the control of resistant species the prevention of breeding by hygienic measures was recommended rather than the use of many insecticides.

Toxicity to Man

Dr. J. M. BARNES described the action of some synthetic insecticides on man. A few cases of serious poisoning had resulted from the accidental contamination of food with D.D.T. The symptoms included headache and dizziness. In animals poisoned with D.D.T. or gammexane no histological changes had been detected in the nervous system despite the obvious evidence of severe derangement of function. Necrosis and fatty changes might develop in the liver. "Chlordane," "aldrin," and dieldrin in toxic doses acted as convulsants and also produced liver changes. Phenobarbitone might prevent the convulsions, but it did not detoxicate the insecticides. Aldrin had recently been widely used against locusts in Persia, and despite repeated exposure to oily solutions there had been no human casualties.

Dr. R. C. MUIRHEAD-THOMSON and Professors R. M. GORDON and T. H. DAVEY pleaded for standardization of experimental work on residual insecticides.

Dangers of Upsetting the Balance of Nature

Professor P. A. BUXTON opened the discussion, in which 22 speakers participated. He traced the development of D.D.T. from its origin in Switzerland, through preliminary experiments by Dr. Busvine at the London School of Hygiene and Tropical Medicine, and in America, to its large-scale production and use late in 1943. D.D.T. and the new insecticides had created a bigger change in medicine than had any chemotherapeutic substance. They had made possible the eradication of anopheline mosquitoes, the control of lice among ignorant people, and the abolition of phlebotemus, simulum, and ornithodorus species in certain areas. The sudden reduction in sickness and mortality thus produced was causing a rapid increase in population, with far-reaching results. The problems this caused would increase in geometric progression as these new generations reached reproductive age.

He then went on to discuss the paper by Professor Macdonald, which attempted to define the proportion of anopheles which must be killed (or kept from man) if control of malaria was to follow. It might be possible to get useful information on the age-structure of mosquito populations by marking mosquitoes with radioactive phosphorus. Of the new insecticides he said that a lethal effect in small doses was not in itself important, but extreme lasting power was very important. He was puzzled whether resistance to insecticides was genetic in origin or acquired. If the former, man had not created it, but had only discovered what had been there from the beginning. He protested against those who concluded from only field experiments that an insect was resistant to insecticides. Such people might be seeking to cover their idleness, or their results might be due to adulterated D.D.T. powder. Laboratory experiments were essential in this connexion. Professor Buxton concluded by pointing out that to standardize experimental field work on insecticides could be dangerous. Though one must control or measure natural variables, if possible, it was necessary to avoid limiting freedom of action in this type of work.

The appointment of Dr. Gérard Montus, of Marseilles, as deputy director of the W.H.O. regional office for Europe, located temporarily at Geneva, has been announced by Dr. Brock Chisholm. Dr. Montus has been on the staff of the World Health Organization since 1949, serving first as European regional adviser on maternal and child health and later as chief of the social and occupational health section, W.H.O. headquarters.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Corneal Grafts

SIR,—The attention of Parliament has been called to consider an alteration in legislation so as to increase the supply of donor eyes by voluntary means for corneal graft surgery. In recent years, thanks to the French revival and improvement of an old method which is mainly free from complications, the scope and safety of corneal grafting have been increased and about 50% of suitable cases treated by this method show restoration of sight to varying degrees. The shortage of donor material is nation-wide and becomes steadily more so since it mainly depends to-day on the use of pathological eyes which have to be removed for disease not affecting the cornea: coincidentally the scope and applications of corneal graft surgery steadily expand.

Mr. B. W. Rycroft, who has been engaged in corneal graft surgery since 1936, has initiated a movement to obtain this alteration in the law and to ensure a legal and voluntary reservoir of adequate donor material. He should have the full support of our profession and he has my entire encouragement also in his endeavours to place British ophthalmology in the forefront of international practice in corneal grafting. It is true that our eye surgeons have been badly hampered hitherto in this type of work by war, lack of special instruments, untrained personnel, and inadequate donor supplies. But only the shortage of donors now restricts the expansion of graft surgery in this country, and it is to be hoped that Parliament will wisely amend the old Anatomy Act to solve this difficulty which obstructs modern eye surgery in the treatment of our fellow countrymen who are blind by corneal disease.—I am, etc.,

Royal College of Surgeons of England, London, W.C.2. CECIL WAKELEY.

Educating the Public about Cancer

SIR,—Drs. T. A. Watson and O. D. Beresford in their letter on educating the public about cancer (January 12, p. 107) tell of the "intensive publicity" in the U.S.A. and Canada, and more particularly in the province of Saskatchewan, where there has been "a marked increase in the percentage of early cancer seen in the Government clinics." However, that is only part of the story—a part that makes it imperative that more of it be presented. They might have told that, in spite of the publicity, propaganda, heavy financial outlays, and super-organization with increase thereby in the percentage of early cases, there was no reduction and no change in the trend of breast cancer age-specific mortality rates, but that these rates maintained fair levels, as they did, too, in each of the other provinces, some of which had no cancer control programme and no evident increase in the proportion of early cases receiving attention. (The book-keeping of all mortality for each of the provinces was done by the Dominion Bureau of Statistics.) They might have added that the level trends in the Canadian provinces were practically uniform with those in the State of Massachusetts, where there has been a long-established and very active programme of control, and were uniform also with the trends in England, where the complaint has been frequently made that propaganda and promotion for the control of cancer have been less than on this side. They might have concluded that whether or not early treatment can prevent the spread of the lethal metastases and thus prevent death in an occasional case of breast cancer, allowed as a possibility by Sir James Paget in 1853, the evidence to-day fully confirms Paget's view that early treatment cannot prevent death in more than that hypothetical occasional case, and, owing to the nature of breast cancer, cannot materially postpone death where it does not prevent it. (Of course,

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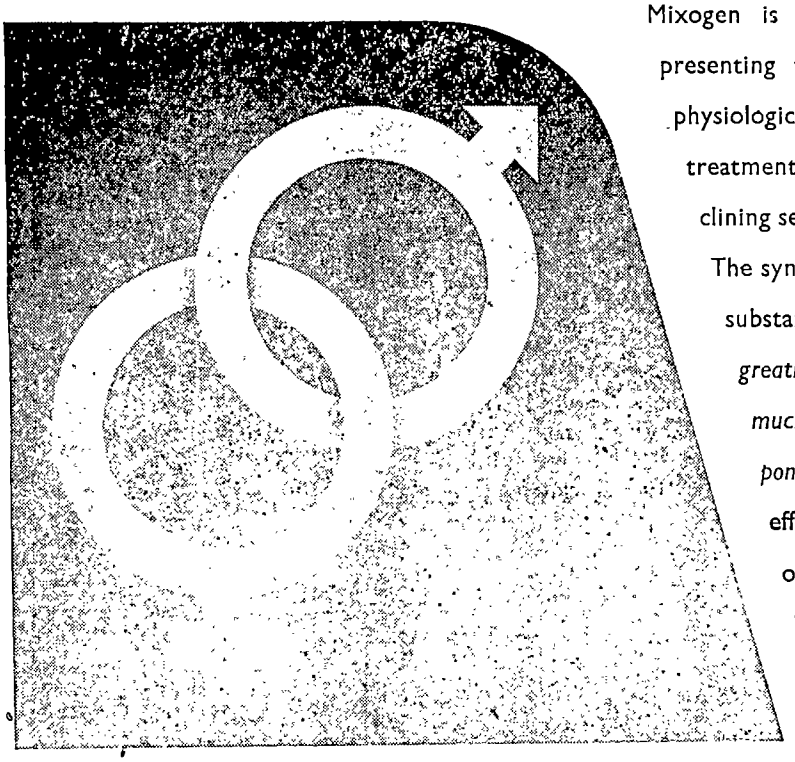

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treatment can cure non-metastatic non-lethal breast "cancer," indistinguishable morphologically from lethal (metastasizing) breast cancer. However, cure of all such non-lethal lesions—which in consequence of educating the public (and the profession) about cancer have greatly increased among treated cases—would not reduce the cancer death rates.)

They might have told that, in spite of the programme in Saskatchewan and the shift to earlier cases, the age-specific mortality rates for female cancer as a whole for that province fail to show any reduction or any difference in trends from those of other provinces without control programmes. They could have added, too, that there was nothing in the Massachusetts rates any more than in the English rates to suggest that any appreciable control of cancer mortality as a whole had been achieved. They might have concluded that the evidence usually accepted as supporting the faith in early treatment is not unequivocal evidence, but that on the contrary the experience of the past 15 to 25 years shows indubitably that the great advantages claimed for early treatment "just do not exist in practice."

Indeed, the authors might have used the accumulated experience in demonstration of the abiding truth of Farr's words that "death is not deceived by sham defences." And they might well have quoted him further, that "false evidence injures instead of aiding the cause." As Dr. James F. Brailsford has so ably pointed out (November 10, 1951, p. 1154), there is nothing spectacular to offer and what there is had best be done quietly.

The evidence on which this note is based is summarized briefly in the February number of *Surgery, Gynecology, and Obstetrics*.—I am, etc.,

University of Toronto. N. E. MCKINNON.

Penicillin Cream Dangerous?

SIR,—I read with interest Professor D. M. Dunlop and colleagues' analysis of National Health prescriptions (February 9, p. 292), and noted that 4% of prescriptions were for penicillin.

It is a pity that so much of this expensive drug should be wasted by its use in unsuitable cases and in ineffective doses, but it is still more regrettable that 40% of these prescriptions should be for penicillin cream. It may be that there are a few cases in which penicillin cream is indicated, but they must be very few, and in most cases parenteral penicillin would be far more effective and economical. For the vast majority of skin lesions, ulcers, and wounds penicillin cream is not only useless, but results all too often in the production of a resistance to the drug and, worse still, in severe sensitization.

In clinics for varicose veins and peripheral vascular disorders, where 1,000 or so cases are seen yearly, almost every patient who has had an ulcer, eczema, or infection of a toe from diabetic or other form of vascular deficiency has been given penicillin cream before he comes to the clinic. I can remember only two or three patients who felt the cream had done them any good; almost all discovered for themselves that the cream aggravated the lesion, and a great many developed severe, intractable, persistent, and often generalized skin eruptions.

I am convinced that penicillin cream, like sulphonamide ointment, has done far more harm than good, and it would be a benefit to the public, and to the Treasury, if its sale were prohibited.—I am, etc.,

Liverpool. J. B. OLDHAM.

What Doctors Prescribe

SIR,—Referring to the article by Professor D. M. Dunlop and colleagues (February 9, p. 292) and subsequent correspondence (February 23, p. 435), there appear to be some points requiring emphasis:

Is there any special virtue in an extemporaneous pill, such as quoted over pil. cascara co. *B.P.C.* 1934? Formulae such as those included in the *B.P.C.* and *N.F.* are usually the result of expert opinion, with rare exceptions such as aspirin mixtures.

With what frequency are the various *N.F.* preparations prescribed? Despite inclusion, there are preparations therein which are only rarely prescribed.

What is the position where a proprietary preparation and an official preparation cost the same? So far as I know the prescription of "sulphadimidine" does not lower the cost, apart from the other examples of insulin, etc., quoted.

The practitioner's right to prescribe must not be questioned, and the basic problem is to educate the doctor (if one may use this word) to the vast number of official preparations available. In this connexion certain points should be borne in mind:

"Academic" titles may be all right, but sometimes these strain the doctor's memory. Perhaps it is in a good cause to use the same ingenuity as the makers of branded goods and produce simple titles. For example, "Easton's syrup" is more easily remembered than the full official name.

When included in the *N.F.*, *B.P.* and *B.P.C.* preparations should also have the formulae (%) included and not just the bare official name.

The *N.F.* should be made more comprehensive, and when a particular proprietary formula becomes extensively used the compilers should consider whether or not to insert a similar formula.

The same effective publicity, at the same cost, would be needed to achieve this as employed by the manufacturers of proprietary products. Merely sending the information to doctors is no guarantee that the matter would be thoroughly digested. Perhaps one of the cheapest ways in the end would be to supply every doctor with a free copy of *The Extra Pharmacopoeia*, when the new edition is published, which offers intriguing reading. Such an act does not, however, overcome the problem of keeping therapeutics up to date. How many doctors know the current view that the soluble sulphonamides, rather than the insoluble, are indicated in the early stages of dysentery?

Finally, before asking doctors to do anything, the Ministries should take care that their own house is in order. From time to time official publications, films, etc., use proprietary names for cotton and gauze tissue, collod. flex., and petroleum jelly.—I am, etc.,

Newcastle-upon-Tyne. A. FORSTER.

SIR,—While acknowledging the great debt we owe to Professor Dunlop and his associates for the very painstaking and illuminating review of prescribing in the first few months of the Health Service (February 9, p. 292) I would like to point out the following two facts which have apparently been overlooked:

1. The form E.C.10A, though approved by the medical profession, has not been agreed to by the retail chemists and has never been implemented.
2. The fact that E.C.10A has never been in existence makes a number of the observations quite valueless, especially over sulphonamides and penicillin.

Their observation that inoculation for colds is not much good is not my experience after 20 years' experiment on myself and dozens of patients who return to me in the autumn year after year for fresh inoculation. The actual inoculation used may be one factor in this sphere.

I would like to add that, with all the statistical material now available quarterly, surely three years is a long time to take over a first instalment of what is obviously a very valuable field of research, both clinical, financial, and political. As many local executive councils have apparently been issued with this report and may be drawing their own conclusions, I feel that, the sooner their attention is drawn to the fact that some of these conclusions are inaccurate and misleading, the better they may be able to adjust their preconceptions.—I am, etc.,

Hadlow, Kent. J. B. MARSHALL.

SIR,—Dr. Frewen Moor (February 23, p. 436) recommends the use of vaccine for the modification or prevention of severe catarrh, as he so graphically describes. My own

experience has been the same as his. If the successful use of vaccine in such cases is not reported, many will be discouraged by the large-scale experiments which have no bearing upon their selective employment.

Obviously where catarrh is caused solely by a virus bacterial vaccine can have no prophylactic value. But what I have noticed is not that vaccine-treated patients escape catarrh altogether—they do not: but they avoid severe and abnormally prolonged attacks such as they had previously been liable to incur, and even mild attacks become less frequent.

This is understandable if the catarrh virus is responsible only for the initial stages of an attack, prolonged exacerbations being caused by a latent bacterial factor coming into action when the virus has prepared the ground.

This latent bacterial infection may in turn keep the local level of resistance low to virus infection. Thus a vaccine which discourages the bacteria would tend to reduce the frequency as well as the severity of attacks.

—I am, etc.,

Leyburn, Yorks. S. G. PEILL.

Cost of Treatment

SIR,—Your leading article on "Bacterial Resistance to Chemotherapy" (February 23, p. 425) is timely, and the opening sentence that "the clinical exploitation of a new antimicrobic drug passes usually through two main phases, the first being over-enthusiastic and somewhat indiscriminate, and the second more critical and restrained," bears repetition. In the same issue Drs. B. Wolman and A. Holzel (p. 419) describe the rapid response to "terramycin" of 34 young patients with pneumonia and 10 patients with upper respiratory tract infection. I suggest that their paper may illustrate the first phase of terramycin therapy, and before the second phase is reached there must be reports of further investigations backed up by control series.

There are, of course, patients suffering from respiratory infections who derive great benefit from chemotherapeutic agents, but many children respond to routine treatment without antibiotics equally rapidly and well. In a recent consecutive series of 24 children suffering from respiratory infections treated in the wards of the Liverpool University Department of Child Health at Alder Hey Children's Hospital, half the patients were treated with sulphonamide or penicillin, and the others (alternate patients) received no specific chemotherapy. The clinical response was similar in both groups, and in almost all patients the temperature had returned to normal within 24 hours. The time of disappearance of the radiological shadow was the same, and the average length of stay in hospital was 15½ days in each group.

Attention should also be directed to the economic aspect. The approximate cost of treating an infant weighing 15 lb. (6.8 kg.) for a five-day period, using the accepted dosage of chemotherapeutic agent, is 1s. with sulphamezathine, 3s. with crystalline penicillin, 9s. with "distaquaine" fortified penicillin, 4s. 6d. with streptomycin, 23s. 6d. with chloramphenicol, 33s. with chloramphenicol palmitate, and 27s. 9d. with "aureomycin." Terramycin is not generally available in this country at the present time, but its cost will probably not be less than that of aureomycin.

It is obviously right that clinical trials of new preparations should be carried out, but the value of such trials is much increased when one or more control series is also studied.—I am, etc.,

Liverpool. R. McL. TODD.

Cost of Anaesthetic Techniques

SIR,—While I agree with Dr. F. F. Waddy (February 16, p. 384) about the desirability of economy in the use of anaesthetic gases, I feel it important to emphasize the dangers of using minimal gas flows.

The technique he suggests, using a gas flow of 2 l./min. nitrous oxide and 0.4 l./min. oxygen in conjunction with a carbon dioxide absorber, casually viewed appears reasonable; but, assuming a patient with a minute volume of 5 l. and an oxygen consumption of 200 ml./min., the mixture inhaled will contain less than 11% oxygen, scarcely a fit mixture on which to maintain a patient undergoing radical mastectomy.

Increase the oxygen supply by 0.2 l./min. and the proportions will be atmospheric; but, with such a small margin for error, what machine can be trusted sufficiently for one to dare use the optimum percentage?

I am afraid that the combination of human and mechanical fallibility renders this method too hazardous to the patient, who I am sure would prefer Dr. Bullough's "extravagance."—I am, etc.,

Manchester. C. P. BROWN.

Hypnotism in Medicine

SIR,—Your recent correspondence on the use of hypnotism for the treatment of asthma has just come to my notice. The following case might be of interest to your readers.

An unmarried charwoman of 49 suffered from asthma since the age of 13. Recently the attacks had been growing more frequent, each attack being of longer duration than the preceding. Two months ago she passed into status asthmaticus, which she had done on previous occasions. This time, however, the attack refused to yield to orthodox—i.e., adrenaline and aminophylline—therapy in the ward of a large general hospital. After remaining in this condition for 10 days it was feared that cardiac failure might supervene, and she was referred to me.

The patient was hypnotized and told that the asthmatic attack would stop immediately; within a few seconds the rhonchi, which could be heard with ease many yards away, disappeared and the patient's comfort and colour improved. After five minutes of repeated suggestion that the wheezing would go and expiration would become less difficult the attack had completely terminated.

It is of interest to learn that up to the time of writing the patient is free of attacks and has been discharged from the hospital. Previously she had had at least one attack per day for the last five years.

It would seem that, when all other methods of treatment fail, before resorting to cortisone an attempt at relief by hypnotic suggestion might be made. The least that can be claimed for it is that it is a great deal cheaper.

For those concerned with the psychological aspect of asthma the history of the case is of interest. The onset of this patient's asthma coincided with her removal with her seven sisters from their home to a convent. The mother was permanently deprived of the custody of the children and the father sent to prison for incestuous relationship with his daughters, the patient included. The ages of the girls ranged from 10 to 19, and they had been submitted to this relationship since the age of about 5. One other sister developed asthma at precisely the same time as the patient.—I am, etc.,

East Grinstead. A. A. MASON.

L-*Nor*adrenaline as Vasoconstrictor

SIR,—The use of L-*nor*adrenaline for the treatment of hypotensive states has recently received considerable attention (Dr. H. C. Churchill-Davidson, December 29, 1951, p. 1551). Dr. R. Ghose (February 16, p. 385) recommends intravenous infusions lasting up to 48 hours. Although our experimental work is incomplete our recent findings compel us to draw attention to certain possible dangers in these procedures.

In man intravenous adrenaline increases liver blood flow, *nor*adrenaline decreases it (Bearn *et al.*, *J. Physiol.*, 1951, **115**, 430). Our own experiments in animals have shown that in a long-continued infusion the dilator action of adrenaline (which is in fact reflex in nature, a response to the raised blood pressure) is superseded by a progressive diminution in blood flow. This effect is even more marked in the case of *nor*adrenaline, the direct action of both drugs on the liver blood vessels being thus vasoconstrictor. Moreover, our evidence demonstrates that *nor*adrenaline and adrenaline both have a marked constrictor effect on the terminals of the hepatic artery, a point of significance, as the main oxygen supply of the liver is through these channels.

There are important implications in these observations. The organs normally used by nature in the regulation of peripheral

resistance are structures such as the skin and bowel, whose vascular needs may be important but are rarely urgent. Our observations indicate that liver blood flow is a function aloof from such petty adjustments. Changes in blood pressure produce only transitory effects, and surprisingly high levels of flow are maintained even in the presence of low systemic blood pressures. The primary object of blood-pressure regulation is, after all, to maintain an adequate blood flow through vital organs. There are few organs more vital than the liver. There are few organs more readily damaged by an inadequate supply of oxygenated arterial blood (E. J. Delorme, *Lancet*, 1951, **1**, 259). To preserve blood pressure by subjecting the liver to long periods of relative ischaemia would seem to be a hazardous and unphysiological procedure—particularly if it has already been exposed to possible harm from varying periods of hypotension.

It might not have been thought necessary to bring these points forward were it not already known that long periods of adrenaline infusion result in severe and irreversible liver damage (F. A. Bainbridge and J. N. Trevan, *British Medical Journal*, 1917, **1**, 381). The evidence we have mentioned shows that with respect to the liver *nor*adrenaline has vascular effects similar to, though even greater than, those of adrenaline. There is no suggestion that brief infusions might be harmful, but it is our view that *nor*adrenaline administration for periods longer than an hour or so is a potentially dangerous procedure which might merit further investigation before its general adoption.—We are, etc.,

Departments of Physiology and Pathology, University of Bristol. J. GRAYSON. D. H. JOHNSON.

SIR,—Dr. H. C. Churchill-Davidson (December 29, 1951, p. 1551) mentions the use of L-*nor*adrenaline for the treatment of collapse under spinal analgesia. This drug has been found most useful in the prevention—rather than the treatment—of blood-pressure falls under spinal analgesia. With a few modifications the spinal technique described by R. Marcus and T. C. Gray (*Brit. J. Anaesth.*, 1949, **21**, 182) has been used in this centre for some time for Wilson Hey prostatectomy, the blood pressure being maintained at the pre-operative level by 1:250,000 adrenaline drip. In recent months L-*nor*adrenaline has been substituted for the adrenaline. The series is not yet big enough to make a statistical evaluation of this innovation, but the following clinical impressions have been formed of the differences between L-*nor*adrenaline and adrenaline.

With L-*nor*adrenaline much less solution is required to maintain blood pressure. In several cases when only 10–20 drops per minute were required it was considered advisable to change to 1:500,000 solution in order to give adequate control of the pressure.

The drip can be discontinued sooner with L-*nor*adrenaline than with adrenaline without any fall in blood pressure. With the latter it was not unusual to find that the infusion had to be continued for 12 or more hours. In 65% of the cases in which L-*nor*adrenaline was used the drip was discontinued in the theatre, and in the remainder the longest time it was required to be continued in the ward was four hours.

The tachycardia of adrenaline was replaced by bradycardia. Pulse rates observed were mostly between 55 and 68 per minute. Blood-pressure changes do not occur so quickly with L-*nor*adrenaline as with adrenaline.

Despite the theoretical objection that L-*nor*adrenaline produces vasoconstriction of the renal vessels (H. C. Churchill-Davidson and others, *Lancet*, 1951, **2**, 803) no cases of post-operative anuria have occurred. The convalescence of this series of cases has not differed from those in whom adrenaline was used. In a few cases E.C.G. tracings were taken before, during, and after the use of L-*nor*adrenaline and no abnormalities have been noted.

On one point the findings are at variance with those of Churchill-Davidson—namely, the diastolic pressure was not always maintained as well as the systolic. In about half the cases there has been an increase of 5–15 mm. mercury in the pulse pressure, but in the remainder this was unaltered or slightly decreased.—I am, etc.,

Liverpool. JOHN W. DUNDEE.

Frequency of Micturition

SIR,—Mr. H. P. Winsbury-White in his article on this subject (February 16, p. 372) makes special reference to children and to enuresis in which, as we all know, a frequency but less commonly an urgency of micturition occurs. His remarks upon cerebral impulses, emotional disturbances, and the effect of profound sleep are readily conceded, but his main theme is upon those chronic inflammatory processes which can occur in the posterior urethra and upon other physically abnormal findings.

The question which perturbs me is whether or not one should, as a necessary part of the physical examination of these children, submit them to a routine urethroscopy and cystoscopy. A long experience of enuresis in consulting and clinic practice, and in the taking of some of these cases into my private home where they have been watched by day and by night, suggests that one is not justified in doing this unless all methods of approach to the child and his home, together with every possible attack upon the condition itself, have met with absolute failure in which there is no improvement of any kind, however transitory. Such matters as residual urine, meatitis, adherent prepuce, vulvitis, and cystitis can be readily recognized, though their successful treatment does not necessarily, and in my opinion not usually, bring relief to the enuresis. Tonsillectomy has at times "cured" enuresis, as has circumcision, but this is not because the child has lost a conceivably diseased or unduly hypertrophied tonsil or a long and tight foreskin; such conditions are more rightly regarded as coincident and not causal, and this probably holds good in the rare instance of spina bifida occulta. But the presence of granulomata or polypi in the posterior urethra, or of a localized or generalized urethral contraction, is of a very different order and might well be regarded as causal, and all the psychotherapy in the world will be as so much wasted time and effort if the child is all the while suffering from something of this kind, which, tragically, has been missed because it just was not considered in diagnosis.

It may well be that some of that hard core—as it has been called—of enuretic children who show no response to any form of treatment are suffering from the conditions which Mr. Winsbury-White has described; and, if this is so, his article can scarcely be overestimated in value.—I am, etc.,

London, W.1. MAURICE L. YOUNG.

Prostatic Obstruction and Inguinal Hernia

SIR,—Of the many benefits conferred on the elderly patient by modern closed methods of prostatectomy not the least is the great reduction in the incidence of post-operative incisional herniae. In contrast to this was the bulge which developed at the site of the tube track in nearly 50% of the patients after open prostatectomy and necessitated the wearing of a belt, often in addition to the apparatus already worn to control an inguinal hernia.

In many patients divarication of the recti will follow a vertical incision of the linea alba whether the bladder has been drained or not, and this is always a source of increasing weakness to the abdominal wall. For this reason a transverse suprapubic incision as recommended by Mr. Thomas Moore (February 16, p. 362) is becoming increasingly popular among urologists, and the supra-symphysial Pfannenstiel scar is now no longer to be regarded as the exclusive property of showgirls and artists' models. Ever since I was converted to this incision some years ago I have not ceased to marvel at its efficacy—in fact, the thin and flabby type of abdominal wall sometimes appears to have been even strengthened, and on more than one occasion I have observed the disappearance of a small direct bulge subsequent to operation.

Mr. Thomas Moore's concern over the problem of an obstructing prostate complicated by an inguinal hernia is shared by all urologists, and recent reports both in this country and in America make it clear that it is becoming an increasingly common practice for both conditions to be dealt with simultaneously by open operation whenever conditions permit. Personally I believe that simple removal of an indirect hernial sac is all that should be attempted in these cases, and for this purpose the abdominal extraperitoneal approach to the inguinal (or femoral) canal as described by Henry (*Lancet*, 1936, **1**, 531) is ideal. Removal of the sac by this method is usually surprisingly easy, but when it is adherent gentle traction on the testicle in the scrotum by an assistant, as recommended by Henry, facilitates the dissection. After removal of the sac a patulous internal ring should be

narrowed by an occluding suture to prevent recurrence, care being taken not to damage the vas as it enters the internal ring postero-mesially or the internal spermatic vessels postero-laterally. Irreducible herniae, of course, can be dealt with only through a separate scrotal incision, and in these cases a very adherent sac can be left *in situ* after its contents have been freed and returned to the abdomen, the neck of the sac being occluded by a ligature from the abdominal aspect.

I believe that the extra time spent on an elaborate repair of the inguinal canal, especially when the hernia is a direct one, is quite unjustifiable in this class of patient, and furthermore, even though the dangers of post-operative extravasation of urine are admittedly slight with modern closed methods, the development of a wound infection in this area from such a cause would be a serious complication, and one which might well develop into a major disaster.—I am, etc.,

London, W.1. JOHN SANDREY.

SIR,—I read Mr. Thomas Moore's article on prostatectomy and herniorrhaphy (February 16, p. 362) with interest, as for some time I have been using a similar procedure. Though the end-result is much the same, the method is different, and I think, therefore, it may be worth while describing it. Since Professor A. K. Henry first described his method of extra-peritoneal approach in the repair of femoral hernia I have used it almost exclusively for all types of femoral hernia though not for inguinal hernia, although it had been described by Cheatle many years before for inguinal hernia.

Of recent years, using a transverse incision for prostatectomy—almost always the vesico-capsular (Ogier Ward) operation—I have also removed any hernial sacs extra-peritoneally. After the prostatectomy is completed my assistant retracts the rectus on the side of the hernia and by a process of traction on the peritoneum and gauze dissection the neck of the sac comes into view. Once the neck is isolated it only requires a little patience and gentle blind dissection by a finger in the canal to produce the entire sac. This is then divided at its junction with the peritoneum of the abdominal cavity and the opening either ligated or sutured like any other opening in the peritoneum. I have not found it necessary to do any repair to the canal.

Whether or not I have removed a hernial sac, it is my practice also to ligate the vas where it passes over the pelvic brim, as I have found that occasionally there is a little reaction and discomfort in the wound when the vas is approached and ligated through the usual separate incision near the root of the scrotum.

—I am, etc.,

Hartlepool. H. M. GRANT.

Experiment in Peacemaking

SIR,—It is generally accepted that when a situation is desperate anybody, however obscure, is justified in submitting a plan of action—provided always that he has something original to propose and that it is the outcome of hard thinking. It was strictly on that basis that I proposed (*Journal*, December 1, 1951, p. 1337) that our Association should undertake an experiment in peacemaking. I would be grateful if I might be allowed to outline the argument on which my proposal was based.

It seemed to me that the threat of another world war concerned the medical profession in two ways: the state of the public mind, and our responsibilities in the matter of the prevention of war. I felt that it was high time that the problem was tackled as a scientific problem—and very largely a medical problem—in which research and experiment were more than usually important; that consultation and co-operation with other professions were required, and that it was essential that this problem should be dealt with quite regardless of political, or even religious, opinions.

First there is the fact that the public have suffered so much from the consequences and the threat of war that they are sick in mind and sick at heart. It is not possible in a letter to do more than indicate what troubles them. An example of what bewilders them is a policy which does away with all the air-raid shelters and at the very same time talks of plans to deal with a million casualties in one place in one night. Next, they are horrified by the ever-increasing cruelty and ruthlessness of never-ending war. They are tormented by questions such as what would happen if an enemy were to announce that all captured airmen would be tortured to death—not at all an unlikely announcement. Another anxiety is the extension of the policy of "frightfulness." It gets worse and worse and seems to be taken for granted. Take, for example, the problem of enlisting women in the Forces. In the first world war all the most influential women took up nursing, but in the second world war nearly all of them volunteered for the Forces. These are examples of questions that are weighing on the public mind, and there is great danger that morale may be worn by anxiety and hope deferred down to breaking point.

For this reason, if for no other, we must face the question of our responsibility in the prevention of war. I would not suggest for a moment that the B.M.A. should take any part in politics: what I do suggest is that we have no right to say that the prevention of war is a matter for the Government and no concern of ours. The right view, I am sure, is that it is extremely unlikely that any government can prevent war unless organizations such as the B.M.A. do take their part in making peace in their own field.

I would suggest that a reasonable view of the Russian problem is this: The foreign policy of the Kremlin is extremely obscure, one of the great difficulties being that so many of their speeches are almost unintelligible. The great fear is that they may be scheming to make the whole world Communist, if necessary by force—perhaps with the idea that this is the only way to prevent wars. However that may be, it is obvious enough that the present Russian Government is almost impossible to deal with. Negotiations drag on interminably, and the bills for armaments keep mounting up. We may be bankrupt long before we reach any settlement with the Kremlin.

But if we turn from the Russian Government to the Russian people the outlook is very different. There does not seem to be any difficulty in understanding the ordinary people; they seem to be very much like ourselves and quite different from the Nazis. There is nothing to show that they want to make the whole world Communist, certainly not by force. All the evidence is that they are very willing to live and let live. There seems to be no reason at all why the ordinary people on the two sides, if they could get to know each other, should not make friends. It is clear enough that in the end the only way to prevent war is to make peace day by day, year by year, and my suggestion is that that is the province not of the Government but of the people themselves. I would say that it is the function of the Government to defend the peace until the ordinary people have made it clear that armaments are no longer needed. The cold war, with all its hideous risks, will go on until the ordinary people make peace.

Our concern is that the ordinary man in the street can do nothing at all on his own, but in these days people are organized in all sorts of ways and can get into touch with their opposite numbers in other countries through their professional, business, and trade associations. And that is where our own responsibility lies. Just as each of us has a dual responsibility, as a doctor and as a citizen, the responsibilities of the B.M.A. extend beyond the field of pure medicine in this country. Nearly a hundred years ago Sir James Paget addressed the students of St. Bartholomew's Hospital on two or three occasions on the subject of their responsibilities. He was one of an illustrious line and he voiced a tradition going back in one hospital for nearly a thousand years. It is impossible to believe that what he said can apply only to our own patients or our own country. His teaching was that our responsibilities "are as various as are the ills that flesh is heir to; they are as deep as the earnestness with which men long to be delivered from suffering, or from the grasp of death." We are bound "by the weightiest responsibility to God and man. . . ."

—I am, etc.,

Wetherby, Yorks. R. L. KITCHING.

Debauchery of Honest Words

SIR,—Kindly allow me to express a strong protest against the admission to the *British Medical Journal* of the phrase "spectrum of antibacterial activity" in the summary of the article on "terramycin" by Drs. B. Wolman and A. Holzel (February 23, p. 419). The word "spectrum" means an image—usually that formed by rays of light—in which the parts are arranged in a progressive series according to their refrangibility (*O.E.D.*), and how an image can have antibacterial activity should be explained by those who perpetrate the usage I complain of.

It was once said of the word "allergy" that it had become so debauched by misuse that it would be fortunate if it could be dropped from the vocabulary of scientific

Extract *from an Annotation in the British Medical Journal of January 5, 1952:*

"The recent trial published* by the Medical Research Council subcommittee showed clearly that penicillin was at least as effective as aureomycin or chloramphenicol in the treatment of bacterial pneumonia—and very much cheaper. . . . Because it produces the most rapid response, the authors [of a report† of a trial at Philadelphia General Hospital] believe that it is best used even in cases where the pneumonia is not certainly bacterial but may be viral, since it is bacterial pneumonia which has the high mortality."

* *B.M.J.*, 8 *December*, 1951, *page* 1361

† *J. Amer. med. Ass.*, 3 *November*, 1951, *page* 918

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(1)

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language, and now it is the turn of "spectrum" to be ill-treated.

I ask for your powerful editorial aid against this debauchery of honest words.—I am, etc.,

Belfast. H. G. CALWELL.

Appeal for Specimens

SIR,—The Medical Research Council's Dental Research Unit is in urgent need of certain post-mortem material for its investigations into dental and associated disease. In particular, the jaws, or parts of jaws, with teeth *in situ*, are required from healthy mouths; from cases with gingivitis but no other specific lesions; from cases of ulcerative stomatitis; and from epileptics formerly under "epanutin" (sodium diphenyl hydantoinate) control. When any of this material is or is likely to become available it is requested that this unit be notified (Telephone: Brixton 4744). Arrangements will then be made to collect the specimens, which if possible should be removed and fixed in 10% formalin soon after death.—I am, etc.,

Medical Research Council,
Dental Research Unit,
King's College Hospital Medical School,
Denmark Hill, London, S.E.5.

J. J. D. KING,
Director of Unit.

POINTS FROM LETTERS

Overwhelming Response

Miss D. J. COLLIHOLE (Director, Periodicals Department, British Council) writes: We think that your readers may like to know that as a result of the overwhelming response to the appeal for used copies of medical journals (which was published in the *British Medical Journal*, November 24, p. 1291, after a suggestion made by Sir Clement Price Thomas following his visit to Yugoslavia) the total number of medical periodicals already forwarded to Belgrade is about 4,600. Our representative, in acknowledging them, writes that Dr. Djukanovic, the Yugoslav Deputy Minister of Health, upon being informed of this valuable gift, immediately sent two members of the committee dealing with the distribution of medical periodicals in Yugoslavia to examine the consignment. The two doctors were clearly delighted by the sight of so many much-needed British journals and at once agreed to arrange for their distribution throughout the country, promising that priority should be given to professors of university medical and surgical clinics, as suggested by Sir Clement Price Thomas, and that hospitals and surgeons whom Sir Clement visited during his recent operating tour should also be included in the distribution. Because of the large number of journals received, it has been impossible to acknowledge them all individually, and we should be most grateful if you would convey our thanks to the many donors through the columns of the *British Medical Journal*.

Frequency

Dr. R. A. P. CORKERY (West Drayton) writes: . . . I was brought up in perhaps a pedantic school of medicine and was always taught that "frequency of micturition" is normal and healthy, but that "increased frequency" is not. Surely, Sir, anything that occurs periodically can be termed "frequent," and can still be within normal limits. We can talk of frequency of meals, frequency of surgeries, frequency of holidays—they become abnormal only when this normal frequency is altered. If the term "frequency" is construed as I think it should be . . . the only cause of frequency of micturition is the presence of a sufficiency of fluid in the bladder.

Staining of Brain Tumours

Dr. I. EBAN (London, W.1) writes: In your annotation on "Locating Brain Tumours with Isotopes" (February 23, p. 428), 1948 is the earliest date which you give in connexion with the staining of brain tumours by intravenous injection of a suitable dye. For the sake of historical accuracy I would like to point out that as far back as 1931 brain staining was already being done by Friedemann and Elkeles. This fact is mentioned with some detail in the *Proceedings of the Royal Society of Medicine* for January, 1943 (pp. 137–140).

Correction

In the account of the life of the late King, which was published in the *Journal* of February 16 (p. 386), the name of Sir Morton Smart, G.C.V.O., D.S.O., M.D., was omitted, through an error which we much regret, from the signatories of the bulletin (issued on November 23, 1948) announcing that the King was suffering from obstruction to the arterial circulation of the legs.

Obituary

A. R. PARSONS, M.D., F.R.C.P.I.

Alfred Robert Parsons, who died at his home in Dublin on January 24, was born in 1864, and after a brilliant career at Trinity College, Dublin, graduated M.B., B.Ch. in 1888. He won the medical scholarship and medical travelling prize, and continued his studies in Vienna and Berlin. In 1894 he was appointed visiting physician to the Royal City of Dublin Hospital, a position he held till his death, and rapidly became one of the leading physicians in Dublin and an outstanding clinical teacher. In 1894 also he was elected a Fellow of the Royal College of Physicians of Ireland, of which he was senior Fellow for many years.

Throughout the years his mind remained as keen and as active as ever, and his bodily vigour showed little sign of impairment. He never retired, but continued his full hospital work to the end, taking his usual clinical class the week before he died. For 58 years he was a fascinating clinical teacher, one who could hold the attention of students and stimulate their interest. He taught them to observe accurately, to examine a patient carefully and critically, to evaluate what was found, and to be self-reliant, but not cocksure, in judgment. A diagnosis was held in almost tantalizing suspense until all the facts on which it was based had been thoroughly worked out. Parsons saw many changes in medicine, but his reliance on symptoms and, above all, on physical signs as the sure foundation for diagnosis did not change. Although pathology, bacteriology, serology, radiology, biochemistry, and all the other present-day aids to diagnosis were used by him fully, he was not carried away by any uncritical enthusiasm for what was new. In treatment he showed no hesitation in abandoning the elegant potions and pills of the 'nineties in favour of the synthetic chemicals and antibiotics of to-day, and was always eager to use a new remedy, though he tried out each one carefully and experimentally before passing judgment upon it.

During the first world war Parsons served in the R.A.M.C. He was on the staff of 83 General Hospital in France with the rank of lieutenant-colonel.

Parsons took a keen interest in scientific medical meetings. He was an original member of the Association of Physicians of Great Britain and Ireland, and was a past president of the Royal Academy of Medicine in Ireland, and a member of the "Bi" Club. It was a great pleasure to hear him read a paper or to see him demonstrate a rare clinical case. The thorough investigations, the scientific clarity, and the dramatic presentation were all admirable.

Dublin has lost its oldest and most beloved clinical teacher. He was a steadfast and loyal colleague, a skilful and warm-hearted physician, a courteous and modest man. His sense of duty, his tenacity of purpose, and his rigid moral values remained unchanged throughout his life. Thousands of his former students in all parts of the world will always remember "Alfie" Parsons with gratitude, affection, and veneration.—V. M. S.

Sir DOUGLAS SHIELDS, M.D., F.R.A.C.S.

Sir Douglas Shields, who began his career as a surgeon in Australia and later built up a big practice in London, died at Merstham, Surrey, on February 22, aged 73.

Douglas Andrew Shields was born in Melbourne on July 21, 1878. His father was a much-respected Scottish doctor holding an administrative position in that city. Douglas Shields studied medicine at Melbourne University, to which he won a scholarship and where he was first among those who obtained first-class final honours. He graduated M.B., Ch.B. in 1897 and proceeded M.D. in 1901. For a time he practised in a country district, but soon returned to Melbourne on his appointment to the staff of St. Vincent's Hospital, where he became a senior surgeon. Shortly after his return from a trip to London he was appointed consulting surgeon to the Governor-General of Australia (at that time the Earl of Dudley).

Two or three years before the first world war Shields decided to leave Australia and settle in London, where he established a private hospital in Park Lane. During the war this hospital was given up to the treatment of wounded officers. For a time he worked as a surgeon at a hospital in Wimereux in France. He was knighted for his wartime services in 1919, and three years later given the honorary degree of LL.D. at St. Andrew's University during the Rectorship of J. M. Barrie. After the war Shields's surgical practice continued to expand, and for a time he worked in association with Sir Alfred Fripp. His attractive personality and good appearance made him a much-sought-after man. His professional reputation was well deserved, for he was a neat and careful operator and kind and attentive to his patients.

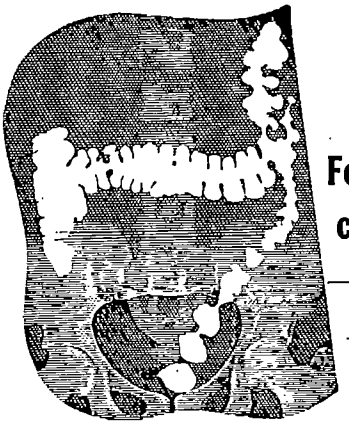
Sir Douglas Shields married Mary Ellen, daughter of the late Charles Shirrefs, in 1900. His wife died in 1939, and he is survived by a son, who is also a medical man.

Dr. ARCHIBALD MACEWAN died on January 31, after a brief illness, aged 51. A native of Lochgilphead, Dr. MacEwan was born on October 2, 1900, and was educated at the University of Glasgow, where he graduated M.B., Ch.B. in 1925. In the same year he joined his cousin, the late Dr. John A. Thomson, in general practice at Hamilton, where he practised until his death. He was on the Crown list of medical examiners, and on many occasions gave evidence in the High Court and Sheriff courts, where he was regarded by Bench and Bar as a scrupulously fair expert. He was appointed a medical referee for the Sheriffdom of Lanark in 1945, and, until the abolition of the Poor Law system in 1948, when the National Assistance Act was placed on the Statute Book, was a certifying officer under the Lunacy Acts. During the war he was keenly interested in civil defence, and gave much of his leisure time to the training of first-aid and ambulance units. A quiet, kindly man who inspired confidence in his patients, he will be sadly missed by them and by his many friends. He is survived by his wife and son.—A. N. D.

The death on February 16 of Dr. J. W. LOGIE removed a general practitioner of the old school and one of distinguished ability. Born in 1869 of Orcadian stock, John William Logie was educated at Glasgow High School and at the University of Glasgow, where he had a notable career as a student. He graduated M.B., C.M., with high commendation, in 1891, and, after serving as a resident house-surgeon at the Victoria Infirmary and as resident assistant physician at the Belvidere Fever Hospital, Glasgow, he was for some years in practice in Partick. A period at sea, as a ship surgeon, followed for health reasons. He resumed general practice first at Pontyclun, Glamorganshire, and then at Rothes, in Morayshire. During the war of 1914–18 he was in charge of the Red Cross Hospital at Pontyclun, receiving Queen Alexandra's Medal for his services. Failing health in the early 1930s led to his retirement to Aberdeen, where during the last war he served regularly on medical boards. Throughout his retirement Dr. Logie retained an alertness of mind and crispness of phrase, both of which gave great pleasure to his many friends, professional and lay. Proud of his profession, though critical of some recent changes, he maintained contact to the last with current developments in medicine. His insight and robust good sense, informed by wide experience as a practitioner, were greatly valued by younger colleagues. In August last Dr. and Mrs. Logie celebrated their golden wedding. He is survived by his widow, a son, Mr. Norman J. Logie, the Aberdeen surgeon, and a daughter, who is the wife of Dr. George I. Davidson, of Aberdeen.—R. M. N.

Dr. ALFRED HOWARD PARKINSON died at Wolverhampton on February 16, aged 76. After a childhood spent partly in France he began his working life as a teacher of science in Knaresborough, Yorkshire. He took the London B.Sc., with honours, in 1901, and then his interest turned to medicine, and he graduated M.B., B.S. in 1906, taking the Cambridge D.P.H. in 1909 and proceeding M.D. in 1911. After periods in Leeds and in the east end of London he was appointed by the newly constituted Staffordshire, Wolverhampton, and Dudley Joint Board for Tuberculosis to be tuberculosis officer to the Stafford area, which included Groundslow Sanatorium, at Tittensor, Stoke-on-Trent. Except during his service in the R.A.M.C. in the war of 1914–18, he continued to act in this capacity until March, 1947. His work was his whole life, and after his retirement he kept himself fully employed by acting as locum-tenent for many colleagues in Staffordshire. He was an indefatigable worker and could not be persuaded to take life easily. His mind was so alert and his interest so keen that during the past few years he frequently expressed regret that he could not begin all over again now that so many advances had been made in the treatment of pulmonary tuberculosis. Dr. Parkinson was a past president of the Midland Tuberculosis Society, and in his presidential address a few years ago he reviewed the many changes in treatment which had occurred in his lifetime. During these long years of service his wide clinical knowledge was willingly given for the assistance of patients and colleagues, and it was rendered the more valuable by his unfailing courtesy and kindness. His generous human sympathy was particularly helpful in the type of work he had chosen. He was held in affectionate esteem by his colleagues in Staffordshire, with many of whom his association had been very close. Many patients will mourn his passing, for he was indeed a good physician. He had continued at work until three weeks before his death, and gave in only when illness compelled him to do so. He is survived by one married daughter.—G. R.

Lieutenant-Colonel F. M. GRAHAM, late I.M.S., who died in Manchester on February 17, after a short illness, was born in Bangalore, Southern India, on March 8, 1892, the eldest son of William S. and Florence E. Graham. Frederick Montague Graham received his medical education at Madras Medical College, and took his diploma in 1914. He saw active service in the Middle East during the war of 1914–18, being twice mentioned in dispatches, and he served also in Afghanistan in 1919 and in the Calicut riots of 1921. In 1922 he continued his medical studies at King's College Hospital, London, taking the M.R.C.S., L.R.C.P. in 1924. He returned to India in that year and joined the civil medical service of Madras, where he was lecturer in surgery and medical jurisprudence at Stanley Medical College from 1924 to 1929. Later he held hospital appointments in Madras Presidency, and he joined the staff of Government House, Madras, in 1934. In 1944 he was recalled to active service in the Middle East Paiforce (Persia, Afghanistan, Iraq), in which he served throughout the last war. He retired from the I.M.S. in 1947.



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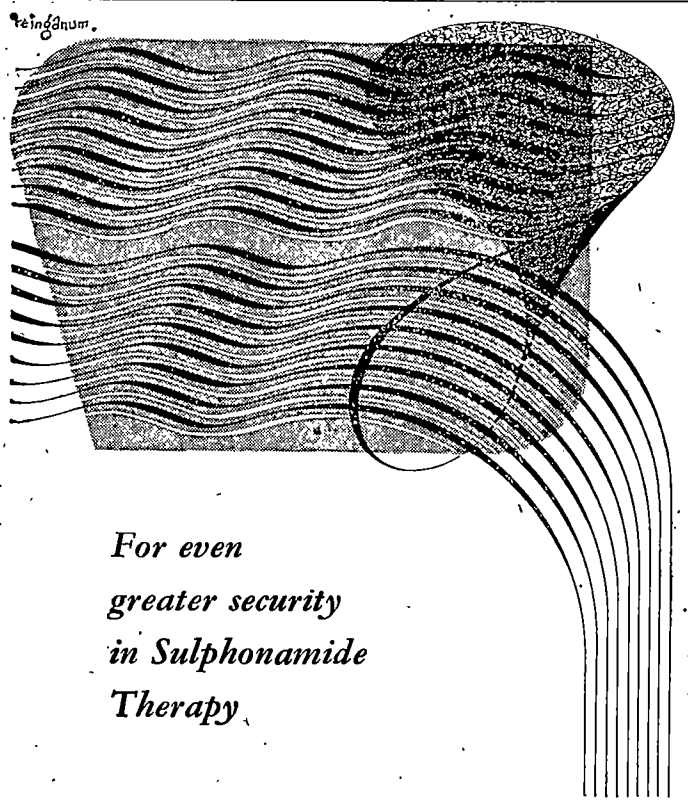

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(Dept. A.54)
65 Pound Lane Willesden N.W.10

A colleague writes: In January, 1949, Graham was appointed a medical officer of the Ministry of Pensions, and, though he was to hold the post only some three years, his quiet ways and endearing qualities made a particular impression on his colleagues, and his loss is most keenly felt. He was quite selfless and had a strong and abiding religious faith. Lieutenant-Colonel Graham is survived by his widow, a son, and a daughter. His son is demonstrator in pathology at King's College Hospital and his daughter is training as a radiologist at the Manchester Royal Infirmary. The sympathy of his many friends, professional and lay, is extended to them in their grievous loss.

Cumberland has lost a wise and skilful surgeon by the death, on February 21, of Mr. GORDON NEILL at the early age of 34. Andrew Gordon Currie Neill did well at Sedbergh School and at the University of Edinburgh, where he graduated M.B., Ch.B., with honours, in 1941. After serving as house-surgeon and house-physician at Cumberland Infirmary, Carlisle, he became resident surgical officer at Hull Royal Infirmary. He was elected F.R.C.S.Ed. in 1943 and returned to Cumberland Infirmary as resident surgical officer, becoming honorary assistant surgeon in 1947. Early in his professional career Neill came under the influence and guidance of Mr. J. N. J. Hartley, and was at an unusually early age a surgeon of wide experience, mature judgment, and quite exceptional technical achievement. A modest manner lightly cloaked an inner strength which gave his patients confidence, so that they became his friends. He accomplished a vast amount of work, but never seemed to be hurried. He had a serene temperament, a prodigious memory, and a genuine interest in the welfare of his patients, for each of whom, no matter how weary he may have been, he had a kind word. He abhorred the idea of destructive surgery and turned his attention more and more to plastic surgery, at which he soon became adept. Neill was well read and had an interest in many subjects, not least in history and the classics. To an extraordinary degree he had developed the faculty of reaching the core of a problem through a mass of detail. This enabled him to reach a reasoned decision in his work and helped to make him such an admirable secretary to the medical board and later to the medical advisory committee. He was a man of firm beliefs and opinions, but he saw the other man's point of view clearly enough never to irritate nor to give offence in a discussion. The main memory he leaves is one of quiet equanimity and unobtrusive hard work by which he achieved his aim—to become an "operating physician." In spite of much mental and physical suffering during the last few weeks of his life Neill remained calm, cheerful, and appreciative of the little that could be done to help him. To his widow and two baby daughters and to his parents his many friends extend their deep sympathy. —T. McL. G.

Dr. RAYMOND HENRY SHAW, who died in South Kensington on February 24 after a long illness, was born in Newcastle-upon-Tyne in November, 1866. His father, Benjamin Shaw, was a schoolmaster there, and his son was educated under him at Singleton House School. He studied medicine at Durham University, where he graduated M.B. with honours and B.S. in 1889: he had four scholarships there between 1886 and 1889, and he proceeded M.S., with first-class honours, in 1892, after holding an appointment as house-surgeon at the Royal Infirmary, Newcastle-upon-Tyne. About 1894 he joined the late Dr. Ryley in practice at Great Yarmouth, where he remained until he retired in 1932. He volunteered for the R.A.M.C. in the 1914–18 war, but was not accepted; and indeed his work at Yarmouth Hospital was probably of more advantage to his country than active service might have been. His house was hit during that war by a bomb, and his young daughter was wounded. Shaw had decided leanings towards surgery, though he was first and foremost a highly competent and successful general practitioner. He was surgeon to the Yarmouth General Hospital for about 24 years—much of that time senior surgeon. He was also surgeon to the Yarmouth police and medical officer to the Guardians' Infirmary and Children's Homes. He objected strongly to Lloyd George's National Health Insurance Act and led the opposition to it in his district. He was disappointed that it was finally brought into force and resigned his membership, never afterwards rejoining the Association. He married Miss Katharine Robson, of Darlington, in 1904. His wife and daughter survive him; his son, Raymond Thorndike Shaw, died of wounds while serving as a lieutenant-commander in the Royal Navy in 1942. After retiring Shaw made a good many voyages to the Far East as a ship surgeon, and to his great credit turned out again for this work during the last war. In 1942 his ship was hit by bombs off the coast of Scotland; he stayed in the ship until she was beached, incurring frost-bitten toes as a result—a fine record for a man of 75!

Medico-Legal

PRIVATE PATIENT'S FEES

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

In an action tried in the Willesden County Court[1] Judge Sir Henry Braund reduced the amount of a doctor's claim for fees from a private patient in respect of infra-red treatment and injections from £39 7s. 6d. to £25 15s. The claim was for 24 visits at 1½ guineas a time, with an initial visit at 3 guineas including a blood test.

The doctor said in evidence that he did not discuss the amount of his fee with the patient other than to say that his charge would be moderate as he knew she was not well off. He belonged to an old-fashioned generation of doctors who did not like to speak of money.

This case illustrates the principles of the English law of contract which affect the remuneration of doctors in private practice. The principles are of general application in the profession with the exception that a condition of admission to the Fellowship of the Royal College of Physicians is that a Fellow of the College may not sue for his fees.

In law the doctor in private practice can expressly agree with his patient any fee that is satisfactory to them both. If the patient will not pay, the doctor is entitled to sue him upon the express agreement for the amount agreed, and will recover that amount. Where the amount is expressly agreed it does not matter whether the court thinks it is too large or too small. It is for the parties to make their bargain, and the court will enforce the bargain they have made.

Alternatively, the patient may ask the doctor to treat him and the doctor may do so without either of them saying a word about the cost of the treatment. In that event the law implies a promise by the patient to pay a reasonable amount for the treatment, and, if the patient does not pay, the doctor is entitled to sue him upon this implied promise. The cause of action is called in the law of contract a *quantum meruit*. It is then for the court to say how much is "reasonable." The court in doing so applies objective considerations, and what the doctor or the patient may think is a reasonable fee is only an element in the evidence—to be taken into consideration together with any other evidence which may be adduced. The court will treat the evidence of expert witnesses called to say what in their opinion is a reasonable charge for the treatment given purely as a matter of opinion, giving it such weight as the expert who gives it can command. But it is for the court, after all the evidence has been given, to decide what is a reasonable amount. As Judge Sir Henry Braund observed in the Willesden case, what is reasonable in Harley Street may not be reasonable in Finchley Road.

If any doctor finds himself under the unpleasant necessity of having to sue for his fees, the advantages of having an express agreement to sue upon are therefore very great.

[1] *Hampstead and Highgate Express*, February 23, 1951.

Medical Notes in Parliament

The National Drug

During the debate on the second reading of the Customs and Excise Bill on February 19 Dr. BARNET STROSS referred to the clause (229) dealing with tea, coffee, cocoa, etc. This contained paragraphs referring to the analysis of imported tea, which may have other substances added to it. He said that for 200 years it had been a national belief that to drink tea was good for one. He worked out that on an average consumption of 3 oz. (85 g.) of tea a week the total national intake of pure caffeine was about 50 million pounds a year (22.7 million kg.). There were about one and a half grains (100 mg.) of pure caffeine in the average strong cup of tea. Some people thought nothing of drinking 10 cups of tea a day, which would give them 15 gr. (1 g.) of caffeine. Yet the maximum medicinal dose of caffeine a day was 5 gr. (315 mg.). People who took an excessive amount of caffeine through their tea were the truest type of drug addicts, because caffeine was a true cerebral stimulant. The amount of alcohol found in beer and cider was not stimulating, and was ultimately depressing.

Mr. JOHN BOYD-CARPENTER, replying to the discussion, made no comment on this point.

Pneumoconiosis and Byssinosis

Mr. R. H. TURTON on February 20 moved that the House approve the Draft Pneumoconiosis and Byssinosis Benefit Scheme, 1952. He said that the Act of 1951 had set out provisions which this scheme embodied. It put uncompensated men and their dependants in the same position as if they were entitled to workmen's compensation for total disablement, or death from either disease. Whether a man was totally disabled or not, and whether death was a direct result of the disease, would have to be decided by a medical board.

Dr. EDITH SUMMERSKILL remarked that the scheme dealt only with the totally disabled, and hoped there would be further investigation in regard to the partially disabled. The scheme could be used for other diseases, and she asked Mr. Turton to consider such diseases as epithelioma.

Miss MARGARET HERBISON said that she and other members representing mining constituencies constantly had miners telling them that their own doctor diagnosed pneumoconiosis. Such cases were sent to Edinburgh Royal Infirmary, where a specialist, after an *x*-ray examination, decided that a man had pneumoconiosis, and he was thereafter sent to the medical board, which, in a number of cases, decided the man was not suffering from the disease. It was impossible to make a miner believe that he had a square deal when a specialist gave one decision and the medical board a different one. Mr. EDWARD DAVIES agreed that there was dissatisfaction because men felt that, while they had courtesy and an excellent service from the medical boards, there was often a conflict among medical men themselves on the diagnosis. The men must be assured that whoever had the responsibility of making a final decision in these matters was of the highest medical reputation.

Dr. BARNET STROSS said cases were known in which, because the disease was progressive, refusal in one year was followed by acceptance in the next, and asked whether that procedure would be continued. Mr. TURTON said that it would, and after further discussion he replied to the debate, reaffirming that on the interpretation of total disability and the question whether death arose from pneumoconiosis the decisions of medical boards would be final in future as at present. The House then agreed with the motion that the scheme be approved.

Cost of Patients' Food

Mr. T. F. PEART on February 25 asked the Minister of Health to give instructions to regional hospital boards that no economies should be made in hospital expenditure on patients' food. Mr. H. F. C. CROOKSHANK answered that he could not do as suggested because this was within the discretion of hospital authorities, who might find it possible to secure some measure of economy without prejudicially affecting patients' diets.

Health Service Appliances

Mr. H. F. C. CROOKSHANK told Mr. A. BLENKINSOP on February 25 that the great variety of appliances supplied to patients through the hospitals in England and Wales during the 12 months ending December 21, 1951, could be broadly grouped under the following headings, for which the numbers and cost were:

Appliance	No. Supplied in 12 Months	Cost £
New surgical footwear	46,465	395,000
Appliances for lower limbs	28,280	156,000
Trusses	19,085	35,000
Abdominal appliances	107,282	375,000
Suprapubic and kindred appliances	15,570	55,000
Appliances for upper limbs	3,593	12,500
Spinal supports	58,656	410,000
Head and neck appliances	11,732	58,000
Elastic hosieries	35,520	80,000
Wigs	9,756	125,000
Prostheses (artificial breasts, ears, eyes, noses, etc.)	11,715	29,000
Artificial arms	1,937	51,500
,, legs	11,383	330,000
,, arm appliances	4,058	15,000
,, eyes	7,682	12,000
Invalid chairs and tricycles	10,108	685,073

Safety on the Roads

Brigadier FRANK MEDLICOTT on February 28 asked the Home Secretary to take steps to make a blood test for alcohol compulsory in the case of the driver of a vehicle involved in an accident which caused death or injury to any person. Sir DAVID MAXWELL FYFE replied that the proposal involved a serious encroachment on personal liberty. On his present information he would not feel justified in proposing such a fundamental alteration in the law.

Mr. J. S. MACLAY stated that, in the absence of evidence that defective eyesight of drivers was an important factor in road accidents, he did not think that further steps were necessary to ensure that the eyesight of drivers was sufficiently good to prevent accidents. He added that a requirement that some individuals should wear glasses while driving would be unenforceable.

Artificial Limbs.—No charge will be made for artificial limbs, for most surgical aids needed by the seriously disabled, nor for any appliances supplied to patients who are resident in hospital rehabilitation centres.

"Roter" Tablets.—Mr. H. F. C. Crookshank has stated that these proprietary tablets for treatment of peptic ulcer could not be regarded as essential. He was therefore unable on medical grounds to recommend that import restrictions should be waived.

Vital Statistics

Smallpox in Lancashire

The total number of cases of variola minor ascertained up to the morning of Tuesday, March 4, was 70 (64 in Rochdale, 5 in Milnrow, and 1 in Heywood). All these cases are associated with the original focus in Rochdale. Thirty-seven cases are in hospital. The remainder are no longer infectious. Until March 3 the cases had occurred in the direct line of contact. On March 3, 4 cases were found which cannot at present be associated with previous cases. There is no report of smallpox in any other part of the country.

Industrial Accidents and Diseases

The number of workpeople (other than seamen) in the United Kingdom whose deaths from accidents in the course of their employment were reported in January was 131, compared with 99 in the previous month and 140 (revised figure) for January, 1951. Of these deaths 41 were underground in coal mines and 18 were in building operations.

The following cases of industrial disease were notified during the month: lead poisoning 4, aniline poisoning 4, toxic anaemia 1, anthrax 2, epitheliomatous ulceration 11, chrome ulceration 20 (chromium plating 10); total 42. There were no deaths (*Ministry of Labour Gazette*, February, 1952).

During 1951, 485 persons were killed in coal mines and 1,942 seriously injured, as compared with 493 and 2,020 (revised figure) respectively in 1950.

Infectious Diseases

A rise in the number of notifications was recorded in England and Wales for the week ending February 16 for measles 555, scarlet fever 65, and dysentery 44, while the only fall of any size was 136 for whooping-cough.

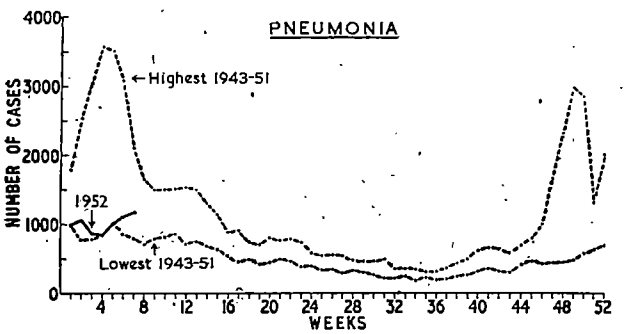
A small rise in the incidence of measles was recorded in many areas. The largest rises were Cheshire 166 and Middlesex 98, while the only large exception to a rising trend was a fall of 172 in Lancashire. With the exception of a small rise in London and the adjacent counties, the incidence of scarlet fever remained practically constant. The only large variation in the local trends of whooping-cough was a decline of 87 in Yorkshire West Riding. The notifications of diphtheria were 14 more than in the preceding week. The rise in diphtheria was chiefly contributed by Lancashire with an increase of 8; 10 cases were notified in Darwen M.B., where 5 cases were reported in the preceding week.

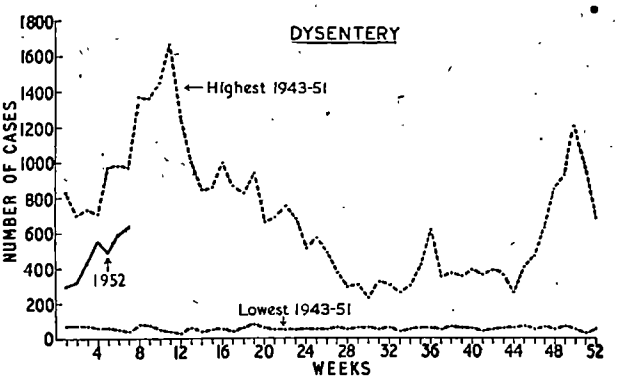
The number of notifications of acute poliomyelitis were 2 more for paralytic and 1 more for non-paralytic cases than in the previous week. The only administrative area with more than 1 case was Sussex, Southwick U.D., with 2 cases.

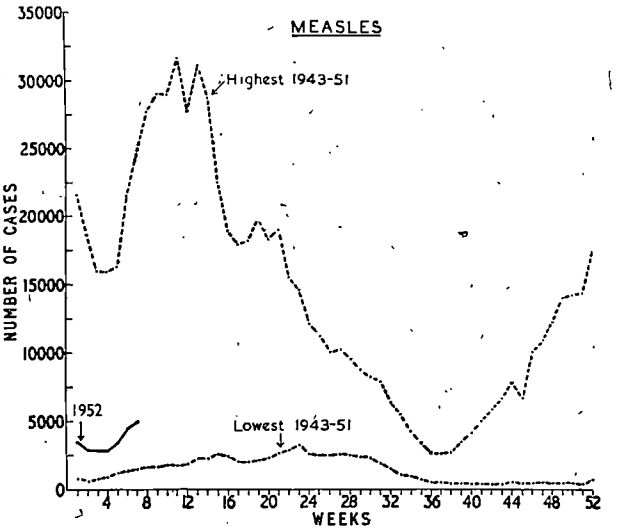
An important factor in the increased incidence of dysentery was a rise of 86 in the number of notifications in Lancashire. A further 62 cases were notified in the outbreak in Norwich C.B., bringing the total notifications for this centre up to 984. The largest returns during the week were Lancashire 157 (Oldham C.B. 46, Manchester C.B. 36, Chadderton U.D. 11, Bolton C.B. 10); London 83 (Hackney 23, Wandsworth 11); Norfolk 72 (Norwich C.B. 62); Middlesex 51 (Willesden M.B. 18); Yorkshire West Riding 34 (Leeds C.B. 13); and Surrey 33.

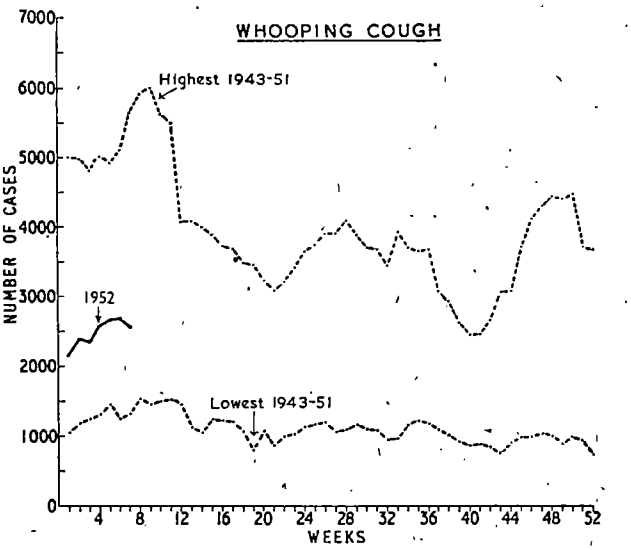
Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1943–51 are shown thus --------, the figures for 1952 thus ———. Except for the curves showing notifications in 1952, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.









Week Ending February 23

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,613, whooping-cough 2,648, diphtheria 37, measles 5,734, acute pneumonia 1,143, acute poliomyelitis 14, dysentery 591, paratyphoid fever 6, and typhoid fever 3.

Census Changes.—Population figures obtained at the 1951 census show that there are now 160 great towns (population over 50,000) in England and Wales instead of 126, and 17 principal towns (population over 30,000) in Scotland instead of 16. Therefore the 1952 figures for deaths, births, and stillbirths in these countries, published weekly in our Table, cannot be accurately compared with those for 1951, which are printed in italics. The 160 great towns in England and Wales have a population about 10% higher than the 126.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **February 16** (No. 7) and corresponding week 1951.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 160 great towns in England and Wales (London included), London administrative county, the 17 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	48	4	15	0	1	40	8	15	0	1
Dysentery	636	83	62	5	1	972	42	266	6	1
Encephalitis, acute	3	0	1	0		10	1	0	0	
Enteric fever:										
Typhoid	3	0	0	1	0	4	2	0	0	5
Paratyphoid ..	3	0	0	0	1 (B)	11	1	1 (B)	0	
Food-poisoning ..	114	11		1		99	29		1	
Infective enteritis or diarrhoea under 2 years				10	17				13	10
Measles*	4,980	103	365	185	107	24,585	3178	219	52	67
Meningococcal infection	51	5	18	4	5	50	11	17	3	1
Ophthalmia neonatorum	27	5	8	0		24	3	7	0	
Pneumonia† ..	1,175	40	406	15		2,115	107	305	25	93
Poliomyelitis, acute:										
Paralytic ..	13	1	4	3	1	18	0	3	0	0
Non-paralytic ..	7	0				6	1			
Puerperal fever§ ..	226	32	16	1		67	9	11	4	1
Scarlet fever ..	1,481	142	219	15	44	904	68	159	25	52
Tuberculosis:										
Respiratory ..			136	35				178	37	
Non-respiratory..			27	3				22	3	
Whooping-cough ..	2,550	101	289	125	98	5,662	404	778	52	97

DEATHS ‡ in Great Towns	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	0	0		0	0	*0*	0	*0*	0	0
Dysentery	0	0		0			0		0	
Encephalitis, acute		0			0		0			0
Enteric fever ..	0	0		0		*0*	0	*0*	0	
Infective enteritis or diarrhoea under 2 years	24		1	1	0	*21*		*3*	1	4
Influenza	40	6	4	1	0	*492*	52	*14*	11	50
Measles		0		0	0		2	*0*	0	0
Meningococcal infection		0					1	*1*		
Pneumonia ..	338	48		14	9	*535*	68		17	18
Poliomyelitis, acute	3	0			0	*4*	0			0
Scarlet fever ..		0		0	0		0	*0*	0	0
Tuberculosis:										
Respiratory ..	154	25	39	7	9	*183*	27	*22*	6	17
Non-respiratory..		1	5	0	0		3	*6*	1	6
Whooping-cough ..	3	0		1	0	*14*	3	*2*	0	1
Deaths 0–1 year ..	300	24	37	11	17	*301*	39	*33*	6	18
Deaths (excluding stillbirths) ..	6,790	1031	809	147	203	*7,688*	1162	*765*	158	315
LIVE BIRTHS ..	7,440	1100	856	211	356	*7,104*	1208	*905*	242	361
STILLBIRTHS ..	202	20	28			*179*	18	*30*		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.
‡ See "Census Changes" on previous page.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

The Senate on February 23 approved an Address to Her Majesty the Queen expressing condolence on the death of His Majesty King George VI and the respectful homage of the University to Her Majesty on her succession to the Throne. An Address of condolence to Her Majesty Queen Elizabeth the Queen Mother was also approved.

The following medical degrees were conferred on February 23:

M.CHIR.—*G. M. Lunn.

M.B., B.CHIR.—*R. F. Pearson, *Katharine C. Paterson, I. H. Kerr, C. McC. Campbell.

The following candidates have been approved at the examination indicated:

M.CHIR.—T. Fenwick, T. W. Rowntree, R. N. Ticehurst, W. Waugh.

*By proxy.

UNIVERSITY OF LONDON

The following have been recognized as teachers of the University in the subjects indicated in parentheses: *St. Bartholomew's Hospital Medical College*, Dr. H. F. Brewer and Dr. H. Lehman (Pathology); Dr. C. S. Nicol (Venereal Diseases); Mr. A. S. Philps (Ophthalmology); Dr. B. F. Russell (Dermatology). *Postgraduate Medical School of London*, Dr. E. G. L. Bywaters and Dr. J. F. Goodwin (Medicine); Mr. M. R. Ewing, Mr. R. H. Franklin, Mr. G. C. Knight, and Mr. R. Shackman (Surgery). *National Institute for Medical Research*, Dr. O. G. Endholm (Physiology). *Charing Cross Hospital Medical School*, Dr. J. A. Gorsky (Forensic Medicine); Dr. S. Shaw (Pathology). *University College Hospital Medical School*, Dr. W. Grossman (Dental Surgery); Miss Doreen Nightingale (Surgery). *St. George's Hospital Medical School*, Mr. J. J. Richmond (Radiology). *St. Mary's Hospital Medical School*, Mr. I. G. Robin (Oto-rhino-laryngology); Dr. K. W. Cross (Physiology). *University College*, Dr. R. D. Harkness (Physiology); Dr. S. E. Dicker (Pharmacology). *School of Pharmacy*, Dr. Eleanor J. Zaimis (Pharmacology). *St. Thomas's Hospital Medical School*, Dr. J. R. Napier (Anatomy).

Dr. B. A. D. Stocker has been granted probationary recognition as a Teacher of Pathology at the London School of Hygiene and Tropical Medicine for two years from December, 1951.

The following, who are already recognized teachers at undergraduate medical schools, have been recognized also as teachers at the postgraduate institutes and in the subjects indicated: *Institute of Obstetrics and Gynaecology*, Mr. I. M. Jackson (Obstetrics and Gynaecology). *Postgraduate Medical School of London*, Mr. C. H. Gray (Surgery).

The William Julius Mickle Fellowship for 1951–2 has been awarded to Rosalind Venetia Pitt Rivers, M.Sc., Ph.D., in respect of the investigations into biochemical and physiological problems connected with thyroxine and kindred substances which she has carried out during the past five years.

In Convocation on January 19 it was announced that Drs. C. A. H. Franklyn and W. J. O'Donovan had been re-elected as representatives of the Faculty of Medicine on the Standing Committee of Convocation for a period of three years.

UNIVERSITY OF SHEFFIELD

At a meeting of the University Council held on February 18 it was decided to send a Loyal Address to Her Majesty Queen Elizabeth II.

The Council has appointed S. R. Elsden, Ph.D., Senior Lecturer in Microbiology, to be in charge of a separate Department of Microbiology, the arrangements to take effect from October 1.

The Council received the resignations of Dr. L. G. Cook, Honorary Lecturer in Bacteriology, on his return to New Zealand, and Dr. B. A. E. Johns, Lecturer in Anatomy, who is returning to clinical work, and thanked them for their services to the University.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

At a quarterly meeting of the college, held on February 5, with the President, Dr. W. A. Alexander, in the chair, the following were elected Fellows of the College: C. M. Fleming, W. Henderson, H. E. Seiler, I. H. L. Gillies, W. H. Galloway.

The following were elected Members of the College: W. Boyd, Irene P. Rowlands, S. Stein, R. Orton, J. N. Armour, G. W. Reid, V. D. Bayliss, S. Prakash, H. McD. Forde, N. Gordon, R. Prasad, B. M. Kher, L. Albert, J. Gant, M. P. Mehrotra, Jean C. Taylor, H. Black, A. C. Douglas, P. C. MacGillivray, M. A. Botawala, S. D. Store, R. S. M. D. Inch.

Medical News

Anglo-French Medical Exchange Bursaries.—The French Embassy in London has recently negotiated an agreement between the Institut National d'Hygiène, Paris, and the Ciba Foundation, London, for an exchange of short-term grants to enable young British and French doctors to visit each others' countries and study special techniques. The grants, which will have a minimum value of £50 a month tax-free, will normally be awarded for a minimum of two and a maximum of six months. The bursaries are intended primarily for doctors wishing to obtain clinical experience, but they can also be awarded for medical research. Candidates must have had at least one year's experience after qualification and must indicate in their application the place in which they wish to carry out their study. Candidates for the French bursaries must be British subjects and citizens of the United Kingdom. They will be chosen by a selection board. Applications for the 1952 bursaries should be made before March 31 to Dr. G. Wolstenholme, Ciba Foundation, 41, Portland Place, London, W.1, from whom application forms can be obtained.

Manchester Medical Society.—On January 28 the inaugural meeting of the new section of general practice was held with Dr. R. R. Kerr in the chair. This section has been formed at the request of a large number of Manchester general practitioners with the object of holding meetings at times convenient to them and to enable them to have lectures and discussions on problems closely connected with general practice. Any general practitioner in Manchester and district who is interested in becoming a member is invited to communicate with the honorary secretary of the Manchester Medical Society at Manchester University.

Liverpool Medical Institution.—At a meeting on February 14 Dr. R. B. MacKenna read a paper entitled "Some Problems in Dermatology," and discussed four problems in dermatology. Infantile eczema, particularly the atopic type of that malady, was a matter in which an ecological survey would be likely to be helpful. Psoriasis was probably a dermadrome—that is, the eruption on the skin was but the cutaneous part of a syndrome in which the endocrine system was principally involved. Thirdly, cross-sensitization phenomena were considered, and finally he stated that work done by Dr. Ida Macalpine in his department at St. Bartholomew's Hospital indicated that certain cases of recurrent dermatitis of the eyelids, which hitherto had been widely regarded as being invariably due to allergic sensitivities, were sometimes manifestations of nervous stress and were not really manifestations of allergy.

In the discussion which followed Dr. J. M. H. Smellie said he would like to mention a case of arthritic psoriasis, which Dr. MacKenna had seen in consultation with his (Dr. Smellie's) old colleague, Dr. Gerald Wallace. Dr. Smellie was asked to help in mobilizing her shoulders, elbows, hips, and knees to make her fit on a frame, prior to her admission to hospital. There the first injection of "mercaloid" produced albuminuria and vomiting, and the second made her so much worse that she was taken home. Her father, resigned to her being a permanent invalid, had doors fitted to the back of his car to admit her invalid chair. For some months he continually declared that he would give his right arm if only his daughter could be cured. Later, while on holiday, his car, with wife and daughter on board, was involved in a crash. The father had his right arm severed at the shoulder. Before the father's wound was healed the daughter's psoriasis and arthritis had disappeared. Dr. Smellie asked whether Dr. MacKenna attributed this to psychological agencies or to liberation of cortisone following adrenal shock.

Caernarvonshire and Anglesey Paediatric Club.—The club was formed in December, 1950, to encourage discussion and further knowledge on infant care and management among both lay and medical men. Meetings are held usually at the County Hospital, Bangor, on the third Tuesday in every month at 4.30 p.m., except in June, July, and August. Membership is open to doctors, health visitors, district nurses, and all persons interested in paediatrics, and further information may be obtained from the secretary, Dr. G. W. Roberts, St. Fillans, Segontium Road South, Caernarvon.

British Rehabilitation Methods Applied in Austria.—Dr. Walter Ehalt, who is director and chief surgeon of the Graz Accident Hospital, was one of two Austrian medical men to attend the 1948 British Council course on the rehabilitation and resettlement of the disabled. On their return they arranged for the establishment of the first rehabilitation and vocational training centre in Austria on the British model. It was set up by the Austrian Insurance Board, which administers the industrial disability compensation scheme. Dr. Ehalt is now (February 25–March 11) making a further study of British treatment of the disabled at the Royal National Orthopaedic Hospital, the London Hospital, the Wingfield-Morris Hospital, Oxford, the Ministry of Pensions Hospital, Stoke Mandeville, the Birmingham Accident Hospital and Rehabilitation Centre (March 7 and 8), and at Manchester Royal Infirmary (March 10).

Hospitals Menace Homes.—The 26 teaching hospitals in London will eventually require another 195 acres of land for their planned extension, which will mean pulling down the houses of 13,800 people to yield the necessary space. The Middlesex Hospital, in Mortimer Street, W.1, is typical. Central London is very densely populated, and planned expansion of the hospital into adjoining property will mean moving 710 people out of 140 houses, 35 shops, two public houses, and seven "other premises." These are some of the startling facts shown by the exhibition of plans, drawings, photographs, and models now at County Hall to illustrate the London County Council's development proposals under the Town and Country Planning Act, 1947. Objections to the plan, which is subject to a quinquennial review, have to be lodged with the L.C.C. by March 16. It is intended to keep the Harley Street district as a medical area.

Oxford and Cambridge Boat Race.—Messrs. Vitamins Limited announce that they have available a limited number of tickets for doctors who may wish to view the Boat Race on March 29 from their premises. Early application should be made to Dept. B.R.2, Vitamins Limited, Upper Mall, London, W.6.

Publications Received.—*National Register of Medical Auxiliary Services: Speech Therapists:* Board of Registration of Medical Auxiliaries, B.M.A. House, Tavistock Square, London, W.C.1, 1951 (free on application). *Catalogue of Oriental Manuscripts in the Library of the Royal College of Physicians.:* reprinted from the *Journal of the Royal Asiatic Society* (apply to Harveian Librarian).

Emergency Bed Service: Applications and Admissions.—During the seven days ending March 3 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,138, of whom 87.52% were admitted.

Will.—Dr. Frank Hubert Robbins left £30,517. He left £200 to the Royal Medical Benevolent Fund in memory of his son Tony.

COMING EVENTS

Postgraduate Course in Venereology.—The Institute of Urology announces that a postgraduate course on venereology will be held at St. Paul's Hospital, Endell Street, W.C.2, at 11 a.m., from March 3 to 30. Full details from the secretary of the Institute, Henrietta Street, W.C.2.

Public Health Course.—The Royal Institute of Public Health and Hygiene announces that the next biannual course of instruction for the Certificate in Public Health, which leads to courses for both the Diploma in Public Health and the Diploma in Industrial Health, will commence on Friday, March 21. All courses may be taken either whole-time or part-time. Prospectuses, enrolment

forms, and full details may be obtained from the secretary of the Royal Institute of Public Health and Hygiene, 28, Portland Place, London, W.1.

Medical Teaching.—A conference-course on the technique of medical teaching will be held at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1, on March 28 and 29. The programme includes "Teaching Teachers," by Sir Geoffrey Jefferson; "The Influence of Examinations on Teaching," by Professor Harold Rodgers; "The Clinical-pathological Conference," by Professor J. H. Dible; "The Training of the Research Worker," by Professor E. J. Wayne; "Visual Methods," by Dr. R. G. W. Ollerenshaw; "Practical Clinical Instruction," by Professor C. Bruce Perry; and "The Education of the General Practitioner," by Dr. G. O. Barber. Admission by ticket only on application from the Postgraduate Medical School, Du Cane Road, W.12.

18th International Neurological Reunion.—This will be held in Paris on July 8 and 9, and will deal with the study of pathological movement. Those interested are requested to register before May 1, and all details may be obtained from M. Jean Sigwald, 68, Boulevard de Courcelles, Paris, 17e.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Monday

INSTITUTE OF NEUROLOGY, National Hospital, Queen Square, London, W.C.—March 10, 5 p.m., *"The Physiological Responses of Chromatolysed Neurones,"* Guest Lecture by Professor J. C. Eccles, F.R.S.

INSTITUTE OF PSYCHIATRY, Maudsley Hospital, Denmark Hill, London, S.E.—March 10, 5.30 p.m., lecture-demonstration for postgraduates by Dr. E. Stengel.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—March 10, 8.30 p.m., *"Therapeutic Trauma of the Brain,"* discussion to be introduced by Dr. G. W. B. James and Dr. P. M. Tow.

Tuesday

CHELSEA CLINICAL SOCIETY.—At South Kensington Hotel, 41, Queensgate Terrace, London, S.W., March 11, 8.30 p.m., 6th ordinary meeting of 55th session. *"The School Doctor looks Forwards and Backwards,"* discussion to be opened by Dr. R. E. Smith.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—March 11, 5.30 p.m., *"Contact Allergy,"* by Dr. S. C. Gold.

MANCHESTER MEDICAL SOCIETY.—At Physiology Theatre, Medical School, Manchester University, March 11, 4.30 p.m., joint meeting of Section of Surgery and Medicine. *"The Treatment of Haematemesis,"* by Dr. F. Avery Jones.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, London, S.W.—March 11, 5 p.m., *"The Dynamics of Heart Failure,"* Oliver-Sharpey Lecture by Dr. J. McMichael. (See also March 13.)

WEST END HOSPITAL FOR NERVOUS DISEASES, 40, Marylebone Lane, London, W.—March 11, 5.30 p.m., neurological demonstration by Dr. T. Rowland Hill.

Wednesday

CAMBRIDGE UNIVERSITY.—At Department of Physical Chemistry, Free School Lane, Cambridge, March 12, 12 noon, *"Some Aspects of the Physical Chemistry of Amino-acids, Peptides, and Proteins,"* by Professor John T. Edsall (Harvard University).

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—March 12, 5.30 p.m., *"The Origin of Epithelial Neoplasms in the Skin,"* by Dr. I. W. Whimster.

INSTITUTE OF NEUROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., March 12, 4.30 for 5 p.m., *"Differential Diagnosis of Renal Pain,"* by Mr. J. E. Semple.

LONDON COUNTY MEDICAL SOCIETY.—At Paddington Hospital, Harrow Road, W., March 12, 3 p.m., clinical meeting.

MANCHESTER MEDICAL SOCIETY: SECTION OF PATHOLOGY.—At Medical School, Manchester University, March 12, 4.30 p.m., *"Porphyrins in Health and Disease,"* by Dr. J. E. Kench.

Thursday

ALFRED ADLER MEDICAL SOCIETY.—At 11, Chandos Street, London, W., March 13, 8 p.m., *"The Relationship of Body and Mind,"* by Dr. E. K. Ledermann. Discussion to be opened by Dr. E. B. Strauss.

●INSTITUTE OF CHILD HEALTH, Hospital for Sick Children, Great Ormond Street, London, W.C.—March 13, 5 p.m., *"The Ear, Nose, and Throat,"* by Mr. H. S. Sharp.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—March 13, 5.30 p.m., *"Histopathology of Foreign Body and Specific Granulomas,"* by Dr. H. Haber.

LIVERPOOL MEDICAL INSTITUTION, 114, Mount Pleasant, Liverpool.—March 13, 8 p.m., pathological meeting.

LONDON JEWISH HOSPITAL MEDICAL SOCIETY.—At Dorchester Hotel, Park Lane, London, W., March 13, 6.30 p.m. to 1 a.m., annual dinner dance.

MANCHESTER MEDICAL SOCIETY: SECTION OF ANAESTHETICS.—At Staff House, Manchester University, March 13, 8.15 p.m., *"The Control of Bleeding During Surgical Operations,"* by Dr. W. B. Bacon and Dr. C. E. Sykes.

MEDICAL SOCIETY FOR THE CARE OF THE ELDERLY.—At Old Library, B.M.A. House, Tavistock Square, London, W.C., March 13, 11.30 a.m., Conference on Co-ordinated Medical Care of the Elderly. Introductory Address by Lord Amulree. *"Co-ordinated Medical Care of the Elderly,"* to be opened by Dr. J. A. Scott, Dr. E. B. Brooke, and Dr. Barbara Morton. A general discussion will follow. 4.30 p.m., annual general meeting.

ROYAL ARMY MEDICAL COLLEGE.—At Lecture Theatre, John Islip Street, London, S.W., March 13, 5 p.m., *"Common Difficulties in the Diagnosis of Heart Disease,"* by Dr. D. Evan Bedford.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, London, S.W.—March 13, 5 p.m., *"The Dynamics of Heart Failure,"* Oliver-Sharpey Lecture by Dr. J. McMichael. (See also March 11.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—March 13, 5 p.m., *"Ureteric Calculus,"* Hunterian Lecture by Professor V. W. Dix.

ST. ANDREWS UNIVERSITY.—At Lecture Theatre, Materia Medica Department, Medical School, Small's Wynd, Dundee, March 13, 5 p.m., *"Transmission of Effects from Nerve Endings—A Survey of the Significance of Present Knowledge,"* by Sir Henry Dale, O.M., F.R.S.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—March 13, 4.30 p.m., lecture-demonstration in psychiatry by Dr. D. Curran.

UNIVERSITY COLLEGE, Physiology Theatre, Gower Street, London, W.C.—March 13, 4.45 p.m., *"Mitochondria and Biological Oxidations and Phosphorylations,"* by Dr. A. L. Lehninger (Chicago).

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, University Street, Gower Street, London, W.C.—March 13, 5 p.m., *"The Structural and Functional Plasticity of Influenza Viruses,"* Sydney Ringer Memorial Lecture by Professor Wilson Smith, F.R.S.

Friday

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—March 14, 5.30 p.m., *"Contact Eczema,"* clinical demonstration by Dr. S. C. Gold.

●INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., March 14, 5.30 p.m., *"Surgical Treatment of Mitral Stenosis,"* by Mr. R. C. Brock.

OXFORD UNIVERSITY.—At Magdalen College, Oxford, March 14, 5 p.m., *"The Neurophysiological Basis of Mind,"* Waynflete Lecture by Professor J. C. Eccles, F.R.S.

APPOINTMENTS

BUCHANAN, JAMES ANDREW, M.B., Ch.B., D.P.H., County Medical Officer of Health, Banffshire.

EAST ANGLIAN REGIONAL HOSPITAL BOARD.—*Consultant Pathologist to Hospitals in Peterborough and King's Lynn Area,* A. M. Pugh, M.B., Ch.B., D.T.M.&H. *Consultant Radiologist in East Suffolk and Ipswich Area,* K. E. Barlow, M.R.C.S., L.R.C.P., D.M.R., F.F.R. *Consultant Orthopaedic Surgeon in East Suffolk and Ipswich Area,* T. Denness, M.Ch.Orth., F.R.C.S. *Registrar in Psychiatry, Fulbourn Mental Hospital, Fulbourn, Cambs,* Elisabeth Shoenberg, M.R.C.S., L.R.C.P.

FLEMING, G. M., M.D., D.P.H., Medical Officer of Health and School Medical Officer, County Borough of West Bromwich.

GROSS, DESIREE, M.B., M.D., D.P.H., Deputy Medical Officer of Health, Borough of Ilford, and Assistant County Medical Officer, Essex County Council.

LIVERPOOL REGIONAL HOSPITAL BOARD.—*Whole-time Assistant Pathologist to Hospitals in Ormskirk Area;* R. G. Tasker, M.B., B.Chir. *Whole-time Assistant Pathologist to Walton Hospital,* M. J. Wodzinski, M.D. *Whole-time Assistant Psychiatrist to Rainhill Hospital,* G. C. Heller, M.D. *Whole-time Assistant Psychiatrist to Winwick Hospital,* P. M. O'Flanagan, L.R.C.P.&S.I., D.P.M. *Whole-time Consultant Psychiatrist to Rainhill Hospital,* S. Falk, M.D., D.P.M. *Consultant Surgeon to Regional Thoracic Unit,* J. K. B. Waddington, F.R.C.S.Ed.

MCCOLL, MICHAEL, M. B., Ch.B., D.P.M., Deputy Medical Superintendent, and Consultant Psychiatrist, Barnsley Hall Hospital, Bromsgrove, Birmingham Regional Hospital Board.

MANCHESTER REGIONAL HOSPITAL BOARD.—*Consultant Psychiatrist, Preston and Chorley Hospital Centre, and Whittingham Hospital,* C. S. Parker, M.D., D.P.M. *Consultant General Physician, Macclesfield Hospital Centre,* F. W. Smith, M.B., Ch.B., M.R.C.P. *Consultant Obstetrician/Gynaecologist,* Crewe *Hospital Centre,* H. D. Freeth, M.D., M.R.C.O.G. *Consultant General Physician, Crumpsall Hospital, Manchester,* M. H. Oelbaum, M.D., M.R.C.P. *Consultant Obstetrician/Gynaecologist, Park Hospital, Davyhulme,* D. C. A. Bevis, M.B., Ch.B., M.R.C.O.G. *Assistant Anaesthetist, Rochdale Hospitals (S.H.M.O.),* S. Mehlmann, M.D. *Assistant Psychiatrist and Deputy Medical Superintendent, Calderstones Hospital (S.H.M.O.),* E. M. Hutton, M.B., B.Ch. *Tuberculosis Physician, Wigan and Leigh Hospital Areas,* C. D. Rushworth, M.R.C.S., L.R.C.P.

SHIEL, JOHN B., M.B., Ch.B., D.P.H., County Medical Officer, Stewartry of Kirkcudbright.

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD.—*Whole-time Deputy Physician-Superintendent and Consultant Psychiatrist, St. Lawrence's Hospital, Caterham,* J. J. Ryan, M.B., B.Ch., D.P.H., D.P.M. *Part-time Assistant Ophthalmologists (S.H.M.O.), Portsmouth Group of Hospitals,* T. G. S. Murray, M.R.C.S., L.R.C.P., D.O.M.S., A. E. Barrett, M.R.C.S., L.R.C.P., D.O.M.S. *Whole-time Assistant Radiotherapist (S.H.M.O.), Lambeth Hospital,* R. Parfitt, M.R.C.S., L.R.C.P., D.M.R.T. *Part-time Consultant Orthopaedic Surgeon, St. Helier Group of Hospitals,* H. H. Kennedy, F.R.C.S.Ed. *Part-time Consultant Surgeon, Portsmouth Group of Hospitals,* W. W. Wiggins-Davies, M.Chir., F.R.C.S. *Part-time Consultant Dermatologist, Portsmouth and Isle of Wight Groups of Hospitals,* A. A. C. Ross, M.B., Ch.B., M.R.C.P.Ed. *Registrar to Medical Department, Royal Victoria and Christchurch Hospitals, Bournemouth,* C. C. Downie, M.B., Ch.B. *Registrar to Surgical Department, St. Luke's Hospital, Guildford,* J. F. Shaw, M.B., B.S. *Senior Registrar to Orthopaedic Surgery Department, Southampton and Isle of Wight Groups of Hospitals,* B. H. J. Smyth, M.B., B.S., F.A.C.S. *Registrar to Surgical Department, St. Stephen's Hospital,* J. L. Swann, M.B., B.S., F.R.C.S. *Registrar to Obstetric and Gynaecological Department, Redhill County Hospital,* M. G. Pearson, M.B., Ch.B., M.R.C.O.G. *Registrar to Pathological Department, Royal Victoria Hospital, Bournemouth,* Eileen A. Hunter, M.B., Ch.B. *Registrar to Orthopaedic Surgery Department, Lord Mayor Treloar Orthopaedic Hospital, Alton,* I. G. MacKenzie, M.D., F.R.C.S.Ed. *Senior Registrar to Thoracic Surgery Department, Southampton Infectious Diseases Hospital,* G. Katz, M.B., B.Ch., F.R.C.S. *Registrar to Anaesthetic Department, Queen Mary's Hospital, Carshalton,* M. Flynn, M.B., B.Ch.

TRYTHALL, D. A. H., M.D., M.R.C.P., D.C.H., Assistant Medical Registrar, Hospital for Sick Children, Great Ormond Street, London, W.C.

WILSON-SHARP, CECIL DEREK, M.B., B.S., D.M.R.D., Senior Registrar, Department of Radiodiagnosis, The London Hospital, E.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Alexander.—On February 22, 1952, to Nancy (formerly Walmsley), wife of Francis G. Alexander, M.B., Ch.B., of Small Heath, Birmingham, a sister for David and Alison.

Orford Smith.—On February 15, 1952, at the Queen Elizabeth Hospital, to Mary, wife of Dr. E. S. Orford Smith, of 59, Hagley Road West, Harborne, Birmingham, a sister for John David and Margaret.

DEATHS

Ainsworth.—On February 13, 1952, at the Royal West Sussex Hospital, Hugh Ainsworth, M.B., F.R.C.S., Colonel, I.M.S., retired.

Armstrong.—On February 19, 1952, at Braintree, Essex, John Thomas Armstrong, L.R.C.P.&S.Ed., L.R.F.P.S., of the Constitutional Club, London, W.C.

Brown.—On February 16, 1952, William Brown, L.R.C.P.&S.Ed., L.R.F.P.S., of Burbage Road, London, S.E.

Campbell.—On February 16, 1952, John Alexander Langford Campbell, O.B.E., M.D., Surgeon Captain, R.N., retired, of 24, Norfolk Road, London, N.W.

Cuthbert.—On February 20, 1952, at Edinburgh, James Mackie Cuthbert, M.B., Ch.B., Major, R.A.M.C., retired.

Davies.—On February 20, 1952, at Morannedd, Towyn, Merioneth, John Alban Davies, L.M.S.S.A.

Devlin.—On February 17, 1952, at Old Chapel House, Richmond Hill, Leeds, James Francis Patrick Devlin, M.B., B.Ch., aged 59.

Douglas.—On February 2, 1952, at Hamilton, New Zealand, Mary Douglas, M.B., Ch.B., D.R.C.O.G.

Dowler.—On February 19, 1952, at The Limes Nursing Home, Burgess Hill, Sussex, Herbert Matthew Dowler, M.R.C.S., L.R.C.P., of Mussoorie, United Provinces, India, aged 83.

Eames.—On February 15, 1952, at Shrewsbury, John Ward Eames, M.B., Ch.B., Colonel, A.M.S.

Graves.—On February 11, 1952, at Worthing, Sussex, Charles Frederick Graves, L.R.C.P.&S.Ed., L.R.F.P.S., formerly of Paddington, London, W.

Hall.—On February 15, 1952, at 9, Dellfield Close, Watford, Herts, Charles Herbert Hall, M.D., aged 84.

Hartley.—On February 18, 1952, at 29, Lower Oxford Street, Castleford, Yorks, Walter Dixon Hartley, M.B., B.S., aged 74.

Hicks.—On February 12, 1952, Charles Edward Hicks, M.R.C.S., L.R.C.P., of St. Ives, Huntingdon, aged 77.

Hobbs.—On February 21, 1952, at Trundle Nursing Home, Caterham, John Hobbs, L.R.C.P.&S.I. & L.M., Major R.A.M.C., retired, of 22, Timber Hill, Caterham, Surrey, aged 89.

Leckie.—On February 18, 1952, at Perth, Joseph Primrose Leckie, M.B., F.R.C.P.Ed., of the Hydropathic, Crieff, Perthshire.

McCalden.—On February 13, 1952, Joseph Crawford Alfred McCalden, M.B., B.Ch., of 60, Kingston Crescent, Portsmouth.

Matheson.—On February 3, 1952, Ian Henry Matheson, M.B., Ch.B., of Coombe House, Halberton, Tiverton, Devon, aged 44.

Morcom.—On February 12, 1952, at 41, South Eaton Place, London, S.W., Alfred Farr Morcom, M.B., B.Ch.

Nash.—On February 8, 1952, at Strawberry Cottage, Sandhurst, Camberley, Berks, Charles Henry Nash, L.R.C.P.&S.Ed., L.R.F.P.S.

Orr.—On February 15, 1952, at Edinburgh, William Basil Orr, M.D., of 2, South Learmonth Avenue, Edinburgh.

Patton.—On February 20, 1952, William Patton, M.B., Ch.B., of Dunarnon, Amersham, Bucks.

Pearson.—On February 18, 1952, at Greystead, Blackwell Scar, Darlington, Henry Carden Pearson, M.B., F.R.C.S.Ed., aged 77.

Scott.—On February 4, 1952, at Ruan High Lanes, Truro, Cornwall, Frank Sholl Scott, M.B., B.S., aged 68.

Spence.—On February 7, 1952, at Bognor Regis, Sussex, Harold Douglas Livingstone Spence, M.D., M.Ch.

Thomas.—On February 6, 1952, at the home of his nephew, 15, Prospect Row, Brompton, Chatham, Kent, John Henry Thomas, M.R.C.S., Fleet Surgeon, R.N., retired, aged 94.

Tripp.—On February 2, 1952, Charles Llewellyn Howard Tripp, M.R.C.S., L.R.C.P., late of the Falcon Hotel, Bude, Cornwall, aged 94.

Waterfield.—On February 6, 1952, at Beach Haven, Hooe, Plymstock, Devon, William Henry Waterfield, L.R.C.P.&S.I. &L.M., late of Stonehouse, Plymouth, aged 89.

Wells.—On February 17, 1952, at Tylers Cross, Roydon, Essex, John Edmund Bishop Wells, M.R.C.S., L.R.C.P., Major, R.A.M.C., T.F., retired.

Willis.—On February 10, 1952, at 96, Evington Drive, Leicester, David Victor Stewart Willis, M.B., B.Ch., late of Walsall, Staffs, aged 65.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Night Nurses' Paralysis

Q.—*What is the explanation of night nurses' paralysis?*

A.—Night nurses' paralysis is a frightening but banal condition. It usually occurs during the early hours of the morning when the nurse is sitting at her table in the darkened ward; suddenly someone enters the ward or a patient shouts for assistance and the nurse finds herself quite unable to move or even to speak for some seconds, though the period of "paralysis" may seem to be much longer than this. Suddenly power returns and she is able to carry on with her duties. This condition is the same as the "sleep paralysis," which is not uncommon—that inability to move, often accompanied by anxiety, which may occur as a person is just going off to sleep or more commonly on first awakening. The explanation seems to be that the motor and postural centres "fall asleep" before the mind, or during the process of waking the mind "wakens" before the motor and postural centres (*British Medical Journal*, 1939, **2**, 51). The problem is of course more involved than this: there is obviously similarity to cataplexy with the transient loss of power and tone in response to a sudden emotional stimulus, and it may also be significant that attacks of familial periodic paralysis which are recognized to be associated with a fall in the blood potassium are nearly always at their maximum intensity on first waking in the morning. More knowledge of the actual physiology of sleep is necessary before a complete answer can be given to this question.

Psychological Effects of Female Castration

Q.—*How real is the risk that a bilateral oophorectomy will have serious psychological consequences in a woman of 41?*

A.—Bilateral oophorectomy carried out in a woman aged 41 years will almost certainly be followed by some menopausal symptoms. These will mainly take the form of hot flushes, and their severity and duration are variable. Symptoms are severe in about half the cases. In a stable woman there is no need to fear serious nervous reaction, possibly some temporary emotional upset at most. In an unstable woman, however, the risk is much higher and depends on the degree and type of the present instability. If she has been subject to mental disorder in the past the operation might well cause a relapse. Each case needs to be judged on its merits, and the outlook of individual patients on the menopause is important.

Pneumonectomy for Bronchiectasis

Q.—*What are the indications for and against lung resection in the treatment of bronchiectasis?*

A.—Two factors play important parts in the selection of cases for lung resection: (1) The distribution and extent of the bronchiectasis: the more localized and limited the disease the better for surgery. (2) The age of the patient and the ability to survive on what lung tissue is left behind. The ideal case is that of a child with cough and sputum and with the disease limited to a lobe. Here the results of surgery are excellent. Elderly, emphysematous patients with diffuse bilateral disease are not suitable.

In assessing a patient complete bilateral bronchograms are necessary, and gross upper respiratory infection must be eliminated or reduced. Also pulmonary tuberculosis should be excluded. Patients with toxaemia and excessive sputum are in more urgent need of surgery than those whose symptoms are less obvious. Bronchiectatic changes in both lungs are less favourable than when the same amount of disease is concentrated in one lung, but limited bilateral operations in patients under middle age are quite practicable. As much as one lung or three lobes (the lingula being counted as a lobe) may be removed, particularly if the disease is gross and the lung has been rendered functionless. If the disease is diffuse and involves only parts of lobes, several segmental resections can be performed, but diffuse disease is more likely to be progressive than lobar bronchiectasis, which may have had its origin in bronchial obstruction by enlarged hilar glands. Too much attention need not be paid to the type of bronchiectasis—e.g., saccular, cystic, or fusiform; it is the symptoms and extent of the change that count. An age limit of about 40 years is usual, though in the absence of emphysema and with supple chest movements this may be extended. At the other extreme, if possible, operation should be postponed until a child can co-operate in the postural and physical treatment that are essential both before and after operation.

Is Bread Good for Diabetics?

Q.—*Is bread a good food for diabetics? If not, what alternatives are suggested?*

A.—Bread is an excellent food for a diabetic patient to eat. One ounce (28.4 g.) of our present national wheatmeal (85% extraction) contains 15.7 g. of carbohydrate, expressed as a glucose, and about 2 g. of protein; a white bread (70% extraction) contains rather more carbohydrate—16.8 g. per ounce; and "hovis" bread less, at 13.35 g. per ounce. Patients do not often change the kind of bread they eat, and in any case the small difference in carbohydrate content of different breads does not matter when the diet contains, as it should do, 150–200 g. or more of carbohydrate. If, however, a patient who, say, eats only hovis bread travels abroad and eats the same amount of white bread exclusively, the urine might contain a little sugar, which would necessitate 2 or 4 units more insulin. On returning to the hovis bread slight symptoms of hypoglycaemia might occur unless the dose of insulin was promptly reduced.

Treatment of Congenital Absence of Rectum

Q.—*What recent advances have there been in the treatment of congenital absence of the rectum? Is there any satisfactory alternative to a permanent colostomy?*

A.—Whereas it was formerly believed that there was no satisfactory alternative to colostomy in cases of imperforate anus with absence of the rectum, it does now seem that restoration of continuity with a properly functioning anus is possible in some cases. Clearly such restorative operations are only possible where the sphincteric apparatus has developed normally. Under these conditions there are some authorities[1] who state that repair can be effected by a purely perineal approach, even without a preliminary colostomy. The rectal pouch has to be freely mobilized so that it can be brought down to the anus without tension; from the technical point of view the operation can be very difficult and may be succeeded by stricture at the suture line. At the best, a functioning anus will be attained; at the worst, the patient may be left with a perineal colostomy, possibly associated with stricture formation. To facilitate repair in those cases where the rectum ends blindly at the pelvic floor a synchronous combined abdomino-perineal procedure has been described.[2] It must be emphasized, however, that expert opinion in this country is inclined to the view that, desirable though they may be, these operations are often not feasible. In general, restorative operations should be undertaken as soon after birth as possible, and it is most unlikely that the sphincteric apparatus would function.

REFERENCES

1 Wallace, F. T., and Calvin, E. M. (1948). *Surgery*, 24, 832.
2 Rhoads, J. E., Pipes, R. L., and Randall, J. P. (1948). *Ann. Surg.*, 127, 552.

Physical Characters Associated with Schizophrenia

Q.—*With what physical characteristics is a tendency to schizophrenic illness genetically associated? Brown eyes, for instance, appear to be rare in schizophrenics.*

A.—So far as is known there is no single physical trait genetically associated with schizophrenia. There is evidence that tuberculosis is abnormally frequent, not only among schizophrenics themselves, but also among their brothers and sisters; but parallel investigations have failed to show any increased tendency to schizophrenia among the tuberculous or their relatives. It may be that schizophrenics in this country are rather rarely brown-eyed; but it must be remembered that schizophrenia is no less frequent in countries such as Greece and Italy, where the bulk of the population is brown-eyed, than it is here.

Television and the Eyes

Q.—*Is television dangerous to the eyes?*

A.—No. If any significant refractive error is present, correcting spectacles should obviously be worn.

NOTES AND COMMENTS

Pills for Bankrupt Smokers.—In reply to a question about the dosage and frequency of administration of the pills for preventing the desire to smoke ("Any Questions?" January 12, p. 118), OUR EXPERT suggests that 5-gr. (0.32-g.) pills might be taken three or four times a day for as long as required.

Multiple Myelomatosis.—Dr. A. PINEY (London) writes: The answer to the question on multiple myelomatosis ("Any Questions?" February 9, p. 340) is a little misleading in its description of the diet during treatment with stilbamidine. The paper in which this was advocated came from the United States, and the diet suggested was one which for that opulent country was low in protein but for us is at about the level of our rations. There is thus no reason why patients with myelomatosis should have their protein intake reduced below British standards. Further, the answer does not mention that preliminary treatment with stilbamidine greatly increases the radiosensitivity of the neoplastic cells.

Angina in Cold Weather.—Dr. G. BILSBARROW (Ontario, Canada), commenting on a reply to a question asking whether it would be advisable for a lady suffering from angina pectoris, aggravated by cold, to emigrate to Ontario ("Any Questions?" January 12, p. 118), writes: Having been in practice in North-west Ontario for the past three years, where a temperature range of 90° F. (32.2° C.) in summer to 40° F. below zero (−40° C.) in winter is common, I have not noted any increase in symptoms of angina among our patients. Most of the work here is outdoors and we have a normal incidence of ischaemic heart disease, but this is neither increased in winter nor is there any increase in the incidence of symptoms among known cases.

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CONTENTS

The Durham Dispute - - - - - - - 85
1s. on Prescriptions - - - - - - - - 85
The N.H.S. Numbers - - - - - - - 86
Scottish News - - - - - - - - - 86
Health Service Estimates Up - - - - - - 86
Safeguarding Public Health M.O.s - - - - 86
General Medical Council - - - - - - - 86
Questions Answered - - - - - - - - 89
Heard at Headquarters - - - - - - 89
Correspondence - - - - - - - - 90
Association Notices - - - - - - - - 93

THE DURHAM DISPUTE

PROGRESS HALTED

Durham County Council is still trying to impose an indirect form of compulsion on the doctors in its employment. A recommendation by its own emergency committee that the relevant regulation of the council should be waived has been referred back for further consideration. It seems that the Emergency Committee, at the private meeting of the labour group which preceded the council, were unable to persuade their political colleagues of the wisdom of abandoning the closed-shop policy in regard to doctors.

The B.M.A.'s dispute with the Durham County Council thus regrettably continues. The position was discussed at a meeting of the B.M.A. North of England Branch Council at Newcastle-upon-Tyne on March 1, attended by Dr. E. Grey Turner (Assistant Secretary). It was also considered by the Public Health Committee on March 7. Meanwhile, four vacant appointments in the Durham County medical establishment remain unfilled.

Professions get Together

On March 4 representatives of the following organizations met at B.M.A. House: the B.M.A., the Royal Colleges of Nursing and Midwives, the British Dental Association, the National Union of Teachers, and the Engineers Guild. According to a statement issued, they decided to recommend to their organizations the establishment of a joint emergency committee to review the position created by the recent action of Durham County Council affecting the professions in relation to membership of trade unions and professional organizations, and to consider further action.

Indirect Compulsion

Under the regulation an application for extension of sick leave with pay beyond the period of contractual entitlement must be made through "the proper organization of which the employee is a member." While this regulation does not involve actual coercion of any employee to join an organization, it is an indirect form of compulsion: for an employee would lose certain benefits if he decided not to comply with the regulation. These views were put to the council's Emergency Committee by the Secretary of the B.M.A. when he went with a deputation to Durham on November 19, 1951 (*Supplement*, November 24, 1951, p. 225).

Advertisement Ban

This *Journal* will continue to refuse to publish advertisements of vacant medical appointments under the county council until the situation changes.

The Association's policy has always been to resist the attempts of any employing body to compel its employees to belong to any organization—whether the B.M.A. or any other. The Association was successful in getting Durham to rescind its requirement that doctors in its employment should belong to an organization as a condition of employment, and it will continue to resist this indirect form of compulsion.

The view of some of the Durham councillors at the November meeting was that since the payments in question are *ex gratia* the council is entitled to lay down the procedure to be followed in applying for them. The Association contends that it is just because the payments are *ex gratia*, and a doctor's professional organization is not in a position to argue with the council about them, that the procedure proposed can be of no practical advantage, quite apart from the question of principle involved.

Penalty on Professional Freedom

And as to the principle, this was explained to Durham County Council in a letter from the Secretary of the B.M.A. (*Supplement*, December 1, 1951, p. 233) in these words: "'What we do not admit is that the council is entitled to prescribe a procedure of application the effect of which, in a particular case, might be to penalize a member of our profession who, in accordance with his professional freedom, remained outside the membership of professional organizations."

Further Stage at Chester-le-Street

The Chester-le-Street Rural District Council, which lies in County Durham, has carried the closed-shop policy a long stage further than the county council. It is understood that the labour group, which is in an absolute majority on the rural district council, requires that all employees shall belong to trade unions affiliated to the T.U.C. The rural district council has accordingly refused to approve the appointment of its own M.O.H. as joint M.O.H. of the rural and urban districts of Chester-le-Street on the grounds that he declined to answer questions about trade union membership. In a Press statement on March 1 it was revealed that he is not a member of a trade union and "has no intention of joining one simply to meet the wishes of the council."

ADJUDICATION NOW MARCH 12

Mr. Justice Danckwerts has decided that the adjudication shall begin on Wednesday, March 12, at 10.30 a.m. It will be in the Chancery Court, London. This date is two days later than the one announced in these columns last week.

1s. ON PRESCRIPTIONS

MEETING WITH MINISTER

A deputation from the G.M.S. Committee is to meet the Minister of Health to draw attention to certain difficulties about levying the 1s. on prescriptions. March 18 is the provisional date for the meeting. It will be at the House of Commons.

The Committee is primarily concerned with the fact that the scheme makes dispensing doctors act as intermediaries for the Inland Revenue. The Minister has been told that the Committee is disappointed it had not been given an opportunity of expressing its views on the detailed application of the scheme at an earlier stage. The Committee considers the present proposals to be impracticable in country districts, and also that they will cause hardship to patients being treated for chronic disabilities.

THE N.H.S. NUMBERS

G.M.S. COMMITTEE NOT CONSULTED

Since the National Health Service began the Ministry has invariably consulted the G.M.S. Committee before giving effect to any points of policy affecting general practitioners in the Service.

An unfortunate precedent has been created by the issue of E.C.L. 6/52, dated February 21, dealing with the revised procedure to be introduced as a result of the abolition of identity cards (*Supplement*, March 1, p. 80). Not only was there lack of consultation on this important circular but its contents disclose that a further burden is to be placed upon the general practitioner. It appears that, although identity cards have been abolished, practitioners "in their own interests" are advised in future to obtain the N.H.S. number of any persons seeking acceptance on their lists and to note these numbers whenever requested, as, for example, on maternity and temporary-resident forms.

Strong Protest Lodged

Already practitioners are asking whether there is any legal force behind the requirement and whether the words "in their own interests" mean that a doctor who cannot supply the information—possibly because the patient will not divulge it—will receive no payment for the service he has provided. The G.M.S. Committee has lodged strong protests about the issue of this E.C.L. and has asked for an early opportunity to discuss its contents.

Scottish News

REGISTRARS' GROUP—SCOTTISH WESTERN REGION

The Third Annual General Meeting of the Group will be held in the Lister Theatre of the Royal Infirmary, Glasgow, on Thursday, March 20, at 7.30 p.m. All registrars are invited to attend.

Among appointments made by the Secretary of State for Scotland to the Standing Advisory Committees of the National Health Service are the following: *Standing Advisory Committee on Hospital and Specialist Services:* Miss S. I. McIntosh, almoner, Western General Hospital, Edinburgh, and Mr. W. A. Stevens, secretary and treasurer, Board of Management for County and City of Perth General Hospitals, have been appointed; Mr. J. Brownlee, secretary, Dumfries and Galloway Royal Infirmary, has been reappointed. *Standing Advisory Committee on Health Services in the Highlands and Islands:* Dr. T. Scott, Inverness, has been appointed; Dr. A. Lamont, Inverness, Mr. G. McIver, Member, Sutherland Executive Council, and Provost A. J. Mackenzie, Stornoway, have been reappointed.

HEALTH SERVICE ESTIMATES UP

The Civil Estimate for the Health Service for 1952–3 is £358.20m. for England and Wales and £44.08m. for Scotland. The total is £402,286,500. This is £2.78m. more than last year's estimate, which was £399,506,500.

SAFEGUARDING PUBLIC HEALTH M.O.s

Among the problems that come to B.M.A. House for solution are many of a personal or individual nature that cannot be publicized. But three unusual cases which have recently occurred deserve some mention.

They are concerned with the introduction of certain so-called private Extension Bills. These Bills provide for the extension of various local authorities, which, if the Bills go through, will include parts or the whole of other county districts. Some of the public health medical officers of these districts might find their position jeopardized, and the B.M.A. is now acting to protect them. Some adjustments of local-authority boundaries can easily have an adverse effect on the employment of public health doctors. The position of a medical officer can be safeguarded by providing either that his services are continued without loss of status and remuneration or that adequate compensation is made. The Association is at present advising along these lines.

GENERAL MEDICAL COUNCIL

A meeting of the General Medical Council was held on February 26, with the PRESIDENT, Dr. David Campbell, in the chair.

Major W. J. Anstruther-Gray, M.P., was introduced by Sir Henry Wade and took his seat as a Crown nominee for Scotland. Major Anstruther-Gray was also appointed to fill the vacancy on the Medical Disciplinary Committee caused by the resignation of the Rt. Hon. Florence Horsbrugh, M.P. The Medical Act, 1950, requires that at least two members of that Committee must be persons who are neither registered medical practitioners nor the holders of qualifying diplomas. The other member who fulfils this requirement is Lord Nathan.

Address to the Crown

The President moved that an Address of condolence to Her Majesty the Queen on the death of the late King and of congratulation to Her Majesty on her accession be transmitted to the Secretary of State. The motion was carried, the members standing. The Address began with a reference to the loss which has recently befallen the Royal House. "Our grief is shared by all the subjects of Your Majesty, but felt by none more deeply than the medical practitioners registered in this country. . . . The burden of illness and pain which his late Majesty so courageously bore was a source of especial concern and anxiety to the members of our profession; and the indomitable courage and resolution with which he faced every misfortune aroused our devoted admiration." The Address went on to refer to the late King's personal interest in the art and science of medicine. "His reign will be remembered for the further extension of the health services of the country to all classes of the community, and for undertakings and achievements of medical research exemplifying, in his own words, 'that spirit which inspires the State and science to work together for the health and happiness of mankind.'"

In tendering their humble duty to Her Majesty the Council referred to the fact that she had been pleased to honour the profession of medicine by assuming a personal connexion with more than one of the Corporations represented on the Council, and that many tokens

had been given by her of a close and constant interest in the health and welfare, at home and overseas, of the people who were now her loyal subjects.

Commonwealth Diplomas

The PRESIDENT presented a report of a special committee set up by the Council to deal with provisional and full registration under the Medical Act, 1950. He said that one of the first tasks of the Committee was to consider, following a letter from the Commonwealth Relations Office, the registration under the Medical Acts of practitioners holding Commonwealth diplomas. The Commonwealth Relations Office had suggested that the Council should furnish a memorandum for transmission to the Commonwealth High Commissioners concerning the effect of the recent Medical Act and of the Council's regulations on applications for registration made by virtue of Commonwealth diplomas and also on the procedure for exchange of information, including lists of approved hospitals, which might assist the Council in reaching decisions on such applications.

Dr. Campbell went on to say that in preparing the memorandum the Committee had endeavoured to indicate as far as was possible at this stage the manner in which applications might be dealt with by the Council. It was not practicable to specify any general criteria by which applications based on experience other than experience acquired by 12 months' service as house-officers in suitable hospitals would be determined. It would be necessary to set up machinery to ensure that all applications of this nature were considered on their merits and decided expeditiously, and for this purpose the Committee proposed that a special committee should be set up consisting of a physician, a surgeon, a member engaged in general practice, and the President *ex officio*, for considering applications for full registration which did not come within the general resolution of the Council.

House-Officer Experience

The memorandum prepared by the Committee, a lengthy document, was laid before the Council. It suggested that prospective applicants holding Commonwealth diplomas might be expected to fall into one or other of three categories: (1) those who had acquired experience for not less than 12 months as house-officers under compulsory internship schemes substantially equivalent to the scheme in this country; (2) those who had had this experience as house-officers, but not under any compulsory internship scheme; and (3) other applicants. The President remarked that two Commonwealth territories—the Union of South Africa and New South Wales—had already brought into operation compulsory schemes requiring a period of house-officer service as a normal condition of full registration in the territory. As years went on most Commonwealth countries would no doubt fall into line.

It was the Council's general intention that full registration should be accorded to an applicant holding a recognized Commonwealth diploma who produced satisfactory evidence of such service. In the case of applicants who had acquired 12 months' experience as house-officers, but not under any compulsory internship scheme, the Council would take into consideration satisfactory service in employment in a resident medical capacity in any hospitals which the appropriate medical authority considered satisfactory, and to this end it was proposed to make available to the bodies concerned further particulars of the arrangements for approval of hospitals and of particular posts and combinations of posts obtaining under the new procedure in this country. As for the applications not comprised in these categories, where experience for 12 months as house-officers in suitable hospitals had not been acquired, it was possible that the applicant might have had experience in other clinical posts or in general practice or as a medical officer in the armed Forces, but the Council could not see its way to specify in general terms the criteria by which applications based on such experience would be determined. Applications would be considered sympathetically on their merits.

Sir Bennett Hance expressed on behalf of the Commonwealth Relations Office its indebtedness to the Committee for the trouble which had been taken and for the very liberal spirit in which the memorandum had been drafted. He was sure that it would materially lessen the complications that might otherwise arise.

The memorandum was unanimously approved.

Provisional Registration

The President said that the special committee had also considered the nature of the evidence on selection for employment which applicants for provisional registration under the Medical Act, 1950 (sect. 6), should be required to submit. The regulation of the Council called for evidence satisfactory to the registrar of the Branch council concerned that the applicant had been selected for employment as a house-officer within the meaning of the Act and had paid the appropriate fee (normally not exceeding five guineas) for provisional registration. The Committee had drafted a form of certificate to be signed by an authorized officer of the university or other corporation which had granted the qualifying diplomas. But it was thought that in addition to this formal evidence of employment in a resident medical capacity licensing bodies and medical schools would desire to receive information concerning the duties attached to the post for which the student had been selected, the duration of the employment, and the date on which the applicant was to take up duty. It had therefore prepared a more extended form of certificate providing for the insertion of these particulars.

The Council approved the form of the first certificate and agreed that the suggestion concerning the fuller certificate should be brought to the notice of licensing bodies and medical schools.

In some brief discussion in the Council Dr. J. G. MCCRIE asked whether it was the fact that the Ministry of Health was taking steps to ensure that posts approved by licensing bodies were in fact restricted to applicants of a particular category. Sir SYDNEY SMITH said that it was necessary to ensure that these posts were available; these people must not be left "hanging about." Dr. MCCRIE said that, while there might be the posts in existence, powers might be lacking to direct the hospital committee to fill them. Major ANSTRUTHER-GRAY said that he would make inquiries on that point.

In reply to a question whether persons provisionally registered could, without breaking the law, serve as locumtenents, the Legal Assessor pointed out that, while such a person might not be breaking the law, he would, not having served his year, be subject to certain disabilities. He could not give a certificate, and therefore would not be very helpful as a locumtenent.

The President announced that legislation giving effect to arrangements previously made between the United Kingdom Government and the Government of the Republic of Ireland concerning the British Medical Act, 1950, had now been passed in Ireland, and the Irish authorities were prepared to adopt January 1, 1953, as the operative date for the introduction of arrangements for compulsory intern service.

Disciplinary Business

The Council dealt with two disciplinary cases in which previously, when the whole Council was sitting as the disciplinary body, judgment had been postponed. One was the case of Dr. Roger St. Aubyn, registered as of Redcliffe Square, London, S.W., against whom convictions had been proved in June, 1949, and in September, 1950, of driving a motor vehicle while under the influence of drink. Dr. St. Aubyn appeared and produced four testimonials, and the Council did not see fit to erase his name, and closed the case. The other was the case of Dr. Frederic Syson, registered as of Horsforth, Leeds, against whom certain convictions for misdemeanours, the first in 1945, of drunkenness, had been found proved. The inquiry and, later on, the judgment had been postponed on several occasions owing to Dr. Syson's illness. Dr. Syson now appeared and presented certain testimonials, and here also the Council did not see fit to erase the name, and closed the case.

MEDICAL DISCIPLINARY COMMITTEE

Later on the same day, February 26, a meeting of the Medical Disciplinary Committee was held, with Dr. DAVID CAMPBELL in the chair.

The CHAIRMAN reported that Dr. Arthur James Daly, whom the Committee had judged in November, 1951, to have been guilty of infamous conduct in a professional respect, and had determined that his name should be erased from the *Register,* had lodged a petition of appeal under sect. 20 of the new Act. He also reported that an Order in Council had been approved granting leave to Dr. Jack Michael Sinclair to withdraw the appeal brought by him against the determination of the Committee in July, 1951, that his name should be erased from the *Register,* and that the determination of the Committee had thereupon taken effect as from the date of the Order.

Non-appearance of Practitioner

The Committee considered the case of Harold Stanley Groves, registered as of Blagreaves Lane, Littleover, Derby, against whom at a previous sitting the Committee had found proved convictions in October, 1949, and January, 1951, at Derby of being under the influence of drugs in the one case and of drink in the other whilst in charge of a motor-car. The Committee had previously postponed judgment to the present session. The Council's Solicitor said that he had written the usual letter to Dr. Groves but had received no answer. A second letter was written to his solicitors, who stated that they had no instructions. Dr. Groves was not present at the hearing nor was he represented by counsel or solicitor. Mrs. Groves, however, appeared on his behalf and told the Committee that her husband was a very sick man, but refused to see either a doctor or a solicitor. He had given up practice, he was well on in the sixties, and she asked that he might be allowed to go into honourable retirement. The Committee decided to postpone judgment until the May session, and in the meantime advised Mrs. Groves strongly to impress upon her husband the desirability of obtaining the names of professional colleagues or other persons who would be prepared to testify on his behalf.

Conviction for Attempt to Procure Miscarriage

The Committee considered the case of Dr. Charles Locksley Bikitsha, registered as of Butterworth, Cape Province, but lately practising in Birmingham, who appeared on the charge that in July last at Birmingham Assizes he was convicted on an indictment that in April, 1951, with intent to procure the miscarriage of a woman he had unlawfully used an instrument or some other unknown means and had unlawfully administered and had caused to be taken by her a poison or other noxious thing, and that with the same intent, also in April, he had unlawfully administered a poison or other noxious thing to a woman. He had been ordered to be imprisoned for two years on each of four counts, the sentences to run concurrently.

Dr. Bikitsha was defended by Mr. A. P. Marshall, Q.C., and Mr. M. Talbot. Mr. Marshall at the outset asked that the case be taken *in camera* for the reason that Dr. Bikitsha was heir apparent to the paramount chief of a tribe in South Africa, and the publication of a case of this kind might have unfortunate repercussions in that part of the world. The Committee, however, decided to hear the case in public.

The conviction having been admitted, Mr. F. P. Winterbotham, the Council's solicitor, said that a woman named Margaret Malone, who lived four miles from the doctor's house in Birmingham, found that she was pregnant. She had had two children and wished to avoid another pregnancy. With a friend she visited Dr. Bikitsha, and to gain his sympathy told him that a coloured man was responsible for her condition. She paid him £10 and he examined her, using an instrument, and handed her a prescription for ergometrine. On the following day she was taken ill and sent to hospital, and a puncture of the womb by an instrument was discovered. The doctor was interviewed, and said that the woman when he saw her was threatening abortion. The other woman in respect of whom a charge was brought was married to a coloured man. In this case the prescription supplied contained the drug ergot.

Mr. Marshall, in defence, said that the circumstances in this case were most unusual. At the assizes his client was charged on an indictment with ten counts involving four women. Two of the counts dealt with offences alleged to have happened in September, 1950, and the others with events in April, 1951. The counts relating to the first two offences were withdrawn by the prosecution in the course of the trial, and he was found guilty on only four of the counts. Dr. Bikitsha was 35 years of age. He was born in South Africa, where he was heir apparent to the paramount chief of the Abambo tribe. He was at Edinburgh University from 1936 to 1941 and graduated in medicine there, and took the L.M. diploma after study at the Rotunda Hospital, Dublin. He intended to specialize in obstetrics and gynaecology. He set up in practice in a newly developed district of Birmingham, and had a list of over 3,000 N.H.S. patients and about 100 private patients.

Coming from South Africa, he knew the helpless condition of half-caste children, and that motive was operating when Malone told him she was pregnant by a coloured man. The evidence both of Malone and her friend was that when the doctor was asked he said, "I do not do that sort of thing." He eventually examined her and discovered that she was actually aborting; before she went to him she had done several things to bring it about. Medical evidence was given for the prosecution by three doctors, one of whom stated that a macerated foetus of 10 or 12 weeks' development was delivered at the hospital. Mr. Marshall said that he must remain loyal to the verdict of the jury, but he maintained that all that Dr. Bikitsha did was according to the accepted way of dealing with an impending abortion. In the second case, that of a woman who was married to a coloured man, all that he did was to inject penicillin and physostigmine; in fact the examination of the vagina was the same as that carried out by other doctors when the woman had had her previous children. On a charge of using an instrument on her he was found not guilty. She came with a story of missing her periods and the physostigmine was given as a test for pregnancy.

Mr. Marshall further said that Dr. Bikitsha had a remarkable position among the coloured community in Birmingham. They knew of his genuine attachment to the interests of his race, and he was consulted by them on matters of this kind. He put in a large number of testimonials on his behalf, four of them from doctors (two of them fellow Africans), and from nurses and others. If he was struck off the *Register* there would be a corresponding erasure of his name in South Africa, and the high degree of skill he had acquired would be lost to the people of his own race.

The Rev. Norman Power, who was vicar of the parish in Birmingham in which Dr. Bikitsha carried on his practice, gave evidence on his behalf, saying that the doctor attended himself and his family, and he had never known a doctor more beloved in the district where he worked. He never spared himself for his patients. He recalled one case in which a mother was in a serious condition after confinement and he called to see her 13 times in 24 hours. The people were longing for the time when he would be able to resume his work among them. There was a feeling of great indignation in Birmingham concerning some aspects of the trial. After the verdict a number of friends of the doctor had organized a petition to the General Medical Council. This petition was put in; it contained 2,739 signatures, and the signatories included the parents of 1,000 children.

After a deliberation *in camera* the Committee found the conviction proved and directed the Registrar to erase from the *Register* the name of Charles Locksley Bikitsha, subject to his right of appeal within 28 days to the Privy Council.

Supposed Offence

A practitioner came before the Committee on the charge that in October last he had been convicted at a London police court of behaving in a manner reasonably likely to offend against public decency, contrary to the Hyde Park regulations, and had been fined £5. The practitioner attended with his solicitor, and it was explained that the supposed offence was one of which he was entirely innocent. He was molested by another man and before he could break away two police officers arrested them both, and both were fined. The practitioner, who was a stranger to London, was told by the police officer that if he pleaded guilty there would be no publicity, and in the distress of the moment, having no legal advice, he did so, but publicity nevertheless

was given to the case. The practitioner said that no thought of committing an offence had ever entered his mind, and two medical colleagues testified to his lifelong probity. The Committee, while accepting the fact of the conviction, dismissed the case.

Questions Answered

Schedule A and Surgery

Q.—*I am a general practitioner, and have surgery premises separate from my private house. Because I use my private house partly for professional purposes, I am allowed half the rates (of my private house) as expenses for income-tax purposes. In view of this, am I assessed for Schedule A on my private house on the full rateable value or only half the rateable value?*

A.—Where the residence is owned by the practitioner there is of course no actual "rent" paid, but in calculating the total allowable expenses there can be included the appropriate fraction of the net annual value as assessed to income tax (usually similar in amount to the rateable value). In other words the practitioner can treat as "rent" the amount on which the Inland Revenue assesses him as owner.

Board of Locum

Q.—*May I claim an income-tax allowance for the board and lodging of my locum when I am away?*

A.—The cost of providing board and lodging for a locum-tenent is an essential part of the total expense, and is deductible in the same way as the remuneration payable to him. There is no standard rate on which that cost can be calculated, since so much depends on the actual facts. For instance, in the absence of the principal and his family the additional expense incurred by reason of the presence of the locumtenent may be mainly confined to food, laundry, and service.

Diagnosis of Pregnancy

Q.—*I have been informed by the clerk of the local executive council that where a diagnosis of pregnancy only is made, and the woman is referred to an antenatal clinic for subsequent care and confinement in hospital, this forms part of the general medical services and that therefore no claim is admissible on Forms E.C. 24 or 24A. Is this correct?*

A.—The ruling given is correct (see General Medical and Pharmaceutical Services Regulations, 1948, Part V, Section 19, as amended).

Entertainment Expenses

Q.—*Can I claim for income-tax purposes entertainment expenses, representing the estimated cost of entertaining patients and consultants, and also other local doctors, meeting in their houses to discuss questions concerning the profession?*

A.—In a case decided last summer it was held in the High Court that expenditure on hospitality coupled with advice for which a fee was charged could be allowed as professional expenses. It should be noted that in that case the entertainment took the form of luncheons at which the client's business was discussed and advice was given. The decision would not be sufficient support for a claim to deduct entertainment costs incurred when consultations were not held and advice was not given. We have no knowledge of the allowance of expense incurred in such circumstances.

Returning from Abroad

Q.—*I wish to return to live in Britain after 26 years in Africa. I shall have a Colonial Medical Service pension plus savings and also six months' leave on full pay from my present employers. If I return in the second half of Britain's financial year, do I escape income tax during that year? Will my savings be taxed?*

A.—British income tax will not be levied on the savings, though it will attach to the income from the savings as from the date of arrival in this country. Returning in the second half of the financial year will not carry exemption for that half-year: the exemption which is granted in such circumstances applies only to persons coming to the United Kingdom with no intention of residing here.

Heard at Headquarters

The Adjudication Court

A visit to Chancery Court III, over which Mr. Justice Danckwerts presides, suggests that those who attend the adjudication proceedings will not be over-furnished with elbow room. Apart from the seats reserved for counsel and solicitors and others engaged in the case, and a small box for the Press, there are only two long benches across the width of the court, each seating perhaps a dozen people, for the accommodation of the public, and, unlike some other courts in the building, there is no gallery. The two previous courts of inquiry were held in the large room at the Ministry of Health, then in Whitehall, where there was ample accommodation. In both of them the proceedings were less of a judicial pattern than may be expected on the forthcoming occasion. The second of them, in 1937, lasted four days, and was prolonged because the Ministry at the last moment produced some unexpected witnesses who gave such an extraordinary account of conditions in general practice that the Association decided forthwith to bring forward rebutting evidence, which it did to excellent effect.

Marketable Item

Over the last 20 years American people have spent about 4% of their "consumer budget" on medical care, according to the American Bureau of Medical and Economic Research (*J. Amer. med. Ass.*, 1951, **147**, 1354). Medical care as a saleable commodity is discussed in this article. The demand for it is said to have been small not because people could not afford more but because they preferred to spend their budgets in this manner. "To-day, however, the widespread availability of hospital and medical insurance makes medical care a readily marketable item." In fact, for the price of a packet of cigarettes a day a family can purchase a Blue-Cross–Blue-Shield membership which will pay the bulk of hospital and in-patient bills.

Hansard and Anatomy

Lord Webb-Johnson treated his fellow peers to an interesting dissertation the other day—the occasion was the motion to adjourn the House of Lords as a mark of respect to the memory of Lord Addison—on the value of eponyms in medical teaching. *Hansard* made a very good effort to follow him through Poupart's ligament, and Arnold's nerve, and the circle of Willis, but made a slip when, after a reference to Galen, Fallopius, and Eustachio, Lord Webb-Johnson was made to say, "These are examples of *Indian* anatomists." Again, in referring to medical men who have become Prime Ministers, Lord Webb-Johnson is reported as mentioning Sir Charles Tupper, Sir Starr Jameson, Sir Godfrey Huggins, and "Earl Page," as though Sir Earle Page, for a short time Prime Minister of Australia, was a member of the British peerage. *Hansard* is such a

daily miracle that one gets a mischievous satisfaction when it just falls short of bringing off the trick.

New Nomenclature

The report of the Joint Committee of the B.M.A. and the Magistrates' Association on the illegitimate child has been appreciatively received for the humane and understanding document that it is. Some of its recommendations have to do with nomenclature, which is not unimportant. In this field, as already in mental disorder and indigence, there is a movement away from the old crude and cruel descriptions. The terms "lunatic" and "pauper" have passed out of currency, and the terms "illegitimate child" and "bastard" should follow them. The difficulty is to know what to put in their place. "Natural child" seems to be the least objectionable of the terms suggested, but it conveys an odd reflection on legitimate children. The Committee also objects to the term "putative father," holding that simpler terms should be substituted.

Foot Clinics

The question of foot clinics is giving rise to some controversy between the Ministry of Health and the London County Council. The Minister has decided not to approve the provision by local health authorities of additional foot clinics for the general population, pending consideration by him of the part which chiropody should play in the National Health Service. The London County Council, on the other hand, is impressed by the inadequacy of the foot service in many parts of London. The Council has 26 foot clinics, but they are situated in only 15 of the 28 Metropolitan boroughs. There is no clinic in the City of London or in the East End or in South-west London. Representations have been made to the Minister, who has replied that in present financial circumstances he cannot agree to any extension of the service. It is proposed to pursue the matter further by a deputation from the Council, having in mind the report of the Departmental Committee in April last that local authorities should be enabled to provide chiropody in the National Health Service, possibly under section 28 of the Act.

Surgeons and the Apocrypha

The Royal College of Surgeons made a very dignified event of the unveiling of the Hunter tablet at St. Martin-in-the-Fields, and Sir Gordon Gordon-Taylor was interesting and eloquent in the pulpit, especially in his description of the macabre search for Hunter's coffin in the vaults of the church, when 3,204 coffins were exposed before Hunter's was discovered. What interested one listener at least was the choice of the lesson read by the President of the Royal College. It was from the Apocrypha; the canonical scriptures do not seem to offer much that is suitable for such occasions. Such references as there are to the medical profession in the Bible are not always complimentary. There is the case of Asa, for example, who "turned not to the Lord, but to the physicians; and Asa slept with his fathers." In the Apocrypha, in the book of Ecclesiasticus, there is the famous passage, "Honour the physician according to thy need of him," which has been read on innumerable occasions at B.M.A. church services, but that refers only to the physician and the apothecary, not to the surgeon. The lesson chosen at St. Martin's was from the seventh chapter of the Wisdom of Solomon, which incidentally mentions 10 months as the duration of pregnancy. But it is a fine passage—"As I learned without guile I impart without grudging"—with the true Hunterian ring.

National Formulary, 1952.—The second edition of the *National Formulary* will be published on March 28. Copies will then be available at 4s. 6d., or, if interleaved, 7s. 6d. Copies of the new issue will be distributed to practitioners after a sufficient time has been allowed for wholesale and retail pharmacists to make adjustments to their stocks. The effective date after which the new edition will replace the *National Formulary, 1949*, will be June 1.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Glasgow Graduates Dinner

SIR,—In accordance with preceding practice we are taking an opportunity of reminding those members of the Representative Body who are Glasgow graduates that the Glasgow Graduates Dinner will be held in the Royal Hibernian Hotel, Dublin, on Saturday, July 5, 1952, at 7 for 7.30 p.m., when Dr. Peter Lyle will occupy the chair. The cost of the tickets will be 30s. per head, including aperitifs.

Certain distinguished guests have already indicated their willingness to attend, and it is hoped that all Glasgow graduates and their ladies present in Dublin during the Annual Meeting will take this opportunity of renewing friendships of student years and of savouring once again the living spirit of our Alma Mater. Tickets will be obtainable from the organizing secretary, whose name appears below.—We are, etc.,

PETER Y. LYLE,
Chairman.

ROBT. FORBES,
Organizing Secretary, Tavistock House South,
Tavistock Square, London, W.C.1.

Health Service Charges

SIR,—The charge of a shilling for each prescription is unjust, because the patients are not responsible for the cost of the medicine. That depends upon the prescription given to them by the doctor, and they cannot prescribe for themselves.

Its collection presents many difficulties. Neither the doctors nor the chemists are willing to act as tax-gatherers. The various exemptions will lead to much confusion and extra work and worry for the chemists. Already organized resistance from miners and engine drivers has started and is likely to spread, as the scheme is very unpopular with the general public.

When the National Insurance Service started in 1912, 2s. was allowed for drugs and dispensing for each insured person per year. This was sufficient for a few years because the panel doctors had, previous to the Act, been accustomed to dispense their own medicines. The cost of drugs and appliances now is above 17s. for each person per year. There is urgent need for economy, and this can be brought about only by the full co-operation of the doctors. For this purpose it is necessary for them to have up-to-date information of the average cost of the prescriptions of all the doctors in the area. This was available for each area under the National Insurance Service, but it is not now available for the executive councils. The pricing bureaux are about 10 months behind. This is due to the difficulty in obtaining clerical staff while the remuneration is not comparable with that for corresponding posts in the neighbourhood. This must be remedied as soon as possible if we are to deal efficiently with the problems of economy.

I have a logical plan which should not penalize the doctors or patients, but should lead to economy and prevent waste. In outline it is that each doctor should pay one-tenth of the cost of his own prescriptions, and in compensation be paid a higher capitation fee. In consideration for your valuable space I shall not go into details now.—I am, etc.,

Reading. S. GILFORD.

SIR,—I should like to draw attention to a point which has so far received no mention in your reports or correspondence columns. Until now the replacement of surgery stocks of such things as dressings, antiseptics, and emergency injections has been a simple matter. The doctor writes a prescription for a suitable quantity, in the name of a patient

on whom part of his stock of the drug or dressing has been expended, and from time to time himself presents these prescriptions to the chemist, thus maintaining his supplies.

When the shilling charge comes into effect, it will no longer be so simple. The doctor must do one of four things: (1) Insist that the patient collects his own bandage, strapping, or injection from the chemist before treatment can be given. This is most inconvenient, and in the case of emergency, such as a bleeding hand, quite impracticable. (2) Give the patient the prescription for the material used after giving treatment, and ask him to bring it back to the surgery later. In most cases the patient will not do this. (3) Charge the patient a shilling, and present the prescription himself. This is open to the same objection as that raised by the G.M.S. Committee to the collection of money by dispensing doctors. In urban areas it could also give rise to misunderstanding and allegations that the doctor had charged a fee. (4) Pay the shilling himself in order to make good his stocks. This is equivalent to the doctor's subsidizing the patient's treatment, and would involve an additional and quite unjustified practice expense.

The payment of 2s. 6d. per 100 patients which, I believe, is at present made by executive councils for the supply of emergency drugs is surely not intended to cover such everyday instances of the use of dressings and medicaments stocked by the doctor, but only the occasional sleeping tablet or draught given after the shops are closed.

Professor Dunlop and his colleagues (*Journal*, February 9, p. 292) described a Form E.C.10A said to be available to practitioners for ordering supplies for surgery use. I have never encountered this form in England and Wales. What is needed is, in fact, such a form, with a prescribed list of items that may be ordered on it and, of course, exempted from the shilling charge. I see no other alternative if inconvenience to the patient or injustice to the practitioner is to be avoided. Abuse of the facility would be unlikely, and excessive prescribing on such a form could be easily checked, as the forms could be kept apart from the ordinary E.C.10s.—I am, etc.,

Marlow, Bucks. ARVID SAUDEK.

SIR,—I am surprised that no one has so far suggested that the doctor should keep the shilling paid for each prescription.—I am, etc.,

Dorchester, Dorset. C. HOLLINS.

SIR,—If as a result of the abuse of the Health Service the Government is financially embarrassed to the extent that a shilling has to be charged on every prescription (the chemist being paid per item), then surely the dispensing doctor is equally embarrassed himself, as he is paid on a capitation basis. It is he who is at a financial loss and not the Government. It seems to follow that if he charges the shilling it should go into his own pocket and not into the Treasury. I am *not* a dispensing doctor.—I am, etc.,

Llantrisant, Glam. J. C. R. MORGAN.

SIR,—Your correspondents have mentioned several of the points against the 1s. prescription charge. So far they have not mentioned the injustice to those who, having paid insurance for many years, perhaps since 1911, had retired before 1948 with a right to medical benefit, including medicines, for the rest of their days. For the first time in perhaps 40 years these people will have to pay for their medicines, for which they have already paid by their insurance contributions. It may be a consolation to some of them that they can, if necessary, apply as paupers for repayment.

If doctors cannot restrain greedy or importunate patients, no tax will deter them. It is our responsibility to give the patients what they need, not what they demand, although it must be admitted that the capitation system of payments is a temptation to compete, like grocers, for registrations.—I am, etc.,

Maldon, Essex. D. CARGILL.

Birmingham Replies

SIR,—I have been instructed by the Birmingham Executive Council to ask you to publish the following observations in reply to the letter from Dr. D. R. Prem which appeared in the *Supplement* of February 9 (p. 55) under the heading "Unhelpful Attitude."

(1) In July, 1948, when Dr. Prem requested the executive council to support his application to the Birmingham Corporation for the lease of a site on which he proposed to build a house and surgery, he was already practising from three surgery addresses in Birmingham. These surgeries were several miles apart and covered a wide area of the city. The agreed policy of the council and of the local medical committee is to discourage the establishment of multiple branch surgeries, as these are generally considered to be unsatisfactory from the point of view of both doctors and patients.

Dr. Prem was interviewed and readily agreed to close his most distant branch surgery, where he had very few patients. In addition, he voluntarily decided to close a second branch surgery to suit his own convenience.

(2) The Corporation had received seven applications for the vacant site and agreed to accept the council's recommendation that it should be leased to Dr. Prem. At the same time the council requested the Corporation to assist Dr. Prem by providing him with temporary accommodation pending the completion of the house and surgery.

(3) On July 17, 1948, Dr. Prem obtained the approval of the council to his resignation from the medical list, at short notice, in order that he might return to India. On July 24 Dr. Prem cancelled his resignation and decided to continue to practise in Birmingham.

(4) During the period October, 1948, to August, 1949, Dr. Prem was negotiating with the Corporation for the lease of a suitable site, as part of the original site had been acquired for other purposes.

(5) During the early part of 1950, as a result of joint discussions between the Birmingham Corporation, the executive council, and the local medical committee, it was decided that the most satisfactory method of providing accommodation for doctors on Corporation housing estates would be for the Corporation to erect houses on agreed sites and to let them to doctors nominated by the executive council, after consultation with the local medical committee.

The Corporation agreed that this arrangement should apply to the estate on which Dr. Prem was seeking accommodation, and it further agreed that the erection of this house should be treated as first priority and that the tenancy should be offered to Dr. Prem. This decision was taken a month before the council was aware of Dr. Prem's representations to a Member of Parliament and to the Minister of Health and consequently was in no way influenced by such action.

(6) Dr. Prem was informed of the arrangement on May 11, 1950, and in a written reply expressed himself as *entirely* satisfied with the proposal.

(7) During the next few months the Corporation was engaged in obtaining the approval of Government departments to the plans and in obtaining tenders for the erection of the house. On September 14, 1950, Dr. Prem was informed in writing by the Corporation that the rental of the house (architecturally designed for practice purposes and comprising waiting-room, dispensary, surgery, patients' lavatories, four bedrooms, and two reception rooms, etc.) would be £300 plus rates. Dr. Prem accepted these terms without comment in a letter dated September 16, 1950.

(8) On November 19, 1951, when the house was in course of erection, Dr. Prem wrote to the council complaining that the rent was too high. He was reminded that he had accepted the terms without comment on September 16, 1950, prior to the commencement of building, and was advised to discuss the matter with the Corporation, as the executive council had no power to intervene in tenancy agreements between the Corporation and its tenants.

In conclusion, I am to say that until May, 1950, Dr. Prem was a member of the Birmingham City Council and at the present time is a member of the Birmingham Local Medical Committee, and consequently had every possible opportunity of obtaining full information concerning the provision of doctors' houses. All the negotiations of the executive council have taken place after consultation with and the approval of the local medical committee, and have had two main objects: first, of assisting doctors to obtain proper and adequate accommodation without heavy capital outlay,

and, secondly, of providing and maintaining an efficient general medical service for the tenants of corporation housing estates. Dr. Prem's unjust criticism and incomplete statement would appear to have been occasioned by his reconsideration of the agreement he entered into with the Corporation on September 16, 1950.—I am, etc.,

Birmingham. K. F. G. DAY, Clerk of the Council.

Responsibility for Accommodation

SIR,—I was very interested to read Dr. D. R. Prem's letter regarding the attitude of the Birmingham Executive Council (*Supplement*, February 9, p. 55). I am in practice in the same district as Dr. Prem, coming here two years previously, in 1946. Unlike Dr. Prem, who had already had an established practice and house in Birmingham and disposed of it just previous to the commencement of the National Health Service, I was setting up practice as a principal for the first time and purchased my house and practice at Quinton. The insurance committee were very helpful indeed to me, and certainly helped me to the best of their ability whenever I needed their help or guidance. Since then I have found the executive council just as helpful and friendly and no point has been too small for them to bother about.

It has always been the rule that the doctor, not the executive council, is responsible for providing adequate accommodation for his patients. This is laid down in Regulations, First Schedule, Part 1, para. 7 (4) and (5).

As Dr. Prem says, he put up his plate a few days before July 5, 1948, having neither a house nor adequate surgery premises in the district. By doing this he was entitled under the rules of the new National Health Service to practise in the district after July 5, 1948. Surely the best thing to have done would have been to find a house and surgery first and then start practising, not start practising first and then expect the executive council to provide accommodation. There have been to my knowledge during the past four years quite a number of modern houses for sale very close to the present surgery. These could easily have been altered to provide adequate accommodation for both a doctor and his patients. After all, four years is not long to wait for a corporation house, especially when one knows of people who have been sharing a house in this district since before the war and are still on the waiting-list for a house of their own.

The rent, at a first glance, does look high, but on reflection it may not be so. The house is quite large, and one has to remember that a doctor's house and surgery are regarded as business premises. Near the surgery is a row of corporation shops. In addition to rent, rates, and repairs the occupiers had to pay a premium to go in.—I am, etc.,

Birmingham. E. K. MORRIS.

Plymouth's Criticism

SIR,—I am not impressed with the General Medical Services Committee's reference to the alleged "uninformed criticism" from the Plymouth Division (*Supplement*, March 1, p. 77). It has, one hopes, startled the Committee into some realization of what that nebulous quantity, the "periphery," is thinking about these prolonged discussions and the trotting to and fro between B.M.A. House and the Ministry. It is not suggested that the Plymouth Division has anything but the greatest respect and admiration for Dr. Wand's efforts; it is the results, or lack of them, that are criticized.

Dr. J. C. Arthur's suggestion that Plymouth's "profound dissatisfaction" came from "those who rarely turned up at a meeting" is very wide of the mark, because this resolution came from the Annual General Meeting of the Division, which like many other such meetings was attended by most of the Executive Committee and some two dozen others, and the "ill-informed criticism" came from those very people who *do* read their *Journal* and *are* informed. These members are those to whom the local profession turns for information and explanation. How, then, are we supposed to answer *our* critics when we ourselves do not believe there are solid reasons for delay at Headquarters?

Miners, firemen, or any other body would have had their disputes settled long ago, and I heard Dr. D. P. Stevenson tell the Special Conference of Representatives of Local Medical Committees on July 19, 1951, that if "everything went according to plan . . . a decision should be reached by October or November" (*Supplement*, July 28, 1951, p. 32). Do we put all the blame on the General Election for this delay?

Up at Headquarters one often hears, "We do not know what the periphery think," and yet when a piece of the periphery speaks its mind the G.M.S. Committee tries to gloss over the matter as if it came from Dr. Howie Wood's "dissident members." And the same might well apply to the Committee's attitude to the proposed charge on prescriptions, a matter covered by the forthright letter from Dr. J. L. McCallum (*Supplement*, March 1, p. 82). I do not believe that all the dispensing doctors are against collecting the shilling on prescriptions. Do they show any reluctance to take a shilling for their private certificates?

If this is the best the G.M.S. Committee can do, it is hoped that the electorate will see to it that men are elected who will express the views of the *majority*. The minority had its way in 1948. Is it not high time the majority had a hearing?—I am, etc.,

Plymouth. C. R. BARKER.

*** The Secretary of the Association states: In quoting the words reported to have been used by Dr. D. P. Stevenson at the Special Conference of Representatives of Local Medical Committees on July 19, 1951, Dr. Barker omits to quote the words, also reported: ". . . under the method of the Whitley Council and the Industrial Court. . . ." This method was subsequently superseded by the decision ratified by the Annual Conference in November that determination of the size of the central pool should be by a High Court judge.

Opening Doctors' Letters

SIR,—I was horrified to read in the national press that a patient had opened a letter given her by her doctor intended for a child psychiatrist, and, being displeased with the contents, had complained to the executive council. This council, although sympathizing with the woman's complaint that the doctor's letter said "she was not an adequate mother," decided not to proceed further with the matter, thus giving the impression that the doctor was at fault as usual.

Surely the "sympathetic" attitude adopted by this executive council to the patient for a complaint of this type gives tacit approval to the opening of confidential letters from doctor to doctor. Cannot some action be taken to prevent other doctors from enduring such injustices?—I am, etc.,

Romford, Essex. D. D. COWEN.

Disposal of Doctors' Houses

SIR,—It will be remembered that the Conference of Local Medical Committees last November (*Supplement*, November 10, p. 197) was not satisfied with the recommendations C and D of the G.M.S. Committee which were designed to control the disposal of doctors' houses in general practice. The problem is a difficult one. There is undoubtedly a real administrative difficulty in that the approved successor to a vacancy may find, when at last he has been approved by the selection committee and the Medical Practices Committee, that the house from which the practice has always been conducted has been purchased by some other doctor. But it would be a mistake to suggest that the resulting

difficulty is of our making or that the profession itself is in any way concerned to find a remedy.

When the late Government decided in 1947 to abolish the right to buy and sell goodwill and to institute a complicated machinery for filling vacancies in general practice, it did so in spite of the warning of the profession that such a procedure would give rise to many difficulties and abuses. It persisted in its policy, and the present administrative difficulty is one of the results.

The profession has always shown the utmost willingness to co-operate with the Government in making the service run smoothly, and there seems to be a real danger that the motives for this co-operation may be misunderstood. It should be made absolutely clear that the profession has nothing to gain for itself from a solution of this particular problem, and that the only solution that it could countenance would be one depending upon positive inducement to the outgoing doctor (or his heirs) to reserve the house for the selected applicant and not upon any form of negative restriction of free disposal. It is not in accordance with the best traditions of our profession to attach opprobious nicknames to those of our colleagues who pursue a course of action which we ourselves might not see fit to adopt, and the use in this connexion of such expressions as "piracy" would seem to be likely to confuse the issue.—I am, etc.,

Orpington, Kent. A. C. E. BREACH.

Supplementary Ophthalmic Service

SIR,—Mr. L. M. Green's letter (*Supplement*, February 23, p. 71) makes the criticism that neither the Faculty of Ophthalmologists nor the Ophthalmic Group Committee troubles to provide a regular service of information to its members on points of general ophthalmological interest. He refers, of course, to the discussions which took place with the Ministry on the sight-testing fee.

While I cannot speak for the Faculty, I would draw Mr. Green's attention to the *Supplements* dated January 27, 1951, February 17, 1951, and February 24, 1951, in which detailed accounts were given of the negotiations we had with the Ministry, including the factors which the Minister took into account in reducing the sight-testing fee to £1. One of these factors was his obligation to make an adjustment for any underpayment to ophthalmic medical practitioners as a result of the first cut in the fee from 31s. 6d. to 25s. in anticipation of the findings of the Penman Report.

In addition I wrote personally to every ophthalmic medical practitioner on January 20, 1951, informing them of the discussion with the Ministry and of the issue involved. This included under the heading of factors to be taken under consideration the following words: "The Minister's undertaking in the letter of February 14, 1949, to make an appropriate adjustment in the fee subsequently fixed if the original was shown not to have been fully justified on the basis of remuneration then obtaining." This was followed by a letter from the Secretary of the Committee on February 15. My committee has at all times sought to keep those whom it represents fully informed on matters of major importance, and it is disturbing now to be told that no trouble is taken to keep the profession in touch with important matters of principle.

If Mr. Green cares to refer to the *Supplements* quoted above he will, I think, on reflection feel that my committee took all possible steps to inform ophthalmic medical practitioners of the negotiations we had with the Ministry on the sight-testing fee.—I am, etc.,

O. GAYER MORGAN,
Chairman, Ophthalmic Group Committee.

SIR,—Mr. L. M. Green's letter (*Supplement*, February 23, p. 71) must have been read with some astonishment by members of the ophthalmic profession. About a year ago I attended at B.M.A. House two meetings of the profession called to consider the cut in the ophthalmic examination fee, but at neither of these meetings was any statement made that the 20s. fee offered by the Minister included any sum intended to be in respect of past liabilities. Had such an arrangement been made between our negotiators and the Minister, surely we should have been so informed. Failing this, would not my letter to which Mr. Green refers have called for some explanation by the Ophthalmic Group Committee?

It would be interesting to know whether Mr. Green's informant speaks with authority and whether the O.G.C. supports the view given. I feel that the O.G.C. owes it to the profession to give a full and unequivocal explanation of all the facts, together with some details of the mathematics involved in the calculation of the fee.

The bodies claiming to represent the ophthalmic profession have so far shown themselves to be shining examples of masterly inactivity and impotence and are rapidly leading to a feeling of defeatism among our ranks. I agree with Mr. Green that the profession would appreciate some small indication from time to time that there is still a spark of life in these bodies.—I am, etc.,

London, N.21. S. CHAPLIN.

*** The Secretary of the Association writes: The *Supplement* of January 27, 1951, included a detailed account of the negotiations which had taken place between the Ophthalmic Group Committee and the Ministry on the sight-testing fee. Under the paragraph "The Ministry Reply" clear indication was given that the Minister in proposing a fee of £1 took a number of considerations into account. One of these was his undertaking to make an appropriate adjustment in the fee subsequently fixed if the original reduction was shown not to have been fully justified on the basis of remuneration then obtaining. Further references to the negotiations were made in the *Supplement* of February 17 and February 24, 1951.

In addition, every ophthalmic medical practitioner received two letters, one from the chairman of the Ophthalmic Group Committee and one from the Secretariat, giving a detailed account of the negotiations. Although the outcome of the negotiations was far from satisfactory, every effort was made to keep ophthalmologists fully informed of what was going on.

Association Notices

AREA OF BRADFORD AND DEWSBURY DIVISIONS

Notice is hereby given that the Council of the Association has transferred the Civil Parish of Liversedge from the area of the Bradford Division to that of the Dewsbury Division.

A. MACRAE,
Secretary.

ELECTION OF MEMBERS OF COUNCIL

Notice is hereby given that nomination of candidates for election as members of Council, 1952–3, (*a*) by the following Divisions and Branches, (*b*) by public health service members, and (*c*) by women members must be forwarded in writing so as to reach me not later than Saturday, April 5, 1952.

Forty Members by Branches in Great Britain and Northern Ireland

Group	*England and Wales*	*No. of Members of Council to be Elected by Group*
1.	North of England Branch; Tees-side Branch	2
2.	East Yorkshire Branch; Yorkshire Branch	3
3.	North Lancashire and Westmorland Branch	1
4.	Divisions in Cheshire: Birkenhead and Wirral; Chester; Crewe; Hyde; Macclesfield and East Cheshire; Mid-Cheshire; Stockport; Wallasey	1
5.	Lancashire Divisions of Merseyside Branch: Liverpool, St. Helens, Southport, Warrington; Isle of Man Branch	1

Election of Members of Council—*contd.*

Group	England and Wales	No. of Members of Council to be Elected by Group
6.	Lancashire Divisions of South Lancashire and East Cheshire Branch: Ashton-under-Lyne; Bolton; Bury; Leigh; Manchester; Oldham; Rochdale; Salford; Wigan ..	1
7.	Derbyshire Branch; Nottinghamshire Branch; Lincolnshire Branch; Leicester and Rutland Branch	2
8.	Midland Branch	1
9.	Staffordshire Branch; Worcester and Hereford Branch	1
10.	Berks, Bucks, and Oxford Branch; Northamptonshire Branch	1
11.	Cambs and Hunts Branch; Norfolk Branch; Suffolk Branch	1
12.	Divisions of Metropolitan Counties Branch in Middlesex	2
13.	Marylebone Division	1
14.	Tower Hamlets Division; City Division; Stratford Division; South-west Essex Division	1
15.	Hampstead Division; St. Pancras Division; Westminster and Holborn Division ..	1
16.	Kensington and Hammersmith Division; Paddington Division; Chelsea and Fulham Division	1
17.	Camberwell Division; Greenwich and Deptford Division; Lambeth and Southwark Division; Lewisham Division; Woolwich Division; Wandsworth Division	1
18.	Hertfordshire Branch; Essex Branch; Bedfordshire Branch	1
19.	Surrey Branch	2
20.	Kent Branch	1
21.	Sussex Branch	1
22.	Southern Branch; Dorset and West Hants Branch	1
23.	Bath, Bristol, and Somerset Branch; Gloucestershire Branch; Wiltshire Branch	2
24.	South-western Branch	1
25.	North Wales Branch; Shropshire and Mid-Wales Branch	1
26.	South Wales and Monmouthshire Branch	1
	Scotland	
27.	Aberdeen Branch; Dundee Branch; Northern Counties of Scotland Branch; Perth Branch	1
28.	Edinburgh and South-east of Scotland Branch; Fife Branch	1
29.	Glasgow and West of Scotland Branch (Glasgow Division)	1
30.	Glasgow and West of Scotland Branch (County Divisions); Border Counties Branch; Stirling Branch	2
	Northern Ireland	
31.	Northern Ireland Branch	2

Public Health Service Members

Two members of Council are nominated and elected by members of the Association employed in the public health service as defined in By-law 1 (3). Candidates must be members of the public health service as so defined.

One Woman Member

One woman member of Council is nominated and elected by women members of the Association.

Nominations

The nominations must be on the prescribed forms, copies of which can be obtained on application to me. A notice will be published by the Council in the *British Medical Journal Supplement* on April 19, 1952, of the candidates nominated. Where contests occur, voting papers containing the names of all duly nominated candidates will be issued on April 26, 1952, from the Head Office, British Medical Association, Tavistock Square, London, W.C.1, to each member in the Group, or to the public health service members, or to women members. A notice will be published by the Council in the *Supplement* of May 17, 1952, giving the results of the elections where there have been contests.

A. MACRAE,
Secretary.

Diary of Central Meetings

MARCH

10	Mon.	Conference between the B.M.A., Ministry of Health, and associations of local authorities on Dual Appointments (at 1, Richmond Terrace, Whitehall, London, S.W.1), 3.30 p.m.
11	Tues.	Central Ethical Committee, special meeting, 12 noon (*date and time changed from February 26*).
11	Tues.	Publishing Subcommittee, 5 p.m.
12	Wed.	Coroners Subcommittee, Private Practice Committee, 3.30 p.m.
13	Thurs.	General Practice Review Committee, 11 a.m.
14	Fri.	Car Subcommittee, Private Practice Committee, 3.30 p.m.
18	Tues.	Medical Students and Newly Qualified Practitioners Subcommittee, Organization Committee, 2 p.m.
19	Wed.	Joint Meeting of B.M.A. and T.U.C. Committees, 11 a.m. (Preliminary meeting of B.M.A. Representatives, 10.15 a.m.)
19	Wed.	Occupational Health Committee, 2 p.m.
20	Thurs.	General Medical Services Committee, 10.30 a.m.
21	Fri.	Colonies and Dependencies Committee, 2 p.m.
26	Wed.	**Council,** 10 a.m.
26	Wed.	Charities Committee, 1.30 p.m.
27	Thurs.	**Council.**

APRIL

2	Wed.	General Practice Review Committee, 11 a.m.
16	Wed.	General Practice Review Committee, 11 a.m.

Branch and Division Meetings to be Held

BIRMINGHAM DIVISION.—At 154, Great Charles Street, Birmingham, Tuesday, March 11, 8.30 p.m., meeting. Paper by Dr. A. G. W. Whitfield: "Emphysema."

BROMLEY DIVISION.—At Bromley Hospital, Friday, March 14, 8.30 p.m., meeting. Dr. A. R. French: "Legal and Ethical Aspects of Practice."

BURTON-ON-TRENT DIVISION.—At Stanhope Arms, Bretby, Wednesday, March 12, 7.45 p.m., dinner followed by lecture by Dr. H. Barber: "Strain and Injury of the Heart."

CROYDON DIVISION.—At Croydon General Hospital, Tuesday, March 11, 8.30 p.m., general meeting. Address by Dr. S. L. Wright: "The Administrative Control of Infectious Diseases."

EXETER DIVISION.—At Library, Royal Devon and Exeter Hospital, Thursday, March 13, 8.30 p.m., general meeting. Four films by Ministry of Health: "Accessible Cancers."

GLASGOW AND WEST OF SCOTLAND BRANCH.—At Institution of Engineers and Shipbuilders (Rankine Hall), 39, Elmbank Crescent, Glasgow, Wednesday, March 12, 7.45 p.m., B.M.A. Lecture by Mr. Aleck Bourne: "The Clinical Uses of the Sex Hormones."

GUILDFORD DIVISION.—At Haslemere Hospital, Thursday, March 13, 7.30 p.m., clinical meeting.

HENDON DIVISION.—At Hendon Hall Hotel, London, N.W., Tuesday, March 11, 8.45 p.m., Dr. Henry Yellowlees: "The Legal Defence of Insanity in the Light of Modern Medical Knowledge." Legal friends are invited.

KESTEVEN DIVISION.—At George Hotel, Grantham, Thursday, March 13, 7 for 7.30 p.m., dinner. Address by Dr. Peter Bishop: "The Clinical Use of Sex Hormones." Questions will be answered.

LEIGH DIVISION.—At Boar's Head Hotel, Leigh, Tuesday, March 11, 8.30 p.m., meeting. Address by Mr. W. Weatherstone Wilson: "The Present Position of Vagotomy in the Treatment of Peptic Ulcer."

MID-HERTS DIVISION.—At Ashwell House, Verulam Road, St. Albans, Friday, March 14, 8.30 p.m., Annual B.M.A. Lecture by Dr. Francis Camps: "Some Unusual Cases of Medical Interest."

PADDINGTON DIVISION.—At Paddington Hospital, Harrow Road, London, W., Wednesday, March 12, 2.30 p.m., joint clinical meeting with London County Medical Society.

ROCHDALE DIVISION.—At Red Lion Hotel, Lord Street, Rochdale, Monday, March 10, 8.30 p.m., meeting.

SOUTH-EAST ESSEX DIVISION.—At Southend General Hospital, Friday, March 14, 8.30 p.m., meeting. Address by Dr. W. S. Tegner: "Rheumatoid Arthritis."

SUNDERLAND DIVISION.—At Bay Hotel, Thursday, March 13, annual dance.

TUNBRIDGE WELLS DIVISION.—At Kent and Sussex Hospital, Tunbridge Wells, Wednesday, March 12, 8.30 p.m., clinical meeting.

WEST SUSSEX DIVISION.—At Burlington Hotel, Worthing, Wednesday, March 12, 7.15 for 7.30 p.m., dinner; 8.15 p.m., meeting. Lecture by Professor H. E. Shortt, F.R.S.: "Tropical Diseases Encountered in British General Practice." He will also demonstrate the latest sound film on "Malaria."

WIGAN DIVISION.—At Prince of Wales Hotel, Southport, Wednesday, March 12, 7.30 for 8 p.m., dinner and dance.

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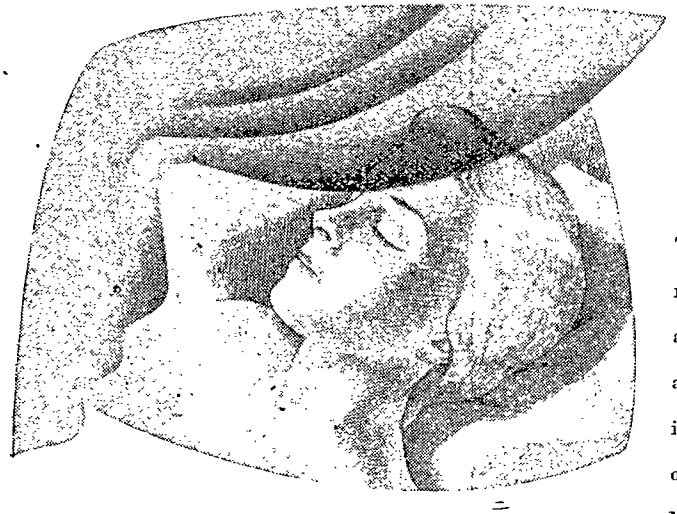

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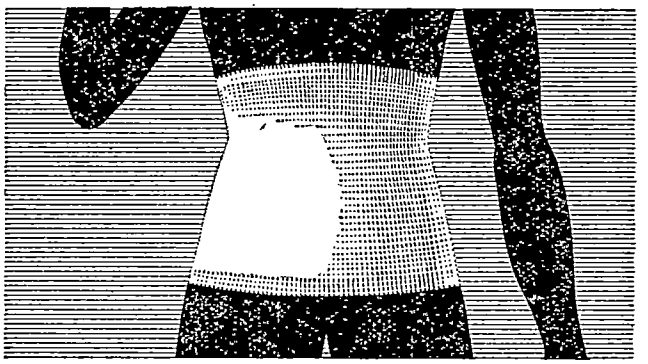

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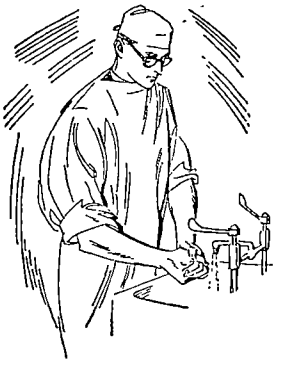

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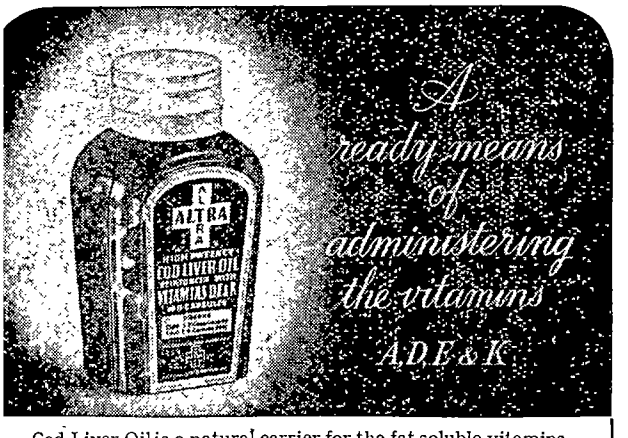

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Applications should be sent at once if no closing date is given.

Canvassing in any form will disqualify.

★*SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

Deferment of call-up for "R" practitioners (i.e., practitioners liable for call-up under the National Service Acts) is granted at the discretion of the Central Medical War Committee and (in Scotland) the Scottish Central Medical War Committee. The Committees normally allow an "R" practitioner to hold a First House Officer post (N.H.S. salary £350 per annum) provided that he obtains it without delay. *Under present arrangements* the Committees also normally allow an "R" practitioner to hold a Second House Officer post (£400) and a Senior House Officer post (£670), provided in each case that the higher appointment is secured before the termination of the practitioner's current appointment.

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SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

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(*a*) *REGISTRAR:* Posts obtained normally not less than two years after registration as a medical or dental practitioner and held normally for two years: £775 per annum in the first year; £890 per annum in the second and any subsequent years.

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(*a*) *HOUSE OFFICER:* £350 per annum for the first post held, £400 per annum for the second post held; £450 per annum for the third and any subsequent post held; with, in each case, a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Each post shall be tenable for six months.

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(22/2/52)

CLASSIFICATION

and order of appearance

Practices — Assistantships
Partnerships — Locums
Situations (Medical)

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REGISTRARS
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HOUSE OFFICERS
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Dental	Radiology
E.N.T.	Radiotherapy
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Neurology	Urology
Neurosurgery	Venereology
Obstetrics and Gynaecology	Medicine
Ophthalmology	Surgery
Orthopaedics	Casualty

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in alphabetical order of names of employing authorities

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Notices	Motor Cars, Hire, etc.
Educational	Miscellaneous
Lectures	Nursing Homes
Situations(Non-med.)	Homes
Pharmacists, etc	Agents

PRACTICES (Executive Councils)

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Applications invited for death vacancy (urban). List at present approximately 1,600. Residence and surgery may be available. Apply, on form E.C.16A, by not later than March 20, 1952, to the undersigned.—E. Bergdahl, Clerk, Essex Executive Council, 131/3, Fillebrook Road, Leytonstone, E.11.

BIRMINGHAM, Hall Green

Applications invited for vacancy (urban) due to death. List approximately 1,550. Residence and surgery may be available. Apply, on E.C.16A, by March 17, 1952, to the undersigned.—K. F. G. Day, Clerk of Birmingham Executive Council, Sutton New Road, Erdington, Birmingham, 23.

SHEFFIELD, Yorkshire

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Locum, preferably with car, for four months from June 15. Residential area, East Riding of Yorkshire.—Box 932, B.M.J.

Locum, male, under 36, required two months, possibly longer, London, now or early summer. No midwifery. No nights.—Box 931, B.M.J.

Guy's Hospital, S.E.1.—Applications are invited for the locum appointment of **Registrar (first year) to the Department of Psychological Medicine.** Duties to commence as soon as possible until September 30, 1952, and will entail care of in-patients, out-patients, and will provide opportunities for acquiring the technique of psychotherapy and for research into psychosomatic problems. Forms of application, obtainable from the Superintendent, Guy's Hospital, should be forwarded not later than March 18, 1952. (9110)

St. Alfege's and the Miller General Hospitals, Greenwich.—Locum tenens Senior Registrar (Pathology), full-time, required for indefinite period from approximately end March, 1952. National salary and conditions. Interview, and inspection laboratory, arranged on request. Please telephone GREenwich 2655, Ext. 28. (8803)

St. Thomas' Hospital, London, S.E.1.—Locum Anaesthetic Registrar, whole-time, for three months. Applications, including names and addresses of three referees, to the Clerk of the Governors by March 18, 1952. (9073)

Bournemouth and East Dorset Hospital Management Committee.—Locum Medical Registrar required for April and May. Non-resident. (£775 per annum). Applications to Assistant Secretary, Royal Victoria Hospital, Bournemouth. (8966)

Bristol Eye Hospital (United Bristol Hospitals).—Locum Ophthalmic House Surgeon wanted for six weeks from March 19, 1952, to April 30, 1952. Salary £450 per annum, less residential emoluments of £100 per annum if resident. Applications, stating age, qualifications and experience, together with names of two referees or copies of two recent testimonials, to be addressed to the Secretary, Bristol Eye Hospital, Lower Maudlin Street, Bristol, 1. (8447)

Carshalton, Surrey, St. Helier Hospital. St. Helier Group Hospital Management Committee.—Applications invited for the post of **Locum Registrar Anaesthetist** for the period April 14 to May 2, at St. Helier Hospital. Applications should be sent to Group Secretary, St. Helier Group Hospital Management Committee, St. Helier Hospital, Carshalton, Surrey. Telephone: Bellwood 6161, extension 6. (9069)

Clwyd and Deeside Hospital Management Committee.—Required forthwith, a **Locum House Physician of Senior House Officer Grade at the Royal Alexandra General Hospital, Rhyl,** which is an acute General Hospital. Applications, stating age, details of qualifications, present and previous appointments, with copies of three testimonials, to be sent immediately to the undersigned.—William Roberts, Secretary, H.M.C., Rhianfa, Russell Road, Rhyl. (8967)

Hull (A) Group Hospital Management Committee. Hull Royal Infirmary.—Locum Resident Surgical Officer required (Senior House Officer grade) for six weeks as from March 24. Applications to the Administrative Officer. (9168)

Mansfield, King's Mill Hospital. Sheffield Regional Hospital Board.—Required immediately **Whole-time Locum Anaesthetist** for the above hospital, for a period of approximately three months. Duties may include work at other hospitals in the Group, and single accommodation is available if required. Remuneration 31½ guineas per week. Applications, with names of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. (8686)

Kettering and District General Hospital.—Applications are invited from registered medical practitioners for the post of **Locum House Surgeon (General Surgery)** from the middle of March to the end of June. Salary will be in accordance with National Health Service Regulations and dependent upon past experience. Applications, stating age, nationality, qualifications, and giving details of previous experience, together with not more than two recent testimonials, should be sent to the Assistant Secretary, General Hospital, Kettering, as soon as possible. (9131)

Newcastle Regional Hospital Board.—Locum Tenens Anaesthetist, Consultant or S.H.M.O., required immediately at Bishop Auckland General Hospital for approximately three months. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within 14 days. (8990)

Nottingham, City of, Health Department.—Applications are invited from medical practitioners with experience of maternity and child welfare for a **Medical Locum Tenens** (Summer period, 1952) appointment, beginning May, 1952. Salary will be at the rate of £850 per annum. Applications, accompanied by the names of two persons to whom reference may be made, should be sent to the Medical Officer of Health, Huntingdon Street, Nottingham, not later than March 24, 1952. —T. J. Owen, Town Clerk, Guildhall, Nottingham. (9068)

Rochford, Essex, General Hospital (603 beds).—Applications are invited for the post of **Locum Senior Medical Registrar** at the above hospital on a month to month basis from April 1, 1952. Married quarters available. Applications, etc., should be forwarded to the undersigned not later than March 21, 1952.—J. C. Field, Secretary. (9161)

Swansea General Hospital. Welsh Regional Hospital Board.—Wanted immediately for a limited period of three months, a **Whole-time Non-resident Locum Tenens Senior Registrar in the E.N.T. Department** of the above hospital. The salary is in accordance with the terms and conditions of service. Applications, with names of two referees, to be addressed at once to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, The Temple of Peace and Health, Cathays Park, Cardiff. (9082)

Swansea Hospital (403 beds). Welsh Regional Hospital Board.—Wanted immediately for a period of three months, a **Locum Tenens Registrar in General Medicine.** Salary in accordance with the terms and conditions of service. Applications, together with the names of two referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (9081)

Worcester Royal Infirmary.—Locum tenens Casualty Officer (Senior House Officer grade) required for ten days from March 20. Resident or non-resident Apply to Secretary. (9169)

REPLIES TO BOX NUMBER ADVERTISEMENTS

The names and addresses of advertisers using box numbers are held by us in strict confidence and cannot be disclosed. Applications should be separately enclosed and clearly addressed:

Box No. .....
British Medical Journal,
B.M.A. House,
Tavistock Square, W.C.1.

All communications are forwarded to advertisers under plain cover.

It is not possible for this office to accept telephone messages for relay to advertisers.

LOCUMS (Available)

Wanted, Locum work or Assistantship for winter months. Single, experienced, English. Car required.—Box 933, B.M.J.

Conscientious experienced G.P., own car, available for immediate and summer Locums.—Box 917, B.M.J.

M.B. requires Locums, part-time work in London area.—HEN. 2389 before 9 a.m., or Box 918, B.M.J.

Surgeries, etc., March 15 until May 8 in London. G.P., hospital experience. Awaiting call-up.—Hampstead 3595.

SITUATIONS (Vacant)

Retired doctor wanted, for summer holiday locum, occasional week-ends, etc. Permanent basis preferred.—Dr. Houghton, Chasetown, near Walsall.

The Council of Management of Grange Farm Centre, High Road, Chigwell, Essex, will shortly appoint a **Hon. Medical Officer.** The Warden will be pleased to supply particulars to practitioners in the district.

APPOINTMENTS

ANAESTHETICS

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

WHOLE-TIME ASSISTANT ANAESTHETIST (S.H.M.O. scale)

for duties at hospitals in the Hull (A) and East Riding Hospital Management Committee Groups. The successful candidate will be required to reside in or near Hull or within such distance of that town as the Board may approve. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than March 29, 1952. (8687)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time non-resident post of

ASSISTANT ANAESTHETIST

to work under the general guidance of the Group Consultant at the Oldham Group of Hospitals (Oldham Royal Infirmary, Boundary Park General Hospital, etc.). Salary £1,300 by £50 to £1,750. The successful candidate will be required to live near Oldham. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than March 15, 1952. (8761)

SCOTLAND, SOUTH-EASTERN REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified medical practitioners for the appointment of a

WHOLE-TIME ASSISTANT ANAESTHETIST (S.H.M.O. scale)

in West Fife. The duties will be chiefly at the Dunfermline and West Fife Hospital, under the general supervision of the Consultant Anaesthetist for Fife. The post is superannuable, and the conditions of service are in accordance with the regulations. Applications (eight copies), giving particulars of age, previous experience and qualifications, together with the names of three referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, within thirty days. (9083)

BRISTOL, UNITED, HOSPITALS (Joint Appointment with the South-Western Regional Hospital Board)

Applications are invited by the above Boards from registered medical practitioners for the joint appointment of

ANAESTHETIC REGISTRAR

The appointment will be subject to the terms and conditions of service of hospital medical and dental staff negotiated between the Minister and the profession. The successful applicant will be appointed to work in the first instance for one year in the United Bristol Hospitals. Applications, giving full Christian names, particulars of age, qualifications, and experience, and the names of two referees, should be sent not later than March 17, 1952, to Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (8772)

CHESTER GROUP OF HOSPITALS
Liverpool Regional Hospital Board

Applications are invited for the post of

WHOLE-TIME ANAESTHETIC REGISTRAR (Resident)

with duties mainly at Chester Royal Infirmary and Chester City Hospital. The post is recognized for the D.A. Residential emoluments are valued at £150 and will be deducted from salary. Forms of application obtained from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 22, 1952.—Vincent Collinge, Secretary to the Board. (9170)

ROTHERHAM, MOORGATE GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited for the resident whole-time post of

REGISTRAR (Anaesthetics)

to the above hospital, which is a recognized training hospital for the D.A. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to reach him not later than March 17, 1952. (8662)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the non-resident whole-time post of

REGISTRAR (Anaesthetics)

to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9046)

Anaesthetics—contd.

ST. ALFEGE'S HOSPITAL
Greeenwich, S.E.10 (504 General beds)
(Recognized for D.A.)
Applications are invited for the post of
RESID NT SENIOR HOUSE OFFICER
(Anaesthetics)
for one year from early April. Salary £670, less £150 per annum for residence. Hospital 16 minutes central London. Opportunities for study. Applications, copies of three testimonials, to Secretary, Greenwich and Deptford Hospital Management Committee, at the above hospital. (9246)

BATH, ROYAL UNITED HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE ANAESTHETIST
The post is graded Senior House Officer and salary, terms and conditions of service are in accordance with those published by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to undersigned.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (8999)

BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
The post is recognized for the D.A. examination and is tenable for one year. Salary £670 per annum, less an appropriate deduction in respect of board residence. Applications, stating age, qualifications, nationality and experience, etc., with names of two persons for reference, should be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (8652)

BOLTON, ROYAL INFIRMARY (237 beds)
Bolton and District Hospital Management Committee
RESIDENT ANAESTHETIST
(Senior House Officer grade)
Post vacant immediately, tenable for twelve months and recognized for the D.A. Applications, stating age, nationality, qualifications, and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (9000)

BRADFORD ROYAL INFIRMARY
SENIOR HOUSE OFFICER (Anaesthetics)
Vacant now. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials to Secretary. (9080)

DONCASTER ROYAL INFIRMARY
(Recognized under the regulations for the D.A.)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners with the necessary experience for the appointment of
RESIDENT ANAESTHETIST
in the grade of Senior House Officer
Salary at the rate of £670 per annum, from which a deduction of £130 per annum will be made for board, residence, etc. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with copies of three testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (8968)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding
(Full Consultant Staffs)
Applications are invited for the appointment of
SENIOR HOUSE OFFICER in Anaesthetics
(Male or female)
for duty at the above hospitals for acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment, vacant now. Salary £670 per annum. National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley, as soon as possible. (8688)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
commencing April 1, 1952. Applications, stating age, experience, and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8322)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Luton and Hitchin Group Hospital Management Committee
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
at the Luton and Dunstable Hospital. The appointment, which is vacant now, offers varied experience, and this post is recognized for the D.A. examination. Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (8664)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1,

or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
(Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

FIFE COUNTY COUNCIL
(Senior Medical Officer (Chief Executive School Medical Officer))

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE
(Assistant School Medical Officer)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,

A. MACRAE,
Secretary.

March 4, 1952.

MAIDENHEAD, CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow
SENIOR HOUSE OFFICER (Anaesthetics)
The post becomes vacant on March 24 and is tenable for one year. Salary £670 per annum, less £120 for residential emoluments. Applications, stating age experience, and qualifications (with dates), together with copies of three testimonials, should be sent to Administrative Officer. (9001)

OLDHAM AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the appointment of
SENIOR ANAESTHETIC HOUSE OFFICER
(Resident)
for duties at the Oldham Royal Infirmary (200 beds) and the Boundary Park General Hospital (390 beds), becoming vacant on April 11, 1952. The hospitals are recognized for the D.A. Salary in accordance with the terms and conditions of service of hospital medical staff. Applications, giving age, sex, nationality, qualifications and previous appointments, together with the names of three persons to whom reference may be made if desired, should be sent forthwith to the Secretary. Please quote reference number A/824.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (8827)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer Grade)
(Recognized for D.A.)
Applications should be made immediately to the Secretary, Preston and Chorley Hospital Management Committee, Royal Infirmary, Preston.—John Gibson, Secretary. (8449)

WARRINGTON GENERAL HOSPITAL (372 beds)
and WARRINGTON INFIRMARY (172 beds)
Warrington and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
for Anaesthetic work
Required for duties at the above hospitals. The person appointed will be resident at the General Hospital. The commencing salary is £670 per annum, less £130 for full residential emoluments. Applications, stating age, experience and qualifications, should be sent immediately to H. L. Boot, Secretary to the Committee, c/o General Hospital, Warrington, Lancs. (7087)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT ANAESTHETIST and HOUSE PHYSICIAN
vacant mid-March, 1952. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications and experience, with a copy of two recent testimonials, and the name of one referee, should be sent to the Group Secretary, St. Helier Hospital, Carshalton. (9047)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE OFFICER (Anaesthetics Department)
Post is vacant April 7, 1952, and recognized for D.A. N.H.S. salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (8651)

BROMSGROVE, WORCS, ALL SAINTS' HOSPITAL (468 beds)
Mid-Worcestershire Hospital Management Committee
HOUSE OFFICER (Anaesthetics)
Required at the above recently opened General Hospital. Resident post, vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire H.M.C., Birmingham Road, Bromsgrove, Worcs. (9002)

GREENOCK AND DISTRICT HOSPITALS, BOARD OF MANAGEMENT FOR
HOUSE SURGEON (Anaesthetist)
Required immediately. Applications to the Secretary and Treasurer, 47, Eldon Street, Greenock, not later than Saturday, March 15, 1952. (9247)

HALIFAX GENERAL HOSPITAL
RESIDENT ANAESTHETIST
(House Officer grade)
Hospital providing large surgical turnover. Facilities available for practical experience under guidance of consultant staff. Ample opportunities for studying for D.A. Applications, stating age, sex, qualifications and experience, with copies of three recent testimonials, to the Secretary, Halifax Area Hospitals Management Committee, Royal Halifax Infirmary, Halifax. (8593)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
RESIDENT ANAESTHETIST (House Officer)
vacant March 17, 1952. Salary and conditions of service in accordance with the National Health Service terms, with residential emoluments. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9248)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group 15 Hospital Management Committee
RESIDENT ANAESTHETIST
(House Officer grade)
Post recognized for the D.A. Vacant April 1, 1952. Applications, stating age, nationality, qualifications and previous hospital appointments, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (9171)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (Junior Anaesthetist)
(Recognized for Diploma in Anaesthetics)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (9074)

BLOOD TRANSFUSION

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified practitioners for the whole-time appointment of
DEPUTY BLOOD TRANSFUSION OFFICER
(S.H.M.O. scale) of the Blood Transfusion Service in the Leeds Region
The person appointed will be required to act as Deputy to the Regional Blood Transfusion Officer and opportunities will be given for original work and research of an academic nature. Applicants must have been qualified at least six years and some previous experience in clinical pathology would be desirable. The headquarters of the service is at the Regional Blood Transfusion Centre, Bridle Path, York Road, Seacroft, Leeds. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary to the Board, Park Parade, Harrogate not later than March 29, 1952. (8689)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

CARDIOLOGY

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT HOUSE OFFICER (Male)
Required for wards taking cardio-vascular and dietetic, vacant April 15. Six months' appointment. National Health Service salary and terms of service. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by March 15, 1952. (8831)

WIRRAL, CALDY MANOR HOSPITAL, Caldy (41 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT HOUSE PHYSICIAN
for the above new hospital, which specializes in the treatment of heart cases. The appointment will become vacant on April 1, 1952, and will be tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Secretary, North Wirral H.M.C., Leasowe Children's Hospital, Moreton, Wirral, Cheshire. (8832)

CHEST AND TUBERCULOSIS

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for the following appointment:
Whole-time CONSULTANT IN THORACIC SURGERY
for Regional duties which will be further defined in due time
Applications (sixteen copies), stating age, qualifications and experience, and present appointment, and giving the names of three referees, should be submitted, not later than thirty days after the publication of this advertisement, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (9207)

EDMONTON CHEST CLINIC
Temporary SENIOR REGISTRAR (Tuberculosis)
Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials or names of two referees, to Secretary, North Middlesex Hospital, Edmonton, by March 22. (9132)

BOURNEMOUTH, ROYAL VICTORIA HOSPITAL (485 beds)
South-West Metropolitan Regional Hospital Board
Bournemouth and East Dorset Hospital Management Committee
Applications are invited for the appointment of
REGISTRAR in Thoracic Surgery
for duties at the Thoracic Surgical Unit. The unit provides full facilities for the surgical treatment of tuberculosis and non-tuberculosis cases. In addition, the holder of this post normally takes a share in certain of the general surgical work of the hospital, which takes cases from Bournemouth and parts of Hampshire and Dorset. Forms of application, obtainable from Secretary, H.M.C. Office, Royal Victoria Hospital, Bournemouth, should be returned to him, duly completed, within fourteen days of the appearance of this advertisement. (9004)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the post of
REGISTRAR in Chest Diseases
The initial duties will be with the Mass Radiography Service in Hull, under the immediate supervision of the Senior Chest Physician in the area. Ample facilities will also be given for clinical work at the parent chest clinic, attendance at Sanatoria and General Hospitals, etc. After a satisfactory term in mass radiography, suitable candidates will be considered for a further period of training in selected regional sanatoria. This is essentially a trainee specialist post and only applicants possessing a first-rate clinical background in chest work will be considered. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than March 15. (8690)

LEICESTER, MARKFIELD SANATORIUM AND ISOLATION HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for the resident whole-time post of
REGISTRAR (Chest Diseases and I.D.)
to the above hospital, where minor thoracic surgery (T.B.) is undertaken. The duties are mainly in the hospital, but clinic work may be undertaken under the supervision of the Consultant. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Rd., Sheffield, 10, to arrive not later than March 17. (8666)

LIVERPOOL, WALTON HOSPITAL
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME MEDICAL REGISTRAR (Chest Diseases)
for duty in the tuberculosis wards of the above hospital, with occasional duty in clinics. The appointment is subject to annual review. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 22, 1952.—Vincent Collinge, Secretary to the Board. (9172)

NOTTINGHAM, CITY HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the whole-time post of
REGISTRAR (Thoracic Surgery)
to the Thoracic Centre at the above hospital. Single accommodation is available if required. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield R.H.B., Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24. (9003)

PAPWORTH HOSPITAL, Cambridgeshire
East Anglian Regional Hospital Board
SENIOR REGISTRAR in Thoracic Surgery
Preference given to candidates with a higher surgical qualification and experience in thoracic surgery. House available. Applications, stating age, qualifications and details of present and previous appointments, with names of three referees, to Secretary of Board, 117, Chesterton Road, Cambridge, by March 24, 1952. Candidates invited to visit hospital by direct arrangement with Chief Medical Officer. (8969)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
MEDICAL REGISTRAR
to the above hospital. Previous experience in diseases of the chest would be an advantage. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9048)

CHEPSTOW, MON., MEMORIAL WARDS MINISTRY OF PENSIONS HOSPITAL
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER in Tuberculosis
National salary scales and conditions. The resident medical staff consists of a Senior Hospital Medical Officer and this post, while the Consultant visits regularly. Apply, with the names of three referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8692)

CHESTER (near), MEADOWSLEA HOSPITAL
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER (Resident)
Salary £700 to £1,000 per annum, less recognized charge for services provided by hospital. The appointed candidate will be a member of a chest team covering a wide area in North Wales with excellent opportunities for experience in hospital and chest clinic practice. Applications, stating age, qualifications, experience, together with the names of three referees, to the Secretary, Wrexham, Powys and Mawddach H.M.C., Maelor General Hospital, Wrexham, within fourteen days. (9005)

BARROW AND FURNESS HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for a resident post of
SENIOR HOUSE OFFICER
for Chest Services in the Group, with main duties at the High Carley Sanatorium (153 beds and regional centre for major thoracic surgery) and also at Chest Clinics. National salary scale and conditions, with a deduction of £100 per annum for residential emoluments. Applications, stating age, qualifications, and experience, with two recent copy testimonials, to be forwarded to the Secretary of the Committee, 52, Paradise Street, Barrow-in-Furness. (8735)

DRIFFIELD, YORKS, NORTHFIELD SANATORIUM
RESIDENT SENIOR HOUSE OFFICER (Medical)
Required at the above Sanatorium, which has accommodation for 80 adult cases of pulmonary tuberculosis. Salary £670 per annum. A charge of £175 will be made for residential accommodation. Applications to the Secretary, Westwood Hospital, Beverley. (8991)

IPSWICH SANATORIUM
Ipswich Group Hospital Management Committee
SENIOR HOUSE OFFICER
Required for this modern Sanatorium of 100 beds, which has recently been re-equipped for all modern forms of treatment of pulmonary tuberculosis and for all methods of investigation of chest diseases. Major surgery is about to be undertaken. Apply, with full particulars and names of two referees, to the undersigned.—John Williams, Secretary, at East Suffolk and Ipswich Hosp. (8544)

LIPHOOK, KING GEORGE'S SANATORIUM FOR SAILORS
Godalming, Milford and Liphook Group Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER and HOUSE OFFICER (Medical)
The salaries will be in accordance with the national scales, and appropriate deductions will be made in respect of board, lodging, etc. Applications, stating age, qualifications, experience, nationality and the names of two referees, should be sent as soon as possible to the Physician Superintendent, King George's Sanatorium for Sailors, Bramshott Place, Liphook, Hampshire. (9049)

STOURBRIDGE (near), PRESTWOOD SANATORIUM
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group
Birmingham Region
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Resident)
at the above sanatorium, which consists of 200 beds at Prestwood, 35 at Edge View, and 60 at The Limes, and is for pulmonary tuberculosis. Candidates should have held house appointments, and have had experience in the treatment of tuberculosis. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum for residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (9028)

WARWICK (near), KING EDWARD VII MEMORIAL SANATORIUM, Hertford Hill
South Warwickshire Hospital Group (No. 14)
Applications are invited for the post of
SENIOR HOUSE OFFICER
Salary and conditions of service according to National Health Service scales. Resident accommodation for man or woman is available. The Sanatorium is a modern one of 239 beds, and a thoracic surgery unit of about 50 beds is being planned. Applications, together with the names and addresses of three referees, should be sent to the Medical Supt. at the above address. (9006)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (Thoracic Unit)
Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (8837)

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
to the chest unit at the above hospital, possibly with duties at two other chest hospitals in the Group. Vacant mid-March. Applications, stating age, qualifications and experience, with a copy of two testimonials, and the name of one referee, should be sent immediately to Group Secretary, St. Helier Hospital, Carshalton, Surrey. (9007)

CHICHESTER (near), ALDINGBOURNE HOUSE SANATORIUM (71 beds) and BOGNOR REGIS ANNEXE (31 beds)
HOUSE PHYSICIAN (Male or female)
Required immediately, liaison with thoracic unit, Chichester. Resident at Bognor Regis. Apply to Physician Superintendent, Aldingbourne House Sanatorium, near Chichester. (9050)

EDINBURGH CITY HOSPITAL
HOUSE OFFICER (Male or female)
Required immediately for Tuberculosis Wards. Previous hospital experience desirable, and appointment is for six months in first instance. N.H.S. salary and conditions of service. Applications, stating age and experience, with names of two referees or copies of two recent references, to the Secretary, Board's Office, City Hospital, Greenbank Drive, Edinburgh, 10. (9084)

DENTAL

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London, W.C.1
There will be a vacancy on May 8, 1952, for a
RESIDENT DENTAL HOUSE SURGEON (Senior House Officer)
Salary £670 per annum. The post is recognized for the Fellowship in Dental Surgery, Royal College of Surgeons. Experience is given in both oral surgery and orthodontics. Further particulars and form of application, which must be returned not later than April 7, 1952, are obtainable from the undersigned.—H. F. Rutherford, House Governor and Secretary. (9085)

EAR, NOSE, AND THROAT, etc.

ST. MARY'S HOSPITAL, W.2
Applications are invited for the two posts of
PART-TIME CLINICAL ASSISTANTS
to the Ear, Nose and Throat Department
These appointments are graded (a) Senior Registrar, and (b) Registrar. The successful candidates will each be required to undertake two notional half-days at St. Mary's Hospital (Monday and Thursday mornings). Applications, stating nationality, date of birth, permanent address, qualifications, with dates and details of previous appointments, together with names and addresses of three referees, should reach the undersigned by March 21, 1952.—Alan Powditch, House Governor. (8787)

AYLESBURY—HIGH WYCOMBE AREA
Oxford Regional Hospital Board
Applications are invited for the whole-time non-resident post of
REGISTRAR in E.N.T. Surgery
The appointment will be for one year and eligible for extension to a second year. Applications, on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by March 22. (9008)

EDINBURGH, ROYAL INFIRMARY OF
South-Eastern Regional Hospital Board, Scotland
Applications are invited for a post of
SENIOR REGISTRAR OR REGISTRAR IN E.N.T. SURGERY
The existing vacancy is for a Senior Registrar, but should one of the present staff in the infirmary be successful there will be a consequential vacancy for a Registrar. The appointment will, in the first instance, be for a period of two years for a Senior Registrar and one year for a Registrar. The post is superannuable, and the conditions of service are in accordance with the regulations. Applications (ten copies), giving particulars of age, previous experience, and qualifications, together with the names of two referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, within thirty days. (9086)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
NON-RESIDENT SENIOR REGISTRAR
in Oto-Laryngology
for duties mainly at the Royal Eye and Ear Hospital, Bradford (51 E.N.T. beds). Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 15, 1952. (8693)

LLANELLY HOSPITAL (164 beds)
Glantawe Hospital Management Committee
Applications are invited from medical practitioners for the non-resident appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
at the above hospital, for work mainly in the E.N.T. Department. Applications, stating age, experience and qualifications, with the names of three referees, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe Hospital Management Committee, St. Helen's Road, Swansea. (9173)

LIVERPOOL, UNITED, HOSPITALS
Ear, Nose and Throat Infirmary
Applications are invited for appointment to the temporary post of
SENIOR HOUSE OFFICER
for the period from April 1 to September 30, 1952. Applications, on forms from the undersigned, should be returned by March 22, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney St., Liverpool, 1. (9152)

OLDHAM AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Boundary Park General Hospital and Oldham Royal Infirmary
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
to the E.N.T. Departments at the above hospitals, becoming vacant on April 24. Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference number A/828, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (8720)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds) and SOUTHAMPTON GENERAL HOSPITAL (453 beds)
SENIOR HOUSE OFFICER (E.N.T.)
Applications are invited for this whole-time post, becoming vacant March 27. The post is recognized for the F.R.C.S. (Eng.) and D.L.O. examinations, providing experience in all branches of E.N.T. work, including audiometry. The Group includes a diagnostic and distributing hearing aid centre. Occasional work at other hospitals may be required. Applications, with copies of three recent testimonials, should be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8226)

CARLISLE, EAST CUMBERLAND INFIRMARY (322 beds)
East Cumberland Hospital Management Committee
Applications are invited for the undermentioned resident post, vacant April 1, 1952, and tenable for six months:
"SPECIALS" HOUSE OFFICER
(Ear, Nose and Throat and Ophthalmic)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (8970)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
HOUSE SURGEON
to the E.N.T. Department for a period of six months from April 1, 1952. The post is recognized for the D.L.O. and the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (9051)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Ear, Nose and Throat)
Applications are invited from registered medical practitioners for the above post, which is now vacant. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience, £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8075)

OXFORD, UNITED, HOSPITALS
Applications are invited for the post of
HOUSE SURGEON
to the Department of Otolaryngology at the Radcliffe Infirmary, for six months commencing April 8. Applications, stating age, qualifications, and experience, together with the names of two referees, should be sent as soon as possible to the Administrator, Radcliffe Infirmary, Oxford. (9087)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)
Applications are invited for the post of
HOUSE SURGEON (E.N.T. Department).
Male or female. Vacant immediately. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (E.N.T. Department)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (9075)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds with full consultant staff)
CITY HOSPITAL, York
(Modern general hospital of 265 beds with full consultant staff)
E.N.T. HOUSE SURGEON
The E.N.T. Department (which is mainly at the County Hospital) has approximately 30 beds, is recognized for the D.L.O., and offers excellent opportunities for learning the specialty. Appointment for six months initially, and is vacant immediately. Previous experience preferable, but not essential. Residence available at the County Hospital. Salary £400 for second post, £450 for third post, less £100 for residence. Applications, giving age, nationality, experience and qualifications, and names of two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (9208)

GERIATRICS

YORK, GRANGE HOSPITAL (269 beds)
JUNIOR HOSPITAL MEDICAL OFFICER IN GERIATRICS
Salary £700 by £50 to £1,000. Charge for residence £153. Person appointed may be non-resident. Post vacant from March 19. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (9209)

SUNDERLAND, GENERAL HOSPITAL
HOUSE PHYSICIAN
for Geriatric Department (264 beds)
Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (9159)

NEUROLOGY

BIRMINGHAM, UNITED, HOSPITALS
Queen Elizabeth Hospital
Applications are invited for the temporary non-resident appointment of
SENIOR REGISTRAR
in the Department of Neurology
for the period ending December 31, 1952. Previous neurological experience and possession of the M.R.C.P. are essential. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him at once. (8788)

NEUROSURGERY

SALFORD GROUP OF HOSPITALS
Manchester Regional Hospital Board
Applications are invited for the post of
NON-RESIDENT REGISTRAR in Neurosurgery
with main duties at Salford Royal Hospital. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 24, 1952. (9111)

BRISTOL, FRENCHAY HOSPITAL
(470 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Regional Neurosurgery Department
Vacant in March. This post offers useful surgical experience and the opportunity of gaining a working knowledge of neurological diagnosis. Two referees required. Applications to the Secretary, Frenchay Hospital, quoting "N.S.F." (8892)

LEEDS, UNITED, HOSPITALS
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Department of Neuro Surgery. The appointment is resident and candidates should have held at least one previous house appointment, not necessarily in neuro-surgery. Applications stating age, sex, nationality, qualifications, and experience, to be sent as soon as possible to the undersigned.—S. Clayton Fryers, Secretary to the Board, General Infirmary, Leeds, 1. (9199)

LEEDS, UNITED, HOSPITALS
Applications are invited for the post of
RESIDENT JUNIOR HOUSE OFFICER
in the Department of Neuro-Surgery which is vacant at the present time. Applications, stating age, sex, nationality, qualifications, and experience, to be sent as soon as possible to the undersigned.—S. Clayton Fryers, Secretary to the Board, General Infirmary, Leeds, 1. (9200)

OBSTETRICS AND GYNAECOLOGY

ROYAL FREE HOSPITAL GROUP
Applications are invited for the appointment of
REGISTRAR
to the Gynaecological and Obstetric Department
for work at the Elizabeth Garrett Anderson Hospital, and Hampstead General Hospital. Applicants must be registered general practitioners of not more than ten years' qualification. The appointment is full time, resident for one year in the first instance. Duties to commence on May 1, 1952. Salary and conditions of service in accordance with those published by the Ministry of Health. Application forms may be obtained from the Secretary to the Board of Governors, The Royal Free Hospital, Gray's Inn Road, London, W.C.1, to whom they should be returned not later than April 1. (9210)

BURY AND ROSSENDALE GROUP OF HOSPITALS
Manchester Regional Hospital Board
Applications are invited for the post of
RESIDENT REGISTRAR
in Obstetrics and Gynaecology
with main duties at Fairfield General Hospital. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 17, 1952. (9112)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid-Herts Group Hospital Management Committee
TEMPORARY REGISTRAR
Required from April 1, 1952, for an indefinite period for duties mainly at Osterhills Unit for Gynaecological and Obstetric work. Hospital recognized for the D.Obst.R.C.O.G. and application for recognition of the M.R.C.O.G. is under consideration. Applications, giving full particulars of age, qualifications and experience, together with the names of two referees, to be forwarded to the Sec., Osterhills, Normandy Rd., St. Albans. (9052)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Obstetrics and Gynaecology—contd.

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
WHOLE-TIME RESIDENT OBSTETRIC AND GYNAECOLOGICAL REGISTRAR

Required, one year in first instance, at Edgware General Hospital, Edgware, Middlesex, and Bushey Maternity Hospital, Bushey Heath (110 maternity beds and 36 gynaecological beds). Duties will include the preparation of the Annual Clinical Report. Hospital may be visited by direct appointment with Medical Director. Application forms obtainable from, and returnable to, the Group Secretary, Hendon Group Hospital Management Committee, Edgware General Hospital, Edgware, Middlesex, by March 15, 1952. (9133)

NEW END HOSPITAL, Hampstead, N.W.3

Applications are invited for the post of
SENIOR HOUSE OFFICER (Obstetrics)
vacant April 8, 1952. Applications, stating age, qualifications and previous experience, together with copies of two recent testimonials and name of one referee, to Surgeon Specialist/Superintendent by March 17, 1952. (9053)

ASHTON-UNDER-LYNE, LAKE HOSPITAL
(600 beds)
Ashton, Hyde and Glossop Hospital Management Committee
SENIOR HOUSE OFFICER (Obstetrics)

Required April 1, 1952. Maternity unit of 65 and Gynaecological ward of 30 beds. Post recognized for M.R.C.O.G. Preference will be given to holders of previous House Officer posts. N.H.S. terms and conditions of service. Applications, giving age, nationality, qualifications, and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (8643)

BARKING HOSPITAL (Maternity)
Ilford and Barking Group Hospital Management Committee

There will be a vacancy for a
RESIDENT SENIOR HOUSE OFFICER
(Male or female)
on March 19, 1952. Salary being £670 per annum, less emoluments valued at the rate of £150 per annum. Applicants should have been qualified not less than one year. Duties will include ante-natal work. Applications, accompanied by copies of testimonials, should be sent to the undersigned within seven days of the appearance of this advertisement.—G. Austin Hepworth, Secretary, King George Hospital, Ilford. (8668)

CROYDON, SURREY, MAYDAY HOSPITAL
(619 beds)
Croydon Group Hospital Management Committee
SENIOR GYNAECOLOGICAL AND OBSTETRICAL HOUSE OFFICER

For period of six months in first instance, commencing about April 1. Post, which is resident, is recognized for M.R.C.O.G. Forms of application obtainable from George A. Paines, Secretary, Hospital Management Committee, General Hospital, Croydon, to be returned by March 15 (8694)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee

Applications are invited for post, vacant now, of
SENIOR HOUSE SURGEON (Gynaecology)
(Male or female)
for duties at the above hospital and Scarthoe Road, Infirmary, Grimsby. Apply to Administrative Officer, Grimsby General Hospital. (7020)

HALIFAX GENERAL HOSPITAL (425 beds)
SENIOR HOUSE OFFICER in Obstetrics and Gynaecology (Male or female)

Required at above hospital, which has 86 maternity and 30 gynaecological beds with 1,800 deliveries annually and is recognized for the M.R.C.O.G. Applications, together with copies of three recent testimonials, to be forwarded to the Secretary at the Royal Halifax Infirmary. (8458)

MANCHESTER, SAINT MARY'S HOSPITALS
United Manchester Hospitals

Applications are invited for two posts of
SENIOR HOUSE OFFICER (Obstetrical)
respectively at the Whitworth Street Branch and Prestbury Branch of the hospitals. The appointments are for six months, to commence on July 1, 1952. The successful candidates will be required to reside in the hospital and will discharge the duties of Assistant Resident Obstetric Surgeons. Candidates must have had, in addition to previous obstetrical and gynaecological experience, at least one year's postgraduate hospital experience in general medicine and in general surgery. Salary for each post is at the rate of £670 per annum. Forms of application for the appointment may be obtained from the undersigned, and should be returned not later than April 5, 1952 The names and addresses of three referees are required.—A. R. Wise, General Superintendent, Saint Mary's Hospitals, Whitworth Park, Manchester, 13. (9154)

POOLE GENERAL HOSPITAL
Bournemouth and East Dorset Hospital Management Committee
RESIDENT OBSTETRIC OFFICER

Salary £670 per annum. Post vacant March 25, 1952. The post is recognized for the D.Obst. R.C.O.G. Applications to the Assist. Sec. (8971)

ROSSENDALE GENERAL HOSPITAL
Rawtenstall
(Beds. 25 Obstetric, 8 Gynaecological)
Bury and Rossendale Hospital Management Committee

There is a vacancy for a
SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)
at the above hospital. Salary and conditions of service are in accordance with national recommendations. Applications, stating age, qualifications, experience, nationality, and other relevant details, together with the names and addresses of two referees, or copies of recent testimonials, should be sent to the undersigned as soon as possible.—H. Wilkinson, Sec. to Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9211)

WATFORD MATERNITY HOSPITAL
King Street, Watford (58 beds)

Applications are invited for the resident post of
SENIOR OBSTETRIC OFFICER
for duties commencing April 1, 1952. Salary £670 per annum, less £100 for residential emoluments. Post recognized for M.R.C.O.G. examinations. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and copies of three testimonials, should be sent to the Administrator. (9113)

WOLVERHAMPTON HOSPITAL MANAGEMENT COMMITTEE
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region

Applications are invited from registered medical practitioners for the appointment of
RESIDENT SENIOR HOUSE OFFICER
(Obstetric)
vacant April 12. Previous obstetric experience is desirable. The appointment is to the Obstetric and Gynaecological Service of Group No. 16 Birmingham Region, and is primarily centred at New Cross Hospital (40 obstetric beds). The post is recognized for the D.(Obst.)R.C.O.G. Applications, with copies of three recent testimonials, to be sent to W Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (9079)

BETHNAL GREEN HOSPITAL
Cambridge Heath Road, London, E.2
(General—313 beds)
Central Group Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Gynaecology and Obstetrics)
which becomes vacant on April 15, 1952. The salary, depending upon the number of previous posts held, is £350, £400 or £450 per annum. Applications, stating age, nationality, qualifications and experience, together with three testimonials, should reach the Assistant Sec. by March 18. (9174)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1

Applications are invited from registered women practitioners for the post of
OBSTETRIC HOUSE SURGEON
(Recognized for the M.R.C.O.G.)
Duties to commence May 1, 1952. Appointment for six months. Salary in accordance with National Health Service scale for House Officers. Applications, with copies of three recent testimonials, to be sent to the Secretary by March 12. (8839)

LAMBETH HOSPITAL, Brook Drive, S.E.11

Applications are invited from registered medical practitioners for the posts of
TWO RESIDENT HOUSE SURGEONS
in the Obstetrical and Gynaecological Department
Appointments are for six months commencing April 10 and 27, 1952. The hospital is recognized for the M.R.C.O.G. Forms of application may be obtained from the Physician Superintendent at the hospital. (8961)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT OBSTETRIC HOUSE SURGEON

Must have held house appointment in either medicine or surgery. Large obstetric and gynaecological department. Post approved for membership and Diploma R.C.O.G. Six months' appointment. Vacant May 1. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Secretary of hospital by March 22. (9175)

ASHTON-UNDER-LYNE, LAKE HOSPITAL
(600 beds)
Ashton, Hyde and Glossop Hospital Management Committee
OBSTETRIC HOUSE SURGEON

Required late March. Maternity Unit of 65 beds and Gynaecological Ward of 30 beds. Post recognized for D.R.C.O.G. N.H.S. terms and conditions of service. Applications, giving age, nationality, qualifications, and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (8644)

AYLESBURY, STOKE MANDEVILLE HOSPITAL, Bucks
HOUSE SURGEON (First or second post)
for Gynaecological Department

Vacant now. Applications, with two testimonials, to the Administrative Officer. (9009)

BRIGHTON, SUSSEX MATERNITY HOSPITAL
Buckingham Road (65 beds)
Brighton and Lewes Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE SURGEON
for a period of six months from April 14, 1952 Salary at the rate of £350 to £450 a year, according to experience, less £100 a year in respect of emoluments. The hospital is recognized for the M.R.C.O.G. Applications, stating age, qualifications, nationality, and copies of recent testimonials, should be sent to the Administrative Officer on or before March 21, 1952. (9088)

CAMBRIDGE, UNITED, HOSPITALS
Maternity Hospital

Applications are invited for the post of
RESIDENT OBSTETRICAL OFFICER
(Second or subsequent post)
vacant on May 1, 1952. Salary, terms and conditions as approved for hospital medical staff. Applications, stating age, qualifications (with dates) and nationality, and accompanied by copies of three recent testimonials, should be sent to the undersigned on or before Saturday, March 22, 1952.—J. A. Beardsall, Secretary. (9054)

CARLISLE—EAST CUMBERLAND HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the following resident posts for the six months commencing April 1, 1952:

Cumberland Infirmary, Carlisle (322 beds)
HOUSE OFFICER
(Gynaecology and Obstetrics)
City General Hospital (146 beds) and City Maternity Hospital, Carlisle (57 beds)
HOUSE OFFICER
(Obstetrics and Gynaecology)

Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (8972)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
OBSTETRIC HOUSE SURGEON

Applications are invited from registered medical practitioners for this post, now vacant, which is recognized for the D R.C.O.G. Salary £350 to £450 per annum, according to experience Applications, stating age, qualifications, nationality, and experience, to be addressed to the Surgeon Superintendent. (9164)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee

Applications are invited from medical practitioners, male or female, for the post of
HOUSE SURGEON
to the Gynaecological Department
commencing May 18, 1952. Applications, giving full details, together with copies of two recent testimonials, should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings. (8174)

DERBY CITY HOSPITAL, Derby
Derby Area No. 1 Hospital Management Committee

A recently built acute general hospital. There are seven residents. Applications are invited from registered medical practitioners, male or female, for the appointment of
OBSTETRICAL HOUSE SURGEON
Previous experience in obstetrics is desirable. The hospital has a large obstetrical department and is recognized in obstetrics for the Membership and the Diploma R.C.O.G. The appointment is vacant at the end of April. Apply to Medical Superintendent as soon as possible. (8992)

EAST FIFE HOSPITALS BOARD OF MANAGEMENT
Craigtoun Maternity Hospital, St. Andrews, and Netherlea Maternity Hospital, Newport

Applications are invited for the appointment of
RESIDENT HOUSE OFFICER (preferably female)
The post will become vacant on April 1, 1952, and the tenure will be for six months The successful applicant will be required to spend three months at Craigtoun Maternity Hospital (40 beds) and three months at Netherlea Maternity Hospital (17 beds). Salary in accordance with national scale, i.e. £350 per annum, less emoluments, for a first appointment Apply, with references, to the Medical Superintendent, East Fife Hospitals Board of Management 243A, High Street, Kirkcaldy (9134)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE SURGEON
to the Gynaecological and Abnormal Maternity Department

Required to commence duties on April 1, 1952. Salary in accordance with terms and conditions of service for hospital medical and dental staff, with full residential emoluments. Applications, together with copies of three recent testimonials, to be addressed to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (8082)

Obstetrics and Gynaecology—contd.

HALIFAX ROYAL INFIRMARY
(301 beds—44 maternity)
OBSTETRICAL HOUSE SURGEON (Male)

Salary according to experience. The post is recognized for the D.R.C.O.G. and is now vacant. Applications, stating age, qualifications and experience, together with three recent testimonials, to be forwarded to the Secretary. (8500)

INVERNESS, ROYAL NORTHERN INFIRMARY
Inverness Hospitals Board of Management
HOUSE SURGEON to the Gynaecologists

Required from April 1, 1952. Applications, with references, to Medical Superintendent. (8818)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (General—207 beds)

Applications are invited from registered medical practitioner for the appointment of
OBSTETRIC AND GYNAECOLOGICAL HOUSE SURGEON
(House Officer Grade. Second or third post)
Post vacant April 1, 1952. Post recognized for D.R.C.O.G. Applications to be sent to Miss V. Wells, Hospital Secretary. (9010)

MAIDENHEAD, CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow
HOUSE SURGEON
to the Unit of Obstetrics and Gynaecology

Post vacant May 5 and is recognized for M.R.C.O.G. Preference will be given to candidates who have had previous experience in midwifery and gynaecology. Salary on national scale. Applications, stating age, experience, and qualifications (with dates), together with copies of two testimonials, should be sent to the Administrative Officer. (9011)

MANCHESTER, SAINT MARY'S HOSPITALS
United Manchester Hospitals

Vacancies in the resident medical establishment occur as follows:
OBSTETRICAL HOUSE SURGEONS
July 1, 1952, and October 1, 1952
GYNAECOLOGICAL HOUSE SURGEONS
January 1, 1953, and April 1, 1953

Applications are invited for any of these appointments from registered medical practitioners who have already completed one year's residence in a general hospital. Previous gynaecological or obstetrical experience is not required. Applications should state whether obstetrical or gynaecological appointments are sought, or whether applicants desire to apply for either type of appointment. Normally, the appointments are made three months in advance of the date of taking up duty, but candidates are not debarred from forwarding applications up to one year in advance of the date for which they wish their applications to be considered. National scales. Application forms may be obtained from the undersigned.—A. R. Wise, General Superintendent, Whitworth Park, Manchester, 13 (9153)

RUGBY, HOSPITAL OF ST. CROSS and ST. MARY'S HOSPITAL
HOUSE SURGEON
for Obstetric (50 beds) and Gynaecological (12 beds) Departments

Required April 1, 1952. Applications stating age, qualifications, and experience, together with copy testimonials, to Assistant Secretary, Hospital of St. Cross, Rugby. (9212)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group 15 Hospital Management Committee

Applications are invited for the post of
GYNAECOLOGICAL HOUSE SURGEON
(Male or female)
vacant April 14, 1952. There are 50 gynaecological beds and two House Surgeons. The appointment is recognized for the M.R.C.O.G. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury, by not later than March 29, 1952.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (9135)

OPHTHALMOLOGY

LEICESTER ROYAL INFIRMARY
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the non-resident post of
REGISTRAR (Ophthalmology)
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9012)

BRISTOL EYE HOSPITAL (84 beds)
United Bristol Hospitals

Applications are invited for the following posts, vacant on May 1, 1952, and tenable for six months:
SENIOR OPHTHALMIC HOUSE SURGEON
(Senior House Officer Grade)
OPHTHALMIC HOUSE SURGEON
JUNIOR OPHTHALMIC HOUSE SURGEON
The present holders of the second and third posts may be applicants for the first and second posts respectively. Applications, stating age, qualifications, nationality and experience, together with the names of two referees, should be sent by March 14, 1952, to the Secretary, United Bristol Hospitals, Bristol Royal Infirmary, Bristol, 2. (8462)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee

Applications are invited for the appointment of
SENIOR HOUSE OFFICER
in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952 Salary £670 a year, less £150 a year for residential emoluments. Applications should be forwarded as soon as possible to the Administrative Officer, Kent County Ophthalmic and Aural Hospital, Church Street, Maidstone. (5359)

NOTTINGHAM AND MIDLAND EYE INFIRMARY
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Ophthalmic)

Required to undertake work at the above infirmary. Salary and conditions of service in accordance with those published by the Ministry of Health. The post becomes vacant on April 1, 1952, and applications, stating age, qualifications, and experience, together with copies of testimonials, should be sent to the undersigned.—Henry M. Stanley, Secretary, General Hospital, Nottingham. (8671)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee

Applications are invited for the post of
OPHTHALMIC HOUSE SURGEON
for duties at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. (Recognized for D.O.M.S.) Vacant now. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer, Hull Royal Infirmary. (8596)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds, General)
HOUSE SURGEON

For Ophthalmic and E.N.T. Departments, tenure of post six months. Salary dependent on the number of posts previously held and in accordance with the terms and conditions of service for hospital medical staff. Apply as soon as possible to the Hospital Secretary. (8326)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Ophthalmic)

Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8463)

ORTHOPAEDICS

EASTERN REGIONAL HOSPITAL BOARD
(Scotland)

Applications are invited for an appointment as
ASSISTANT SURGEON (Consultant)
(Orthopaedics)
in the Regional Orthopaedic Service, which is based on Bridge of Earn Hospital, Perthshire (total bed complement 800, with 280 orthopaedic beds), and Dundee Royal Infirmary (total bed complement 550 beds, with 50 orthopaedic beds). The person appointed will work under the supervision of the Consultant Orthopaedic Surgeon for the Region. Salary and conditions in accordance with National agreement. Further particulars and forms of application may be had from the Secretary to the Board, 430, Blackness Road, Dundee, with whom all applications must be lodged not later than March 22, 1952. (9249)

NEWCASTLE REGIONAL HOSPITAL BOARD
Hexham Hospital Management Committee Group
Main hospitals: Hexham General (340 beds); Hexham and District War Memorial (32 beds), etc.
CONSULTANT ORTHOPAEDIC SURGEON
(Whole-time or part-time)

For minimum of nine notional half-days. The General Hospital has 130 orthopaedic beds, 44 of which are for surgical tuberculosis cases. Salary scale £1,700 to £2,750 whole-time, pro rata part-time. The Surgeon appointed will be required to reside in or near Hexham. Canvassing will disqualify, but candidates are invited to see the hospitals by arrangement with the Secretary, Hexham General Hospital. Applications, with names and addresses of one to three referees and/or one to three testimonials, should be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle, 2, within twenty-eight days. (9070)

MANCHESTER, UNITED HOSPITALS

The Board of Governors invite applications for the post of
CONSULTANT ORTHOPAEDIC SURGEON
with charge of the Department of Orthopaedic Surgery at the Manchester Royal Infirmary (which also includes beds at Barnes Hospital, Cheadle, Cheshire). The successful applicant will be required to undertake a minimum of six sessions per week. Remuneration according to N.H.S. scale for Consultant rank. Twelve copies of application, together with the names of three referees, should be addressed to the undersigned not later than March 28, 1952.—F. J. Cable, Secretary to the Board of Governors, United Manchester Hospitals, Office of the Board, Manchester Royal Infirmary. (8764)

BARNSLEY, BECKETT HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the resident whole-time post of
REGISTRAR (Orthopaedics)
to the above hospital. Single accommodation is available. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield, 10, to arrive not later than March 24, 1952. (9055)

ISLEWORTH, MIDDLESEX, WEST MIDDLESEX HOSPITAL (1,250 beds)
North-West Metropolitan Regional Hospital Board
WHOLE-TIME REGISTRAR
for Orthopaedic and Traumatic Department

One year in first instance. Candidates may visit hospital by appointment with Medical Director. Application forms, obtainable from, and returnable to, Secretary South-West Middlesex Group Hospital Management Committee, West Middlesex Hospital, Isleworth, by March 18, 1952. (9250)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of
NON-RESIDENT REGISTRAR in Orthopaedic Surgery
for duties at St James's Hospital, Leeds, and the Public Dispensary, Leeds. Applications, stating age, qualifications, details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 21, 1952. (9013)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for three posts of
REGISTRAR in Orthopaedic Surgery
as follows: (a) Blackpool and Fylde Group of hospitals, with main duties at Victoria Hospital, Blackpool (non-resident). (b) Blackburn and District Group of hospitals, with main duties at Blackburn Royal Infirmary (resident). (c) Bolton and District Group of hospitals, with main duties at Bolton Royal Infirmary (resident or non-resident). Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 24, 1952. (9115)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the post of
REGISTRAR in Orthopaedic Surgery
with main duties in the Wigan and Leigh Group of hospitals and also with duties at Wrightington Orthopaedic Hospital (300 beds for surgical tuberculosis). The successful applicant will be required to reside for part of his period of appointment at Wrightington Hospital and for the remainder at Astley Hospital. This appointment offers good experience in both general orthopaedic surgery and tuberculosis of the joints and bones. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 24. (9114)

STOKE-ON-TRENT GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of
Whole-time ORTHOPAEDIC REGISTRAR
Duties at North Staffs Royal Infirmary, Stoke-on-Trent (475 beds), with some duties at the Orthopaedic Hospital (77 beds). Appointment non-resident. Experience in specialty essential. Possession of higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 24, 1952. Candidates may visit the hospital. (9204)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Orthopaedics—contd.

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London, W.C.1
There will be a vacancy on May 15, 1952, for
HOUSE SURGEON
to the Orthopaedic and Plastic Departments
(Senior House Officer)
Further particulars and form of application, which must be returned not later than April 7, 1952, are obtainable from the undersigned.—H. F. Rutherford, House Governor and Secretary. (9136)

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL
ORTHOPAEDIC, TRAUMATIC, AND CASUALTY SENIOR HOUSE OFFICER
Applications are invited for the above resident appointment. Hospital comprises 189 beds with large out-patient departments. Duties comprise service in the orthopaedic, traumatic, and casualty departments, and the post is recognized for F.R.C.S. Salary £670 per annum, less £100 per annum for emoluments. Applications, with two recent copy testimonials, to be forwarded to the Secretary, Barrow and Furness Hospital Management Committee, 52, Paradise Street, Barrow-in-Furness. (8741)

BLACKBURN ROYAL INFIRMARY (244 beds)
SENIOR HOUSE OFFICER
Required for Orthopaedic and Fracture Departments, which include the Casualty Department. Salary £670 per annum, less the appropriate deduction in respect of board residence if resident, but appointment may be non-resident if desired. The post is recognized for the F.R.C.S. examination. Applications, stating age, experience and qualifications, and accompanied by copies of two recent testimonials or names for reference, to be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (8655)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £670 per annum, less £130 per annum for residential emoluments.
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments.
Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8842)

BRISTOL (near), WINFORD ORTHOPAEDIC HOSPITAL (235 beds)
SENIOR HOUSE OFFICER
Applications are invited from registered medical practitioners to fill vacancy at end of April, 1952. Position tenable for twelve months. Salary £670 per annum. Apply, stating age, qualifications, and experience, with copies of testimonials, to the undersigned as soon as possible.—E. N. Roper, Secretary-Administrator. (8742)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
SENIOR ORTHOPAEDIC HOUSE SURGEON
Applications are invited for the above appointment, which is tenable for one year. Salary £670 per annum and conditions of service in accordance with the National Health Service terms. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (5468)

CARDIFF, PRINCE OF WALES ORTHOPAEDIC HOSPITAL
Cardiff Hospital Management Committee
SENIOR HOUSE OFFICER (sole resident)
Orthopaedic experience essential. Transfer to new premises probably during appointment. Application forms from the Secretary, Cardiff H.M.C., 44, Cathedral Road, Cardiff. (8974)

DONCASTER ROYAL INFIRMARY
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners with the necessary experience for the appointment of
ORTHOPAEDIC HOUSE SURGEON
in the grade of Senior House Officer
Salary at the rate of £670 per annum, from which a deduction of £130 per annum will be made for board, residence, etc. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with copies of three testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (8973)

HEXHAM GENERAL HOSPITAL (317 beds)
Hexham and District Hospital Management Committee
The post of
SENIOR HOUSE OFFICER
in the Orthopaedic Department (140 beds)
at the above hospital is now vacant. The department is attended by orthopaedic consultants of the Royal Victoria Infirmary, Newcastle, and the post is recognized for the English Fellowship. Salary £670 per annum. Married residential accommodation will be available shortly for which an appropriate charge will be made. Applications, with names of three referees, should be sent as early as possible to the undersigned.—W. Stokell, Sec., General Hospital, Hexham, Northumberland. (9261)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
(140 beds—5 residents)
Applications are invited for the post of
RESIDENT SENIOR HOUSE SURGEON
to the Traumatic and Orthopaedic Department
Duties include charge of casualty department, under consultant staff, care of in-patient beds and supervision of other residents. The hospital is a peripheral centre of the Oxford Regional Orthopaedic Service based on the Wingfield Morris Orthopaedic Hospital. Salary £670 per annum, with deduction for residence. Post recognized for F.R.C.S. Applications, with testimonials, to the Secretary, St. Mary's Cottage, High Wycombe, Bucks. (9014)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
SENIOR HOUSE OFFICER
(Orthopaedic Surgery)
at the above hospital. The appointment will be for a period of one year and the salary will be in accordance with the agreed terms and conditions of service of hospital medical and dental staff, namely, £670 per annum, with an appropriate deduction in respect of board, lodging and other services provided. Forms of application, available from the undersigned, should be completed and returned as soon as possible.—J. Folkard, Secretary to the Committee, Administrative Offices, St. James's Hospital, Leeds, 9. (8975)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
TWO SENIOR HOUSE OFFICERS
Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out-patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible. (6671)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)
Applications are invited from registered medical practitioners for the posts of
RESIDENT SENIOR HOUSE SURGEONS
The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

NUNEATON, MANOR HOSPITAL (139 beds)
SENIOR HOUSE SURGEON
to Traumatic and Orthopaedic Department (40 beds)
The hospital treats all accident and orthopaedic cases for an area with a population of 100,000, and is well equipped with ancillary services. Applications to the Assistant Secretary. (8743)

PLYMOUTH, MOUNT GOLD ORTHOPAEDIC HOSPITAL
Applications are invited for the appointments of
TWO SENIOR HOUSE OFFICERS
at the above hospital (120 beds). The appointments are resident and the salaries and conditions of service are in accordance with the National Health Service terms. Some experience in orthopaedics is desirable. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, should be sent to the Secretary, Plymouth Special H.M.C., 8, Nelson Gardens, Stoke, Plymouth. (8895)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
SENIOR HOUSE OFFICER (Orthopaedic)/CASUALTY OFFICER
Required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8744)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(12 Residents)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
SENIOR HOUSE OFFICER
(Orthopaedic and Traumatic Surgery)
Salary is in accordance with the National Health Service scale. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (6986)

STOKE-ON-TRENT, ORTHOPAEDIC HOSPITAL
Hartshill (78 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Sec. (9056)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
SENIOR HOUSE OFFICER
(Fracture and Orthopaedic Department)
HOUSE OFFICER
(Fracture and Orthopaedic Department)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (9076)

ST. ALFEGE'S HOSPITAL
Greenwich, S.E.10 (504 beds)
Applications are invited for the post of
HOUSE SURGEON
to the Orthopaedic and Special Departments
at the above hospital for a period of six months from an early date. Salary £350 to £450, according to experience, less £100 per annum for board and lodging. Applications, together with copies of not more than three recent testimonials, should reach Secretary, Greenwich and Deptford Hospital Management Committee, at the above hospital as soon as possible. (8789)

AMERSHAM GENERAL HOSPITAL
(124 acute beds)
RESIDENT HOUSE OFFICER
Orthopaedic and Accident Department
Applications are invited. Duties include charge of casualty department under visiting consultant staff and care of in-patient beds. Hospital is a peripheral centre of Oxford Regional Orthopaedic Service based on Wingfield Morris Orthopaedic Hospital. Applications, with copies of three recent testimonials, to Secretary, Management Committee, Amersham General Hospital, Bucks. (9015)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT HOUSE OFFICER (Male)
Required for wards taking traumatic and orthopaedic, vacant April 10. Six months' appointment. National Health Service salary and terms of service. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by March 15, 1952. (8843)

BEBINGTON, CHESHIRE, CLATTERBRIDGE HOSPITAL (840 beds)
Central Wirral Group
HOUSE OFFICER (Orthopaedic Surgery)
Salary in accordance with current terms and conditions of service. Six months' appointment commencing April 1, 1952. Application forms from Group Sec., to be returned by March 18. (9176)

BRADFORD ROYAL INFIRMARY
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (8844)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Applications are invited for the post of
ORTHOPAEDIC HOUSE SURGEON
Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (5801)

CARLISLE, CUMBERLAND INFIRMARY
(322 beds)
East Cumberland Hospital Management Committee
Applications are invited for the undermentioned resident post, vacant April 1, 1952, and tenable for six months.
HOUSE OFFICER (Orthopaedic and Fracture)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (8976)

EDINBURGH, PRINCESS MARGARET ROSE HOSPITAL FOR CRIPPLED CHILDREN
Applications are invited from registered medical practitioners for two appointments of
HOUSE SURGEON
in the above hospital for six months each, commencing April 1, 1952. The appointments are resident, at National Health Service scales of salary. Applications, stating date of birth, qualifications and experience, and the names of two referees, to be sent immediately to the Medical Superintendent, Edinburgh Central Hospitals, 18, Rillbank Terrace, Edinburgh, 9. (9254)

Orthopaedics—contd.

INVERNESS, RAIGMORE HOSPITAL (408 beds)
TWO ORTHOPAEDIC HOUSE SURGEONS
Required for the six months' period commencing April 1, 1952. (Orthopaedic department—140 beds). Apply, with two testimonials or names of two referees, within fourteen days of appearance of this advertisement to Medical Superintendent. (9177)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
FULL-TIME, RESIDENT HOUSE OFFICER
(First, second or third post) (Orthopaedic Unit)
Applications (endorsed "House Officer, Orthopaedic Unit, W.M.H."), stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Secretary, West Middlesex Hospital, Isleworth, by March 18, 1952. (9251)

LEICESTER GENERAL HOSPITAL (445 beds)
Applications are invited for the post of
HOUSE SURGEON (Orthopaedic)
commencing April 1, 1952. Applications, stating age, experience, and qualifications, together with copies of recent testimonials, to Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8328)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds)
(Base Hospital for the Newport and East Monmouthshire Group—10 residents)
Applications are invited for the post of
HOUSE OFFICER (Orthopaedics)
vacant April 1. The post is recognized for the Fellowship of the Royal College of Surgeons. The fracture and orthopaedic department is a self-contained unit of 36 beds, and affords a good opportunity for gaining experience in this speciality. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (8695)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE HOUSE SURGEON
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
ORTHOPAEDIC HOUSE SURGEON
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting Ref. No. A/825, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (8896)

PEMBURY HOSPITAL
Tunbridge Wells Group Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON to Orthopaedic Unit
Vacant April 1, 1952. Post, for six months in first instance, is recognized for F.R.C.S.(Eng.). Previous experience desirable. Work of unit includes treatment of long and short stay cases and traumatic surgery. Applications, stating, age, qualifications, experience, with three testimonials, to Surgeon Superintendent. (9178)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8464)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, now vacant. Salary £350 to £450 per annum, according to experience Applications, stating age, qualifications, nationality and experience, to be addressed to the Administrative Officer. (8817)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)
Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6675)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(12 Residents)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Orthopaedic and Casualty)
Salary in accordance with the National Health Service scale. The post is recognized by the Royal College of Surgeons as qualifying appointment for the Final Fellowship examination. - Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton H.M.C., Musgrove Park Hospital, Taunton, Somerset. (7025)

PAEDIATRICS

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN
United Sheffield Hospitals
Applications are invited from registered medical practitioners for the resident post of
REGISTRAR OR SENIOR HOUSE OFFICER
according to experience, to the Paediatric Department at the above hospital, vacant April 16, 1952. Previous paediatric experience essential. The post is associated with the Department of Child Health in the University of Sheffield. Appointee may be required to attend one out-patient session per week at the Children's Hospital Unit. Applications, stating age, qualifications and experience, together with names of three referees, should be received by the undersigned within ten days of the appearance of this advertisement.—Chief Administrative Officer, The United Sheffield Hospitals, The Royal Hospital, Sheffield, 1. (9252)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE GROUP
Newcastle Regional Hospital Board
Whole-time REGISTRAR PAEDIATRICIAN
Required up to August 31, 1952, in the first instance, renewable annually. Salary £775 to £890 per annum. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle, 2, within 14 days. (9016)

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London, W.C.1
There will be a vacancy on May 15, 1952, for
HOUSE PHYSICIAN (Senior House Officer)
Further particulars and form of application, which must be returned not later than April 7, 1952, are obtainable from the undersigned.—H. F. Rutherford, House Governor and Secretary. (9137)

ST. GEORGE'S HOSPITAL, S.W.1
Applications are invited for the post of
RESIDENT MEDICAL OFFICER
in the grade of Senior House Officer, for duty at the Victoria Hospital for Children, Tite Street, Chelsea, S.W.3. Candidates for this post must have had resident hospital experience in the diseases of children. The post falls vacant on May 1, 1952. Applications, together with the names of two referees, must be received by the undersigned not later than March 21, 1952.—P. H. Constable, House Governor. (9213)

BANGOR, COUNTY HOSPITAL
(Specialist Hospital for Women and Children)
Caernarvon and Anglesey Hospital Management Committee
Applications are invited for the post of
RESIDENT PAEDIATRIC OFFICER
(Senior House Officer Grade)
Duties to commence on May 1, 1952. Preference will be given to candidates with previous experience in neo-natal and premature infant care. The Paediatric Unit is recognized for the D.C.H. Salary according to scale. Applications, stating age, qualifications, details of previous hospital appointments, and names and addresses of two referees, to be forwarded to the undersigned as soon as possible.—H. Hewitt-Cooke, Secretary, Plas Gwyn, Friddoedd Road, Bangor, N. Wales. (9214)

BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
SENIOR HOUSE OFFICER (Paediatrics)
Applications are invited for the above post, with duties mainly at Blackburn Royal Infirmary, Queen's Park Hospital, Victoria Hospital, Accrington, and Park Lee I.D. Hospital, Blackburn. Applications, stating age, experience and qualifications, together with names of two referees, should be forwarded to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn (8653)

HAMMERSMITH HOSPITAL and POSTGRADUATE MEDICAL SCHOOL
London, W.12
HOUSE PHYSICIAN (Paediatrics)
Required April 1. "R" practitioners not considered. Age, qualifications, experience, copies of testimonials to Secretary, Board of Governors, by March 15. (9215)

BRADFORD CHILDREN'S HOSPITAL
(102 beds)
HOUSE OFFICER (Female)
Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Hospital recognized for D.C.H. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary Bradford Royal Infirmary. (8845)

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke Road
Brighton and Lewes Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
Duties to commence on April 20, 1952, for a period of six months. Post offers wide experience in paediatrics and is recognized for D.C.H. Previous experience in speciality an advantage. Applications, stating age, nationality, qualifications and experience, together with copies of recent testimonials, to be submitted to the Administrative Officer on or before March 21, 1952. (9179)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE OFFICER (Paediatrics)
Vacant May 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9216)

CHELTENHAM GENERAL EYE AND CHILDREN'S HOSPITAL
(Children's Department)
Applications are invited for the post of
RESIDENT MEDICAL OFFICER
(House Officer grade)
for the Children's Department (50 beds)
The appointment, which is recognized for candidates entering for the D.C.H., offers scope for wide experience in all departments of paediatrics, surgical cases, and attendance at out-patient departments at the General Hospital. Previous hospital experience in paediatrics is desirable. Salary and conditions of service in accordance with the National Health Service Regulations. The appointment will be for a period of six months in the first instance. Applications, together with three testimonials, should be addressed immediately to S. T. Davis, Secretary-Superintendent, Cheltenham General, Eye and Children's Hospital, Cheltenham. (9253)

EDGWARE GENERAL (formerly Redhill County) HOSPITAL, Edgware, Middlesex
RESIDENT PAEDIATRIC HOUSE PHYSICIAN
Post vacant April 17, 1952. Salary £400 to £450 per annum, according to experience. Deduction of £100 per annum for board, lodging, etc. Six-months' appointment. Post recognized for D.C.H. Applications, stating age, qualifications, experience, and enclosing copies of up to three recent testimonials, to Medical Director of hospital by March 15, 1952. (8746)

GUILDFORD, ST. LUKE'S HOSPITAL
Guildford Group Hospital Management Committee
Applications are invited for the post of
PAEDIATRIC HOUSE OFFICER (Resident)
for a period of six months commencing April 2, 1952. The post is recognized for the D.C.H. Applications, with copies of three testimonials, should be forwarded to the Physician Superintendent as soon as possible. (8641)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)
West Herts Group Hospital Management Committee
HOUSE PHYSICIAN to Children's Department
(Second or subsequent post)
Applications are invited for the above appointment, which will be for a term of six months from March 26, 1952. The post is recognized for the D.C.H. Salary £400 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications and experience, and accompanied by copies of three testimonials, should be sent to the Administrator at the hospital. (9116)

HULL, VICTORIA HOSPITAL FOR SICK CHILDREN, Park Street (143 beds)
Hull (A Group) Hospital Management Committee
Applications are invited for the following posts:
HOUSE SURGEON (Now vacant)
HOUSE PHYSICIAN (Vacant April 22, 1952)
Posts are for a term of six months and count towards qualification D.C.H. Salary in accordance with terms of service issued by the Ministry of Health. Applications, together with testimonials, to be sent to the Administrative Officer at the above address. (9089)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
PAEDIATRIC HOUSE PHYSICIAN
commencing April 1, 1952. Applications, stating age, experience, qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, as soon as possible. (8977)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for appointment of
HOUSE PHYSICIAN
to the new Paediatric Department
Vacant immediately. Salary at £450 per annum. Terms and conditions in accordance with the National Health Service terms. The appointment will be for a period of six months. Applications, stating age, nationality, qualifications, and experience, together with the names of three referees, should be sent to the undersigned at once.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9090)

Paediatrics—contd.

WARWICK HOSPITAL
South Warwickshire Hospital Group (No. 14)
Applications are invited from registered medical practitioners, male or female, for the resident appointment of
PAEDIATRIC HOUSE PHYSICIAN
vacant about April 18. 30-bedded paediatric unit. The hospital is recognized for D.C.H. Salary £350 to £450, depending upon experience, less £100 per annum for residential emoluments. Applications, with two recent testimonials, should be sent to the Medical Superintendent, Warwick Hospital, Lakin Road, Warwick. (8978)

PATHOLOGY

BIRMINGHAM (SELLY OAK) GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
Whole-time CONSULTANT PATHOLOGIST
Appointment is to the staff of the Group Pathology Department; duties mainly at Selly Oak Hospital, Birmingham (1,098 beds). Candidates must have had wide experience in pathology and possession of higher qualification desirable. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies of application, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 24. Candidates may visit the hospitals concerned by appointment. (9217)

EXETER CLINICAL AREA
South-Western Regional Hospital Board
Applications are invited from registered medical practitioners for the appointment of
WHOLE-TIME CONSULTANT PATHOLOGIST
in the Exeter Clinical Area. The successful applicant will work mainly at the Torbay Hospital, Torquay, but will be required to visit hospitals and clinics in the area as may be necessary from time to time. In matters of policy and principle he will act under the general direction of the Area Pathologist in Exeter, who is responsible for the co-ordination of the Laboratory Services in the area. The successful applicant will be required to reside at or near Torquay. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than March 28. (9255)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified practitioners for the whole-time, non-resident post of
ASSISTANT PATHOLOGIST (S.H.M.O. scale)
for duties at hospitals in the Halifax Group. The successful candidate will work under the general guidance of the Consultant in charge of the department and will be required to reside in Halifax or within such distance of that town as the Board may approve. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than March 29, 1952. (8696)

COLCHESTER, ESSEX COUNTY HOSPITAL
Applications invited for post of
SENIOR REGISTRAR (Temporary)
in Area Laboratory. Good training in general medicine and pathology desirable. Salary in accordance with N.H.S. scale. Applications, with names of three referees, to Group Secretary, Hospital Management Committee, 14, Pope's Lane, Colchester. (8747)

GREENWICH AND DEPTFORD GROUP OF HOSPITALS
South-East Metropolitan Regional Hospital Board
Applications are invited to fill a vacancy for a
WHOLE-TIME REGISTRAR in Pathology
The appointment will be in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales) and will be for one year in the first instance. Applications, giving particulars of age, qualifications and experience, with relevant dates, together with the names and addresses of three referees, to be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, W.1, not later than March 21. (9017)

LIVERPOOL, UNITED, HOSPITALS
Applications are invited for appointment as
PATHOLOGICAL REGISTRAR
with duties at the Royal Liverpool Children's Hospital, the Women's Hospital, and the Maternity Hospital, temporarily in the first place for the period to September 30, 1952. The post is assessed in the Registrar grade. Applications, on forms from the undersigned, should be returned by March 22, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (9151)

ST. MARY'S HOSPITAL, W.2
Applications are invited for the post of
RESIDENT CLINICAL PATHOLOGIST
(Whole-time)
at St Mary's Hospital, W.2. The grading for this post is Senior House Officer. Applicants should have held two house appointments at this hospital or another general hospital approved by the Board of Governors, and preference will be given to those intending to specialize in pathology. Applications, stating nationality, date of birth, permanent address, qualifications, with dates, and details of previous and present appointments, together with the names and addresses of three referees, should reach the undersigned by March 21, 1952. —Alan Powditch, House Governor. (8773)

BEVERLEY, YORKSHIRE, WESTWOOD HOSPITAL
RESIDENT SENIOR HOUSE OFFICER
Assistant Pathologist in the new premises of the area laboratory at the above General Hospital. The position offers experience in all branches of clinical pathology. Application, with the names of two referees, to the Secretary. (9018)

MANCHESTER BABIES' AND CHILDREN'S GROUP
FULL-TIME NON-RESIDENT PATHOLOGICAL SENIOR HOUSE OFFICER
Required to assist the Director of Pathology for the Group, which comprises Booth Hall Children's Hospital, Duchess of York Hospital for Babies and Monsall Isolation Hospital. The main laboratory is at Booth Hall Hospital. Salary £670 per annum, and conditions in accordance with those published by the Ministry of Health. Post tenable for one year in the first instance. Applications, on forms to be obtained from the Group Secretary, Booth Hall Hospital, Blackley, Manchester, 9, should be returned as soon as possible. (9180)

NOTTINGHAM CITY HOSPITAL (833 beds)
Applications are invited for the post of
RESIDENT PATHOLOGIST (Senior House Officer)
Previous experience an advantage. Salary at the rate of £670 per annum, less £130 per annum for residential emoluments. The post becomes vacant on May 2, 1952, and is tenable for twelve months. Applications, stating age, nationality, qualifications, and experience, together with copies of not more than three testimonials, to be sent to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (9091)

READING AREA HOSPITALS
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Pathology)
vacant near future. Deduction if resident £100. Previous experience in pathology desirable but not essential. Apply, stating age, qualifications (with dates), nationality, present post, together with copies of recent testimonials, to Chief Administrative Officer, 3, Craven Road, Reading, Berks. (8098)

SOUTHEND-ON-SEA HOSPITAL
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE OFFICER
(Clinical Pathology)
for duties within the units comprising the above hospital. Post vacant immediately and tenable for one year. Previous experience in pathology not essential, but applicants must have good clinical experience. Salary £670 per annum, less appropriate deduction for board. Applications, with copies of at least two recent testimonials, should be sent to the undersigned not later than March 21, 1952.—T. C. Field, Secretary, Management Committee Offices, General Hospital, Rochford, Essex. (9138)

PLASTIC SURGERY

BASINGSTOKE, HANTS, ROOKSDOWN HOUSE PLASTIC AND JAW UNIT
Applications are invited from registered medical practitioners, male or female, for appointment of
HOUSE SURGEON
Salary according to national scales. Interesting work which includes plastic surgery of all varieties, war injuries, congenital abnormalities and burns at all stages. Applications should be sent to the Medical Superintendent, Rooksdown House, Basingstoke, Hants as soon as possible. (9142)

PSYCHIATRY

ST. MARY'S HOSPITAL, W.2
Applications are invited for the appointment of
ASSISTANT PHYSICIAN
to the Department of Psychiatry
(part-time; Consultant Status)
Candidates should be Fellows or Members of the Royal College of Physicians, and possess a diploma in psychological medicine. The successful candidate will be granted full staff status, and will be required to undertake three or four notional half-days per week. Applications (10 copies), stating the names and addresses of three referees, should reach the undersigned by March 29, 1952.—Alan Powditch, Secretary to the Board of Governors. (9218)

BIRMINGHAM, ST. MARGARET'S HOSPITAL
Great Barr (1,470 beds)
Birmingham Regional Hospital Board
Applications invited for the appointment of
Whole-time CONSULTANT PSYCHIATRIST AND DEPUTY MEDICAL SUPERINTENDENT
Wide experience in specialty essential. Candidates must possess D.P.M. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies of application, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 24. Candidates may visit the hospital. (9219)

CROWTHORNE, BERKSHIRE, BROADMOOR INSTITUTION (900 beds)
Board of Control
Applications are invited for the post of
WHOLE-TIME MEDICAL SUPERINTENDENT
(Consultant)
The Institution accommodates persons of unsound mind of criminal tendencies. Applicants must be registered medical practitioners, having a wide experience in psychiatry and possessing the Diploma in Psychological Medicine. The post is a clinical one, but experience in hospital administration is also necessary. The duties may involve attendance at out-patient clinics. The appointment will be in accordance with the terms and conditions of service of hospital medical and dental staffs (England and Wales) dated June 7, 1949, as amended, and will be subject to the National Health Service (Superannuation) Regulations, 1950. A house on the Institution estate will be provided at an appropriate rental. Applications, stating name, date and place of birth, nationality, details of education, professional qualifications, war service (if any), and present and previous appointments, with names and addresses of three referees, should reach the Secretary, Board of Control, 32, Rutland Gate, Knightsbridge, London, S.W.7, not later than March 21, 1952. Envelopes, enclosing applications, should be clearly marked A/MS. Candidates may visit the Institution by direct appointment with the Medical Superintendent. (8898)

MANCHESTER (near), PRESTWICH HOSPITAL
(2,800 beds)
Manchester Regional Hospital Board
Applications are invited for whole-time post of
CONSULTANT PSYCHIATRIST AND DEPUTY MEDICAL SUPERINTENDENT
Wide experience in psychiatry and higher qualifications are essential. A house in the grounds will be available. Further enquiries to the Medical Superintendent. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than April 1. (9117)

EAST ANGLIAN REGIONAL HOSPITAL BOARD
ASSISTANT PSYCHIATRIST
Little Plumstead Mental Deficiency Colony (near Norwich) and Child Guidance Clinics in Norfolk
The Colony (800 beds) is being expanded and is the centre for much out-patient work, including child guidance clinics. Child psychiatry experience more important than mental deficiency experience. Small house available. Salary on scale £1,300 to £1,750. Eight copies of application, stating date of birth, qualifications and details of present and previous appointments, with names of three referees, to Secretary of Board, 117, Chesterton Road, Cambridge, by March 10, 1952. Candidates invited to visit Colony by arrangement with Medical Superintendent. (8654)

MANCHESTER, SPRINGFIELD (MENTAL) HOSPITAL (700 beds)
Manchester Regional Hospital Board
Applications are invited for whole-time post of
DEPUTY MEDICAL SUPERINTENDENT
Residential accommodation is not at present available. Candidates should have had wide experience in psychiatry, and possess the D.P.M. Salary £1,300 (at age 32) by £50 to £1,750. Forms of application can be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned to be received not later than March 15, 1952. (8766)

SCOTLAND, SOUTH-EASTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for the post of
Whole-time ASSISTANT PSYCHIATRIST
(S.H.M.O.)
to the Child Guidance Department of the Royal Hospital for Sick Children, Edinburgh
The post is superannuable, and the conditions of service are in accordance with the regulations. Applications (eight copies), giving particulars of age, previous experience and qualifications, together with the names of three referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh 3, within 30 days. (9220)

Psychiatry—contd.

COULSDON, SURREY, CANE HILL HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board
Applications are invited for the whole-time appointment of
SENIOR REGISTRAR
at the above Psychiatric Hospital. The hospital serves a large area in South London, where it has four out-patient clinics, it also undertakes post-graduate teaching in association with the Institute of Psychiatry. Candidates should hold the D.P.M. or a higher medical qualification. Holders of the post may be resident (if unmarried) or non-resident. Canvassing will disqualify, but candidates may visit the hospital by arrangement with the Physician Superintendent. Application forms, for which a stamped addressed foolscap envelope should be supplied, may be obtained from the Secretary at the above address and are returnable not later than fourteen days after appearance of this advertisement. (8993)

HAILSHAM, SUSSEX, HELLINGLY HOSPITAL
Applications are invited for a temporary appointment to the post of
PSYCHIATRIC REGISTRAR
The appointment will be for a period of six months in the first instance, with a possible extension for a further six months, and a charge at the rate of £150 a year will be made for board and lodging. Previous experience in psychiatry is desirable. Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the Secretary, Hailsham Hospitals Management Committee, Hellingly Hospital, Hailsham, Sussex, not later than March 15, 1952. (9118)

MANCHESTER, PRESTWICH HOSPITAL
Manchester Regional Hospital Board
Applications are invited for the post of
RESIDENT REGISTRAR in Psychiatry
Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 17, 1952. (9119)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the post of
SENIOR REGISTRAR IN PSYCHIATRY
with main duties at Prestwich Hospital (2,800 beds) near Manchester. The person appointed will also be required to attend psychiatric clinics and take part in the treatment of in-patients at general hospitals in Oldham and Rochdale. Residential accommodation for a single person is available at the hospital. Alternatively, the post may be on a non-resident basis. Previous experience in psychiatry, and a higher qualification, is essential. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names of three referees, to be received by March 31, 1952. (9221)

MID-STAFFS MENTAL GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
Whole-time REGISTRAR IN PSYCHIATRY
Duties at St. George's Hospital, Stafford (1,334 beds). Experience in specialty essential. Possession of higher qualification an advantage. Single or married accommodation available. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 24, 1952. Candidates may visit hospital concerned. (9205)

MORPETH, ST. GEORGE'S HOSPITAL
(1,170 beds)
Newcastle Regional Hospital Board
Resident SENIOR REGISTRAR PSYCHIATRIST
(Whole-time)
Salary scale £1,000 to £1,300. Candidates should normally have had previous experience in psychiatry, but applications will be considered from candidates with no previous practical experience in psychiatry who hold a higher medical qualification, have had wide experience in general medicine and intend to obtain a Diploma in Psychological Medicine and specialize in psychiatry. Arrangements can be made for the person appointed to take the necessary course of study for the Durham Diploma in Psychological Medicine. A flat is available. The appointment will be up to August 31, 1952, in the first instance. Candidates are free to visit the hospital by arrangement with the Medical Superintendent, from whom further particulars may be obtained. Applications, with names and addresses of one to three referees, and/or one to three testimonials, should be addressed to the Regional Psychiatrist, Blythswood South, Osborne Road, Newcastle, 2, within fourteen days. (9019)

WATFORD (near), HERTS, LEAVESDEN HOSPITAL, Abbots Langley
North-West Metropolitan Regional Hospital Board
SENIOR REGISTRAR
Required for one year in first instance. Higher qualification in psychiatry desirable. The hospital has 2,000 patients of all grades of mental deficiency and a proportion of chronic psychotics. There are two large units for the active treatment of pulmonary tuberculosis, and regular clinics are held at the hospital by visiting Consultants in a number of specialties. Married quarters available. Candidates are invited to visit the hospital by direct arrangement with the Physician Superintendent. Application forms obtainable from and returnable to the Secretary, Leavesden Hospital Management Committee, Leavesden Hospital, Abbots Langley, Watford, Herts, by March 22, 1952. (9092)

WOKING, BROOKWOOD HOSPITAL
(1,600 beds)
South-West Metropolitan Regional Hospital Board
Brookwood Hospital Management Committee
Knaphill, Woking, Surrey
Applications are invited for the post of
PSYCHIATRIC REGISTRAR
Candidates, who should be single, must have held house appointments in a general hospital, but no previous psychiatric experience is necessary. The hospital staffs several out-patient clinics and carries out all modern methods of treatment. There are facilities for attending courses of instruction in London for the D.P.M. The appointment is resident and the salary and conditions of service are in accordance with the National Health Service regulations. Candidates may visit the hospital by arrangement with the Physician Superintendent. Application forms are obtainable from the Secretary, Brookwood Hospital, Knaphill, Woking, Surrey, to whom they should be returned, duly completed, not later than fourteen days after the appearance of this advertisement. (9181)

BLACKBURN (near), CALDERSTONES HOSPITAL (for Mental Defectives), Whalley
Calderstones Hospital Management Committee
Applications are invited for the appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
Salary scale £700 by £50 to £1,000 per annum, and other conditions of service in accordance with the terms and conditions of service for hospital medical and dental staff under the National Health Service. The appointment is subject to the provisions of the National Health Service (Superannuation) Regulations, 1947-49. An unfurnished flat is available for a married man at a weekly rental to be fixed by the Committee, and residential quarters are available for a single man at a charge to be fixed by the Committee. Applications, stating age, qualifications and experience, together with the names of three referees, to be submitted to the Medical Superintendent, Calderstones Hospital, Whalley, near Blackburn, as soon as possible. (8791)

BURY, FAIRFIELD GENERAL HOSPITAL
(Comprising 175 Mental, 203 Chronic and 133 Obstetric and Gynaecological beds)
Bury and Rossendale Hospital Management Committee
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
at the above hospital. This post is mainly for the mental and chronic sick beds, and the successful applicant will be required to work in the main under the direction of the Consultant Psychiatrist. Salary will be at the rate of £700 per annum, rising by annual increments to £1,000 per annum. Conditions of service in accordance with national recommendations. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (8434)

DORCHESTER, DORSET, HERRISON MENTAL HOSPITAL
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
Salary range £700 to £1,000 per annum, according to experience. Accommodation is available for a single man, for which a charge will be made. All forms of modern treatment including leucotomy and insulin. Out-patient clinics are held in three general hospitals. Attractive country with Bournemouth and Weymouth in the hospital area. Applications, with names of two referees, to the Medical Superintendent before March 22. (8697)

PERTH, SCOTLAND, MURRAY ROYAL HOSPITAL
JUNIOR HOSPITAL MEDICAL OFFICER
Salary in accordance with recognized scale. Applications, stating age, sex, nationality, qualifications, experience, and present appointment, together with names of three referees, should be forwarded immediately to D. W. Strudley, Secretary and Treasurer, Board of Management, Perthshire Mental Hospitals. (8749)

PRESTON (near), LANCASHIRE WHITTINGHAM HOSPITAL
The Management Committee invites applications *for the post of*
JUNIOR HOSPITAL MEDICAL OFFICER
The appointment is subject to the terms and conditions of service of hospital medical and dental staffs (England and Wales). The successful applicant will have the choice of occupying an unfurnished house on the hospital estate or of enjoying full residential emoluments at a charge of £175 per annum. Applications, endorsed "Medical Officer," giving details of experience, and names of three referees, should be addressed to the Chairman, Whittingham Hospital, near Preston, and be received as soon as possible.—W. A. Higgs, Secretary of the Management Committee. (9139)

SALISBURY, OLD MANOR MENTAL HOSPITAL (672 beds)
Applications are invited for whole-time post of
ASSISTANT MEDICAL OFFICER
Previous experience preferred but not essential. Married or single rent-free accommodation available with free coal, gas, light, etc. Minimum salary £700. Applications, together with copies of three recent testimonials, to be sent to the Medical Superintendent. (9120)

SHEFFIELD, 6, MIDDLEWOOD HOSPITAL
(2,000 beds)
Sheffield No. 2 Hospital Management Committee
JUNIOR HOSPITAL MEDICAL OFFICER and LOCUM TENENS J.H.M.O.
Applications are invited from male or female officers for the above appointments at Middlewood Mental Hospital. Living quarters and residential services are available for single officers. Remuneration will be in accordance with the terms and conditions of service issued by the Ministry of Health. There are good facilities for postgraduate study for the D.P.M., and there is full collaboration with the general hospital situate in the same grounds. Excellent laboratory and other special departments. Extensive psychiatric out-patient service. Applications, stating age, qualifications, and experience, together with names and addresses of two referees, should be forwarded immediately to the Medical Superintendent, Middlewood Hospital, Sheffield, 6.—R. Bradley, Secretary. (9222)

GLASGOW ROYAL MENTAL HOSPITALS
Board of Management
Applications are invited for the following posts at Gartnavel, 1055, Great Western Road, Glasgow:
SENIOR HOUSE OFFICER
HOUSE OFFICER
Applications stating age, qualifications, and experience, etc., together with the names of three referees, should be sent to the Secretary, 190, West George Street, Glasgow, C.2, within a fortnight from this date. (9223)

MORPETH (near), NORTHUMBERLAND
ST. MARY'S HOSPITAL, Stannington
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER OR JUNIOR HOSPITAL MEDICAL OFFICER
at the above mental hospital (776 bed). Furnished flat is available, for which a deduction will be made. Appointment is subject to the National Health Service (Superannuation) Regulations, with salary and terms and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications, and experience, and the names of two referees, should be sent to the Medical Superintendent as soon as possible. (9093)

SHEFFIELD NO. 1 HOSPITAL MANAGEMENT COMMITTEE
(Recognized for the D.P.M. examination)
Applications are invited from suitably qualified practitioners for the resident post of
SENIOR HOUSE OFFICER (Psychiatry)
for duties at the City General Hospital and the adjoining Fir Vale Infirmary. Applicants should, preferably, have held general hospital posts but psychiatric experience is not essential. The successful candidate will form part of a team consisting of a consultant psychiatrist, consultant psychologist and an assistant psychiatrist within the setting of a large modern general hospital. The duties will form an introduction to the investigation and treatment of the psycho-neuroses, psychosomatic disorders and acute psychoses. Apply, giving full details of age, qualifications, present and previous appointments (with dates) and the names of two persons to whom reference may be made, to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (9057)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
FULL-TIME RESIDENT HOUSE OFFICER
(Second or third post) (Department of Psychiatry)
Previous medical experience essential and psychiatric experience an advantage. Department includes a neurosis centre and observation wards, and conducts extensive out-patient service. Applications (endorsed "House Officer, Psychiatry, W.M.H."), stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Secretary, West Middlesex Hospital, Isleworth, by March 18, 1952. (9256)

RADIOLOGY

ST. MARY'S HOSPITAL, W.2
Applications are invited for the post of
WHOLE-TIME REGISTRAR
to the Diagnostic Radiological Department of St. Mary's Hospital. Candidates must hold a Diploma *in Radiology. The grading of this post is Registrar,* and the appointment will be for a first period of twelve months. Applications, stating nationality, date of birth, permanent address, qualifications, with dates, and details of past and present appointments, together with the names and addresses of three referees, should reach the undersigned by March 21.—Alan Powditch, House Governor. (8750)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

RADIOTHERAPY

ROYAL CANCER HOSPITAL
Fulham Road, London, S.W.3
Applications are invited for the post of
FULL-TIME SENIOR REGISTRAR
in the Radiotherapy Department
to commence duty as soon as possible. Candidates must hold a Diploma in Medical Radiology. Forms of application are obtainable from the House Governor, to whom applications, together with copies of three recent testimonials, should be sent not later than March 26. (8468)

RHEUMATOLOGY

BATH, ROYAL NATIONAL HOSPITAL FOR RHEUMATIC DISEASES
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Salary, terms and conditions of service in accordance with those published by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to the undersigned as soon as possible. The hospital is recognized for Part II of the Diploma of Physical Medicine.—J. Lawrence Mears, Sec., Manor Hospital, Combe Park, Bath. (9020)

UROLOGY

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (Urology)
Vacant May 1, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary. (9224)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Urological)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8470)

VENEREOLOGY

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the post of
Non-resident REGISTRAR IN VENEREOLOGY (Male)
with main duties at St. Luke's Clinic, Manchester. The successful applicant will also be required to undertake relief duties at other clinics in the area. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 17, 1952. (9225)

MEDICINE

BLACKPOOL AND FYLDE GROUP
Manchester Regional Hospital Board
Applications are invited for the part-time consultant post (eight half-days) of
GENERAL PHYSICIAN
at the Victoria Hospital, Blackpool, and other hospitals. Higher qualifications are essential and the person appointed will be required to live in or near Blackpool. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than March 28, 1952. (9121)

UNIVERSITY COLLEGE HOSPITAL
Gower Street, W.C.1
Applications are invited for the post of
ASSISTANT MEDICAL REGISTRAR
for a period of one year in the first instance from May 1, 1952. The post will be graded as Senior House Officer or Registrar, according to experience of the successful candidate. Applications, together with the names of two referees, should be submitted to the Secretary by March 19, 1952. (9257)

BANGOR, CAERNARVON AND ANGLESEY GENERAL HOSPITAL
Welsh Regional Hospital Board
Applications are invited from registered medical practitioners for the non-resident post of
REGISTRAR in General Medicine
The successful candidate will be based at the above hospital but will be expected to visit other hospitals in the area. The appointment will be for one year in the first instance and will be reviewed at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (9182)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for the appointment of a temporary
WHOLE-TIME REGISTRAR (Medical)
at the above hospital, which includes duties in connection with an active T.B. Unit. Salary at the rate of £775 to £890 per annum, less £130 per annum for residential emoluments. Appointment for a period up to one year. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent to the Administrative Officer. (8751)

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
WHOLE-TIME MEDICAL REGISTRAR
commencing April 1, 1952. Applicants must hold M.R.C.P. qualification. Further information and opportunity to visit the hospital obtainable from the Physician Superintendent. Application forms obtainable from the Group Secretary, Management Committee Offices, St. Helier Hospital, Carshalton. Completed forms to be returned not later than fourteen days after the appearance of this advertisement (8979)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for three posts of
RESIDENT REGISTRAR in General Medicine
as follows: (a) Bolton and District Group of hospitals, with main duties at Bolton Royal Infirmary and the Bolton and District General Hospital. (b) Bury and Rossendale Group of hospitals, with main duties at Bury General Hospital. (c) Wigan and Leigh Group of hospitals, with main duties at Royal Albert Edward Infirmary, Wigan. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 17, 1952. (9123)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the post of
RESIDENT REGISTRAR in General Medicine
to the Oldham and District Group of hospitals, with main duties at Oldham and District General Hospital. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 17, 1952. (9122)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
REGISTRAR to a General Medical Unit combining Neurology and General Medicine
Now vacant. Whole-time, non-resident post, tenable for twelve months, renewable. Applicants must possess a higher qualification and preference will be given to those interested and desirous of training in neurology. Applications, to be made on forms obtainable from the undersigned, and to be returned not later than March 19, 1952.—F. J. Cable, Sec. to the Board of Governors. (8855)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
MEDICAL REGISTRAR
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9058)

WORKSOP, KILTON HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
MEDICAL REGISTRAR
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 17, 1952. (8701)

BIRMINGHAM, 18, DUDLEY ROAD INFIRMARY
JUNIOR HOSPITAL MEDICAL OFFICER (Non-resident)
The hospital has 1,000 beds for the care of the chronic sick and has an active geriatric unit. Applications, stating age, qualifications and experience, accompanied by copies of three recent testimonials, to the Secretary, H.M.C., Dudley Road Hospital, Birmingham, 18. (9124)

HULL, WESTERN GENERAL HOSPITAL (560 beds)
Hull A Group Hospital Management Committee
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER (Non-resident)
The post offers extensive experience in general medicine under the supervision of a full-time consultant physician. Applications to be addressed to the Administrative Officer at the hospital as soon as possible. (9021)

LLANELLY HOSPITAL (164 beds)
Glantawe Hospital Management Committee
Applications are invited from medical practitioners for the resident appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
at the above hospital, for work in the medical and anaesthetic units. Applications, stating age, qualifications and experience, with the names of three referees, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helens Road, Swansea. (8856)

SALFORD, LADYWELL HOSPITAL
Salford Hospital Management Committee
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
at the above hospital. The successful candidate will be required to reside at the hospital, and a deduction of £155 per annum will be made from the appropriate salary for the cost of board residence. Candidates should have some experience in infectious diseases. The post offers good experience in infectious, chest, venereal and skin diseases and geriatrics. There is ample time for study and further facilities are available in other hospitals of the Group. Applications, stating age, qualifications and experience, and giving the names of two referees, should be forwarded to the Administrative Officer, Ladywell Hospital, Eccles New Road, Salford, 5, Lancs, as soon as possible. (9183)

LEWISHAM HOSPITAL, London, S.E.13
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
to the Department of General Medicine
The post is tenable for one year at a salary of £670 per annum. An appropriate deduction will be made if residential services are provided, although the post may be non-resident. Applications, stating age, qualifications and experience, with names of three referees, should be addressed to the Secretary, Lewisham Group H.M.C., Lewisham Hospital, London, S.E.13. (9022)

BEVERLEY, YORKS, BROADGATE HOSPITAL (600 mental beds)
RESIDENT SENIOR HOUSE PHYSICIAN
Salary £670 per annum.
RESIDENT HOUSE PHYSICIAN
Salary £350 to £450, according to previous posts held.
Applications to Secretary, Westwood Hospital, Beverley, Yorks. (8963)

BEVERLEY, E. YORKS, WESTWOOD HOSPITAL
SENIOR HOUSE PHYSICIAN
Post vacant end of March. Salary £670. Charge of £140 for board and lodging. Applications to the Secretary. (8962)

BRISTOL, UNITED, HOSPITALS
Applications are invited for three posts of
SENIOR HOUSE OFFICER (Medical)
one of which will become vacant on May 1, and two on June 1. Salary £670. In addition to the normal duties of a Senior House Officer (Medical) one of the successful applicants will be required to undertake the duties of Senior Resident Officer and will be resident in the Royal Infirmary. An honorarium of £50 per annum will be paid to the holder of this post. Applications, giving full details of age, qualifications, experience, etc., together with the names and addresses of two referees, and stating whether or not the combined post would be preferred, should be sent by March 15, 1952, to the Secretary to the Board, Royal Infirmary Branch, Bristol, 2. (8857)

CARLUKE, LANARKSHIRE, LAW HOSPITAL
Applications are invited from suitably qualified medical practitioners for the posts of
TWO SENIOR HOUSE OFFICERS in Medicine
Salary will be at the rate of £670 per annum and the appointment subject to the National Health Service (Scotland) Regulations. Applications, stating age, qualifications, experience and present appointment, and giving the names of two referees, should be submitted not later than Saturday, March 15, 1952, to the Secretary, Board of Management for Southern Lanarkshire Hospitals, Law Hospital, Carluke, Lanarkshire. (9184)

CHESTERFIELD ROYAL HOSPITAL (322 beds)
Chesterfield Hospital Management Committee
SENIOR HOUSE PHYSICIAN
(Senior House Officer)
Required immediately. National salary and conditions. Apply, in detail, to M. H. Boone, Secretary. (8703)

RHYL, ROYAL ALEXANDRA GENERAL HOSPITAL
Clwyd and Deeside Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
preferably of Senior House Officer Grade, at the above hospital, which is an acute general hospital. The successful applicant will be required to carry out duties under the supervision of the Consultant Physician. Applications, stating age, and giving details of qualifications, present and previous appointments, with copies of three testimonials, to be sent to the undersigned within fourteen days of the date of publication of this advertisement.—William Roberts, Secretary, Hospital Management Committee, Rhianfa, Russell Road, Rhyl. (8980)

Medicine—contd.

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
(140 beds—5 residents)
RESIDENT HOUSE PHYSICIAN
Required from April 1, to take charge of two acute medical wards. Salary £670 per annum, less deduction of £150 for board residence. One year tenure first instance. Busy out-patient department with full consultant staff. Applications, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (9023)

HULL, KINGSTON GENERAL HOSPITAL
(398 beds)
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE PHYSICIAN
at the above hospital. There are two Junior House Physicians. Resident post. Salary £670 per annum, less £130 for emoluments. Applications, with full particulars, to be forwarded to the Administrative Officer, Kingston General Hospital, Hull. (9024)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
Applications are invited from registered medical practitioners for the following post, which is vacant on March 31, 1952:
SENIOR HOUSE OFFICER (General Medicine)
The appointment will be for twelve months at a salary of £670 per annum, less £155 per annum for residential accommodation and services. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8472)

MIDDLESBROUGH, HEMLINGTON HOSPITAL
(220 beds)
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for the following appointment:
SENIOR HOUSE OFFICER (Medical)
attached to Medical Clinic No. 2, which has 40 beds at the above hospital. Applications, stating age, qualifications and experience, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (9155)

WEST HARTLEPOOL GENERAL HOSPITAL
Applications are invited for the appointment as
SENIOR HOUSE OFFICER (Medical)
at the above hospital, vacant March 15, 1952. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (8260)

WORCESTER, RONKSWOOD HOSPITAL
Newtown Road (326 beds)
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Resident SENIOR HOUSE OFFICER (Medicine)
Applications, stating age, details of experience, together with names of two referees, to the Medical Superintendent. (9226)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds)
CITY HOSPITAL, York
(General hospital of 265 beds)
YEARSLEY BRIDGE HOSPITAL, York
(Infectious diseases hospital of 86 beds)
SENIOR HOUSE OFFICER IN PAEDIATRICS AND INFECTIOUS DISEASES
Required to spend aproximately half time on paediatric duties at County Hospital (22 paediatric beds), City Hospital (32 paediatric beds), and other hospitals of the Group, and approximately half time at Yearsley Bridge Hospital. Candidates should have had previous experience of paediatrics and infectious diseases. Preference given to holders of D.C.H. Post vacant from April 1, 1952, for one year in first instance. Salary £670 per annum, less £170 for residence at Yearsley Bridge Hospital. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (9227)

BETHNAL GREEN HOSPITAL
Cambridge Heath Road, London, E.2
(General—313 beds)
Central Group Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
for adult medical and tuberculosis wards, which becomes vacant on April 5, 1952. The salary, depending upon the number of previous posts held, is £350, £400 or £450 per annum, less residential charge of £100 per annum. Applications, stating age, nationality, qualifications and experience, together with three testimonials, should reach the Assistant Secretary by March 18. (9185)

HAMMERSMITH HOSPITAL and POSTGRADUATE MEDICAL SCHOOL
London, W.12
SIX HOUSE PHYSICIANS
(Department of Medicine)
Required May 1. "R" practitioners not considered. Age, qualifications, experience, copies of testimonials, to Secretary, Board of Governors, by March 19. (9228)

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60, Grove End Road, N.W.8
Applications are invited from registered medical practitioners (male) for the appointment of
HOUSE PHYSICIAN
to become vacant on Monday, April 14, 1952. Appointment will be for a period of six months. Salary is at the rate of £350 per annum. Applications should reach the Secretary on or before Thursday, March 27, 1952, together with copies of three recent testimonials. (9094)

MILE END HOSPITAL
Bancroft Road, E.1 (475 beds)
HOUSE PHYSICIAN (1, 2 or 3)
Required for six months, to commence duty on April 18, 1952. Application forms, to be returned by March 21, 1952, with copies of not more than three testimonials, may be obtained from the Physician Superintendent. (9095)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT HOUSE PHYSICIAN
Six months' appointment. Vacant May 1. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Secretary of hospital by March 22. (9186)

PLAISTOW HOSPITAL
Samson Street, London, E.13
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE PHYSICIAN (Male or female)
(House Officer, second or third post)
for six months in the Chest and Infectious Diseases Wards. The position offers valuable experience in both groups of diseases. Candidates should send applications to the undersigned, together with copies of recent testimonials, by March 15, 1952.—M. J. Huntley, Secretary, West Ham Group H.M.C., Stratford, London, E.15. (8890)

ROYAL NORTHERN HOSPITAL
Holloway, London, N.7
Northern Group Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
vacant on April 12, 1952, for a period of six months. Salary £400 to £450 per annum, according to experience, less £100 per annum for board residence. Applications, stating age, qualifications (with dates) and nationality, together with copies of three recent testimonials, to be sent to the Assistant Secretary not later than March 22. (9187)

ACCRINGTON, VICTORIA HOSPITAL
(112 beds)
HOUSE PHYSICIAN
Salary £350 to £450 per annum, less £100 per annum board and lodging. Applications, with copies of two testimonials, to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn (8658)

ALTRINCHAM GENERAL HOSPITAL (130 beds)
near Manchester
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Physician and Casualty)
Required, to commence duties as soon as possible. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (8645)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT HOUSE OFFICER (Male)
Required for wards taking general medical, vacant April 3, 1952. Six months' appointment. N.H.S. salary and terms of service. Applications, stating age, nationality, qualifications, and experience, with copies of up to three recent testimonials, to Medical Director of hospital by March 15 (8859)

ASHFORD (near), KENT, WILLESBOROUGH HOSPITAL, Willesborough
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE PHYSICIAN
at the above hospital. The person appointed will be required for duty in the medical wards and busy out-patient department under the supervision of consultants visiting four times weekly. Fully equipped Cardiographic Unit. Salary £350, £400, or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (9201)

AYLESBURY, STOKE MANDEVILLE HOSPITAL
HOUSE PHYSICIAN
Required for 20 general medical beds and a small number of special beds which include dermatology. First or second post. Vacant now. Applications, stating age, nationality, qualifications and experience, with two recent testimonials, to the Administrative Officer. (9025)

BANSTEAD, SURREY, CUDDINGTON HOSPITAL (126 beds)
(At present 18 to 32 I.D. beds, 25 surgical convalescent beds, and 24 T.B. beds)
Epsom Group Hospital Management Committee
RESIDENT HOUSE OFFICER
Required to work under the various consultants. Cases admitted are mainly acute of the types shown above. Post suitable for anyone reading for a higher qualification. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent as soon as possible to Secretary, Epsom Group H.M.C., Epsom District Hospital, Dorking Road, Epsom, Surrey. (9026)

BARNET GENERAL HOSPITAL, Barnet, Herts
HOUSE PHYSICIAN
Applications, stating qualifications, experience and names of two referees, to be sent to the Medical Director (8793)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Salary, terms and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to Secretary, St. Martin's Hospital, Midford Road, Bath.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (9059)

BEVERLEY, YORKS, WESTWOOD HOSPITAL
JUNIOR HOUSE PHYSICIAN
(First or second post)
With care of Orthopaedics beds, required immediately. Salary in accordance with N.H.S. scale. Applications to the Secretary. (8964)

BINGLEY HOSPITAL, Bingley (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton
(64 beds) Yorkshire, West Riding
(Full Consultant staffs)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
at each of the above hospitals. First, second or third appointments. Now vacant. Six months' appointments. Salary in accordance with National Health Service terms and conditions. Applications, stating age, qualifications, experience, and nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, as soon as possible. (8705)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for the following resident appointment:
HOUSE OFFICER (Medical) (Male)
(First or second post held)
Salary £350 to £400 per annum, less £100 per annum for residential emoluments. Appointment to commence April 1, 1952, for period of six months. Applications, stating nationality, age, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent to the Administrative Officer as soon as possible. (8860)

BLACKBURN, QUEEN'S PARK HOSPITAL
(650 beds)
HOUSE PHYSICIAN
National Health Service salary and conditions. Applications, accompanied by copies of two testimonials, or names of referees, to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (9027)

BRADFORD ROYAL INFIRMARY
HOUSE PHYSICIAN
Vacant April 27. Salary £350 to £450 per annum, less £100 per annum residential emoluments.
HOUSE PHYSICIAN
Vacant May 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Sec. (9229)

BURNLEY GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Medical)
The post is tenable for six months. National Health Service terms and conditions. Applications, with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Burnley. (9125)

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry (346 beds)
HOUSE PHYSICIAN
Required March 30, 1952. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (8861)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Medicine—contd.

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
HOUSE PHYSICIAN
to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

CUCKFIELD HOSPITAL, near Haywards Heath
Mid-Sussex Hospital Management Committee
Applications are invited for the posts of
TWO RESIDENT HOUSE OFFICERS
Now vacant. This hospital is being up-graded, there is a maternity limit of 51 beds, and duties would be mainly in the Medical and Obstetric Departments. National salary scale and conditions. Applications, stating age, qualifications, and experience, accompanied by copies of two recent testimonials, should be sent immediately to the Secretary, Mid-Sussex Hospital Management Committee, Cuckfield Hospital, Cuckfield, Haywards Heath, Sussex. (8706)

DARLINGTON MEMORIAL HOSPITAL (210 beds)
Darlington District Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN (J.H.O.—Resident)
Salary in accordance with national scale. Apply, giving age and references, to the undersigned at once.—G. W. Beckwith, Secretary. (7237)

DEWSBURY, GENERAL HOSPITAL
Moorlands Road, Dewsbury (119 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
now vacant. This is a modern general hospital with a large out-patient department. Excellent experience available. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (8047)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
HOUSE PHYSICIAN
Salary at the rate of £350, £400 or £450 per annum, according to experience. A deduction at the rate of £100 per annum will be made for board, residence, etc. Post vacant now. Applications, stating age, qualifications (with dates), nationality, and present post, and accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (8981)

DRIFFIELD, YORKS, EAST RIDING GENERAL HOSPITAL
HOUSE PHYSICIAN
Post vacant now. Duties to include medical wards, out-patients, and some anaesthetics. Salary £350 to £450 per annum. Applications to Secretary, Westwood Hospital, Beverley, E. Yorks. (8965)

ENFIELD, MIDDLESEX, CHASE FARM HOSPITAL
Enfield Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE PHYSICIAN (First post)
Vacant April 9, 1952. General medical duties. Six months' appointment. Applications, stating age, qualifications, experience and nationality, with the names of two referees, to the Acting Medical Director of the hospital by March 14, 1952. (8900)

GLOUCESTERSHIRE ROYAL HOSPITAL (Southgate Street Unit) (245 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
HOUSE PHYSICIAN
Required to commence April 15, 1952. Salary £350 to £450 per annum. Applications, naming two referees, to the Secretary. (9188)

HADDINGTON, ROODLANDS GENERAL HOSPITAL
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN
(First, second or third appointment)
The appointment is for six months commencing on April 1, 1952. Salary in accordance with the terms and conditions of service for hospital medical staff. Small general hospital under expansion, with out-patient department. The post offers good experience in acute and chronic general medicine to an energetic applicant. Applications, giving full particulars, together with copies of two recent testimonials, should be sent immediately to the Secretary, East Lothian Hospitals Group Board of Management, 15, Court Street, Haddington. (9258)

GRIMSBY GENERAL HOSPITAL (200 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
The post is now vacant, and is tenable for six months. Applications, together with the names of two referees, should be sent to the Administrative Officer, Grimsby General Hospital. (6688)

HALIFAX GENERAL HOSPITAL (425 beds)
HOUSE PHYSICIAN
Salary according to experience. Applications, stating age, sex, nationality, qualifications, experience and enclosing copies of three testimonials, to be forwarded to the Secretary at the Royal Halifax Infirmary. (8473)

HALIFAX, ROYAL INFIRMARY (301 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
at the above busy acute general hospital. Salary according to experience. Applications, stating age, nationality, qualifications and experience, together with copies of three testimonials, to be forwarded to the Secretary. (8508)

HUDDERSFIELD ROYAL INFIRMARY (321 beds)
Huddersfield Hospital Management Committee
HOUSE PHYSICIAN
Required to commence duty immediately. Salary in accordance with the terms and conditions of service for hospital medical and dental staff. Applications, together with copies of three recent testimonials, should be addressed to the undersigned.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (8795)

INVERNESS, CULDUTHEL HOSPITAL
Bed complement 104 (T.B. 74, I.D. 30)
Applications are invited for the post of
HOUSE PHYSICIAN
for the above hospital for six months commencing immediately. Salary £350, £400 or £450 per annum, less £100 for residential emoluments. Previous hospital experience desirable but not essential. Apply, with copies of two testimonials, to Medical Superintendent. (9189)

INVERNESS, ROYAL NORTHERN INFIRMARY
Inverness Hospitals Board of Management
HOUSE PHYSICIAN
Required from April 1, 1952. Applications, with references, to Medical Superintendent. (8819)

IPSWICH, ST. HELEN'S HOSPITAL
(100 beds for infectious diseases, pulmonary tuberculosis and long-stay orthopaedics. The Area Chest Clinic is in the hospital)
Ipswich Group Hospital Management Committee
HOUSE OFFICER
Accommodation available for married man. The person appointed will be required to undertake certain duties in the children's ward at the Borough General Hospital in addition to duties at St. Helen's Hospital. Applications, with full particulars, to John Williams, Secretary, at East Suffolk and Ipswich Hospital, Ipswich. (8559)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
Required urgently at the above hospital. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (9028)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL (140 beds)
King's Lynn Area Hospitals Management Committee
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN
at the above hospital. Appointment will be for six months in the first instance. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. The appointment offers valuable experience in acute medical and ophthalmic work. Applications to be forwarded as soon as possible to the Secretary, King's Lynn Area Hospital Management Committee, St. James' Hospital, King's Lynn. (9029)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds, General)
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
Post vacant on March 17, 1952. Salary £350 to £450, dependent upon experience, less £100 per annum for residential emoluments. Applications, together with two recent testimonials, should be sent to the hospital Sec. as soon as possible. (8338)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Applications are invited for the post of
HOUSE PHYSICIAN
vacant March 11, 1952. The appointment will be for six months in the first instance. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (8361)

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
commencing April 1, 1952. Applications, stating age, experience and qualifications, with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street Leicester. (8339)

MIDDLESBROUGH, HEMLINGTON HOSPITAL (220 beds)
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
at the above hospital. Salary at the rate of £400 to £500 per annum. Applications, stating age, experience and qualifications, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (9156)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)
For the care of both medical and surgical cases. Appointment for six months. Duties to commence immediately. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NEWPORT, MON, ST. WOOLOS HOSPITAL (379 beds)
Applications are invited for the post of
HOUSE OFFICER (Medical)
who will work under the direction of the Consultant Physician (22 beds) and the Paediatrician (24 beds) and will also attend the out-patient department of another hospital with the consultants. Post vacant April 1. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, 17, Cardiff Road, Newport, Mon. (9060)

NORTHALLERTON, FRIARAGE (GENERAL) HOSPITAL (300 beds)
Northallerton Hospital Management Committee
HOUSE PHYSICIAN
Required for April 1, 1952. Conditions of service six months. Salary in accordance with national scale. Applications, together with the names of two referees, to be sent to the Secretary, Friarage Hospital, Northallerton, Yorks. (8474)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE PHYSICIAN (Male or female)
Required for the above hospital. Duties to commence as soon as possible. Salary and conditions of service in accordance with published regulations of the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (9061)

NUNEATON, GEORGE ELIOT HOSPITAL (258 beds)
Applications are invited for the post of
HOUSE PHYSICIAN (46 general medical beds)
Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (9126)

NUNEATON, MANOR HOSPITAL (139 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
(32 general medical beds)
Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (8797)

OLDHAM, BOUNDARY PARK GENERAL HOSPITAL (390 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
becoming vacant on April 2, 1952. Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference No. A/827, should be forwarded to the undersigned immediately.—F. W. Barnett, Sec., Central Offices, Rochdale Rd., Oldham. (8901)

PONTYPOOL AND DISTRICT HOSPITAL
Pontypool, Mon (115 beds)
Applications are invited for the post of
HOUSE OFFICER (Medical)
vacant about April 15, who will work under the directions of the Consultant Physician and the Paediatrician. The resident staff consists of a Junior Hospital Medical Officer (surgical), a House Officer (Surgical), and this post. The post carries an increment of £50 per annum above national scale, in view of extra responsibilities. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8707)

REDHILL, SURREY, EAST SURREY HOSPITAL
Shrewsbury Road (139 beds)
Redhill Group Hospital Management Committee
TWO HOUSE OFFICERS
Required for medical, surgical and casualty work. Apply to the Administrative Officer at the above address. (9030)

Medicine—contd.

ROMFORD, ESSEX, VICTORIA HOSPITAL (91 beds)
RESIDENT HOUSE PHYSICIAN
Applications are invited from registered medical practitioners (male) for the above post, vacant now. Six months' appointment. Applications, stating age, nationality, qualifications (with dates) and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (8051)

RUGBY, HOSPITAL OF ST. CROSS
HOUSE PHYSICIAN
Required March 25, 1952, for adult medical unit and children's ward. Applications, stating age, qualifications and experience, with copy testimonials to Assistant Secretary. (8579)

SHREWSBURY (near), CROSS HOUSES HOSPITAL (183 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT MEDICAL OFFICER
Vacant immediately. Preference will be given to those applicants with previous obstetrical experience. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary: Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (6063)

SOUTH SHIELDS GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
(First or second post) (General Medicine)
Vacant April 1, 1952, in a busy, well-equipped hospital. There are three House Physicians in the Medical Department. Applications, with copies of not more than three recent testimonials, to be addressed to the Medical Superintendent, General Hospital, Harton Lane, South Shields. (8775)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL (96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Medical)
Post vacant mid-March. Apply, with copy testimonials, stating age, nationality, and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8401)

SUNDERLAND, GENERAL HOSPITAL (517 beds)
HOUSE PHYSICIAN (Male or female)
Required immediately. Apply to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (9158)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the above hospital. Resident. The appointment will be for six months in the first instance and the post is now vacant. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (7963)

WAKEFIELD, GENERAL HOSPITAL
Park Lodge Lane (160 beds)
Hospital Management Committee No. 9 Wakefield "A" Group
Applications are invited for the appointment of
HOUSE PHYSICIAN
at the above hospital. The post is resident and the salary scale £350 to £450 per annum, less £100 as residential emoluments. Appointment vacant April 22, 1952. Application forms may be obtained from the Medical Superintendent.—W. Read, Secretary. (8994)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6770)

WARRINGTON GENERAL HOSPITAL (372 beds)
RESIDENT HOUSE PHYSICIAN
Required at the above hospital. Salary £350 to £450 per annum, less a deduction of £100 for residential emoluments. Applications should be forwarded to H. L. Boot, Secretary, Warrington and District Hospital Management Committee, c/o General Hospital, Warrington. (9140)

WOKING, VICTORIA HOSPITAL (74 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
Salary and conditions of service as published by Ministry of Health. Apply to Assistant Secretary, Victoria Hospital, Woking, Surrey. (6977)

SURGERY

PRINCESS BEATRICE HOSPITAL
Earls Court, S.W.5
Whole-time Resident SURGICAL REGISTRAR (for General Surgery)
F.R.C.S. essential. Vacancy April 17. Application forms from Secretary, St. Luke's Hospital, Sydney Street, Chelsea, S.W.3 (enclose S.A.E. foolscap) returnable by March 22. (9141)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
REGISTRAR in General Surgery
for duties mainly at the Bradford Royal Infirmary and as required at other hospitals in the Bradford (A) Group. Residential accommodation is available for which a charge of £150 per annum will be made. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 22, 1952. (8982)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for two posts of
REGISTRAR in General Surgery
one for the Blackburn and District Group of hospitals, with main duties and resident at Victoria Hospital, Accrington, and one for the Stockport and Buxton Group of hospitals, with main duties at Stockport Infirmary (non-resident). Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 24. (9127)

SOUTH WORCESTERSHIRE GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
Whole-time SURGICAL REGISTRAR
Duties at Worcester Royal Infirmary (302 beds). Appointment may be resident or non-resident. Experience in specialty essential. Possession of higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 24. Candidates may visit the hospital. (9206)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT SENIOR HOUSE OFFICER (Surgery)
Mostly orthopaedic and fractures, with some general surgery. Salary £670 per annum, less £130 per annum for residence. Vacant May 1. Applications, stating age, qualifications, experience, and nationality, with copies of recent testimonials, to Secretary of hospital by March 22. (9190)

BISHOP'S-STORTFORD, HERTS, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge. Main Line Railway from Liverpool Street)
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER (Surgical)
Salary £670 per annum, less £130 per annum in respect of residential emoluments. The appointment is due to commence April 1 for a period of one year. Applications, stating nationality, age, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Secretary, Hertford Group H.M.C., Hertford County Hospital, Hertford, Herts. (8564)

DURHAM, DRYBURN HOSPITAL (323 beds)
Durham Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for resident post of
SENIOR HOUSE OFFICER
for general surgical duties at the above hospital. Salary in accordance with the approved scale. Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees, and/or copies of three recent testimonials, should be sent to the Secretary, Durham Hospital Management Committee, Dryburn Hospital, Durham, as early as possible. (9230)

EPPING, ST. MARGARET'S HOSPITAL (485 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgery)
for casualty duties, orthopaedic and fracture work at the above hospital, at a salary of £670 per annum, less a deduction of £130 per annum for board and lodging and other services provided. Applications, in writing, with copies of two recent testimonials, to reach the Secretary, Epping Group Hospital Management Committee, St. Margaret's Hospital, Epping, Essex, by March 15. (8642)

GREENOCK ROYAL INFIRMARY
Board of Management for Greenock and District Hospitals
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (replacing Junior Registrar Grade) (General Surgery)
Appointment will be for one year in the first instance and will be subject to the National Health Service (Scotland) (Superannuation) Regulations. Applications, stating age, qualifications, and present appointment, and giving the names of three referees, to the Secretary, Board of Management for Greenock and District Hospitals, 47, Eldon Street, Greenock, not later than Sat., March 15. (9259)

HEXHAM GENERAL HOSPITAL (317 beds)
Hexham and District Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER in General Surgery
The post is resident, and is recognized by the Royal College of Surgeons. Salary £670 per annum, less £130 for residential emoluments. Applications, with the names of three referees, should be sent as early as possible to the undersigned.—W. Stokell, Secretary, General Hospital, Hexham, Northumberland. (9262)

HOVE GENERAL HOSPITAL, Sussex
(75 beds, 3 Resident Medical Officers)
Brighton and Lewes Hospital Management Committee
Applications are invited for the following resident posts, vacant mid-March, 1952:
SENIOR HOUSE SURGEON
(preference will be given to candidates with previous experience). Duties chiefly ward and theatre work.
HOUSE SURGEON
for casualty and with charge of surgical beds.
Salaries and conditions of service in accordance with national scale (£350 to £450, less £100 per annum for residential emoluments). Applications, with full details of experience, etc., and enclosing names and addresses of two referees, should be sent to the Administrative Officer at the hospital within ten days of the appearance of this advertisement. (7782)

ISLE OF MAN, NOBLE'S HOSPITAL (160 beds)
Applications invited for the post of
SENIOR HOUSE SURGEON
at above hospital, an acute general hospital with a busy surgical practice and specialist visiting staff. Salary £670 per annum, with a deduction of £100 per annum for board, lodging, etc., if resident. Suitable post for man preparing for a higher surgical qualification. Applicant should previously have held a house-surgeon appointment, preferably at a teaching hospital. Post vacant at the end of March, 1952. Applications, giving all relevant particulars, with copies of two recent testimonials, or names and addresses of two referees, should be forwarded to the Secretary, Noble's Isle of Man Hospital, Douglas. (9231)

KENDAL, WESTMORLAND COUNTY HOSPITAL (82 beds)
SENIOR HOUSE OFFICER (Surgical)
The post will be vacant in March, 1952, and normally tenable for one year. Applications, stating age, qualifications, experience, and nationality, with two recent references, should be sent to Secy., Royal Lancaster Infirmary, Lancaster. (8755)

MORECAMBE, QUEEN VICTORIA HOSPITAL (100 beds)
SENIOR HOUSE OFFICER (Surgical)
The post is normally tenable for one year, and the successful candidate will be expected to relieve the Senior House Officer (Obstetrics and Gynaecology) during absence. Applications, stating age, qualifications, experience, and nationality, with two recent references, should be sent to Secretary, Royal Lancaster Infirmary, Lancaster. (8756)

NOTTINGHAM CITY HOSPITAL (833 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER (General Surgery)
The post is approved for F.R.C.S. Salary £670 per annum, less £130 for residential emoluments. The appointment is for one year. Post vacant April 1, 1952. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be submitted immediately to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (8778)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Surgery—contd.

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence as soon as possible. Salary £670 per annum and conditions of service in accordance with the conditions published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (6969)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for appointment of
SURGICAL OFFICER (Resident)
(Senior House Officer status)
Post vacant immediately. The appointment will be for a period of twelve months and is renewable. Salary £670 per annum. The hospital is recognized for the Fellowship of the Royal College of Surgeons. Terms and conditions in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9096)

REDRUTH, CAMBORNE-REDRUTH HOSPITAL
(159 beds, 4 residents)
West Cornwall Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Post now vacant. Salary £670 per annum, less £100 per annum for residential emoluments. Applications, stating age, experience and nationality, together with names of two persons to whom reference can be made, should be submitted to the Administrative Assistant. (8011)

STOCKTON AND THORNABY HOSPITAL
Stockton-on-Tees
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for either of the following appointments:
SENIOR HOUSE OFFICER (Surgeon)
HOUSE SURGEON
to be attached to Surgical Team No. 3. The Senior House Officer post is recognized for the F.R.C.S. examination. Salary in accordance with national scales. The post offers an excellent experience and is tenable for a period of at least six months. Applications, stating age, qualifications, experience, and accompanied by copies of three testimonials, should be addressed to the Secretary-Superintendent. (9097)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
(96 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8403)

STOKE-ON-TRENT, LONGTON HOSPITAL
(55 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary (8404)

STOURBRIDGE, CORBETT HOSPITAL (106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Resident, Surgical)
Post now vacant. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs (9745)

WOKING, VICTORIA HOSPITAL
Woking, Surrey (74 beds)
SENIOR HOUSE OFFICER
(Surgical and Medical duties)
Resident preferred. Non-resident considered. Salary and conditions of service as published by Ministry of Health, viz., £670 per annum, less emoluments. Applications, with testimonials, to Assistant Secretary, Victoria Hospital, Woking, Surrey. (7289)

SUNDERLAND, GENERAL HOSPITAL
(517 beds)
SENIOR SURGICAL HOUSE OFFICER
(Male or female)
Resident at above hospital (69 surgical beds). Post recognized for F.R.C.S. examination. Successful applicant will be expected to rotate duties at six monthly intervals with Senior Surgical House Officers at other hospitals. Salary £670 per annum, less emolument value. Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (9157)

BATTERSEA GENERAL HOSPITAL
Battersea Park, S.W.11
RESIDENT HOUSE SURGEON/CASUALTY OFFICER (House Officer Grade)
Required immediately for six months. Apply, enclosing copies of two recent testimonials, to Administrative Officer. (9195)

GERMAN HOSPITAL, Dalston, London, E.8
Applications are invited for the post of
HOUSE SURGEON (First, second or third post)
at the above hospital, and should be sent to the Group Secretary, Hospital Management Committee, Hackney Hospital, London, E.8, within six days of the appearance of this advertisement. (9191)

MANOR HOUSE HOSPITAL
Golders Green, N.W.11
(Exempted from National Health Service)
HOUSE SURGEON
Required. Salary £350 to £450 per annum, less £100 per annum deducted for emoluments. Six months' appointment, renewable. Post suitable for a candidate studying for a higher degree. Applications, stating age, nationality, qualifications and experience, with copies of testimonials, to the Secretary, Manor House Hospital, Golders Green, N.W.11. (8799)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
vacant now. Applications, stating age, qualifications and experience, with a copy of two testimonials, and the name of one referee, should be sent to the Group Secretary, St. Helier Hospital, Carshalton, Surrey. (9062)

ST. ANN'S GENERAL HOSPITAL, N.15
Tottenham Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE SURGEON (Third post)
for a period of six months, commencing April 1, 1952. Application form from the Secretary, Tottenham Group Hospital Management Committee, The Green, Tottenham, N.15. (9098)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent (3728)

ACCRINGTON, VICTORIA HOSPITAL
(112 acute beds)
HOUSE SURGEON
Post tenable for six months. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for board residence. Applications, giving age, nationality, qualifications, etc., accompanied by copies of two testimonials, to be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (8659)

ALTRINCHAM GENERAL HOSPITAL (130 beds)
near Manchester
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Surgical)
Required, to commence duties as soon as possible. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham, Cheshire. (8647)

BARNSLEY, BECKETT HOSPITAL
HOUSE SURGEON
Applications are invited from registered medical practitioners, either sex. National salary scales will apply. Applications, giving full particulars, to Secretary, Hospital Management Committee, 33, Gawber Road, Barnsley. (8983)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
Salary, terms and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to Secretary, St. Martin's Hospital, Midford Road, Bath.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (9063)

BATLEY, GENERAL HOSPITAL (102 beds)
Carlinghow Hill, Batley, Yorks
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This general hospital will shortly provide all the in-patient treatment for the Group in the specialties of orthopaedics, E.N.T., and ophthalmology in addition to some general surgery, together with the usual out-patient clinics. Applications, stating age, qualifications and experience, together with recent testimonials, should be submitted immediately to the Secretary, 20, Oxford Road, Dewsbury. (7971)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
for the General Surgery and Orthopaedic Departments of the above hospital. These departments of this hospital provide interesting and active traumatic experience. Resident. The post, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (8341)

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE
Bath Row, Birmingham, 15 (215 beds)
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for the posts of
HOUSE SURGEONS
one of which falls vacant on April 1, 1952, and two further posts which fall vacant on May 1, 1952. The appointments will be for a period of six months, of which two may be spent in the Burns Unit (Medical Research Council). The hospital is the largest traumatic unit in the country, and treats 50,000 new patients each year. The posts offer ample opportunity for practical experience in the management of all types of injury and teaching by the Consultant staff: are recognized for the F.R.C.S. Applications, accompanied by copies of recent testimonials or names of two referees, to be sent to the Administrator. (9143)

BISHOP'S STORTFORD, HERTFORDSHIRE
HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for a
RESIDENT HOUSE OFFICER (Surgical)
(First or second post held)
Salary £350 to £400 per annum, plus special grant of £50 per annum, less £100 per annum for residential emoluments. Appointment to commence immediately. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent as soon as possible to the Administrative Officer. (8862)

BLACKBURN ROYAL INFIRMARY (244 beds)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
to the General Surgical Unit
The appointment will be for a period of six months in the first instance, and the salary, etc., will be in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, giving age, nationality, qualifications, etc., with copies of two testimonials, to be sent to the Secretary, Blackburn and District H.M.C., Royal Infirmary, as soon as possible. (8660)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (General)
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary. (8863)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON (General)
Vacant April 1. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (8864)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON (General)
Vacant May 1. Recognized for F.R.C.S.. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9234)

BRISTOL, FRENCHAY HOSPITAL
(470 staffed beds, expanding)
Coxsham/Frenchay Hospital Management Committee
HOUSE SURGEON (General Surgery Wards)
Two vacancies occur mid-March. Applications, with full particulars, should be addressed to the Secretary, Frenchay Hospital, quoting G.S.F. (8758)

Surgery—contd.

BROMSGROVE, WORCS, ALL SAINTS' HOSPITAL
Mid-Worcestershire Hospital Management Committee
TWO HOUSE SURGEONS
(for acute Surgical Wards and Casualty Department)
Required at this recently opened general hospital which has a bed complement of 468 beds. Posts are resident, and are vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire Hospital Management Committee, Birmingham Road, Bromsgrove, Worcs. (9031)

BURNLEY, GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is vacant now, and is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. The post is recognized for the F.R.C.S. examination. Applications, together with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (9287)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. Applications, with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (8759)

BURTON-ON-TRENT, GENERAL INFIRMARY
(Acute General Hospital, 235 beds)
Burton-on-Trent Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
now vacant. This appointment is recognized for examination purposes for the Royal College of Surgeons, offering excellent general experience in a busy acute surgical unit. Applications, with all details and copies of recent testimonials, to the undersigned.—J. E. Smith, Secretary to the H.M.C. (8583)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical with beds for orthopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

CARLISLE, CUMBERLAND INFIRMARY
(322 beds)
East Cumberland Hospital Management Committee
Applications are invited for the undermentioned resident posts, vacant April 1, 1952, and tenable for six months:
THREE HOUSE OFFICERS (General Surgery)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (8984)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (9165)

COBHAM, SURREY, SCHIFF HOME OF RECOVERY (80 beds)
RESIDENT HOUSE OFFICER (Surgical)
Required at the above hospital. Post vacant March 21, 1952, considered suitable for anyone reading for a higher examination. Applications, stating age, qualifications, and experience, with copies of three recent testimonials, to be sent immediately to Group Secretary, Epsom District Hospital, Dorking Road, Epsom, Surrey. (9032)

DERBY CITY HOSPITAL, Derby
Derby Area No. 1 Hospital Management Committee
A recently built acute general hospital. There are seven residents. Applications are invited from registered medical practitioners, male or female, for the appointment of
HOUSE SURGEON
Appointment is vacant in April. Apply to Medical Superintendent as soon as possible. (8995)

DERBYSHIRE ROYAL INFIRMARY, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE OFFICER (General Surgery)
Vacant April 1, 1952. Applications, stating full details, together with copies of two testimonials, should be sent as soon as possible to the Secretary, Derbyshire Royal Infirmary, Derby. (8682)

DEVONPORT, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
vacant April 1, 1952. Salary and conditions of service in accordance with the National Health Service terms, with residential emoluments. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, to Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9192)

DEWSBURY, GENERAL HOSPITAL (119 beds)
Moorlands Road, Dewsbury
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy modern general hospital, with a large out-patient department and the usual ancillary services. The hospital is recognized for the F.R.C.S. and provides excellent experience. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (7972)

DEWSBURY, YORKS, STAINCLIFFE GENERAL HOSPITAL, Healds Road (316 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy general hospital with the usual out-patient and ancillary services. It is recognized for the F.R.C.S., and provides excellent experience. Salary and conditions of service in accordance with the national scales. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent to the Secretary, 20, Oxford Road, Dewsbury. (7973)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
Salary at the rate of £350, £400 or £450 per annum, according to experience, from which a deduction at the rate of £100 per annum will be made for board, residence, etc. Post vacant now. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee. (8985)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
JUNIOR HOUSE SURGEON
at the above hospital. The post will become vacant at the end of March. The salary will be £350, £400, or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (9202)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE SURGEON
at the above hospital. The post is recognized by the Royal College of Surgeons, and will become vacant at the end of March. The salary will be £350, £400, or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (9203)

DUDLEY, GUEST HOSPITAL (154 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Surgical)
Post now vacant, tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (6561)

DURHAM HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners (male or female) for the resident posts of
HOUSE SURGEON
at the undermentioned hospitals. The posts are tenable for six months.
Dryburn Hospital, Durham (327 beds)
General Hospital, Chester-le-Street (227 beds)
County Hospital, Durham (120 beds)
Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees and/or copies of three recent testimonials, should be sent to the Secretary, Durham Hospital Management Committee, Dryburn Hospital, Durham, as early as possible, stating choice of hospitals in order of preference. (9099)

EAST GRINSTEAD, QUEEN VICTORIA HOSPITAL
Tunbridge Wells Group Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
(Male or female) to General Hospital
Appointment tenable for six months from May 1, 1952. Post recognized for examination for Fellowship of Royal College of Surgeons. Applications, in writing, with three references, to Senior Administrative Officer. (9193)

EPSOM DISTRICT HOSPITAL
Dorking Road, Epsom, Surrey (300 beds)
RESIDENT HOUSE OFFICER (Surgical)
Required at above hospital. Full consultant staff. Post recognized by Royal College of Surgeons, vacant April 29, 1952. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent as soon as possible to Group Sec. at above address. (9064)

HALIFAX GENERAL HOSPITAL (425 beds)
Applications are invited for the post of
HOUSE SURGEON (Male or female)
(House Officer Grade)
Salary according to experience. Applications, stating age, nationality, qualifications and experience, with copies of three testimonials, to be addressed to the Secretary at the Royal Halifax Infirmary, Halifax. (8800)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)
Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
for a term of six months. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (9144)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
HOUSE SURGEON (Male)
(First, second or third post held, for general surgery, gynaecology, and obstetrics)
Six months' appointment. Salary is at the rate of £350 to £450 per annum, less £100 per annum for residential emoluments. Duties to commence mid-March, 1952. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group Hospital Management Committee, Hertford County Hospital, Hertford. (9235)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds, 5 residents)
Applications are invited for two vacancies as
RESIDENT HOUSE SURGEON
at the above busy acute general hospital. Busy casualty and out-patient departments. Applications, stating age, qualifications, and experience, with copies of testimonials, to the Secretary, St. Mary's Cottage, High Wycombe. (9033)

HITCHIN, HERTS, NORTH HERTS AND SOUTH BEDS HOSPITAL
Applications are invited for the post of
RESIDENT HOUSE SURGEON
now vacant. The appointment will be for six months in the first instance. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent immediately to the Medical Director, The Lister Hospital, Hitchin, Herts. (8996)

HULL, KINGSTON GENERAL HOSPITAL
(398 beds, 6 residents)
Hull (A) Group Hospital Management Committee
TWO HOUSE SURGEONS
Required immediately at the above hospital. *Duties: one mainly Gynaecological and one* General. Salary £350, £400 or £450 per annum, according to experience. The posts are resident and tenable for six months. Applications, with full particulars, to Administrative Officer, Kingston General Hospital, Hull. (9036)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Surgery—contd.

HUNTINGDON COUNTY HOSPITAL

Applications are invited from registered medical practitioners for the post of

JUNIOR HOUSE OFFICER (General Surgery)

to the above hospital. This is a busy hospital staffed by consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (8801)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee

TWO HOUSE SURGEONS (Resident)

Required urgently at the above hospital. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (9034)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL (140 beds)
King's Lynn Area Hospitals Management Committee

Applications are invited for the post of

RESIDENT HOUSE SURGEON

at the above hospital. Appointment will be for six months in the first instance. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. Duties of the post offer valuable experience in general surgery and E.N.T. work in a busy acute general hospital. Applications to be forwarded as soon as possible to the Secretary of above Committee, c/o St. James' Hospital, King's Lynn. (9035)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 general beds)

HOUSE SURGEON (General Surgery)

Salary £350 per annum, less £100 residential emoluments, terms and conditions of service in accordance with hospital medical staff. Apply as soon as possible to Miss V. Wells, Hospital Secretary. (8342)

LEICESTER GENERAL HOSPITAL (445 beds)

Applications are invited for the posts of

TWO HOUSE SURGEONS

commencing April 1, 1952. Recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (8343)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of

HOUSE SURGEON

for a period of six months from April 1, 1952. The post is recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8060)

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)

Applications are invited for the vacancy of

HOUSE SURGEON

commencing April 1, 1952. Applications, stating age, qualifications and experience, together with copies of recent testimonials, to the Secretary, Leicester No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8344)

MAIDENHEAD HOSPITAL
St. Lukes Road, Maidenhead (100 beds)

Applications are invited for the post of

HOUSE SURGEON

now vacant. Salary on national scale. Applications, stating age, qualifications, and experience, together with copies of testimonials, should be sent to the Administrative Officer. (9037)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham, Manchester, 8 (105 beds)
(Non-sectarian)

Applications are invited for the post of

HOUSE SURGEON
(House Officer grade)

Vacant March 13, 1952. Applications, together with copies of not less than two recent testimonials or names of two referees, to the Hospital Administrator forthwith. (7363)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee

Applications are invited for the post of

HOUSE SURGEON
(First, second or third appointment)

This is a busy general hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (9038)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee

RESIDENT HOUSE SURGEON
(Male or female)

Required for the above hospital. Duties to commence immediately. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee

Applications are invited for the appointment of

HOUSE SURGEON (General)

Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting Ref. No. A/826, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (8904)

PENZANCE, WEST CORNWALL HOSPITAL (General Hospital, 100 beds)
West Cornwall Hospital Management Committee

Applications are invited for the appointment of

HOUSE SURGEON (Male or female)

Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6702)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Freedom Fields
Plymouth, South Devon and East Cornwall General Hospital Group

Applications are invited from registered medical practitioners for the appointment of

HOUSE SURGEON

vacant April 4, 1952. This post is recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9194)

PONTYPOOL AND DISTRICT HOSPITAL
Pontypool, Mon. (115 beds)

Applications are invited for the post of

HOUSE OFFICER (Surgical)

vacant April 1, 1952, who will work under the directions of the Consultant Surgeons. The resident staff consists of a Junior Hospital Medical Officer (Surgical), a House Physician, and this post. Opportunities exist for visiting other hospitals with the Consultants. The post carries an additional increment of £50 above national scale in view of special responsibilities. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8405)

PRESTON ROYAL INFIRMARY (400 beds)

GENERAL HOUSE SURGEON

Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8481)

ROCHFORD, GENERAL HOSPITAL (603 beds)
Southend-on-Sea Hospital Management Committee

RESIDENT HOUSE SURGEON
(Recognized for F.R.C.S.)

Applications are invited from registered medical practitioners for the above appointment, which becomes vacant on May 1, 1952, and which is of six months' duration. The duties are predominantly in general surgery, but the successful applicant will also be responsible to the Consultant Orthopaedic Surgeon for all orthopaedic and fracture cases. Salary according to previous appointments held. Applications, with copies of at least two recent testimonials, should be sent to the undersigned at the General Hospital, Rochford, Essex, not later than March 28.—J. C. Field, Secretary. (9162)

RUGBY, HOSPITAL OF ST. CROSS

HOUSE SURGEON

Required for General Surgical Department (including some accidents and orthopaedics). Applications, stating age, qualifications, together with copy testimonials, should be addressed to the Assistant Secretary. (9236)

ST. HELENS HOSPITAL (183 beds)
Marshalls Cross Road, St. Helens
St. Helens and District Hospital Management Committee

Applications are invited for the appointment of

RESIDENT HOUSE SURGEON

Six months' appointment. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications, and experience, and giving two names for reference, should be forwarded to the undersigned as soon as possible.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (8768)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group 15 Hospital Management Committee

Applications are invited from general registered practitioners, male or female, for appointment of

RESIDENT HOUSE SURGEON
(Second or third post)

to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group 15 Hospital Management Committee

Applications are invited from general medical practitioners (male or female) for appointment of

RESIDENT HOUSE SURGEON
(Second or third post)

to a General Consultant Surgeon. The post is vacant on March 26, 1952, and tenable for six months. The successful applicant will be responsible for 40 surgical beds, and the appointment is recognized for the F.R.C.S. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (9100)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)

HOUSE SURGEON

Required immediately. Post tenable for six months. Applications, with copies of testimonials, to be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8866)

SOUTHPORT, PROMENADE HOSPITAL
Southport and District Hospital Management Committee

RESIDENT HOUSE SURGEON

Required April 1, 1952. Apply immediately, with details of age, nationality and qualifications, together with copies of two testimonials, to T. Crook, Secretary, Promenade Hospital, Southport. (9196)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 32 beds)
Stafford Hospital Management Committee

Applications are invited from registered medical practitioners (male or female) for the post of

HOUSE SURGEON

vacant March 15, 1952. First, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Sec. to Committee, 13, Foregate Street, Stafford. (7365)

STOKE-ON-TRENT, BURSLEM HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL (96 beds)

Applications are invited for the post of

RESIDENT HOUSE OFFICER (Surgical)

Post vacant mid-March. Apply, with copy testimonials, stating age, nationality, and full details of previous appointments, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8406)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

RESIDENT HOUSE OFFICER (General Surgery)

The post is recognized for F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality, and full details of previous appointments, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8407)

STOKE-ON-TRENT, NORTH STAFFS ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

HOUSE OFFICER (General Surgery)

Post recognized for F.R.C.S. examination. Applications, with copy testimonials, should be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (8408)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

HOUSE SURGEON

at the above hospital. Resident. The appointment will be for six months in the first instance, and the post becomes vacant on March 15, 1952. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Sec., Thurrock Hospital, Grays, Essex. (7966)

Surgery—contd.

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident appointment of
HOUSE SURGEON
Full particulars of age, qualifications and experience, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (9166)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY
South-East Northumberland Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
Applications, with two testimonials, should be sent to the Secretary, South-East Northumberland H.M.C., Preston Hospital, North Shields, as soon as possible. (9237)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointments:
TWO RESIDENT HOUSE SURGEONS
(vacant April 1, 1952)
Post is/are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

WARRINGTON INFIRMARY (172 beds)
Applications are invited for a vacancy at the above hospital for a
RESIDENT HOUSE SURGEON
Salary will be £350 to £450 per annum, less a deduction of £100 for full residential emoluments. Applications should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8584)

WESTON-SUPER-MARE GENERAL HOSPITAL (110 beds)
Applications are invited from registered medical practitioners for the resident appointments of
TWO HOUSE OFFICERS (House Surgeons)
Duties to commence as soon as possible. Salary at the rate of £350 to £400 per annum, according to previous posts held, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be addressed to the Secretary, Weston-super-Mare Hospital Management Committee, c/o The General Hospital, Weston-super-Mare. (8268)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
HOUSE SURGEON to the Senior Surgeon
Applications, with copies of two testimonials, should be sent to the Secretary. (9101)

WOLVERHAMPTON, NEW CROSS HOSPITAL
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (General Surgery)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Gropp Secretary, The Royal Hospital, Wolverhampton. (9078)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications invited for the following appointments:
HOUSE SURGEON
(General Surgery/Gynaecology) Now vacant
HOUSE SURGEON
(General Surgery/Orthopaedics) Vacant March 24
In both appointments the division of duties between specialties is approximately equal; each is tenable for six months and is subject to the terms and conditions of service of hospital medical staff. Applications, with copies of testimonials, should be sent as soon as possible to the Sec., from whom further particulars can be obtained. (8760)

WREXHAM, MAELOR GENERAL HOSPITAL (513 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant now. The appointment is recognized for the Diploma of F.R.C.S. (Eng. and Edin.). Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (9039)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital, to commence immediately. Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (9040)

YORK, CITY HOSPITAL
(Modern general hospital of 265 beds, with full Consultant staff)
TWO RESIDENT HOUSE SURGEONS
Salary £350, £400 or £450, less £100 for residence. Posts recognized under F.R.C.S. regulations, and vacant from April 14 and 17, 1952, respectively. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to the Secretary, York "A" Tadcaster H.M.C., Bootham Park, York. (9238)

CASUALTY

BARNSLEY, BECKETT HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
CASUALTY REGISTRAR
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9065)

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the non-resident appointment of
CASUALTY OFFICER
of Junior Hospital Medical Officer Grade
to the above hospital. Full particulars of age, qualifications and experience, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe Hospital Management Committee, St. Helen's Road, Swansea. (9167)

WARRINGTON INFIRMARY (172 beds)
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident Casualty Officer)
The commencing salary is in accordance with the scale £700 by £50 to £1,000, less a deduction of £130 for residential emoluments. Applications, stating age, experience and qualifications, should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8585)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham Powys and Mawddach Hospital Management Committee
JUNIOR HOSPITAL MEDICAL OFFICER
Required for the Casualty Orthopaedic Department of the above hospital. The post will become vacant on March 17, 1952. Salary £700 by £50 to £1,000 per annum (for an officer appointed not less than two years after registration). Application forms may be obtained from the undersigned and should be returned as soon as possible to William Jones, Secretary, Wrexham, Powys and Mawddach H.M.C., Maelor General Hospital, Wrexham. (8661)

EAST HAM MEMORIAL HOSPITAL
Shrewsbury Road, London, E.7
Applications are invited from registered medical practitioners, male or female, for appointment of
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
combined with the post of Deputy Resident Surgical Officer (Senior House Officer) at the above hospital for six months commencing May 1, 1952. Candidates should send applications, together with copies of recent testimonials, to the undersigned by March 31, 1952.—M. J. Huntley, Secretary, West Ham Group Hospital Management Committee, Stratford, London, E.15. (9145)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Casualty Officer)
Post vacant March 21 and tenable for twelve months. Salary is at the rate of £670 per annum, less £150 per annum for residential emoluments. Applications, together with copies of two testimonials, should be sent to the Group Secretary, St. Helier Hospital, Carshalton, Surrey. (9066)

WEST LONDON HOSPITAL
Hammersmith Road, W.6
RESIDENT CASUALTY OFFICER
Required April 1. Salary £670 per annum, less £150 per annum for board and lodging. Applications, stating age, medical school, qualifications, experience, copies of two testimonials, to Secretary by March 18. (9128)

BLACKPOOL, VICTORIA HOSPITAL
ASSISTANT RESIDENT SURGICAL OFFICER
Required with responsibility for casualty department. Senior House Officer grade. Post recognized for F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (8986)

DARTFORD HOSPITAL MANAGEMENT COMMITTEE
RECEIVING ROOM OFFICER
Required immediately for a busy casualty department. Candidates should have held House Officer appointments. Salary £670 a year, less £150 a year for residential emoluments. Six months' appointment with possible renewal up to one year. Applications, stating age, qualifications, experience, nationality, and the names of two persons to whom reference may be made, to the Secretary, Dartford H.M.C., The Bow Arrow Hospital, Dartford, Kent, immediately. (9067)

FARNBOROUGH HOSPITAL
Farnborough, Kent (800 beds)
Applications are invited for the post of
CASUALTY OFFICER
(Senior House Officer Grade)
The appointment commences on April 18, 1952, and is for a period of one year. Salary £670 a year. Applications, stating age, qualifications (with dates) and experience, together with the names and addresses of three referees, should be sent to the Administrative Officer. (8815)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (9163)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

Chairman: James Fenton, CBE, MD.

MEDICAL INSURANCE AGENCY

Hon. Secretary: Henry Robinson, MD, DL, JP.

General Manager: A. N. Dixon, ACI

CHILDREN'S POLICIES

- **EDUCATION:** Provision for school and university fees.
- **DEFERRED POLICIES:** for the later benefit of the child.

We specialize in these, and ALL insurance matters, and have policies to suit every requirement

Unbiased advice **Direct saving** **All surplus to Medical Charities**

LEEDS: 20/21 Norwich Union Bldgs., City Sq.
MANCHESTER: 33 Cross Street.
BIRMINGHAM: 154 Great Charles Street.

CHIEF OFFICE: B.M.A. House, Tavistock Sq., London, W.C.1.
Telephone: Euston 5561-2-3.
EDINBURGH: 6 Drumsheugh Gardens.
NEWCASTLE-UPON-TYNE: 16 Saville Row.

GLASGOW: 234 St. Vincent Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.

Casualty—contd.

HITCHIN, HERTS, LISTER HOSPITAL
Applications are invited for the combined post of
CASUALTY HOUSE SURGEON AND SPECIALTY HOUSE OFFICER
(Senior House Officer grade)
The appointment will be for one year and is vacant now. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent immediately to the Medical Director, The Lister Hospital, Hitchin, Herts. (8997)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary. (5418)

LIVERPOOL, ROYAL CHILDREN'S HOSPITAL
(City Branch)
United Liverpool Hospitals
Applications are invited from persons with previous experience in paediatrics for an appointment as
SENIOR CASUALTY OFFICER
for the period to December 31, 1952. The person appointed may choose to be resident or non-resident. Th post is assessed in the Senior House Officer grade. Applications, on forms from the undersigned, should be returned by March 22, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (9197)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of either
RECEIVING ROOM OFFICER
Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or
CASUALTY OFFICER
Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant.
Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
CASUALTY OFFICER
Applications are invited from registered medical practitioners for above post, now vacant. Post offers good experience with fractures and emergency surgery, and is tenable for twelve months. Salary £670 per annum. Applications, stating age, nationality, qualifications, and experience, together with recent testimonials, to be addressed to the Administrative Officer. (8816)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
CASUALTY OFFICER
(Resident or non-resident)
(Senior House Officer status)
Duties to be from 9 a.m. to 5 p.m. each day, except Saturday, which should be 9 a.m. to 1 p.m., and the applicant may be required to do one week-end's duty in each month. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (7123)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
SENIOR HOUSE OFFICER
(Casualty Officer/House Surgeon)
Required immediately. Applications, with copies of testimonials, to be submitted as soon as possible to the Secy., Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8879)

WALSALL GENERAL HOSPITAL (181 beds)
Walsall Hospital Management Committee
CASUALTY OFFICER (S.H.O. grade)
Required immediately. Apply Secretary. (7527)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the post of
CASUALTY OFFICER
The post is of Senior House Officer status, becomes vacant on May 23 and is tenable for one year. Conditions are in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of three testimonials, to be sent as soon as possible to the Secretary, from whom further particulars can be obtained (8512)

KING EDWARD MEMORIAL HOSPITAL, Ealing
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (First, second or third post)
to Casualty, Orthopaedic and Fracture Departments
Vacant now Applications, stating age, nationality, qualifications (with dates) and details of experience, together with copies of two recent testimonials, to the Secretary of the Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date March 18, 1952. (9260)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE OFFICER
Casualty and Orthopaedic Department
Post recognized for F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (8987)

CARLISLE, CUMBERLAND INFIRMARY
(322 beds)
East Cumberland Hospital Management Committee
Applications are invited for the undermentioned resident post, vacant April 1, 1952, and tenable for six months:
HOUSE OFFICER (Casualty)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (8988)

CHESTERFIELD ROYAL HOSPITAL (322 beds)
Chesterfield Hospital Management Committee
CASUALTY OFFICER (House Officer)
Required immediately. National salary and conditions. Apply M H. Boone, Secretary. (8649)

HASTINGS, ROYAL EAST SUSSEX HOSPITAL
(150 beds)
Hastings Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Post vacant March 24. National scales of salary. Apply to Administrator at the hospital. (9042)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
CASUALTY OFFICER AND SECOND HOUSE PHYSICIAN (Male) (Joint post)
(First or second post held)
Six months' appointment. Salary at the rate of £350 to £400 per annum, less £100 per annum for residential emoluments. Duties to commence March 15, 1952. Applications to the Secretary, Mr. P G. Brooks, Hertford Group Hospital Management Committee, Hertford County Hospital, Hertford. (9239)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
CASUALTY OFFICER and HOUSE SURGEON
for a period of nine months from April 1, 1952. The first three months will be served as Casualty Officer and Deputy House Surgeon to future chief. The post of House Surgeon recognized for the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (8350)

LIVERPOOL, 14, BROADGREEN HOSPITAL
Applications are invited from registered medical practitioners for post of
ADMISSION ROOM AND CASUALTY OFFICER
(Non-resident)
tenable for six months from May 5, 1952. Duty hours 9 a.m. to 5 p.m. week-days, 9 a.m to 1 p.m. Saturdays. Salary £350, £400 or £450 per annum, according to experience. Apply immediately on forms obtainable from the Secretary to the Committee at the above address. (9146)

MAIDENHEAD HOSPITAL
St. Lukes Road, Maidenhead (100 beds)
Applications are invited for the post of
HOUSE SURGEON
to the Accident Department. Salary authorized of £50 per annum higher than the standard rate. Applications, stating age, qualifications, and experience, together with copies of testimonials, should be sent to the Administrative Officer (9043)

NEWPORT, I.W., ST. MARY'S HOSPITAL
Isle of Wight Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Required for new department in recently completed premises, with charge of some beds in special departments. Applications, with names and addresses of three referees, to be sent to the Chief Administrative Officer. (9240)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Casualty and Orthopaedic)
Applications are invited from registered medical practitioners for the above post, which is vacant now. The post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8076)

PRESTON ROYAL INFIRMARY (400 beds)
CASUALTY OFFICER (House Officer Grade)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (8482)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL, Watford, Herts
(189 beds)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
The Traumatic and Orthopaedic Department consists of 24 beds, and is integrated with the Royal National Orthopaedic Hospital Salary according to N.H.S. scale. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent to undersigned.—Cyril Hopkinson, Administrator. (7573)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY
Wigan and Leigh Hospital Management Committee
CASUALTY OFFICER (Male or female)
House Officer grade post recognized for the F.R.C.S. examinations. Post now vacant Applications, stating age, qualifications, etc., together with the names of two referees, should be received by the undersigned as early as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (8881)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (Junior Casualty Officer)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (9077)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 19

PUBLIC HEALTH

(See Important Notice page 21)

BIRMINGHAM, CITY OF, EDUCATION COMMITTEE
School Health Service
Applications are invited for the appointment of
ASSISTANT SCHOOL MEDICAL OFFICER
in the School Health Service. Candidates must have had at least three years' experience in the practice of their profession subsequent to obtaining a registrable qualification Salary £850 by annual increments of £50 to £1,150 per annum. Previous experience in Local Government Service may be taken into account. Travelling expenses allowed. Forms of application (to be returned not later than Monday, March 31), together with further information, obtainable from the undersigned on receipt of a stamped, addressed foolscap envelope. Communications should be endorsed "Assistant School Medical Officer." Canvassing will disqualify.—E. L. Russell, Chief Education Officer, Education Office, 74-75, Broad Street, Birmingham, 15. (9102)

NORWICH, CITY AND COUNTY OF MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER
Applications are invited for the above whole-time appointment from medical practitioners possessing the appropriate qualifications and experience. The salary, calculated in accordance with Award 2285 of the Industrial Court, will be at the rate of £1,900 per annum, rising by annual increments of £50 to a maximum of £2,150 per annum, and, in addition, a car allowance will be paid. The appointment will be subject to three months' notice on either side and superannuable The successful candidate will be required to pass a medical examination and to take up duty on or about October 21, 1952. Applications, stating age, full particulars of qualifications and experience, and accompanied by the names and addresses of three referees, should reach the undersigned not later than March 31, 1952.—Bernard D. Storey, Town Clerk, City Hall, Norwich. (8989)

[illegible] practitioners [illegible] and the appointee [illegible] New Zealand before taking [illegible], Junior Specialist £1,260 per [illegible] to £1,560 per annum by annual increments of £50. Senior Specialist £1,660 per annum, rising to £1,910 per annum by annual increments of £50. Commencing salary within these scales will be in accordance with qualifications and experience in the specialty. The amounts quoted are in New Zealand currency and are living out rates. Living accommodation is not provided. Particulars regarding payment by the Board of travelling expenses are set out in the conditions of appointment which, together with an application form, may be obtained from the Office of the High Commissioner for New Zealand, 415, Strand, London, W.C.2. Applications, addressed to the Secretary, close at the office of the Board, Kitchener Street, Auckland, New Zealand, at noon on Monday, April 7, 1952. (8487)

COLONIAL MEDICAL SERVICE
Northern Rhodesia
TWO MEDICAL OFFICERS

are required in the Health Department of Northern Rhodesia, one to work under the supervision of the Chest Physician in clinical preventive and survey work in connexion with tuberculosis, and the other for general medical work in European and African hospitals, and, in addition, to undertake the duties of Anaesthetist to Surgical Specialists. All Medical Officers are liable to undertake general duties as required by the Director of Medical Services. Appointments can be made on a permanent basis with pension (non-contributory) on retirement at the age of 55, or on short-term contract with gratuity on satisfactory completion of engagement. Doctors in the National Health Service may resign from the National Health Service but retain their superannuation rights during their time in Northern Rhodesia (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Northern Rhodesia salary on leaving Northern Rhodesia at the end of their engagement. Salary scale ranges from £865 per annum to £1,590 per annum. Starting point in the scale is determined according to age, experience, and qualifications. A temporary cost-of-living allowance at the rate of 16 per cent of basic salary is payable, subject to a maximum of £211 4s. per annum. Pension is earned at the rate of 1/600th of the final pensionable emoluments for each completed month of service. The gratuity for contract service is payable on completion of the contract at the rate of £100 to £150 per annum. Free passages in both directions are provided for officer and wife, and assisted passages for children. Annual local leave is permissible, and generous home leave is granted after each tour of three years. Quarters are provided at rental of 10 per cent of salary. Income tax at local rates. Social and recreational amenities are good. The applicant for work under the Chest Physician should preferably have had postgraduate experience in this type of work. The Anaesthetist should have had at least one year's experience in the administration of anaesthetics. Applicants for either post must possess qualifications registrable in the United Kingdom. Application forms can be obtained from the Director of Recruitment (Colonial Service), Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/153/52). (9242)

HER MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom with one or more years' experience after qualification are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH
for General Medical and Health duties

Appointment is available (a) on probation for permanent establishment; (b) on employment from the National Health Service; and (c) on short-term contract with gratuity. (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in Her Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g., F.R.C.S. M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of [illegible]regate of their Malaya salary [illegible] the end of their engagements. [illegible] under (a), including incremental [illegible]perience and higher qualifications as [illegible]der (a). Doctors so appointed may be [illegible]ed for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a), including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e., those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No 27215/242/51). (5187)

HER MAJESTY'S COLONIAL SERVICE
Hong Kong
MEDICAL OFFICERS

are required for general duties in the Medical Department of Hong Kong. Appointment can be made on a permanent basis with pension (non-contributory) on retirement (the normal age of retirement is 55), or on short-term contract with gratuity on satisfactory completion of engagement. Salary scale which includes pensionable expatriation pay, ranges from $1,530 per mensem to $2,548.33 per mensem (£1,147 10s. to £1,911 5s. per annum; one dollar equals 1s. 3d.). In addition, a temporary, variable, non-pensionable cost-of-living allowance is payable according to family circumstances, and may be as much as £427 per annum for a married officer with children. Pension is earned at the rate of 1/600th of the final pensionable emoluments for each completed month of service. Officers who prefer short contract terms earn a gratuity of £37 10s. for each completed three months' service (but no pension). Quarters are provided at rental of 1/8th of basic salary (i.e., from £117 to £204 per annum, according to salary). Income tax at local rates. Free passages in both directions are provided for officer, wife and up to three children under the age of 18. Annual local leave is permissible and generous home leave is granted after each tour of four years. Climate is favourable for Europeans; a cool dry winter with well marked change of seasons. Educational facilities are available. Candidates should be under 40 years of age and possess a medical qualification registrable in the United Kingdom. They should also have had a minimum of two years' postgraduate experience. Application forms can be obtained from the Director of Recruitment (Colonial Service), Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/164/52). (9243)

UNIVERSITY APPOINTMENTS

UNIVERSITY OF LEEDS
in association with
LEEDS REGIONAL HOSPITAL BOARD
Rheumatism Research Scheme

Applications are invited for a

RESEARCH FELLOWSHIP IN THE SURGERY OF RHEUMATISM

at a salary between £1,000 and £1,300 a year. Applications (ten copies) should reach the Registrar, The University, Leeds, 2 (from whom further particulars may be obtained) not later than March 31, 1952. (9103)

UNIVERSITY OF LIVERPOOL

Applications are invited for the post of

LECTURER or ASSISTANT LECTURER
in the Department of Bacteriology

at an initial salary within the range £600 to £1,100 per annum, according to qualifications and experience. Applications, stating age, academic qualifications and experience, together with names of three referees, should be received not later than March 31, by the undersigned, from whom further particulars of conditions of appointment may be obtained.—Stanley Dumbell, Registrar (9129)

UNIVERSITY OF LIVERPOOL

Applications are invited for the post of

LECTURER

(salary scale £900 by £100 to £1,500 per annum), or

ASSISTANT LECTURER

(salary scale £600 by £100 to £800 per annum) in Pathology. The status and salary of the successful candidate to be fixed according to qualifications and experience. Applications, stating age, academic qualifications and experience, together with the names of three referees, should be received not later than April 5, 1952, by the undersigned, from whom further particulars may be obtained.—Stanley Dumbell, Registrar. (8804)

PERSONAL

DAN, RING ROSEMARY AND FLORENCE. —Field-Bratman, Cunningham 2101.

DANGEROUS TO LEAVE VALUABLE BUT UNwanted articles of jewellery and silver in the house. Why not dispose of them now? Hayes, the famous Hatton Garden jewellers, offer the following record prices: £5-£2,500 for Diamond Rings, Bracelets, Brooches, and Ear-rings; £5-£105 Cultured Pearl Necklaces: £10-£100 Gold Cigarette Cases and Solid Silver Tea Sets and Trays; £20-£500 Diamond Watches and Eternity Rings; £5-£55 Gold Pocket Watches and Chains; £3 to £25 Solid Silver Sports Cups and Trophies. Valuations by qualified expert (Fellow, Gemmological Association). If you cannot call personally send your parcel by registered post, it will be quite safe and you will receive an immediate cash offer with no obligation to sell.—M. Hayes & Sons, Ltd., 106, Hatton Garden, London, E.C.1. HOLborn 8177.

SURGICAL STOCKINGS, COMPRI-VENA (1937) LTD. Where leg support is prescribed in the treatment and after-care of varicose veins Compri-Vena give meticulous attention to instructions. Full particulars on request.—3, Ladbrook Road, Notting Hill Gate, W.11. BAYswater 8088.

TRAVEX. THE TRAVEL/THEATRE SERVICE catering especially for doctors and dentists. Theatre, rail, sea or air tickets without trouble. Just 'phone LANgham 6941/5. Travex, Ltd., 17, Wigmore Street, W.1.

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

NOTICES

APPLICANTS ARE ADVISED NOT TO SEND original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

EDUCATIONAL

F.R.C.S. POSTAL COURSES FOR PRIMARY AND FINAL EDIN. and ENG. RECIPROCAL EXAMS. Full details also of Private Tuition.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

ANAESTHETICS (D.A. PART I). WEDNESday, April 16, to Tuesday, April 29. Two lectures every afternoon, Monday to Friday. Royal Cancer Hospital Lecture Room. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

PRIMARY F.R.C.S. COURSE IN APPLIED physiology and pathology will start on March 11. Also, tuition to suit individuals arranged.—Box 801, B.M.J.

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes, 1938-1951; M.D.Lond., 65; M.B., B.S.Lond., Final, 152; F.R.C.S.Eng., Primary, 197; F.R.C.S.Eng., Final, 185; M.R.C.P.Lond., 204; M.R.C.S., L.R.C.P., Final, 331; D.A., 181; D.C.H., 139; M. and D.Obst.R.C.O.G., 221; D.O., C.P.H., D.P.H., D.L.O., D.P.M., F.R.C.S.Edin., many successes. Assistance with M.D. Thesis. Prospectus, list of tutors, etc., on application to Dr. G. E. Oates, University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

UNIVERSITY OF ST. ANDREWS
REFRESHER COURSE FOR GENERAL PRACTITIONERS

A two weeks' course will be held in the Medical School, Dundee, and Associated Hospitals from June 23 to July 4, 1952. Teaching will be by lecture demonstrations and clinical rounds with emphasis on recent advances in diagnosis and treatment. Accommodation available in students' residences at moderate cost. Course fee £10 10s. Financial assistance, subject to certain conditions, from Department of Health for Scotland. Last date for enrolment April 30, 1952. Further particulars and application forms from Postgraduate Convener, Medical School, Dundee. (9149)

Public Health—contd.

SOUTHPORT, COUNTY BOROUGH OF

Applications are invited from registered medical practitioners (male or female) for the half-time appointment of

MEDICAL OFFICER FOR THE MENTAL HEALTH SERVICE

Salary scale £425, rising by annual increments of £25 to a maximum of £575, the commencing salary to be fixed within this grade in accordance with the qualifications and experience of the successful candidate. The person appointed will be responsible for the administration and organization of the Council's Mental Health Service under the general direction of the Medical Officer of Health, and candidates should have experience in mental illness and mental deficiency. A motor-car allowance on the "Casual Users" scale is payable, and the appointment is terminable by one month's notice. Application forms and conditions of appointment may be obtained from the Medical Officer of Health, 2, Church Street, Southport. Completed applications to be sent to the undersigned so as to arrive not later than March 22, 1952.—R. Edgar Perrins, Town Clerk, Town Hall, Southport. (8770)

STAFFORDSHIRE COUNTY COUNCIL
ASSISTANT MEDICAL OFFICERS

Applications are invited from fully qualified medical practitioners for the above-mentioned appointments, and those holding the Diploma of Public Health will be given preference. The candidates appointed will undertake clinical work in the School Health and Child Welfare Services under the direction of the County Medical Officer of Health, and will be required to perform such other duties as may from time to time be prescribed. The salary scale is £850 per annum rising by annual increments of £50 to a maximum of £1,150 per annum, and previous similar service may be taken into consideration when deciding the commencing rate. Each selected candidate may be required to provide a motor car, for which allowances will be paid in accordance with the County Council scale. A lodging allowance of 25s. per week, and return railway fare home every two months, will be paid for a maximum period of six months where the successful candidate is married and has to continue to maintain a home outside the geographical county while seeking housing accommodation. Each appointment will be terminable by one month's notice in writing on either side, and subject to the provisions of the appropriate Superannuation Acts and Regulations, in which connexion the selected candidates must pass a medical examination, and submit their birth certificates. Forms of application may be obtained from the undersigned, and should be returned to the County Medical Officer of Health, County Buildings, Stafford, not later than March 29, 1952, together with copies of not more than three recent testimonials.—T. H. Evans, Clerk of the County Council, County Buildings, Stafford. (9244)

SUNDERLAND EDUCATION COMMITTEE

Applications are invited from qualified medical practitioners, male or female, for full-time appointment as

ASSISTANT SCHOOL MEDICAL OFFICERS

at a salary at the rate of £850 per annum, rising by annual increments of £50 to £1,150 per annum. Preference will be given to applicants who hold a Diploma in Public Health or a Diploma in Child Health. The appointments are subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination. Application forms, to be returned not later than March 19, may be obtained from the undersigned on receipt of a stamped addressed foolscap envelope.—W. Thompson, Director of Education, Education Offices, 15, John Street, Sunderland. (8809)

WALSALL, COUNTY BOROUGH OF
ASSISTANT MEDICAL OFFICER OF HEALTH

Applications are invited from qualified medical practitioners for this post, and must be received not later than March 22, 1952. Preference will be given to applicants holding the D.P.H. Salary £850 by £50 to £1,150, commencing salary according to qualifications and experience. Canvassing is prohibited. Candidates must disclose relationship to any member or officer of the Council. Further particulars can be obtained from me.—W. Staley Brookes, Town Clerk, The Council House, Walsall. (8869)

ADMINISTRATIVE

SOUTH-WESTERN REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the post of

ASSISTANT SENIOR MEDICAL OFFICER
(Whole-time)

on the headquarters staff of the Board's office. The salary is £1,450 by £50 to £1,650, subject to review by the Medical (Whitley) Council for the Health Services. The successful candidate will be engaged on general administrative duties under the Board's Senior Administrative Medical Officer. Experience of public health and hospital administration would be an advantage. The appointment is subject to the provisions of the National Health Service (Superannuation) Re[illegible] conditions of service approved [illegible] Health. Applications, stating ag[illegible] and experience, and giving the names [illegible] of three referees, should reach the S[illegible] the Board, at 5, Cotham Lawn Road, Bris[illegible] not later than March 28, 1952. (9147)

COMMERCIAL APPOINTMENTS

PHARMACOLOGIST CAPABLE OF TAKING charge of and developing a screening programme to be integrated with the Department of Organic Chemistry. Candidates must have a sound knowledge of the technique of testing organic compounds for various pharmacological activities. Salary in the range £1,250 to £1,750 per annum. The position offers very good prospects. Apply in confidence to the Director of Research, Beecham Research Laboratories, Limited, Brockham Park, Betchworth, Surrey.

PHYSIOLOGIST (MALE) WITH A UNIVERSITY Degree or equivalent qualifications required to undergo training in pharmacological techniques preparatory to taking part in an extended investigation on organic medicinals. Subsistence allowance during training and a salary to follow training in the scale £600 to £800, with very good prospects. Apply to Director of Research, Beecham Research Laboratories, Limited, Brockham Park, Betchworth, Surrey.

WEEKLY MEDICAL JOURNAL REQUIRES Part-time Services of Writer on Clinical subjects. Literary sense important. G.P. experience desirable. Remuneration by arrangement.—Box 909, B.M.J.

INDUSTRIAL APPOINTMENTS

FACTORY DOCTORS
FACTORIES ACTS, 1937 and 1948

The following appointments as Appointed Factory Doctor under the Factories Acts, 1937 and 1948, are vacant: Eastleigh, in the County of Southampton; Golspie, in the County of Sutherland. Applications, to be received not later than March 22, 1952, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

MAJOR U.K. OIL COMPANY REQUIRES TWO full-time Medical Officers—one to be located in London, and the second in Manchester. The London post will involve mainly clinical work, and the doctor appointed should have good clinical experience and be well qualified. The Manchester post, in addition to clinical duties, will include some general industrial work, and experience and interest in organization and preventive medicine will be an advantage. Commencing salary in both cases within the B.M.A. scale for Industrial Medical Officers, and dependent upon experience, qualifications, etc. Apply as soon as possible, giving full details of qualifications, experience, and names of two referees, to Box 809, B.M.J.

OVERSEAS

SOUTH GEORGIA

Wanted immediately, **Doctor for a Whaling Station at South Georgia.** Salary £100 per month, board and lodging provided. Applications to Medical Superintendent, Chr. Salvesen and Co., 29, Bernard Street, Leith.

NORTHERN WESTCHESTER HOSPITAL
Mount Kisco, New York, U.S.A.

160-bed hospital, 40 miles from New York, offers approved year's rotating internships July, 1952, to graduates of approved British medical schools. Complete maintenance, $100 per month. Apply immediately. (9241)

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

PAEDI[illegible]

Preference wil[illegible] qualification (M.R.C.[illegible] with a group of specialists [illegible] private practice. Starting salar[illegible] $6,000.00 per annum. Applications, [illegible] qualifications, experience, names of two [illegible] should be sent to the Director, Winnipeg C[illegible] Winnipeg. (8907)

TOWNSVILLE GENERAL HOSPITAL

Applications are invited for the position of

PART-TIME EAR, NOSE AND THROAT SPECIALIST

Appointee will be required to conduct three sessions of three hours each per week. Salary at the rate of £270 per annum per session of three hours. Private practice is allowed. Applications should be addressed to the Secretary, Townsville Hospitals Board, Townsville, North Queensland, Australia. Applicants should state age, whether married or single, and set out full details of qualifications and experience. The Board will not undertake to incur any expense in bringing any appointees to North Queensland, Australia. (9263)

TOWNSVILLE GENERAL HOSPITAL

Applications are invited for the position of

PART-TIME PHYSICIAN

Appointee will be required to conduct four sessions of three hours each week, which includes one session during which the applicant is required to act as Supervising Officer of tuberculosis cases. Salary at the rate of £270 per annum per session of three hours. Private practice is allowed. Applications should be addressed to the Secretary, Townsville Hospitals Board, Townsville, North Queensland, Australia. Applicants should state age, whether married or single, and set out full details of qualifications and experience. The Board will not undertake to incur any expense in bringing any appointees to North Queensland, Australia. (9264)

BURWOOD HOSPITAL
Christchurch, New Zealand

Applications are invited for the position of

MEDICAL SUPERINTENDENT

It is preferable but not essential that the successful applicant should hold a higher qualification. The position is suitable to an elderly practitioner and especially to one with administrative experience. Stress is laid on the care and rehabilitation of chronic sick, medical and orthopaedic. Salary scale for a suitably qualified and experienced applicant £1,250 to £1,500 per annum (£NZ), plus cost-of-living allowance of £160 per annum. A deduction of £160 per annum will be made to cover the use of a modern three-bedroom house, fuel and light. Schedule of information and conditions of appointment obtainable from New Zealand House, Strand, London, W.C.2. Applications close with the Secretary, North Canterbury Hospital Board, Christchurch, New Zealand, at 9 a.m. on Wednesday, April 9, 1952. (9160)

FREMANTLE GENERAL HOSPITAL (200 beds)
Western Australia

Applications are invited from registered medical practitioners for the non-resident appointment of

ANAESTHETIC REGISTRAR

Successful applicants must have had at least two years' experience since graduation. Preference will be given to applicants holding the Diploma in Anaesthetics. The term of appointment will be by mutual arrangement, but it is desired that the term be not less than three years. The salary range will be from £A.1,183 to £A.1,433, according to experience. An allowance of a maximum of £120 (Sterling) will be made available towards the cost of transport. Applications, in duplicate, stating full name, date, and place of birth, qualifications, and experience, conjugal conditions, and indicating the earliest date upon which the applicant could take up duty, should reach the Agent General for Western Australia, Sayoy House, 115, Strand, London, W.C.2, from whom further particulars may be obtained, not later than March 15. (8806)

DEPARTMENT OF HEALTH, NEWFOUNDLAND

The Newfoundland Department of Health requires internes for the 450-bed General Hospital situated in the capital city of St. John's. This hospital is approved for interneship by the Canadian Medical Association, and the rotating interne arrangement guarantees services in General Surgery, General Medicine, and in at least two of Orthopaedics, Paediatrics, Radiology, and Ear, Eye, Nose, and Throat. There is also a one month affiliation in Obstetrics.

These posts carry a salary of $1,800.00 per annum (Canadian funds) together with full maintenance at the institution. Full cost of transportation to Newfoundland is paid by the Department of Health and the cost of return transportation is paid at the end of one year's satisfactory service. Interested applicants should apply to the Medical Superintendent, General Hospital, St. John's, Newfoundland, Canada.

UNIVERSITY OF LONDON

BRITISH POSTGRADUATE MEDICAL FEDERATION

COURSES FOR GENERAL PRACTITIONERS, 1952

Applications for places on the following Intensive Courses should be made to the Secretary, British Postgraduate Medical Federation, 2, Gordon Square, London, W.C.1. They should state if the application is or is not made under the Scheme for N.H.S. Practitioners

INTENSIVE COURSES

Date	*No. of weeks*	*Subject*	*Hospital*
Mar. 17–22	1	General	Brighton Group
Apr. 21–26	1	General	Woolwich Group
May 5–17	2	General, Obstetrics and Fevers	Fulham and Kensington Group
,, 12–16	1	Rehabilitation in General Practice	Roffey Park Institute, Horsham (Residential)
June 16–28	2	General	Royal Free Hospital
,, 23–28	1	Obstetrics and Gynaecology	Institute of Obstetrics and Gynaecology
July 7–12	1	General	Brighton Group
Sept. 8–20	2	General and Rheumatism	St. Stephen's Hospital, S.W.10
,, 15–19	1	Rehabilitation in General Practice	Roffey Park Institute, Horsham (Residential)
,, 29–Oct. 4	1	Obstetrics and Gynaecology	Lewisham Hospital
Oct. 6–18	2	General and Paediatrics	Whittington Hospital, N.19
,, 13–18	1	General	Brighton Group
Nov. 3–8	1	Obstetrics and Gynaecology	Brighton Group
,, 17–22	1	General	National Temperance Hospital, N.W.1
,, 24–28	1	Rehabilitation in General Practice	Roffey Park Institute, Horsham (Residential)
,, 24–Dec. 6	2	General	Central Middlesex Hospital, N.W.10

Applications for places on the following extended and weekend courses should be made *to the Hospital.*

EXTENDED AND WEEKEND COURSES

Date	*Subject*	*Hospital*
March 2–May 18 (11 Sunday mornings)	General	Salisbury General Hospital
March 13–May 22 (11 Thursday afternoons)	General	St. Olave's Hospital, Rotherhithe
March 15–16 (Weekend)	Paediatrics	University College Hospital
April 5–6 (Weekend)	General	Elizabeth Garrett Anderson Hospital N.W.1
April 16–June 25 (11 Wednesday evenings)	General	Queen Mary's Hospital for the East End, E.15
April 17–June 26 (11 Thursday afternoons)	General	Hackney Hospital, E.9
April 17–June 26 (11 Thursday afternoons)	General	Hampstead General Hospital
April 19–May 24 (6 Saturday afternoons)	General	Luton and Dunstable Hospital, Luton
April 25–26–27 (Weekend)	Paediatrics	Children's Hospital, Sydenham
May 10–11 (Weekend)	General	Ashford Hospital, Middlesex
May 17–18 (Weekend)	Rheumatism	Arthur Stanley Institute for Rheumatic Diseases, Peto Place, W.1
May 24–25 (Weekend)	General	Ashford Hospital, Middlesex
June 14–15 (Weekend)	Paediatrics	University College Hospital
Oct. 18–19 (Weekend)	Paediatrics	University College Hospital

All the courses are available to N.H.S. Practitioners, for whom fees and allowances (travelling expenses, locum fees, etc.) are provided for courses equivalent to 22 half-day sessions in an academic year, subject to certain conditions. Other practitioners may attend on payment of a fee of 10 guineas for two weeks, 5 guineas for one week or extended course of 11 sessions, 1½ guineas for a weekend course. (9150)

EMPIRE RHEUMATISM COUNCIL

The Spring week-end course will be held at THE ARTHUR STANLEY INSTITUTE, Middlesex Hospital, Peto Place, Marylebone Road, N.W.1 (Great Portland Street and Regents Park Underground Stations), on FRIDAY and SATURDAY, APRIL 25 and 26, 1952.

LECTURE-DEMONSTRATIONS

FRIDAY, APRIL 25

4.30 p.m.	Recent Advances in the Rheumatic Diseases	W. S. C. COPEMAN, O.B.E., F.R.C.P. (London)
5.30 ,,	Rheumatoid Arthritis	OSWALD SAVAGE, O.B.E., M.R.C.P. (London)

SATURDAY, APRIL 26

10.15 a.m	Gout	G. R. FEARNLEY, M.R.C.P. (London)
11.30 ,,	Orthopaedic Aspects of the Rheumatic Diseases	NORMAN CAPENER, F.R.C.S. (Exeter)
2.0 p.m.	Pathology of the Rheumatic Diseases	H. J. GIBSON, M.D. (Bath)
3.0 ,,	One Aspect of Non-articular Rheumatism	DORIS BAKER, M.R.C.P. (London)
4.0 ,,	Tea	
4.15 ,,	Ankylosing Spondylitis	H. F. WEST, M.R.C.P. (Sheffield)

The fee for the course will be two guineas, limited to 60 entries, to be received with remittance, at least one week before by: The General Secretary, Empire Rheumatism Council, Tavistock House (N), Tavistock Square, W.C.1. (9148)

ROYAL FREE HOSPITAL SCHOOL OF MEDICINE

Applications are invited for the

E. P. PHIPSON POSTGRADUATE SCHOLARSHIP

value £95 a year for three years, from August 1, 1952. Open to women medical graduates for postgraduate work in preparation for a higher degree or diploma. Applications (three copies) to Warden and Secretary, 8, Hunter Street, W.C.1, by May 1, 1952. (9107)

THE ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE

The Certificate, and the Diploma, in Public Health, and the Diploma in Industrial Health

The next bi-annual Course of Instruction for the Certificate in Public Health (C.P.H.) will commence on March 21, 1952. This leads to Courses both for the Diploma in Public Health and for the Diploma in Industrial Health. All Courses may be taken either whole-time or part-time. Prospectuses, enrolment forms, and full details may be obtained from the Secretary, 28 Portland Place, London, W.1 (Telephone: Langham 2731-2). (9108)

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides COACHING for all Medical Examinations, D.A., D.P.M., D.O.M.S., D.L.O., D.C.H., D.M.R.D. and D.M.R.T., M.R.C.P., F.R.C.S., M.D. thesis, and all qualifying exams by a staff of highly qualified Tutors, Honoursmen and Gold Medallists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

RHEUMATIC DISEASES (WEEK-END). ALL day Saturday and Sunday, March 29 and 30. Rheumatic Unit, St. Stephen's Hospital. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

ROYAL FREE HOSPITAL SCHOOL OF MEDICINE

Applications are invited for the

FLORENCE STONEY PRIZE

of £25 for an essay on work in connexion with cancer. Essays to be submitted by May 1, 1952. Further particulars from Warden and Secretary, 8, Hunter Street, W.C.1. (9104)

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE

MEDICAL SCIENCES

A three months' course in Applied Anatomy, Physiology, Pathology, Bacteriology, and Biochemistry will begin on June 30, 1952. This course is suitable for postgraduates wishing to take the Primary Fellowship examination, as a final preparation in these subjects. Considerable basic knowledge is highly desirable prior to taking this course. Fee £31 10s.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

The nineteenth Fortnight General Refresher Course for N.H.I. practitioners will start on May 5, 1952. Fee for graduates not claiming expenses from Government sources, 10 guineas.

Applications for enrolment should be addressed to Director of Postgraduate Studies, Surgeons' Hall, Edinburgh, 8. Applicants for courses, except general practitioners, should supply particulars of qualifications and postgraduate experience.

ROYAL FREE HOSPITAL SCHOOL OF MEDICINE

Applications are invited for the

A. M. BIRD POSTGRADUATE SCHOLARSHIP IN PATHOLOGY

value £400 per annum for one year from August 1, 1952. Open only to graduates of the school wishing to work full-time to obtain experience in all branches of pathology. Applications (three copies) to Warden and Secretary, 8, Hunter Street, W.C.1, by May 1, 1952. (9105)

ROYAL FREE HOSPITAL SCHOOL OF MEDICINE

Applications are invited for the

MABEL WEBB AND A. M. BIRD RESEARCH SCHOLARSHIP

value £400 for one year. Open only to graduates of the school for at least half-time research work under a member of teaching staff of either school or hospital. Applications (three copies) to Warden and Secretary, 8, Hunter Street, W.C.1, by May 1, 1952. (9106)

TUBERCULOSIS EDUCATIONAL INSTITUTE

A three-day Clinical Course will be held at the Red Cross Sanatoria of Scotland (Tor-na-Dee and Glen o'Dee) on March 19, 20, and 21. Fee £3 3s. Applications to the Secretary, Tuberculosis Educational Institute, Tavistock House North, Tavistock Square, London, W.C.1. (8488)

UNIVERSITY OF ABERDEEN

Fortnight's General Intensive Refresher Course

A fortnight's intensive course, intended mainly for general practitioners, will be held from May 12 to 24, in the University Medical Buildings, Foresterhill, and the associated hospitals in Aberdeen. The fee for the Course will be ten guineas. Schemes for financial assistance are in existence whereby the fee for the Course and the expenses of travelling and of the provision of a locum may, subject to certain conditions, be repaid to doctors engaged in practice under the National Health Service. Numbers attending the Course will be limited, and application should be made by April 19 to the Chairman, Postgraduate Medical Committee, Department of Child Health, University Buildings, Foresterhill, Aberdeen, from whom further information may now be obtained. (9245)

UNIVERSITY OF GLASGOW

Postgraduate Medical Education Committee

REFRESHER COURSE FOR GENERAL PRACTITIONERS

A Refresher Course of one fortnight's duration designed for General Practitioners will be held from May 19 to May 31, 1952. The greater part of the course will comprise clinical demonstrations, ward visits, and lectures in General Medicine, General Surgery, and Obstetrics, but sessions on Infectious Diseases, Child Health, Ophthalmology, and Dermatology will also be included. The fee for practitioners not claiming expenses from Government sources is 10 guineas. Since the number admitted to the course is limited, early application should be made to the Director of Postgraduate Medical Education, The University, Glasgow, W.2, from whom the syllabus and further information may be obtained. (9109)

LECTURES

FACULTY OF ANAESTHETISTS.—A SHORT course of ten lectures in Pharmacology will be given by Dr. H. C. Stewart and Dr. A. H. Galley. This course will take place at the Royal College of Surgeons from April 21 to 25, and there will be two lectures each day, one at 5 p.m. and the other at 6.15 p.m. The fee for these lectures will be £2 2s., or 5s. per lecture. Applications should be made to the Secretary, Faculty of Anaesthetists, Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C.2 (HOLborn 3474).

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—John McMichael, M.D., F.R.C.P., will deliver the Oliver-Sharpey Lectures on Tuesday, March 11, and Thursday, March 13, 1952, at 5 p.m. at the College, Pall Mall East, S.W.1. Subject: **"The Dynamics of Heart Failure."** Any member of the medical profession admitted on presentation of card. By order of the President.—Harold Boldero, Registrar.

SITUATIONS VACANT

Biochemist for Area Laboratory, Beverley, required with degree in biochemistry or equivalent and a good knowledge of hospital work or of physiology. Salary according to Whitley Scale (over five years' experience, £800 by £40 to £1,080). All work of the hospital group is carried out in the new premises at Westwood Hospital. Applications, with the names of two referees, to the Sec., Westwood Hospital, Beverley, E. Yorks. (9044)

North Devon Hospital Management Committee.—Pathological Laboratory, Boutport Street, Barnstaple.—Applications are invited for the post of **Technician** or **Junior Technician** in a new laboratory serving the North Devon District. Considerable experience in haematology is essential. Salary and conditions in accordance with Whitley Council scales. Applications, stating age, qualifications and experience, together with the names of two referees, to the Pathologist at the above address (8108)

Readers frequently desire to refer to advertisements concerning appliances, preparations, etc., which have appeared in earlier issues of the *Journal*.

The Advertisement Manager can supply particulars at any time.

In dealing with written enquiries, especially from overseas, correspondents are, wherever possible, put in direct contact with the advertisers in whose products they are interested.

Write: Advertisement Manager,
British Medical Journal,
B.M.A. House,
Tavistock Square,
London, W.C.1.

PHARMACISTS, DIETITIANS, DISPENSERS, NURSES

VACANT

Wanted, qualified Dispenser Receptionist (beginning April). Good manner. Residential practice easy reach London. Good salary. Apply with references, Box 862, B.M.J.

Dispenser required for country practice. Single flat available unfurnished.—Box 942, B.M.J.

Secretary-Dispenser-Receptionist required. Preferably trained nurse.—Dr. Catherine Evans, Warwick Lodge, Herne Bay 701.

AVAILABLE

Lady Dispenser-Bookkeeper, experienced, Hall certificate, seeks post, permanency. South or West England. Unfurnished accommodation required.—Box 943, B.M.J.

State Registered Nurse (married) offers services as doctor's Receptionist in return flat, London area.—Box 920, B.M.J.

RECEPTIONISTS, SECRETARIES, TYPISTS, HOUSEKEEPERS, ETC.

VACANT

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18 to 64 inclusive, or a woman aged 18 to 59 inclusive, unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

Experienced Part-time Secretary, with good shorthand-typing, required by doctor in private practice.—Telephone CUNningham 0420.

Harley Street Surgeon requires Secretary. Ability to drive an advantage.—Box 910, B.M.J.

St. John's Hospital, Stone, Aylesbury. Senior Shorthand-Typist for Medical Secretarial Department. Knowledge of medical terms an advantage, but not essential. Salary within scale £225 to £370 per annum (Grade B). Post subject to N.H.S. Superannuation Regulations. Full residential accommodation available at reasonable charge if required. Applications, stating age, experience, and names and addresses of two referees, to the Physician-Superintendent. (9045)

South Coast doctor requires Receptionist-Housekeeper, light congenial post, sole charge.—Box 934, B.M.J.

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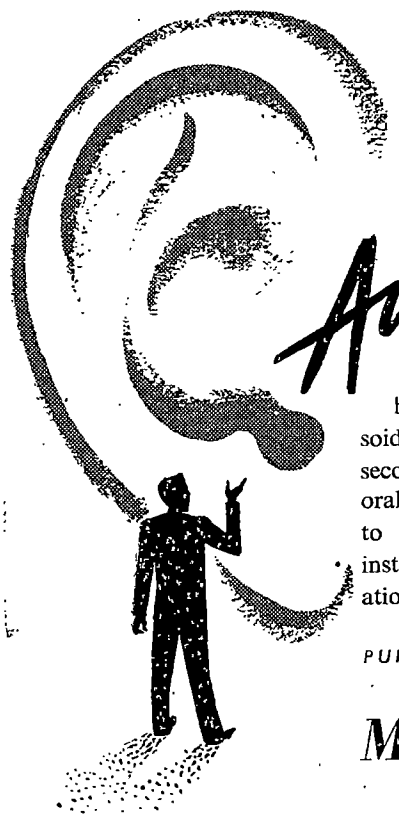

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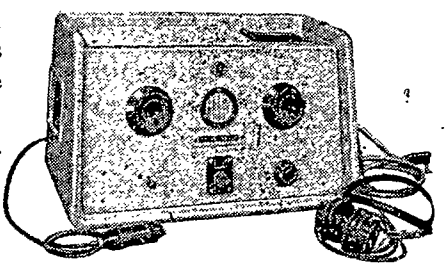

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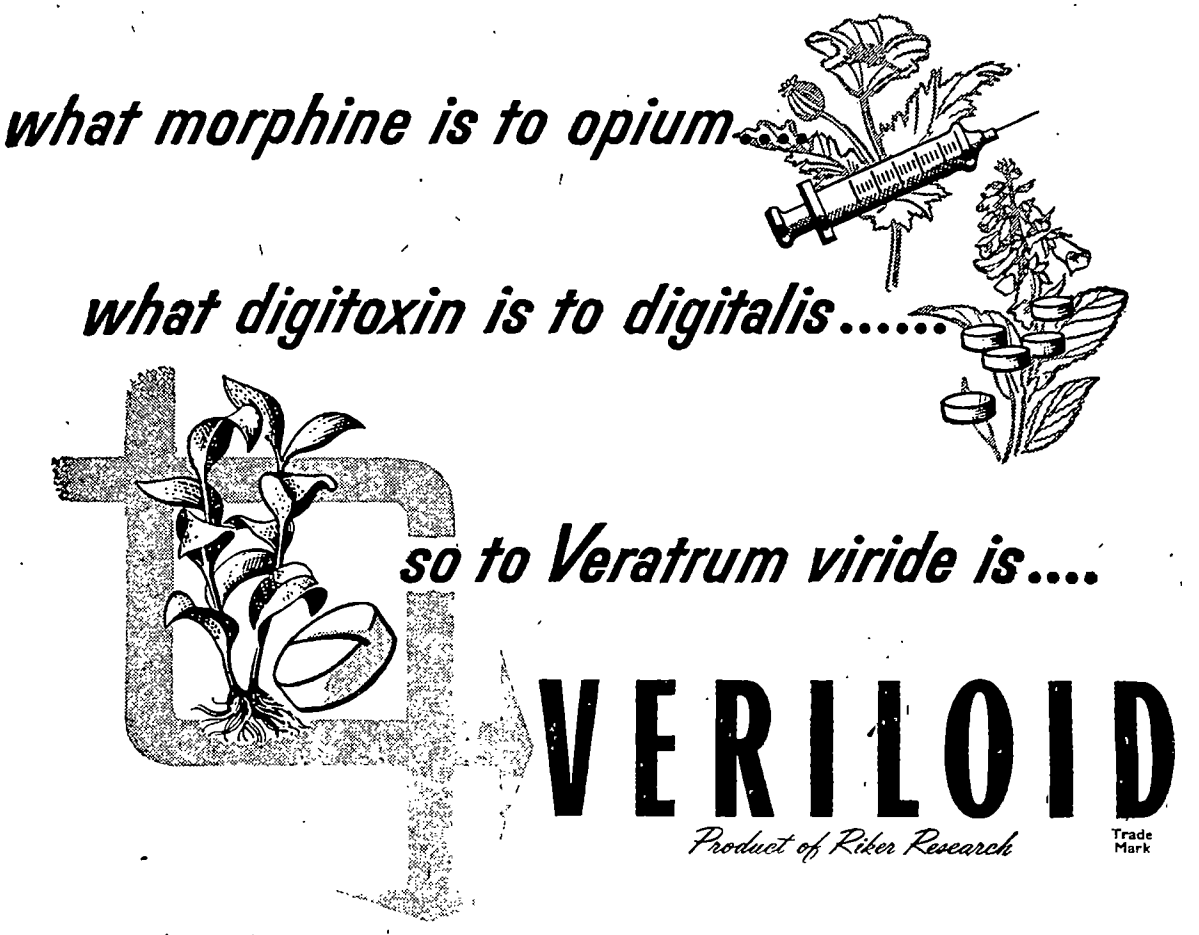

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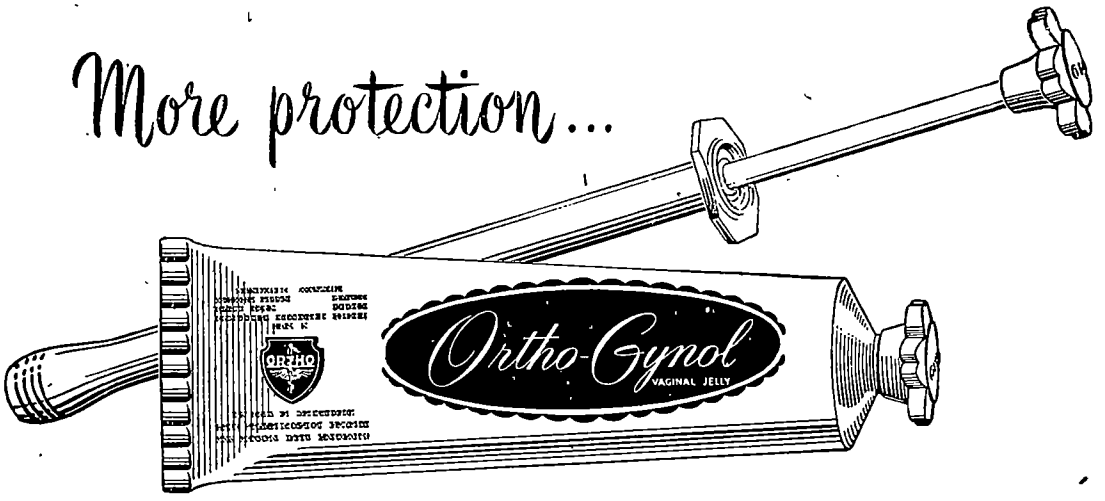

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1 Human Fertility 5:97, 1940. ibid. 6:1, 1941; ibid. 9:32, 1943.

2 Am. J. Obst. & Gynec. 41:850, 1951.

3 Virginia M. Monthly 70:238, 1943.

4 Western J. Surg. Obst. & Gynec. 57:708, 1950.

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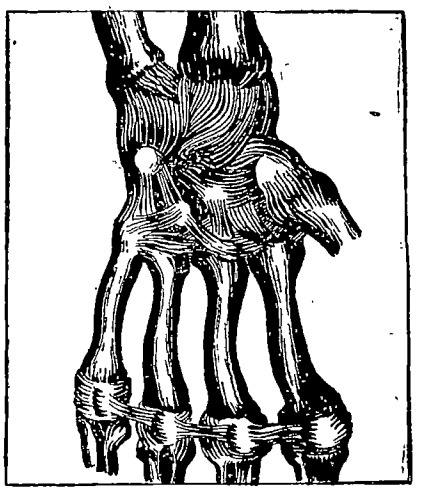

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RESULTS FROM ORAL ADMINISTRATION IN PATIENTS WITH RHEUMATOID ARTHRITIS

BY

EDWARD W. BOLAND, M.D., M.S.Med., F.A.C.P.

Los Angeles, California

The results of prolonged uninterrupted cortisone acetate therapy given orally to patients with rheumatoid arthritis were recently reported.[1] By using initial suppressive amounts of the hormone, then gradually reducing the dosage in step-like manner, and finally employing smaller maintenance doses, it was possible to sustain satisfactory, though not complete, rheumatic control in approximately two-thirds of the patients. Adequate degrees of improvement were maintained in 47% of severe cases, in 70% of moderately severe cases, and in 92% of moderate and mild cases. Results were poorer in those patients whose disease was severe, because they required continued large or relatively large maintenance amounts of the hormone which often could not be tolerated, as they incited objectionable hormonal complications; large but efficient doses frequently had to be reduced, with sacrifice to clinical improvement.

The limitations of cortisone acetate as a therapeutic agent, together with its cost, and, until recently, its restricted supply, have led investigators to search for steroidal substitutes which might possess similar anti-inflammatory and anti-allergic properties. Many substances, some closely allied chemically to cortisone, have been tested by critical observers and have been found devoid of significant antirheumatic activity in the dosage ranges explored. Among these may be listed: substance S of Reichstein (11-desoxycorticosterone),[2 3] compound A of Kendall (11-dehydrocorticosterone),[4 5] 21-desoxycortisone,[5] 21-desoxy-11-dehydrocorticosterone,[5] desoxycorticosterone acetate (alone or with ascorbic acid),[6 7 8 9 10] 17-hydroxyprogesterone,[11 12] pregnenethiolone acetate,[3 7] delta-5-pregnenolone,[5 12 13] and 21-acetoxypregnenolone.[2 5 12] An exception has been Kendall's compound F (17-hydroxycorticosterone: "substance M"[2] of Reichstein), recently named "hydrocortisone," which has shown physiological activity at least comparable to that of cortisone. Weak antirheumatic action has been demonstrated also by certain adrenal cortical extracts, their strength apparently depending upon the amounts of cortisone or hydrocortisone they contain.[5]

In April, 1951, small quantities of hydrocortisone acetate were made available to us, and two patients with rheumatoid arthritis were given the drug orally. The doses needed to suppress the rheumatic manifestations were substantially greater than those ordinarily required for cortisone acetate.[14] Conversely, pilot trials made later with hydrocortisone (free alcohol) indicated that this substance was highly effective and perhaps even more potent than cortisone acetate. Subsequently, when supplies of materials permitted, a systematic study designed to compare the antirheumatic potencies of cortisone acetate, hydrocortisone (free alcohol), hydrocortisone acetate, and cortisone (free alcohol) was undertaken. Appraisals of the relative clinical effectiveness of these compounds were made by: (1) estimating differences in initial clinical response to large suppressive doses, and (2) comparing the maintenance doses required to uphold equivalent degrees of clinical improvement in the same patient. The results of this investigation are reported here.

In comparing the maintenance-dosage requirements of other compounds with those already established for cortisone acetate, care was taken to select only those patients whose maintenance doses of cortisone acetate had remained quite stable over periods of weeks or months. Transfers from one substance to another were not made in rapid sequence and patients were usually kept on the test preparation for at least two or three weeks. They were then transferred back to the original compound in order to cross-check differences. During the study attempts were made to compare the amounts of the compounds needed to sustain marked (70 to 85%) improvement, but not complete suppression of the disease. Thus sufficient subjective and objective manifestations remained to allow changes in rheumatic response to be measured.

Cortisone Acetate

The favourable influence of cortisone acetate therapy on rheumatoid arthritis has been repeatedly documented. In more than 150 patients treated with the compound by oral administration we have followed a fairly uniform plan of dosage, which has consisted of three stages: (1) a period of initial suppressive doses; (2) a period of gradual dose reduction; and (3) a period of smaller maintenance-dose administration.[1 15 16 17]

Initial suppressive therapy usually has been given as follows: for severe and moderately severe cases, 200 or 150 mg. for the first one or two days, followed by 100 mg.

daily; for moderate and mild cases, 100 mg. on the first and subsequent days. The drug has been prescribed in four divided doses daily, at meal-times and at bedtime. Amounts of 100 mg. have been continued until the clinical manifestations were suppressed satisfactorily; the number of days required for this has varied, more or less, with the initial activity of the disease, averaging, for example, about 21 days for severe cases and about 14 days for moderate cases. The dosage then has been gradually reduced in steplike fashion, by 12.5 mg. (half a tablet) at a time at intervals of every five to seven days. The smallest daily amount which would sustain adequate suppression of rheumatic symptoms, not necessarily full symptomatic relief, has been regarded as the patient's maintenance dose. This dose has been continued uninterruptedly, adjustments being made from time to time to counteract fluctuations in disease activity.

With large suppressive amounts of cortisone acetate given by mouth, symptoms generally begin to subside within the first 24 hours of treatment, and almost invariably some response is noted within the first 48 hours. Early benefits consist in reduction of aching and stiffness, lessening of articular tenderness and pain, increase in range of joint motion, lessening of fatigue, and increased appetite. Joint swelling and other reversible objective changes recede more gradually, but with continued administration the overall improvement progresses. Elevated erythrocyte sedimentation rates are corrected more slowly than are the joint manifestations, and their reductions usually lag several days behind clinical improvement. In spite of continued large daily doses of the hormone, however, sedimentation rates may at times fail to decrease to levels commensurate with the rheumatic response.

After the manifestations have been brought under initial control and the dose has been gradually reduced, the daily amount of cortisone acetate needed to maintain satisfactory symptomatic suppression varies, but it depends to a large extent on the initial activity of the rheumatoid arthritis—the more severe the disease, the more cortisone acetate required. Usual ranges for maintenance doses have been: 62.5 to 125 mg. a day for severe cases; 50 to 75 mg. a day for moderately severe cases; 37.5 to 62.5 mg. for moderate cases; and 25 to 50 mg. a day for mild cases. In nearly two-thirds of patients the dosage has remained fairly constant for months, with only minor adjustments being needed periodically. In about one-third of patients the amounts of hormone required have fluctuated considerably from time to time, and major manipulations of dosage have been necessary to offset changes in disease activity.

Hydrocortisone (Free Alcohol)

Hydrocortisone (Kendall's compound F, free alcohol: 17-hydroxycorticosterone) differs from cortisone (Kendall's compound E, free alcohol: 17-hydroxy-11-dehydrocorticosterone) in that a hydroxy radical instead of a ketone group is present at the eleventh carbon position of the steroid nucleus. From facts now available it seems probable that hydrocortisone rather than cortisone is the chief glycogenically active corticoid secreted by the adrenal gland, at least under conditions of stress.[18 19] A number of laboratory procedures indicate that hydrocortisone is more active physiologically than cortisone. Comparisons made from muscle-work tests, assays of liver glycogen, and ability to incite regressive changes in the thymus and adrenals have shown that when the non-esterified forms of the two hormones are given intravenously or subcutaneously hydrocortisone is approximately twice as potent as cortisone.[20 21 22 23] It also appears that one-half as much hydrocortisone as cortisone will promote an equivalent eosinopenic response.[24]

Meagre quantities of hydrocortisone (free alcohol) have been available for laboratory and clinical research because production of the hormone has depended upon complicated processes of biosynthesis. These have involved the transformation of 11-desoxy-17-hydrocorticosterone (Reichstein's compound S)—a steroid which may be derived from soy beans and which is devoid of anti-inflammatory activity—to hydrocortisone through the action of adrenal cortical enzymes. By enriching the substrate with 11-desoxy-17-hydrocorticosterone and perfusing it through intact isolated bovine adrenal glands or by adding it to and incubating it with slices of adrenal cortex, this steroid is converted (by placing a hydroxy radical at the eleventh carbon atom) to hydrocortisone. Very recently small amounts of the hormone produced by partial chemical synthesis have been made available for trial.

In 1949 Hench and colleagues demonstrated that hydrocortisone (free alcohol), like cortisone and corticotropin (A.C.T.H.), possessed antirheumatic activity when administered systemically.[5 25 26] They gave a total of 900 mg. of the hormone intramuscularly to one patient with rheumatoid arthritis over a 12-day period and noted that the articular manifestations subsided rapidly; overall relief was estimated as 60% and the erythrocyte sedimentation rate was reduced from 85 to 24 mm. in one hour. No other accounts of the effects of hydrocortisone (free alcohol) given systemically to patients with rheumatoid arthritis have been recorded.

Experience with Suppressive Doses of Hydrocortisone (Free Alcohol) Given Orally

Five patients with rheumatoid arthritis of the peripheral type who had not previously received hormonal therapy for arthritis were given large initial doses of hydrocortisone (free alcohol) by mouth.* The disease was graded as severe in one patient, moderately severe in three, and moderate in one; erythrocyte sedimentation rates before treatment were 119, 61, 60, 53, and 48 mm. in one hour (Westergren method) in the respective patients. Four of the subjects were women and one was a man. Their ages ranged from 42 to 56 years.

The one patient with severe disease received 150 mg. of the hormone daily for two days and then 100 mg. each day for 13 days. The three patients with moderately severe and the one patient with moderate rheumatoid arthritis received 100 mg. on the first day and for several days thereafter. Because supplies of hydrocortisone were limited, the doses given on the first day of treatment were smaller than those customarily employed for cortisone acetate in cases of similar severity.

The results from suppressive doses of hydrocortisone (free alcohol) will be reported elsewhere in greater detail.[27] The initial response was strikingly prompt in each patient, and symptoms such as aching and stiffness began to subside within three, four, six, seven, and ten hours respectively after the first dose of the hormone. In four patients (three with moderately severe and one with moderate rheumatoid arthritis) subsequent progress was extremely rapid, and very marked degrees of overall improvement (more than 85%), as gauged by both objective and subjective criteria, resulted after four, six, six, and eight days. In these the improvement progressed at a more rapid rate and was more complete than that which usually follows oral cortisone acetate therapy within such periods, even when larger doses are given on the first day. The fifth patient (with severe disease) responded less dramatically, and the improvement was graded as marked after 15 days; the rate of improvement was considered to be about the same as might have resulted from cortisone acetate given in identical doses.

Erythrocyte sedimentation rates were lowered with remarkable speed and, in contrast to the lag which is often noted during cortisone acetate therapy, reductions kept pace closely behind clinical improvement. Elevated rates in the five patients were reduced as follows: 53 to 10 mm. in 7 days, 60 to 20 mm. in 7 days, 61 to 11 mm. in 10 days, 48 to 16 mm. in 6 days, and 119 to 39 mm. in 15 days.

*Gratitude is expressed to G. D. Searle & Co., who supplied most of the hydrocortisone (free alcohol); to Merck & Co., Inc., who supplied the cortisone acetate; and to the Upjohn Company, who supplied part of the hydrocortisone (free alcohol).

Comparisons of Maintenance-dosage Requirements of Cortisone Acetate and Hydrocortisone (Free Alcohol)

By directly comparing the maintenance doses required in the same patient to provide similar antirheumatic control, appraisals of the relative potencies of cortisone acetate and hydrocortisone (free alcohol) could be made more accurately than by estimating differences in the immediate response to suppressive doses. Ten patients with rheumatoid arthritis who had been treated uninterruptedly with cortisone acetate orally for long periods (3 to 16 months), and whose maintenance requirements were stable and well established, were transferred directly to hydrocortisone (free alcohol). Uniformly the patients needed smaller amounts of hydrocortisone (free alcohol) for equivalent degrees of clinical improvement. Dosage differences were clearly defined and, milligram for milligram, hydrocortisone (free alcohol) was found to be approximately 50% more potent than cortisone acetate. Dosage ratios of cortisone acetate to hydrocortisone (free alcohol) ranged from 1.43:1 to 1.7:1 among the ten patients, and the average ratio for the group was 1.56:1 (Table I).

In three of the five patients the initial response was definitely less than would ordinarily be experienced with corresponding large suppressive doses of cortisone acetate, but in two patients (both with moderately severe disease) the progress of improvement was similar. In the five patients some degree of symptomatic relief was noted within 8, 15, 24, 24, and 30 hours after the first dose of hydrocortisone acetate, but in three of them the immediate reaction was not striking, and at the end of several days of treatment the overall improvement was considered to be distinctly less than should have resulted from similar amounts of cortisone acetate.

Response to suppressive therapy varied among the five patients as follows. The first patient, with moderately severe rheumatoid arthritis, exhibited moderate symptomatic relief after the first day's treatment with 200 mg. of hydrocortisone acetate, and after 48 hours some improvement in the objective joint findings was recorded. Two days after the dose was reduced to 100 mg. a day, however, regression ensued and very little additional improvement resulted from continued administration. After 15 days, improvement was graded as slight (less than 30%) and the erythrocyte sedimentation rate had not changed significantly (58 to 56 mm. in one hour). The dose of hydrocortisone acetate was then raised to 200 mg. a day for 10 days; further suppression of the disease manifestations promptly ensued, but endocrine side-reactions, consisting of pronounced mooning of the face, nervousness, insomnia, and oedema of the lower legs, also developed.

TABLE I.—*Maintenance-dosage Requirements for Cortisone Acetate and Hydrocortisone (Free Alcohol) Given Orally in Rheumatoid Arthritis*

Case	Severity of Disease	Degree of Overall Improvement	Maintenance Doses needed for Equivalent Degrees of Clinical Improvement						Average Dosage Ratios Cortisone Acetate to Hydrocortisone (Free Alcohol)
			First Comparison		Second Comparison		Averages		
			Cortisone Acetate (mg.)	Hydrocortisone (Free Alcohol) (mg.)	Cortisone Acetate (mg.)	Hydrocortisone (Free Alcohol) (mg.)	Cortisone Acetate (mg.)	Hydrocortisone (Free Alcohol) (mg.)	
1	Mod. severe	Marked (85%)	62·5	40	62·5	50	62·5	40·0	1·56 to 1
2	,, ,,	,, (85%)	62·5	40	62·5	40	62·5	40·0	1·56 ,, 1
3	,, ,,	,, (75%)	75·0	50	75·0	55	75·0	52·5	1·43 ,, 1
4	,, ,,	,, (85%)	62·5	40	—	—	62·5	40·0	1·56 ,, 1
5	Severe	,, (75%)	75·0	50	75·0	50	75·0	50·0	1·50 ,, 1
6	,,	,, (80%)	125·0	80	125·0	70	125·0	75·0	1·67 ,, 1
7	,,	,, (75%)	68·8	40	62·5	40	65·7	40·0	1·64 ,, 1
8	Mod. severe	,, (85%)	62·5	40	—	—	62·5	40·0	1·56 ,, 1
9	,, ,,	,, (85%)	62·5	40	75·0	40	68·8	40·0	1·72 ,, 1
10	Mod.	Very marked (90%)	50·0	35	—	—	50·0	35·0	1·43 ,, 1
								Average	1·56 ,, 1

Hydrocortisone Acetate

Hydrocortisone acetate (17-hydroxycorticosterone-21-acetate: compound F acetate) is produced by partial chemical synthesis from desoxycholic acid, through a similar but more complex process than that used in the manufacture of cortisone acetate. Reports of systemic administration of this compound to patients with rheumatoid arthritis have been few. Perera and associates[28] gave the drug intramuscularly to two patients with the disease; one received 100 mg. a day for 24 days and the other 12.5 mg. a day for 11 days. They concluded that the clinical and metabolic effects may have been somewhat less than would have occurred with cortisone acetate. Ward and co-workers[29] judged that the improvement which resulted in two patients who received the compound orally was comparable to that expected from cortisone acetate in corresponding doses.

Experience with Suppressive Doses of Hydrocortisone Acetate*

The acetate ester of hydrocortisone was administered orally as initial treatment to five women, one with severe and four with moderately severe rheumatoid arthritis. Erythrocyte sedimentation rates before treatment were recorded as 103, 67, 58, 53, and 50 mm. in one hour (Westergren method). Dosages used were identical to those customarily employed with cortisone acetate in cases of like severity: 200 mg. in divided doses was given on the first and second days of treatment and 100 mg. daily thereafter to the patient with severe arthritis; 200 mg. was administered on the first day and 100 mg. on subsequent days to the four patients with moderately severe disease.

The second patient suffered from severe rheumatoid arthritis, and previously, for a period of 11 months, she had responded well to uninterrupted cortisone acetate administration. The immediate improvement from cortisone acetate had been dramatic, and satisfactory control was held with daily amounts ranging from 50 to 75 mg. Cortisone acetate therapy had been discontinued five months beforehand in order to ascertain the rate of return of adrenal cortical function following long-term therapy; functional recovery, as indicated by the eosinopenic response to corticotropin and urinary 17-ketosteroid determinations, had returned to normal within 45 days after withdrawal. The improvement resulting from hydrocortisone acetate in amounts of 200 mg. daily for two days and then 100 mg. a day was graded as slight. After 19 days of treatment overall improvement was estimated as between 20 and 30% and the sedimentation rate had not decreased greatly, from 103 to 87 mm. in one hour. The preparation was then given in amounts of 150 mg. a day for a period of nine days; this afforded somewhat greater relief, and improvement was finally graded as moderate (about 50%). At this point transfer to cortisone acetate in amounts of 100 mg. a day was accomplished. Within 18 hours there was striking acceleration of improvement, and continued administration resulted in rapid sup-

*The hydrocortisone acetate used in this investigation was supplied by Merck & Co., Inc.

TABLE II.—*Maintenance Requirements for Cortisone Acetate and Hydrocortisone Acetate Given Orally in Rheumatoid Arthritis*

Case	Severity of Disease	Degree of Overall Improvement	Maintenance Doses needed for Equivalent Degrees of Clinical Improvement						Average Dosage Ratios Cortisone Acetate to Hydrocortisone Acetate
			First Comparison		Second Comparison		Averages		
			Cortisone Acetate (mg.)	Hydrocortisone Acetate (mg.)	Cortisone Acetate (mg.)	Hydrocortisone Acetate (mg.)	Cortisone Acetate (mg.)	Hydrocortisone Acetate (mg.)	
1	Mod. severe	Marked (85%)	62·5	87·5	—	—	62·5	87·5	1 to 1·40
2	Severe	,, (75%)	62·5	100·0	62·5	75·0	62·5	87·5	1 ,, 1·40
3	Mod. severe	,, (85%)	50·0	75·0	62·5	100·0	56·3	87·5	1 ,, 1·55
4	,, ,,	,, (85%)	62·5	87·5	62·5	100·0	62·5	93·8	1 ,, 1·50
5	,, ,,	,, (85%)	62·5	87·5	62·5	75·0	62·5	81·3	1 ,, 1·30
6	,, ,,	,, (75%)	75·0	100·0	—	—	75·0	100·0	1 ,, 1·33
7	,, ,,	,, (85%)	62·5	62·5	62·5	62·5	62·5	62·5	1 ,, 1·00
8	Severe	,, (75%)	75·0	125·0	62·5	100·0	68·8	112·5	1 ,, 1·64
9	Mod.	,, (80%)	50·0	75·0	50·0	50·0	50·0	62·5	1 ,, 1·25
								Average	1 ,, 1·37

pression of the rheumatic manifestations, comparable to that which had been experienced from previous treatment with cortisone acetate.

The third patient, with moderately severe disease, experienced rapid and progressive improvement from suppressive doses of hydrocortisone acetate, which at the end of 16 days was graded as marked (80%). Thereafter the dosage was gradually reduced to a maintenance level of 62.5 mg. a day, which was sufficient to uphold satisfactory suppression of the clinical manifestations. The erythrocyte sedimentation rate failed to reflect the good rheumatic response, however, and at the end of 22 days of treatment had decreased only from 67 to 46 mm. in one hour. Transfer to cortisone acetate was subsequently made, and the same maintenance dose was required to provide equivalent clinical control.

The fourth patient, with moderately severe rheumatoid arthritis, responded slowly and undramatically to initial suppressive doses of hydrocortisone acetate, and after 20 days of treatment the overall improvement was graded as moderate or about 50%. The erythrocyte sedimentation rate decreased during the period from 53 to 40 mm. in one hour.

The fifth patient, with moderately severe disease, responded well to 200 mg. of hydrocortisone acetate on the first day, noting subjective improvement within 24 hours after the initial divided dose. Subsequent progress on total daily amounts of 100 mg. was steady, and after 19 days of treatment the improvement was graded as marked (about 80%). The erythrocyte sedimentation rate during this period was reduced from 50 to 20 mm. in one hour.

Comparisons of Maintenance-dosage Requirements of Cortisone Acetate and Hydrocortisone Acetate

In contrast to hydrocortisone (free alcohol), which was found to be more potent than cortisone acetate when the maintenance requirements of the two substances were tested on the same patients, hydrocortisone acetate was less effective, milligram for milligram, than cortisone acetate in eight of nine patients studied. Dosage ratios of cortisone acetate to hydrocortisone acetate ranged from 1:1 to 1.64:1 among the nine patients, with an average for the group of 1.37:1 (Table II).

Comparisons of Maintenance-dosage Requirements of Hydrocortisone (Free Alcohol) and Hydrocortisone Acetate

Direct comparisons of these two compounds in the same patients clearly demonstrated that hydrocortisone (free alcohol) was distinctly superior to hydrocortisone acetate in controlling the manifestations of rheumatoid arthritis. Results were fairly uniform in nine patients tested, and indicated that hydrocortisone (free alcohol) was nearly twice as potent, milligram for milligram, when the two substances were given by mouth (Table III).

TABLE III.—*Maintenance Requirements for Hydrocortisone (Free Alcohol) and Hydrocortisone Acetate Given Orally in Rheumatoid Arthritis*

Case	Severity of Disease	Degree of Overall Improvement	Maintenance Doses Needed for Equivalent Degrees of Clinical Improvement		Average Dosage Ratios: Hydrocortisone (Free Alcohol) to Hydrocortisone Acetate
			Hydrocortisone (Free Alcohol) (mg.)	Hydrocortisone Acetate (mg.)	
1	Severe	Marked (75%)	40	87·5	1 to 2·19
2	Mod. severe	,, (80%)	40	75·0	1 ,, 1·88
3	,, ,,	,, (80%)	60	125·0	1 ,, 2·08
4	,, ,,	,, (80%)	40	75·0	1 ,, 1·88
5	,, ,,	,, (75%)	50	100·0	1 ,, 2·00
6	,, ,,	,, (80%)	40	87·5	1 ,, 2·19
7	Severe	,, (75%)	50	87·5	1 ,, 1·75
8	Mod. severe	,, (80%)	40	75·0	1 ,, 1·88
9	Mod.	,, (80%)	40	75·0	1 ,, 1·88
				Average	1 ,, 1·97

Cortisone (Free Alcohol)

Of the 21 rheumatoid arthritis patients with whom Hench, Kendall, Slocumb, and Polley[25 26] originally demonstrated that cortisone exerted an inhibiting influence on the disease, 9 received the free hormone and 12 were given the acetate ester as initial treatment. The relative therapeutic potencies of the two preparations were not compared directly by them.

When our studies revealed that hydrocortisone (free alcohol) was distinctly superior in antirheumatic activity to hydrocortisone acetate when they were administered orally, the question arose whether a similar discrepancy might exist between the free and acetated forms of cortisone. Cortisone (free alcohol)* was made available to us in small quantities, and maintenance-dosage requirements for the hormone were compared with those for cortisone acetate in seven patients, and with those for hydrocortisone (free alcohol) in six patients. The data evolved from these comparisons are given in Table IV. Supplies were not sufficient to test the effects of initial suppressive doses in previously untreated patients.

Cortisone (free alcohol) and cortisone acetate were found to be approximately equal in their antirheumatic potencies when administered by mouth. Except for minor variations in three of the seven patients, the maintenance dosages required for the two compounds were interchangeable.

Hydrocortisone (free alcohol) proved to be more effective, milligram for milligram, than cortisone (free alcohol). Although dosage differences among the individual patients showed less uniformity, the average calculated dosage ratio was much the same as with cortisone acetate. The dosage ratio of cortisone (free alcohol) to hydrocortisone (free alcohol) ranged in the six patients from 1.25 : 1 to 2.08 : 1, with an average ratio for the group of 1.6 : 1—against 1.56 : 1 for cortisone acetate to hydrocortisone (free alcohol).

*The cortisone (free alcohol) used in this investigation, produced by partial chemical synthesis, was supplied by the Upjohn Company.

TABLE IV.—*Maintenance Requirements for Cortisone (Free Alcohol), Cortisone Acetate, and Hydrocortisone (Free Alcohol) Given Orally in Rheumatoid Arthritis*

Case	Severity of Disease	Degree of Overall Improvement	Maintenance Doses Needed for Equivalent Degrees of Clinical Improvement				Calculated Dosage Ratios.	
			Cortisone Acetate (mg.)	Cortisone (Free Alcohol) (mg.)	Hydrocortisone (Free Alcohol) (mg.)	Cortisone (Free Alcohol) (mg.)	Cortisone Acetate to Cortisone (Free Alcohol)	Cortisone (Free Alcohol) to Hydrocortisone (Free Alcohol)
1	Mod. severe	Marked	62·5	62·5	40	62·5	1·0 to 1·0	1·56 to 1
2	,, ,,	,,	62·5	62·5	40	62·5	1·0 ,, 1·0	1·56 ,, 1
3	,, ,,	,,	62·5	62·5	30	62·5	1·0 ,, 1·0	2·08 ,, 1
4	,, ,,	,,	62·5	50·0	40	50·0	1·0 ,, 0·8	1·25 ,, 1
5	,, ,,	,,	62·5	75·0	40	75·0	1·0 ,, 1·2	1·88 ,, 1
6	,, ,,	,,	75·0	62·5	50	62·5	1·0 ,, 0·83	1·25 ,, 1
7	Mod.	,,	50·0	50·0	—	—	1·0 ,, 1·0	—
						Averages	1·0 ,, 0·98	1·6 to 1

Comment

Data derived from the present study indicate that when administered orally hydrocortisone (free alcohol) is, milligram for milligram, approximately 50% more potent than either cortisone acetate or cortisone (free alcohol), and nearly twice as effective as hydrocortisone acetate. These observations suggest that hydrocortisone (free alcohol) may prove to be superior to cortisone acetate as a therapeutic agent. Although the hormone used in the present study was produced by expensive and complicated procedures of biosynthesis, it has been made recently by partial chemical synthesis from a precursor of cortisone. If future investigations prove that the hormone has distinct therapeutic advantages, it is probable that practical methods for its commercial manufacture will be found.

The number of cases studied were too few and the periods of observation were too short to allow the incidence of the adverse hormonal effects from hydrocortisone (free alcohol), hydrocortisone acetate, or cortisone (free alcohol) to be compared with those already known for cortisone acetate. However, it seems that the greater antirheumatic activity of hydrocortisone (free alcohol) is not accompanied by a correspondingly greater tendency to produce adverse reactions. Endocrine complications were present in several patients during the administration of maintenance doses of cortisone acetate, and these disappeared or diminished when the patients were transferred to smaller but equally effective amounts of hydrocortisone (free alcohol). Five of the ten patients transferred from cortisone acetate to hydrocortisone (free alcohol) had signs of hormonal excess prior to transfer. Slight to moderate oedema, which was present beforehand in four patients, disappeared entirely after hydrocortisone (free alcohol) therapy was instituted. Facial mooning, which was present in two patients, became less noticeable in one and receded completely in the other. In no patient did new hormonal complications develop after transfer to hydrocortisone (free alcohol). We believe that this lessening of adverse effects may be accounted for by the fact that smaller doses of hydrocortisone (free alcohol) were employed to control the rheumatoid arthritis.

The reasons for the marked disparity in therapeutic effectiveness between hydrocortisone (free alcohol) and hydrocortisone acetate when administered orally are not entirely clear, but the relatively low solubility of hydrocortisone acetate may provide at least part of the explanation. Recent studies made at the Merck Laboratories have demonstrated that hydrocortisone (free alcohol), when compared with hydrocortisone acetate, is approximately 28 times more soluble in water, six times more soluble in synovial fluid, 35 times more soluble in plasma, and 36 times more soluble in serum albumin.[30] The lower solubility of hydrocortisone acetate could substantially lessen the rate and degree of its alimentary absorption.

Recently Hollander and co-workers,[31 32] and others[33 34] have observed that intra-articular injections of small quantities (25 to 50 mg.) of hydrocortisone acetate are highly effective in temporarily suppressing the inflammatory reaction in individual joints treated, but that similar injections of cortisone acetate are not so successful. These findings are in contrast to our results from oral administration, in which cortisone acetate exhibited the greater potency. Again this could be explained, but possibly only in part, on the basis of differences in solubility and absorption of the two compounds. Solubility data have revealed that cortisone acetate is approximately twice as soluble in water as hydrocortisone acetate, nine times as soluble in synovial fluid, eight times as soluble in plasma, and 18 times as soluble in serum albumin.[30] Whereas the low solubility of hydrocortisone acetate may lessen its therapeutic effectiveness with oral administration, it may, by delaying absorption from the joint and allowing more prolonged local action, serve as an advantage with intra-articular application.

Summary

Comparisons of the antirheumatic effects of hydrocortisone (free alcohol), hydrocortisone acetate, cortisone (free alcohol), and cortisone acetate given orally for short periods were made in patients with rheumatoid arthritis. The relative potencies of the preparations were appraised by estimating the differences in clinical response to initial suppressive doses, and by comparing directly in the same patient the maintenance doses required to uphold similar degrees of clinical improvement.

Hydrocortisone (free alcohol) was found to possess greater antirheumatic activity, milligram for milligram, than any of the other three preparations when given by mouth. This substance, administered in large initial doses, was highly efficient in suppressing the disease manifestations of rheumatoid arthritis, and its action appeared to be more rapid than that regularly encountered with cortisone acetate. By comparing the maintenance doses required for equivalent clinical control, hydrocortisone (free alcohol) was found to be approximately 50% more potent than either cortisone (free alcohol) or cortisone acetate, and nearly twice as effective as hydrocortisone acetate.

In a small number of patients tested by comparing maintenance-dosage requirements the effectiveness of cortisone (free alcohol) and cortisone acetate appeared to be about equal.

The relative incidence of endocrine complications from the various preparations could not be determined from the short-term studies involved. However, the greater antirheumatic activity of hydrocortisone (free alcohol) did not seem to be accompanied by a correspondingly greater tendency to produce adverse physiological effects. In several patients signs of hormonal excess present while on maintenance doses of cortisone acetate actually diminished or disappeared after transfers were made to smaller, but equally effective, doses of hydrocortisone (free alcohol).

The marked disparity in therapeutic effectiveness between hydrocortisone (free alcohol) and hydrocortisone acetate when given by mouth may be accounted for, at least in part, by differences in solubility of the compounds. The low solubility of hydrocortisone acetate may substantially lessen its alimentary absorption.

REFERENCES

1 Boland, E. W., *British Medical Journal*, 1951, 2, 191.
2 Freyberg, R. H., *Bull. N.Y. Acad. Med.*, 1950, 26, 206.
3 Rosenberg, E. F., *Proc. Inst. Med., Chicago*, 1950, 18, 95.
4 Hench, P. S., Kendall, E. C., Slocumb, C. H., and Polley, H. F., *Arch. Intern. Med.*, 1950, 85, 545.
5 Polley, H. F., and Mason, H. L., *J. Amer. med. Ass.*, 1950, 143, 1474.
6 Thorn, G. W., Bayles, T. B., Massell, B. F., Forsham, P. H., Hill, S. R., jun., Smith, S., and Warren, J. E., *New Engl. J. Med.*, 1949, 241, 529.
7 Spies, T. D., and Stone, R. E., *Lancet*, 1950, 1, 11.
8 Bywaters, E. G. L., Dixon, A. St. J., and Wild, J. B., ibid., 1950, 1, 951.
9 Graham, W., Hunt, T. E., and Mowat, D., *Canad. med. Ass. J.*, 1950, 63, 121.
10 Kersley, G. D., and Mandel, L., *Lancet*, 1950, 1, 1153.
11 Alexander, W. R. M., and Duthie, J. J. R., ibid., 1950, 1, 297.
12 Copeman, W. S. C., Savage, O., Bishop, P. M. F., Dodds, E. C., Gottlieb, B., Glyn, J. H. H., Henly, A. A., and Kellie, A. E., *British Medical Journal*, 1950, 2, 849.
13 Guest, C. M., Kammerer, W. H., Cecil, R. L., and Berson, S. A., *J. Amer. med. Ass.*, 1950, 143, 338.
14 Boland, E. W., *Ann. rheum. Dis.*, 1951, 10, 475.
15 —— and Headley, N. E., *J. Amer. med. Ass.*, 1950, 144, 365.
16 —— —— ibid., 1951, 145, 8.
17 —— —— *Calif. Med.*, 1951, 74, 416.
18 Jacobsen, R. P., and Pincus, G., *Amer. J. Med.*, 1951, 10, 531.
19 Conn, J. W., Lawrence, H. L., and Fajans, S. S., *Science*, 1951, 113, 713.
20 Ingle, D. J., and Kuizenga, M. H., *Endocrinology*, 1945, 36, 218.
21 Olson, R. E., Thayer, S. A., and Kopp, L. J., ibid., 1944, 35, 464.
22 Ingle, D. J., personal communication.
23 Pabst, M. L., Sheppard, R., and Kuizenga, M. H., *Endocrinology*, 1947, 41, 55.
24 Thorn, G. W., *Proc. First Clinical ACTH Conference*, p. 176, edited by J. R. Mote, Blakiston Co., Philadelphia, 1950.
25 Hench, P. S., Kendall, E. C., Slocumb, C. H., and Polley, H. F., *Proc. Mayo Clin.*, 1949, 24, 181.
26 —— —— —— —— *Arch. intern. Med.*, 1950, 85, 545.
27 Boland, E. W., and Headley, N. E., *J. Amer. med. Ass.* In press.
28 Perera, G. A., Ragan, C., and Werner, S. C., *Proc. Soc. exp. Biol., N.Y.*, 1951, 77, 326.
29 Ward, L. E., Slocumb, C. H., Polley, H. F., Lowman, E. W., and Hench, P. S., *Proc. Mayo Clin.*, 1951, 26, 361.
30 Data from the Research Laboratories, Merck & Co., Inc., Rahway, N.J., personal communication.
31 Hollander, J. L., *Bull. rheum. Dis.*, 1951, 2, 3.
32 —— Brown, E. M., jun., Jessar, R. A., and Brown, C. Y., *J. Amer. med. Ass.*, 1951, 147, 1629.
33 Bunim, J. J., personal communication.
34 Stevenson, C. R., Zucker, J., and Freyberg, R. H., Experiences with intra-articular hydrocortisone acetate (compound F acetate). To be published.

According to a report from the Informacion Medica Española the Spanish Government has allotted money for the provision of homes for doctors; the municipality provides the ground and a large amount of the manpower for the building. The administration of these houses, which include facilities for primary health centres, is under the control of provincial councils. They are placed at the disposal of the medical officer of health of the district, who has two or three rooms for his medical work and five or six for his personal use; he pays a monthly rent not exceeding 2% of the cost of the house, and this is set aside for repairs and upkeep. Each is equipped with examination facilities and everything necessary for emergency operations; all medicaments are supplied by the municipality. So far 200 of these houses have been built, and by the end of this year there should be over 500.

PROGUANIL-RESISTANCE IN MALAYAN STRAINS OF PLASMODIUM VIVAX

BY

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Proguanil ("paludrine") has been widely used throughout the Federation of Malaya for the prevention of malaria since it first became generally available in 1947. Controlled experiments showed that proguanil in doses of 100–300 mg. once a week was an effective suppressive, and reduced parasite and spleen rates in the semi-immune populations on estates. Overt malaria was usually associated with irregular dosage; transmission, however, was light during the period of these experiments (Institute for Medical Research, 1950).

Proguanil was first used by the Army in Malaya in place of suppressive mepacrine early in 1949, with no apparent change in the malaria sickness rate. The present investigation started as an inquiry into an outbreak of malaria which occurred late in 1950 in a British Army unit engaged in operations against bandits in the Tampin district of the State of Negri Sembilan.

Malaria in the Tampin District

Parts of the Tampin district, and of the surrounding districts, have long been regarded as highly malarious. The Army unit concerned arrived in Malaya in the middle of 1947. The unit headquarters were established in Tampin from then until March, 1950, but detached parties were scattered over a wide area of perhaps 100 miles radius, working in the neighbouring States of Selangor, Pahang, Johore, and Malacca. The incidence of malaria during this period seems to have been low. In March, 1950, the unit was moved to Singapore for about six weeks, returning to Tampin in April, and remaining there until April, 1951, when it left for the Middle East.

The main operational differences between the early period and this later period of twelve months were that the detachments were now all working within a more restricted area, inside a radius of some 30 miles from Tampin, and that the malaria rate for several months was high.

The total strength of the unit was about 600 men, and at any one time perhaps 350 men might be engaged in jungle operations. These figures are merely totals; there was a continual interchange of individuals to and from the unit, and between its various sections. As was the standard Army practice in Malaya, the official suppressive dose was one 100-mg. tablet of proguanil daily.

Four malaria infections occurred between the return from Singapore in mid-April and the end of July, 1950; the sequence of events from then on is shown in Table I.

TABLE I.—*Primary Attacks of Malaria (British Troops Only)*

Parasite Species	1950					1951				Total
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. 1–9	
P. falciparum	2	1	3	9	9	4	1	3	3	35
P. vivax ..	4	2	1	7	7	2	3	3	0	29
Total ..	6	3	4	16	16	6	4	6	3	

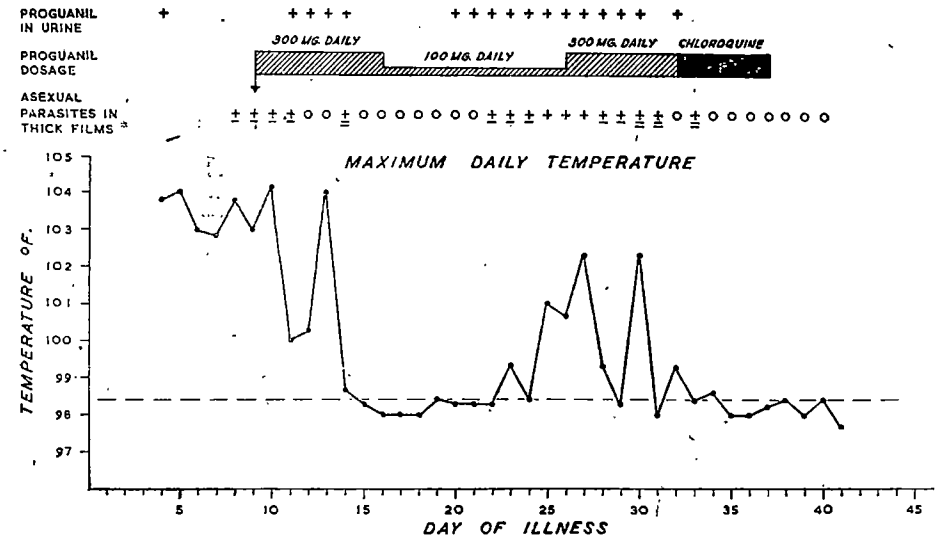

FIG. 1.—Treatment chart of Case 1. *P. vivax.*

**Asexual parasites in thick blood films:* + = Between 1–10 parasites per thick film field. ± = Less than 1 parasite per field, more than 1 in 10 fields. ± = Less than 1 parasite per 10 fields, more than 1 in 100 fields.

The sudden increase in November and December, 1950, and most of the cases occurring thereafter, came from two detachments which had recently started nightly patrols along one particular section of the main railway line.

During the period of just over nine months from July 1, 1950, to April 9, 1951, the Tampin unit, from a strength of about 600 men, supplied 67 admissions for primary attacks of malaria to the Military Hospital at Kuala Lumpur, while other units totalling several thousands supplied only 34 fresh attacks during the same period. The maximum number from any one other unit was eight, and five of these had occurred in one month, October, 1950, from a party operating near the border of the Tampin district. The preponderance of attacks from the Tampin unit was most striking, and caused considerable debate. Either the suppressive discipline was poor or there was something unusual about the malaria parasites of the Tampin district.

The emergence in this area of strains of falciparum malaria resistant to treatment with proguanil had been reported by Edeson and Field (1950). Although the proportion of resistant falciparum infections had increased during the year 1950, haphazard suppression was still regarded as the most likely cause (Institute for Medical Research, 1951). Vivax infections resistant to proguanil treatment had not been encountered; and there had been no indication of any general failure of suppressive proguanil in the civilian population.

Naturally enough, however, suggestions were made that the high malaria rate of the Tampin Army unit might be due, not to irregular suppression, but to infection with parasites which were resistant to prophylactic proguanil. These suggestions were reinforced by the occurrence of 10 primary attacks (5 falciparum, 5 vivax) late in 1950 among men who had arrived in Malaya, after a thorough check of the unit's suppressive discipline had been carried out. None of these 10 men had been in the country for more than three months at the time of his attack; one had been here for only four weeks, and two for only six weeks. So far as could be ascertained, they had taken suppressive proguanil regularly, and nine of them had proguanil present in their urine on the day when first seen by one of us (D. R. R.). Unfortunately this test merely confirmed that proguanil had been taken in the few days immediately preceding; the stories of continuous regular suppressive dosage remained "not proven."

Until January, 1951, there was no proof that any of these infections were proguanil-resistant. Proguanil in the Army was being used solely as a suppressive; acute malaria was treated with mepacrine and/or quinine. The Army medical authorities readily agreed to a proposal that one of us (D. S. M.) should treat vivax infections with proguanil to obtain information about their response to treatment.

The next three patients with acute vivax malaria admitted from the Tampin unit were given a course of 300 mg. of proguanil daily for seven days, after which they immediately reverted to the suppressive dosage of 100 mg. daily, and returned to their unit. Clinical response to treatment was good, but all three were readmitted to hospital with febrile and parasitological relapses 11, 16, and 17 days respectively after resumption of the suppressive dosage. All affirmed that no doses had been missed; none of them had been out on operations since their discharge from hospital, and it seemed that the dose of 100 mg. of proguanil daily had failed to prevent these relapses.

A more strictly supervised investigation was clearly desirable, but unfortunately only three more vivax infections could be so treated before the unit left Malaya; their history is recorded below.

Procedure.—The original diagnosis was made in the Military Hospital laboratory. Once this had been established, duplicate thick blood films were taken daily and stained with Field's rapid stain; one set of these was examined by one of us (T. W.). It will be noted that Cases 1 and 3 were under observation in hospital for four days and seven days respectively before parasites were detected;

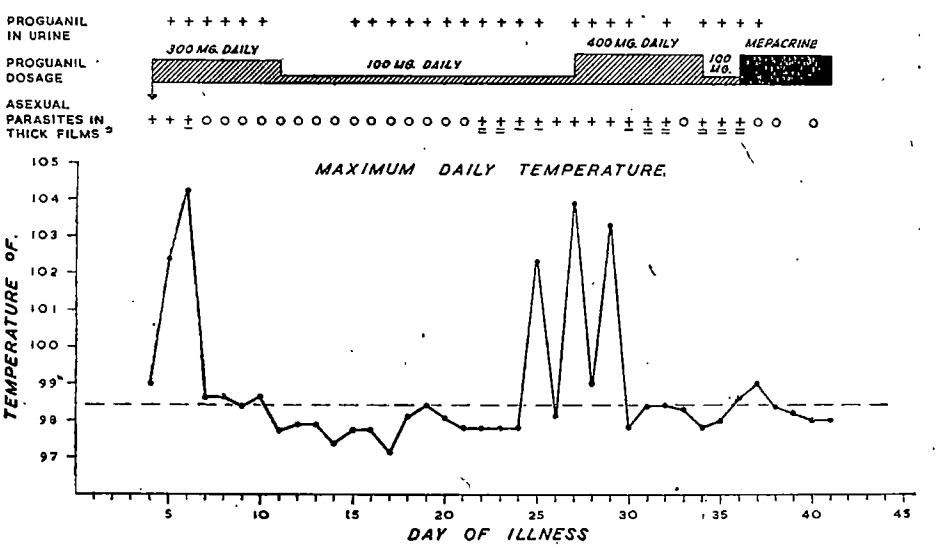

FIG. 2.—Treatment chart of Case 2. *P. vivax.*

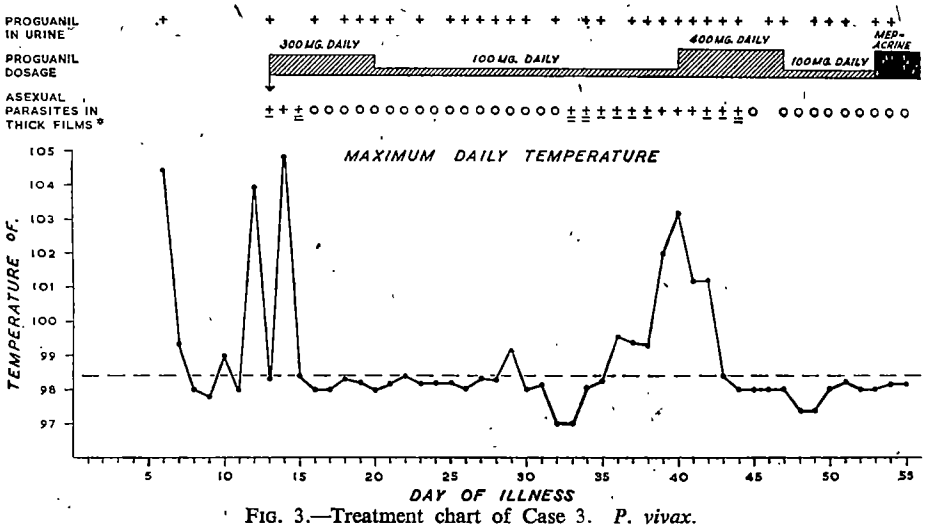

FIG. 3.—Treatment chart of Case 3. *P. vivax.*

during this time no antimalarial drug was given. Proguanil dosage was 300 mg. daily for seven days, after which it was reduced to 100 mg. daily, and the patients remained in hospital under observation. Doses were given by the ward sister, and tests for proguanil in the urine were carried out frequently by the hospital laboratory.

Case Notes

Case 1 (Fig. 1).—Aged 21. In Malaya two and a half years. No previous history of malaria. Ill four days before admission, and blood film taken before being sent to hospital reported negative. Suppressive dosage said to be regular; proguanil present in urine when admitted to hospital.

Case 2 (Fig. 2).—Aged 28. In Malaya two and a half years. History of seven attacks of malaria in past five years, last attack being just over two years earlier. Ill four days before admission. Suppressive dosage said to be regular, but no urine test on day of admission was made.

Case 3 (Fig. 3).—Aged 19. In Malaya three months. No history of malaria. Ill six days before admission, and blood film taken before being sent to hospital reported to contain a few young trophozoites, probably *P. vivax*, but parasites not detected in hospital until seven days later. Suppressive dosage said to have been regular since day after arrival in Malaya; proguanil present in urine on day of admission.

Comment on Cases 1 to 3

All three patients showed a good clinical and parasitological response to the first treatment course of 300 mg. of proguanil daily for seven days. Despite this, parasites reappeared in each of them after 7, 12, and 13 days respectively on the daily dose of 100 mg. of proguanil, duly followed a day or two later by the recurrence of fever. Although Cases 2 and 3 were given 400 mg. of proguanil daily for the second treatment course, parasite clearance was somewhat slower.

We had hoped to treat a comparative series of vivax infections from other areas, but there were not enough cases; only two others have so far been treated. In both there was a good response to a dosage of 300 mg. daily for seven days. Both were kept in hospital for 20 days after resuming the suppressive dose of 100 mg. daily, and so far 120 days have passed with no indication of a relapse.

The unit which took over the Tampin camp and operational areas in April, 1951, was warned of the necessity for rigorous suppressive discipline. No malaria infections occurred during April and May, but the figures since are those given in Table II.

By contrast with the previous year, however, 1951 has seen an increase of malaria among various other Army units in different parts of the country. Staff changes and other reasons unfortunately cut short our therapeutic experiments, and only one vivax malaria patient from the new unit in Tampin could be similarly observed in hospital.

TABLE II

Parasite Species	1951					
	June	July	Aug.	Sept.	Oct. 1–16	Total
P. falciparum ..	3	4	3	12	0	22
P. vivax	1	4	1	13	0	19
Total ..	4	8	4	25	0	41

Case 4 (Fig. 4).—Aged 24. In Malaya 10 months; in Tampin district two and a half months. No history of previous malaria. Ill four days before admission. Proguanil suppression said to have been regular, and proguanil present in urine when patient admitted to hospital.

Comment.—Treatment with 300 mg. of proguanil daily for 10 days gave rather slow parasite clearance in the primary attack. Parasites reappeared after only nine days on the suppressive dose of 100 mg. daily, followed three days later by onset of fever and symptoms; parasites this time persisted throughout a course of 400 mg. daily for 10 days. Reduction of dose to 100 mg. for just one day resulted in an immediate increase in parasites, followed next day by a fresh rise of temperature to 104° F. (40° C.); the attack was then terminated with quinine. This infection was more obviously resistant to proguanil therapy than any of the earlier ones, and apparently had been contracted in the same area.

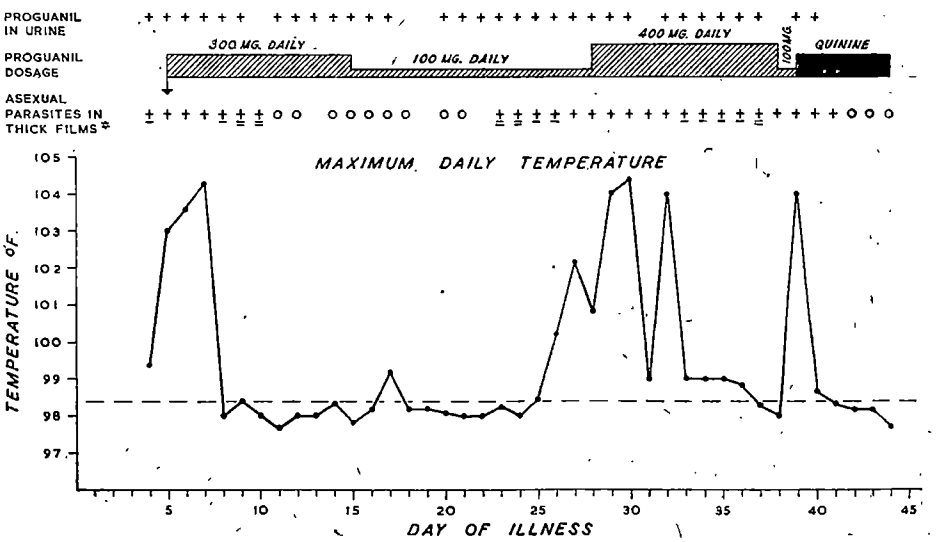

FIG. 4.—Treatment chart of Case 4. *P. vivax.*

Discussion

The occurrence of malaria in persons taking suppressive drugs can be explained in various ways. Fairley *et al.* (1946b), after exhaustive investigation of a large-scale outbreak among troops taking suppressive mepacrine ("atebrin") in the Aitape–Wewak area of New Guinea, decided that both irregular dosage and relative resistance to mepacrine were involved. But resistance to a purely schizonticidal drug like mepacrine presents fewer problems than resistance to proguanil. Fairley *et al.* (1946a) concluded that mepacrine and other schizonticides had no action on the pre-erythrocytic stages of the human malaria parasites; their suppressive effect was due to their action on the asexual parasites reaching the blood at the end of the incubation period. If these blood forms become resistant, then ordinary suppressive doses will fail to prevent an attack.

The prophylactic action of proguanil, on the other hand, was fundamentally different. Proguanil had a direct effect on the pre-erythrocytic forms, and asexual parasites failed to reach the blood. Working with New Guinea strains, we found that in falciparum malaria the pre-erythrocytic forms were destroyed, that in vivax malaria their development was merely inhibited, and that overt malaria might occur after dosage was stopped. Proguanil was also an efficient schizonticide, producing radical cure of falciparum infections; and, although it did not destroy gametocytes, it sterilized them and prevented their development in the mosquito.

Covell *et al.* (1949) confirmed the lethal action of proguanil on the pre-erythrocytic forms of a Lagos strain of *P. falciparum*, and the sterilizing action on gametocytes; clinical cure of acute malaria was obtained, but the infections were not eradicated, and relapses occurred within a few weeks. Ciuca *et al.* (1948), however, found that proguanil did not invariably destroy the pre-erythrocytic forms of a Rumanian strain of *P. falciparum*.

Resistance to proguanil therefore may show itself in various ways. It may be a resistance of the asexual erythrocytic forms or of the pre-erythrocytic forms or of the gametocytes; and certain strains might prove to be resistant throughout the life cycle.

We can do little to resolve the conflict of opinion between those who hold that the excess of malaria in the two Tampin units was due mainly to irregular prophylaxis, and those who favour the idea of infection with strains resistant to prophylactic proguanil. One of us (D. R. R.) was regimental medical officer of the first unit for its last 18 months in Malaya. He considers that suppressive discipline was fair even before September, 1950, and was good from September onwards; the ten infections mentioned above as occurring in new arrivals after October, 1950, developed, he thinks, despite a regular prophylactic dosage from the time of reaching the country. To this opinion may be added a number of similar complaints from Africa (Davey and Smith, 1949; Bruce-Chwatt and Bruce-Chwatt, 1950; MacLeod, 1951), but proof of regular dosage was unobtainable in many of the examples given. We cannot be certain how many of the Tampin infections were due to irregular prophylactic dosage, but we suggest that some at least may have occurred in men who took their doses regularly.

Reverting to our therapeutic findings, it seems that probably in the first three patients, and certainly in the four observed in hospital, we were dealing with erythrocytic forms of *P. vivax* which were only temporarily suppressed by daily doses of 300 mg. of proguanil, and which could multiply sufficiently to produce clinical and parasitological relapses while 100 mg. daily was still being taken. Malayan strains of *P. vivax* had hitherto proved very sensitive to treatment with proguanil (Institute of Medical Research, 1950),* and the two vivax infections from other areas had not relapsed over a much longer period. How might this degree of resistance have been produced, and what were the implications?

Experimentally, the erythrocytic forms of both *P. falciparum* and *P. vivax* have been rendered resistant to proguanil treatment by exposing them repeatedly to inadequate doses (Seaton and Adams, 1949; Seaton and Lourie, 1949; Cooper *et al.*, 1950a); but prolonged dosage during the pre-erythrocytic stage of *P. vivax* did not induce resistance in the erythrocytic forms which appeared after dosage was stopped (Cooper *et al.*, 1950b). We think it unlikely that each of our patients was originally infected with a sensitive strain which he then transmuted into resistant forms by widely spaced doses during sporadic bursts of parasitaemia, but this possibility cannot be dismissed entirely; three of the four patients had been in the country for ten months or more, though only one was known to have had malaria before. Such a method of producing resistant erythrocytic forms would seem to be ruled out for Case 3, who had been here for only three months. This man did not arrive in Malaya until December, 1950, by which time a great deal of attention had been paid to the suppressive discipline of his unit. He had no history of previous fever, and the parasite level at which he originally developed symptoms was low, indicating that this was probably a primary attack. We suggest that the balance of evidence is in favour of another hypothesis—namely, that these men had been infected by a strain of vivax malaria whose erythrocytic forms had already developed a partial resistance to proguanil.

Seaton and Adams (1949) and Seaton and Lourie (1949) have proved that when the erythrocytic forms of *P. falciparum* and *P. vivax* have become resistant to proguanil the erythrocytic parasites which appear in fresh victims, after mosquito passage of the infection, are also resistant. It is thus possible that under suitable local conditions mosquitoes may be transmitting strains of malaria whose erythrocytic forms are relatively resistant, as in these patients of ours. Confronted with this possibility, the medical officer in the Tropics wants to know, among other things, whether proguanil-resistance of the erythrocytic forms automatically implies a change in the response of the pre-erythrocytic forms to proguanil prophylaxis. If the erythrocytic forms are resistant, can the pre-erythrocytic forms of that particular strain complete their development despite a regular prophylactic dosage from the time of infection, and will proguanil thus be as powerless to prevent clinical attacks as it is to cure them when they occur?

Oddly enough, the experimental workers have not yet provided an answer to this most important question. The experiments on proguanil prophylaxis with human malaria parasites all seem to have been made on strains which responded well to proguanil treatment of acute attacks; this was so even with the Lagos strain of *P. falciparum* investigated by Covell *et al.* (1949). The only report of a prophylatic experiment with a resistant strain which we have seen is one by Hawking and Thurston (1951) on *P. cynomolgi* in monkeys. Proguanil given shortly before sporozoite inoculation, and daily for seven days afterwards, prolonged the incubation period by only one day in the treated monkey compared with an untreated control. There is unfortunately no indication of how the original proguanil-sensitive strain behaved when treated in the same way.

In Malaya to date, and probably elsewhere, strains of human malaria refractory to proguanil therapy occur only sporadically, yet their appearance has prompted the recommendation that proguanil should not be used by itself for the treatment of acute falciparum malaria. But the drug is being distributed as a suppressive on a very large scale, often without supervision, and there are indications that such resistant strains are becoming more common; the danger, therefore, is that they will become widespread. Before that occurs, the field worker needs to know whether proguanil can still be relied upon as a prophylactic against these strains, or whether he must seek elsewhere for protection. Clearly

*Dr. J. F. B. Edeson (personal communication) reports one resistant vivax infection in April, 1951, in Tampin Hospital, with asexual parasites still present on the seventh day of treatment with 300 mg. of proguanil daily.

we need a controlled experiment in proguanil prophylaxis, comparing proguanil-sensitive and proguanil-resistant strains of human malaria parasites, to decide whether there is in fact any significant difference in their response to regular prophylactic doses.

Summary

Fresh infections of falciparum and vivax malaria occurred late in the year 1950 among British troops in the Tampin district of Negri Sembilan, Federation of Malaya, shortly after they had started night patrols in one particular locality.

A similar incidence of malaria occurred in 1951 among troops from a different unit operating in the same areas.

The troops were on an official suppressive dosage of 100 mg. of proguanil daily, and suppressive discipline was thought to be good.

Treatment of some of the vivax infections revealed that their erythrocytic parasites were only temporarily suppressed by doses of 300 mg. of proguanil daily for 7 to 10 days. Parasitological and clinical relapses occurred 7 to 17 days after reverting to the normal suppressive dose of 100 mg. daily. One of these patients had been only three months in Malaya, and had been on regular suppressive proguanil from the day after arrival.

Possible explanations for these findings are discussed. Irregular dosage cannot be excluded as a possible cause of the incidence of malaria in the Tampin units, but it is thought that some infections may have developed in men who took their suppressive doses regularly. It is suggested that the proguanil-treated vivax patients may have been infected with a strain whose erythrocytic parasites were already partially resistant. If this may happen, as seems possible, then controlled experiments are needed to determine whether resistance of erythrocytic forms also implies that pre-erythrocytic forms may complete their development, and produce clinical attacks of malaria, despite regular prophylactic dosage from the time of infection.

Our thanks are due to Colonel P. F. Palmer, late R.A.M.C., A.D.M.S. Malaya, for permission to treat these patients; to Colonel D. W. Hughes, late R.A.M.C., Consultant Physician, FARELF, for criticism and advice, and to Brigadier R. Murphy, late R.A.M.C., D.M.S., FARELF, for permission to publish.

REFERENCES

Bruce-Chwatt, L. J., and Bruce-Chwatt, J. M. (1950). *British Medical Journal*, 2, 7.
Chuca, M., Baliff, L., and Chelaresco, M. (1948). *Bull. World Hlth Org.*, 1, 297.
Cooper, W. C., Coatney, G. R., and Imboden, C. A. (1950a). *J. nat. Malar. Soc.*, 9, 59.
—— —— Jeffrey, G. M., and Imboden, C. A. (1950b). Ibid., 9, 366.
Covell, G., Nicol, W. D., Shute, P. G., and Maryon, M. (1949). *British Medical Journal*, 1, 88.
Davey, F., and Smith, M. (1949). Ibid., 1, 956.
Edeson, J. F. B., and Field, J. W. (1950). Ibid., 1, 147.
Fairley, N. H., *et al.* (1946a). *Trans. roy. Soc. Med. Hyg.*, 40, 105.
—— —— (1946b). Ibid., 40, 229.
Hawking, F., and Thurston, J. P. (1951). Ibid., 44, 695.
Institute for Medical Research, Federation of Malaya (1950). Third Interim Report to Colonial Medical Research Committee. (Mimeographed Report.)
—— (1951). Annual Report for the year 1950. In press.
MacLeod, R. C. (1951). *British Medical Journal*, 1, 282.
Seaton, D. R., and Adams, A. R. D. (1949). *Lancet*, 2, 323.
—— and Lourie, E. M. (1949). Ibid., 1, 394.

The production of films covering the field of medicine and surgery is being encouraged in Spain by a newly created Association of Medical Cinematography. Exchange of similar films with foreign countries is planned. The general secretarial work is being undertaken by Dr. don Juan Fernán Pérez, calle de Fuencarral, No. 113, Madrid. He is director of *Vida Sana* and medical editor of the daily paper *Madrid*.

CHEMOTHERAPY AND CHEMOPROPHYLAXIS OF MALARIA

CLINICAL TRIALS IN 500 CASES AND MASS PROPHYLAXIS IN A HYPERENDEMIC AREA

BY

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During the past three or four years a number of new drugs have been tested at the Calcutta School of Tropical Medicine for their therapeutic and suppressive values in malaria. The patients admitted to the attached hospital were utilized for the purpose, but the main work on the suppressive therapy was carried out in a rural area about 40 miles from Calcutta. A summary of the work is given in Tables II and III.

I. CHEMOTHERAPY

Only those patients who had fever with parasites in the blood and had no antimalarial drug outside were selected for the trials. The blood was examined twice daily (thick film method, using Field (1941) or J. S. B.* stain) until it became negative for asexual parasites, and thereafter once daily throughout the period of hospital observation. Of the 500 cases examined 51% had *P. vivax* and 42% *P. falciparum* infection; the rest had mixed (4.4%) or *P. malariae* (2.6%) infection. The following drugs were tried:

TABLE I.—*Schedules of Treatment*

No.	Compound Used	Route of Administration	No. of Cases
1	Proguanil (paludrine)	(A) Oral	209
		(B) Intravenous*	12
		(C) Intramuscular	12
2	Proguanil + pamaquin	Oral	30
3	Quino-pamaquin	,,	13
4	M.5943	,,	18
5	Chloroquine	,,	75
6	Chloroquine + proguanil	,,	13
7	Camoquin	,,	80
8	Camoquin + proguanil	,,	8
9–13	Neochin and other 4 indigenous drugs	,,	30
			500

* One patient also had oral and intramuscular proguanil in addition to intravenous therapy.

1. Proguanil

Effect on Temperature and Parasite.—The usual route of administration was by mouth, and in only a small number of cases was the parenteral method used. Orally, various dosage schedules were tried either in a single dose of 0.1 to 0.8 g. or in divided doses of 0.3 to 0.8 g. given daily over 4 to 10 days. With any of these regimes an acute attack was terminated on the third day in most cases. A daily dose of 0.3 to 0.6 g., however, seemed to produce the best results, and we think that a course of 1.8 g. given over five

*Jaswant Singh and Bhattacharji (1944).

TABLE II.—*Chemotherapy of Malaria*

Drug	Group	Dosage	No. of Cases					Total	Time for Fever to Subside		Time for Asexual Parasites to Disappear		Relapse Rate	Observation Period
			F.	V.	M.	F.+V.	F.+M.		1–3 Days	4 Days or More	1–3 Days	4 Days or More		
Proguanil hydrochloride (87% base)	1	Single dose: 0·1 g. (salt)	7	2	1	1	0	11	8 (72%)	3 (28%)	9 (81%)	2 (19%)	6 (4 F., 1 M., 1 F.+V.) out of 8 (5 F., 1 V., 1 M., 1 F.+V.) = 75%	14–55 days in hospital
	2	Single dose: 0·3 g. (salt)	26	16	0	0	0	42	37 (88%)	5 (12%)	37 (88%)	5 (12%)	6 (5 F., 1 V.) out of 22 (13 F., 9 V.) = 27%	14–30 days in hospital
	3	Single dose: 0·5 g. (salt)	12	12	0	1	0	25	21 (84%)	4 (16%)	21 (84%)	4 (16%)	9 (5 F., 4 V.) out of 22 (11 F., 10 V., 1 F.+V.) = 41%	14–120 days (7 cases relapsed within a month)
	4 5	Single dose: 0·6 g. (salt), 4 cases 0·8 g (salt), 8 cases	6	6	0	0	0	12	8 (67%)	4 (33%)	8 (67%)	4 (33%)	4 out of 12 = 33%	Average: 3 weeks in hospital
	6	Divided dose: 0·1 g. t.d.s. 4 days = 1·2 g.	20	21	1	2	0	44	35 (80%)	9 (20%)	41 (93%)	3 (7%)	5 out of 12 = 42%	4–6 months
	7	Divided dose: 0·6 g. (in 2 doses) on 1st day and 0·3 g. daily for next 3 or 4 days = 1·5 to 1·8 g.	4	14	0	0	0	18	16 (89%)	2 (11%)	18 (100%)	Nil	No relapse	Average: 3 weeks in hospital—9 followed up for 2 months
	8	Divided dose: 0·2 g. (salt) 6-hourly for 4 days = 3·2 g.	3	7	1	1	0	12	8 (67%)	4 (33%)	8 (67%)	4 (33%)	2 vivax relapse	Average: 3 weeks in hospital
	9	Divided dose: 0·1 g. (salt) t.d.s. for 10 days = 3 g.	12	13	0	0	0	25	21 (84%)	4 (16%)	23 (92%)	2 (8%)	2 falciparum relapse	Average: 3 weeks in hospital
	10	Divided dose: 0·3 g. (salt) b.d. for 10 days = 6 g.	14	6	0	0	0	20	16 (80%)	4 (20%)	18 (90%)	2 (10%)	1 relapse	Average: 3 weeks in hospital
Proguanil lactate (74% base)	11	Single dose: 0·1–0·3 g. (lactate) intramuscularly	3	6	2	0	1	12	8 (67%)	4 (33%)	11 (92%)	1 (8%)	4 (3 F., 1 V.) out of 12 (3 in hospital and 1 after discharge) = 33%	8–42 days in hospital
Proguanil acetate (79% base)	12	Divided dose: 0·2–0·6 g. (acetate) intravenously	9	2	0	1	0	12	10 (83%)	2 (17%)	10 (83%)	2 (17%)	1 (F.+V.) out of 3 (2 F., 1 F.+V.)	6–8 months
Proguanil hydrochloride and pamaquin naphthoate (45% base)	13	Proguanil 0·3 g. (salt) and pamaquin 0·01 g. (base) b.d. for 10 days	0	30	0	0	0	30	27 (90%)	3 (10%)	29 (97%)	1 (3%)	4* out of 14 = 29%	Average 3 months
Quinine sulphate (82% base) and pamaquin naphthoate	14	Quinine sulphate 0·33 g. (5 gr.) and pamaquin 0·01 g. (base) t.d.s. for 10 days	0	13	0	0	0	13	13 (100%)	Nil	13 (100%)	Nil	1 out of 13 = 8%	Average 3 months
M.5943 (88% base)	15	Divided dose: 0·02 g. t.d.s. for 10 days	0	17	1	0	0	18	17 (94%)	1 (6%)	16 (89%)	2 (11%)	3 out of 18 = 17%	Average 3 months
Chloroquine diphosphate (62% base)	16 17	Divided dose: 1·25 g. (base), 42 cases Single dose: 1·5 g (base), 8 cases	18	27	1	4	0	50	50 (100%)	Nil	49 (98%)	1 (2%)	4 (2 F., 2 V.) out of 20 = 20%	1–7 months
	18	Single dose: 0·5 g. (base)	10	15	0	0	0	25	25 (100%)	Nil	25 (100%)	Nil	2 (1 F., 1 V.) out of 12 = 17%	1–3 months
Chloroquine diphosphate and proguanil hydrochloride	19	Chloroquine: single dose of 0·5 g. (base) on 1st day and proguanil hydrochloride 0·3 g. b.d. for next 6 days	11	0	0	2	0	13	13 (100%)	Nil	13 (100%)	Nil	No relapse in hospital	15–53 days in hospital
Camoquin dihydrochloride dihydrate (77% base)	20	Single dose: 0·5 g. (base)	20	25	5	2	1	53	53 (100%)	Nil	53 (100%)	Nil	8 (3 F., 5 V.) out of 33 = 24%	1–8 months
	21	Divided dose: 0·1 g. (base) b.d. for 3 days = 0·6 g.	12	11	0	4	0	27	26 (96%)	1 (4%)	27 (100%)	Nil	6 (1 F., 5 V.) out of 8 = 75%	1–8 months
Camoquin dihydrochloride dihydrate and proguanil hydrochloride	22	Camoquin: single dose of 0·5 g. (base) on 1st day and paludrine hydrochloride 0·3 g. b.d. for next 6 days	6	2	0	0	0	8	8 (100%)	Nil	8 (100%)	Nil	One falciparum relapse after three weeks	21–50 days

* One other case had subclinical parasitic relapse detected by subinoculation.

TABLE III.—*Chemoprophylaxis of Malaria*

Drug	Group	Parasite Rate										1949–50 Malaria Incidence Rate bet. Sept 30 and Dec 30, 1949	Spleen Rate			
		1948–9				1949–50							1948–9		1949–50	
		May, 1948	Sept., 1948	Nov., 1948	Feb., 1949	May, 1949	July, 1949	Sept., 1949	Nov., 1949	Feb., 1950	May, 1950		May, 1948	Feb., 1949	Oct., 1949	Feb., 1950
Proguanil hydrochloride, 0·1 g twice weekly	I	11·20 (235)	3·15 (222)	4·48 (223)	1·36 (221)	4·10 (167)	4·58 (153)	7·73 (194)	2·86 (175)	2·15 (186)	6·16 (211)	21·54*	55·4	24·4	33·0	26·8
Proguanil hydrochloride, 0·3 g. once weekly	II	9·42 (276)	9·13 (219)	5·73 (227)	3·09 (259)	9·56 (241)	12·50 (216)	8·00 (200)	7·65 (196)	5·31 (207)	11·6 (190)	12·28	72·8	35·6	33·5	26·0
Camoquin, 0·2 g. base once weekly	III	10·57 (246)	9·02 (212)	1·89 (212)	0·63 (159)	5·95 (84)	16·13 (155)	6·17 (162)	0·67 (149)	0·66 (151)	3·2 (217)	3·12	64·2	16·4	26·3	12·4
Chloroquine, 0·25 g. base once weekly	IV	7·90 (227)	5·90 (101)	2·60 (193)	1·60 (261)	1·87 (190)	7·09 (141)	0·00 (149)	0·00 (146)	2·16 (139)	2·0 (200)	3·27	57·7	18·2	25·7	8·8
Quinine sulphate, 0·33 g. (5 gr.) twice weekly	V	—	—	—	—	—	5·19 (289)	6·05 (21)	4·04 (198)	4·23 (189)	—	26·15*	—	—	53·4	43·1
Control (quinine for acute attacks only)	VI	11·32 (265)	15·03 (173)	36·87 (179)	14·57 (199)	17·4 (224)	6·82	9·32	15·57	13·33	22·2 (216)	62·98	61·2	50·6	54·2	55·4

The drugs were administered for 26 weeks from July to December in the first five groups and the sixth group served as a control. The observations were carried out through two transmission seasons and are referred to here as 1948–9 and 1949–50 experiments. The parasite rate, malaria incidence rate, and spleen rate are all expressed in percentages. The figures in parentheses indicate the number of cases examined at different stages of the experiment.

* The higher incidence rate in these two groups may be partly due to the mode of collection of data; they were paid two visits a week as compared with one visit a week in the other groups.

days—that is, 0.6 g. in two doses on the first day and 0.3 g. on the next four days—is sufficient to terminate a malarial attack in an average case unless one encounters a refractory strain. A higher dose has not been of any advantage either in controlling the acute attack or in preventing relapses. For reducing the relapse rate of vivax or malariae infection, however, it should be combined with pamaquin, or be followed by weekly proguanil (0.3 g.) as long as possible. We found the drug about equally active, though relatively slow, against falciparum and vivax types of parasites. It has no influence on the appearance of crescents in the peripheral blood; these tend to persist for a long time, the maximum period noted being two months.

Absorption and Excretion.—For determination of proguanil concentration in the blood the hydrolytic method of Spinks and Tottey (1946) was used. The level of proguanil varied with different individuals, but in general it was proportionate to the dose of the drug. There was a rapid rise in the concentration of the blood after four hours; it was reduced nearly to half on the second day, and usually by the fourth day it was down to negligible figures. About the same kind of result was obtained after intramuscular administration. It was also observed that the drug disappeared from the urine generally in four to five days, most of it being excreted during the first 48 hours. The total excretion varied from 37 to 54% of the drug administered.

Toxicity.—No toxic reactions were noticed except in patients who were having large amounts of the drug. With 0.8 g. given in a single dose or in daily divided doses, gastrointestinal irritation with nausea, vomiting, diarrhoea, and griping was the commonest untoward reaction, but renal irritation was noticed in two patients (0.2 g. six-hourly for four days), one of them having frank haematuria with pain in the loins. The withdrawal of the drug gave prompt relief, but in some patients the treatment was continued without any ill effect. In a few cases (0.3 g. twice daily for 10 days) gastric irritation was noticed towards the end of the course, and on this account treatment was discontinued about the seventh day.

Relapses.—The working of the relapse rate is rather difficult in India, where people are constantly exposed to the risk of infection. Many of the relapse cases, however, developed the attack in the hospital or under conditions where the chance of reinfection was unlikely. Owing to the unavoidable uncertainty, we have lately laid more stress on the early relapses and kept most of our patients in hospital for at least a month under observation. Judging in this way, we found that early relapses were more infrequent with divided proguanil dosage given for 4 to 10 days than with single doses. But even with proper dosage the cases that have been followed up for three to six months have shown a relapse rate of the order of 40%. The actual relapse rates for different observation periods are shown in Table I, from which it will be evident that the single-dose treatment always leads to a high early relapse rate, indicating the inadequacy of that method of treatment. We are therefore of the opinion that the single-dose treatment with proguanil should be abandoned.

Resistance to Proguanil.—We have encountered some cases of falciparum infection that proved refractory to proguanil. In one case the drug had no effect on the fever and parasites, and resistance of the particular strain was also shown in a second volunteer who was inoculated with the blood of the first patient and developed malaria which did not respond to intensive proguanil therapy. In another case there were repeated early relapses, indicating that the parasite was resistant and could not be completely eradicated with proguanil. Besides these we had two fatal cases of malaria: (1) a girl of 9 admitted in a restless and delirious state; and (2) a man of 75 with 35.6% of red cells infected with falciparum rings (some red cells containing two, three, or four rings) and a few schizonts and crescents. The girl had two intravenous injections, 0.1 g. each, before she died 16 hours after admission, while the old man had 1.4 g. of proguanil (parenterally and orally) in the course of the 34 hours he was alive in the hospital. A necropsy in this case showed intense proliferation of the parasites in the internal organs, though their number in the peripheral blood had been reduced. The first patient was severely ill and the second had a very heavy infection, so it is difficult to say what would have happened if more potent antimalarial drugs had been used.

Parenteral Proguanil.—This was given intravenously or intramuscularly, 12 cases by each method, and the results are shown in Table IV.

TABLE IV.—*Parenteral Proguanil: Effect on Temperature and Asexual Parasites*

Route	Total Cases	Infection					Last Day of Fever						Last Day of Parasites					
		F.	V.	M.	F.+V.	F.+M.	1	2	3	4	5	Dth.	1	2	3	4	5	Dth.
I.V.	12	9	2	0	1	0	1	4	5	0	0	2	0	7	3	0	0	2
I.M.	12	3	6	2	0	1	2*	1	5	3	1	0	1	5	5	0	1	0

* One of these patients, a case of quartan malaria, received the drug in the apyrexial period and the next paroxysm was suppressed.

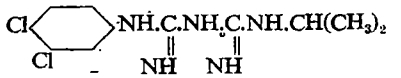
Intravenous Proguanil.—Proguanil acetate or lactate was tried as an experimental measure in a series of 12 cases of malaria, all except two of which had falciparum infection. Two of the patients in this series, already mentioned above, died. The injections (up to 400 mg. at a time) were well tolerated by some, but two patients had phlebitis of the injected vein (which subsided in a few days), one had a severe reaction (collapse) after the injection, and another developed

symptoms suggestive of encephalitis, though it could not be definitely said whether it was the effect of the drug or of the disease. The symptoms eventually cleared up within about two months.

Intramuscular Proguanil.—Proguanil lactate (0.1 g. in 2-ml. ampoules) was tried in a single dose varying from 0.1 to 0.3 g. The results were somewhat like those obtained with oral proguanil. All the three *P. malariae* cases in this series responded to a single injection of 0.1 g., and no recrudescence occurred within four to six weeks while they were in the hospital. One of them had regular paroxysms for one year interrupted only for a fortnight by quinine, with a splenic enlargement to 9 in. (23 cm.) below the costal margin. The injection controlled the paroxysm and the patient was discharged after a month with a spleen reduced to only 3 in. (7.5 cm.) below the costal margin. The intramuscular injections were painful (more than with quinine), but the pain, local induration, and tenderness did not usually persist beyond the third day and left no sequelae, except in one case in which there was a local blister formation which gradually dried up.

2. Quino-Pamaquin, Proguanil-Pamaquin, and M.5943

These drugs were tried in 60 vivax and one malariae infection, mainly with the object of ascertaining the relapse rates. Quino-pamaquin is already a well-known remedy for the radical cure of recurring vivax malaria, and was adopted as a standard for comparison. M.5943 is a new synthetic compound. During their study of the antimalarial properties of diguanide substances related to proguanil, Curd, Davey, Hendry, and Rose (1950), of the Research Laboratories of Imperial Chemical Industries, Manchester, obtained the impression that weighting the benzene ring augmented activity. They therefore prepared a number of compounds in which *di*-substitution was made in the benzene ring. Dihalogen substitution in positions 3 and 4 proved particularly favourable for antimalarial activity. A representative compound, N_1-3:4-dichlorphenyl-N_5-isopropyl diguanide (given the laboratory number M.5943), was chosen for trial in human malaria. M.5943 differs from proguanil only in having an extra Cl group in position 3 of the benzene ring. Its constitution is:



M.5943 was tested against *P. gallinaceum* and *P. relictum* (Algerian strain) by Davey (1946a, 1946b) and was found to be much more active than proguanil against both the blood forms and the exoerythrocytic forms of these parasites. We are reporting here the results of treatment with M.5943 in vivax malaria as compared with combined courses of quino-pamaquin and proguanil-pamaquin.

TABLE V.—*M.5943, Quino-Pamaquin and Proguanil-Pamaquin in Vivax Malaria*

	Quinine 5 gr. (0·32 g.) + Pamaquin 10 mg. (Base) t.d.s. for 10 Days	Proguanil hydrochloride 0·3 g. + Pamaquin 10 mg. (Base) b.d. for 10 Days	M.5943 20 mg t.d.s. for 10 Days
No. of cases	13 (V.)	14 (V.)	18 (17 V.+1 M.)
Average duration of fever (days)	1·1	1·8	1·8
Average duration of parasite in blood (days)	1·8	2·0	2·2
Gametocytes:			
Cleared in 3 days ..	100%	86%	67%
Persisted for 4 or 5 days	Nil	14%	33%
Relapse rate (average period of observation, 3 months)	8%	29%	17%

Table V shows that the best immediate result was obtained with quino-pamaquin, both proguanil-pamaquin and M.5943 being slower and equal in action. M.5943 appears to be rather slowly active against *P. malariae*, the temperature and parasites in the single case having persisted for five days. All the three drugs cleared the peripheral blood of the vivax or malariae gametocytes, and this property was most marked with quino-pamaquin, which was also better than the other two in respect of both immediate action and relapses. The difference in the gametocidal property of the first two combinations, however, may be due to the higher dose of pamaquin—namely, 30 mg. daily used in the first as compared with 20 mg. in the second.

Relapses.—The relapse rate in a follow-up for an average period of three months in the 45 cases observed in 1949 worked out at 17% (3 cases) for M.5943, 29% (4 cases) for proguanil-pamaquin, and 8% (1 case) for quino-pamaquin. Another subclinical relapse in the second series was detected accidentally by the development of febrile malaria in the recipient of a blood transfusion from the said case. If this is included the relapse rate in the proguanil-pamaquin series rises to 36%. If all the 30 cases (including 16 cases treated in the previous year) of the proguanil-pamaquin series are taken together, however, the relapse rate works out at 20%. There is no significant difference in the interval of freedom of attack prior to relapse in the three groups.

Toxicity.—Two cases in the proguanil-pamaquin series showed rather severe toxic reactions (nausea, vomiting, palpitation, and depression) and could not take the full course. No significant side-effect was noticed with quino-pamaquin. In the M.5943 group seven patients had toxic reactions—namely, nausea, vomiting, and/or abdominal pain. One patient complained of bleeding from the gums and another of dysuria during the course, but it cannot be definitely stated that they were entirely due to the drug. The treatment had to be interrupted for a day or two in a few cases for these reactions, and was then resumed in the same or slightly reduced dosage.

3. Chloroquine

Effect on Temperature and Parasites.—Chloroquine was tried in either single or divided doses in a series of 75 patients. The clinical response was very prompt with each regime, and fever and parasitaemia were controlled by the third day in all except one case. With 1.5 g. (base) in a single dose or 1.25 g. in divided doses, 96% became afebrile and 80% parasite-free in two days in a series of 50 patients: these figures were 84% and 100%, respectively, in another series of 25 patients treated with a single dose of 0.5 g. We have not had such an excellent result with any other antimalarial drug. We found it somewhat more active against vivax than against falciparum infection.

TABLE VI.—*Action of Chloroquine on P. falciparum and P. vivax*

Infection	No. of Cases	Last Day of Fever				Last Day of Asexual Parasite			
		1	2	3	4	1	2	3	4
P. falciparum	29	17 59%	7 24%	5 17%	0	12 41%	11 38%	5 17%	1 3%
P. vivax ..	41	23 56%	17 41%	1 3%	0	20 49%	17 41%	4 10%	0

It will be seen from Table VI that, while fever had subsided in 83% and asexual parasites disappeared in 79% in two days in falciparum infection, the corresponding figures from vivax infection are 97% and 90%. The drug has little or no action on gametocytes, the crescents having been found up to 22 days after treatment.

Toxicity.—Some untoward effect of the drug was observed in 5 of the 50 cases (10%) treated with 1.25 or 1.5 g. of the basic drug. Complaint was made of one or more of the following symptoms, which usually disappeared in two days; insomnia, gastro-intestinal irritation, pruritus (especially in the hands and feet), and pain in the lower abdomen, genitalia, and thighs (1 case). Another patient, not included in this series, had epileptiform fits after taking the drug.

Relapses.—Four patients relapsed out of 20 who had 1.5 g. (single dose) or 1.25 g. (divided doses) and who could be followed up for one to seven months: two with falciparum infection after 30 and 45 days, and two with vivax infection after 45 and 210 days. Two (one falciparum and one vivax) out of 12 patients given a single dose of 0.5 g., and who were followed up to three months, relapsed after 53 and 49 days respectively. None of the patients had an early recrudescence in the hospital with either regime, unlike the cases under proguanil. In fact, relapses were much less common with chloroquine.

4. Camoquin

Camoquin is almost as potent a drug as chloroquine. A single dose of 0.5 g. of the basic drug terminated fever and cleared the parasites in two days in 86% and 83% of the 52 cases respectively. This single-dose treatment was better than the divided dose of 0.1 g. twice daily for three days, which in a series of 27 cases gave the corresponding figures as 74% and 81%. It is almost equally effective against vivax, falciparum, and malariae infections. It has no action on crescents, which were seen in the blood up to 26 days, but the vivax and malariae gametocytes disappeared in one to five days.

Toxicity.—The drug was well tolerated and no untoward symptoms were noticed even in cases with severe anaemia.

Relapses.—Here also the single-dose treatment gave better results. Out of 33 patients who had a single dose of 0.5 g., 8 (3 falciparum and 5 vivax) relapsed, while 6 out of 8 patients who had 0.6 g. over three days relapsed, in each case after an interval varying from 2 to 30 weeks. All of them were under observation for one to eight months. The high relapse rate and lower potency of the divided dose would appear to be due to inadequacy of dosage, and will, we think, be improved by giving an initial loading dose.

5. Chloroquine or Camoquin in Combination with Proguanil

Since infections with *P. falciparum* may prove refractory to proguanil alone, we used that drug in combination with chloroquine or camoquin in two series of cases, and 21 patients have so far been treated in this manner. The effect on temperature and parasitaemia is shown in Table VII.

TABLE VII.—*Effect of Combined Chloroquine-Proguanil and Camoquin-Proguanil on Temperature and Parasitaemia.*

Drug and Dose	Infection	No. of Cases	Last Day of Fever				Last Day of Parasitaemia (Asexual)			
			1	2	3	4	1	2	3	4
Chloroquine, 0·5 g. base on 1st day, and proguanil hydrochloride, 0·3 g. b.d., for next six days	F. F.V.	11 2	7 1	3 1	1 0	0 0	1 1	8 1	2 0	0 0
Total ..		13	8	4	1	0	2	9	2	0
			92·5%				84·6%			
Camoquin, 0·5 g. base on 1st day, and proguanil hydrochloride, 0·3 g. b.d., next 6 days	F. V.	6 2	1 0	4 1	1 1	0 0	3 0	1 1	2 1	0 0
Total ..		8	1	5	2	0	3	2	3	0
			75%				62·5%			

It will be seen that this method of treatment rapidly terminated the malarial attack. The results are comparable to those obtained with single doses of camoquin or chloroquine alone. But proguanil alone would have been slower in action, and its reinforcement on the first day by a single dose of chloroquine or camoquin seems to have had a greater effect than quinine or mepacrine in similar conditions.

There were no toxic reactions, and only one case in the camoquin-proguanil series out of the 21 cases treated relapsed after three weeks in a follow-up period of 15–53 days in the hospital.

6. Indigenous Drugs

Neochin, which is dicinchonine carbonate, had a poor antimalarial property, and the other drugs were useless.

Conclusion

Chloroquine and camoquin are the two outstanding drugs in the treatment of malaria. Even with a single dose they can effect a clinical cure in most cases in two days, with disappearance of asexual parasites. Proguanil is also effective, but has a slower action, and resistant falciparum cases are occasionally encountered. The optimum effective dose in our cases has been chloroquine (base), 0.5 g. immediately, 0.25 g. after six hours, and 0.25 g. on the second and third days; camoquin (base), 0.5 g. (or three 0.2 g. tablets) in a single dose; and proguanil hydrochloride, 0.3 g. twice daily on the first day and 0.3 g. once daily for the next four days. The toxic effects of proguanil are usually insignificant, but may result from large doses. So far no toxicity has been observed with camoquin, while about 10% of chloroquine cases had temporary untoward reactions in the doses used. These drugs, however, do not solve the problem of vivax relapses, which can at present be reduced by giving quino-pamaquin, which is more effective than proguanil-pamaquin, or suppressed by weekly doses of one of the above drugs. M.5943 has no advantage over other antimalarials.

II. CHEMOPROPHYLAXIS

Prophylactic trials were carried out in two successive years, 1948 and 1949, in a hyperendemic rural area, about 40 miles (64 km.) from Calcutta, comprising 10 villages with a population of 1,458. The people were mostly land workers in a poor nutritional condition. The overall spleen and parasite rates were 62.8% and 10.7% respectively, while the corresponding rates for children under 10, who formed nearly one-third of the population, were 58.5% and 17.4%. The work was started with five groups of the population each consisting of about 250 people—four having proguanil, camoquin, or chloroquine (groups I to IV; see Table III), and one serving as control (group VI). In 1949, in addition to these five groups, an extra group (V) was given bi-weekly quinine prophylaxis, and a subgroup (IIIA) of about 50 people had camoquin prophylaxis in a reduced dosage. The details are shown in Table VIII.

The drugs were administered throughout the transmission period from July to December. Blood was examined every two or three months, but the spleen was examined only at the beginning and end of the prophylactic period. The incidence of malaria in those taking the drugs was judged by examining the blood of those who had fever. To the control group no drug was administered except a few doses of quinine to control the acute attacks. No anti-mosquito measures were adopted in the whole area.

Parasite Rate

Compared with the control group malaria was definitely under check, the parasite rate remaining more or less low according to the drug used. In May, 1948, prior to the first experiment, the average infection rate in these villages was 10 per 100. In November, 1948, this rose to 37 in the control group (October and November are here the usual peak

TABLE VIII.—*Schedule of Chemoprophylaxis*

Group	No. of Subjects	Drug Used and Frequency of Administration	Dose			Year of Trial	Initial Spleen Rate %	Initial Parasite Rate %
			>10 yrs.	4–10 yrs.	<4 yrs.			
I	235	Proguanil hydrochloride twice weekly	0·1 g.	0·05 g.	0·03 g.	1948–9	55·4	12
II	276	Proguanil hydrochloride once weekly	0·3 ,,	0·2 ,,	0·1 ,,	1948–9	72·8	9·42
III	246	Camoquin* once weekly	0·2 ,,	0·1 ,,	0·05 ,,	1948–9	64·2	10·57
IV	227	Chloroquine* once weekly	0·25 ,,	0·125 ,,	0·062 ,,	1948–9	57·7	7·9
V	289	Quinine sulphate twice weekly	5 gr.	2½ gr.	2½ gr.	1949	53·4	5·19
VI	265	No drug—prophylaxis (control)				1948–9	61·2	11·32

* Dosage of camoquin and chloroquine is expressed in base.

period of malaria), while the parasite rates in the treated groups varied from 2 to 6, the best results being obtained with camoquin and chloroquine. As regards proguanil, there was some superiority of the bi-weekly group (I) to the weekly regime (II). In 1949 the results were still more remarkable. The control group showed a parasite rate of 15.57 in the month of November—a much lower peak than in the previous year owing to lessened severity of malaria that year or to unexplained factors, whereas the corresponding figures for chloroquine (IV), camoquin (III), and bi-weekly proguanil (I) were 0.00, 0.67, and 2.86 respectively. With the last regime, however, there was a rise in the parasite rate in September, 1949, by almost 50% above the rate in July, 1949, the cause for which is not understood.

In striking contrast to the results in the three groups mentioned above, the weekly proguanil regime (II) was less effective, with a parasite rate of 7.65 against the previous year's figure of 5.73, which in itself was high enough. As regards quinine, which was first used in 1949, the reduction of parasite rate from 5.19 in July to 4.04 in November is not itself significant, but there is no doubt that this drug exerted some control, for the parasite rate in the control group rose from 6.82 to 15.57 in the same period of time. The conclusion, confirmed statistically, was that chloroquine and camoquin prophylaxis offered the best protection. Of the two proguanil groups the bi-weekly regime (I) definitely gave better results than the weekly regime (II), though both were inferior to groups III and IV. The results obtained with bi-weekly quinine prophylaxis (V) were somewhat intermediate between the two proguanil regimes in respect of the parasite rate, but the difference was not statistically significant.

It has been mentioned that, in addition to the main camoquin group (III) receiving 0.2 g. of the basic drugs weekly, a subgroup was included in 1949 consisting of 50 subjects who were given 0.1 g. of camoquin (base) every week (IIIA). The parasite rates in the latter were similar to the main camoquin group (III). As the malaria incidence rate per 100 was 4.00 in group IIIA as compared with 3.12 in group III and 62.98 in group VI (control), it would appear that the effect of 0.1 g. of camoquin weekly is the same as that of 0.2 g. But, the number of subjects taken in group IIIA being very small, the similarity of its action with group III cannot be regarded as statistically significant. Nevertheless it shows that camoquin in such small dosage as 0.1 g. weekly can give considerable protection to persons exposed to malarial infection. It is possible, from the parasite rates in the control and treated groups, to calculate the degree of freedom from attacks afforded by each drug. Table IX gives the number of persons who would be freed from parasites by each of the drugs out of 100 who carry parasites in their blood.

The month of November has been chosen from each group, as this is the peak period for malaria.

TABLE IX.—*Percentage of Infected Persons Given Protection by Various Drugs*

	Nov., 1948	Nov., 1949
Proguanil (twice weekly) ..	88	82
,, (once weekly)	84	51
Camoquin (once weekly)	95	96
Chloroquine (once weekly) ..	93	100
Quinine (twice weekly)	—	74

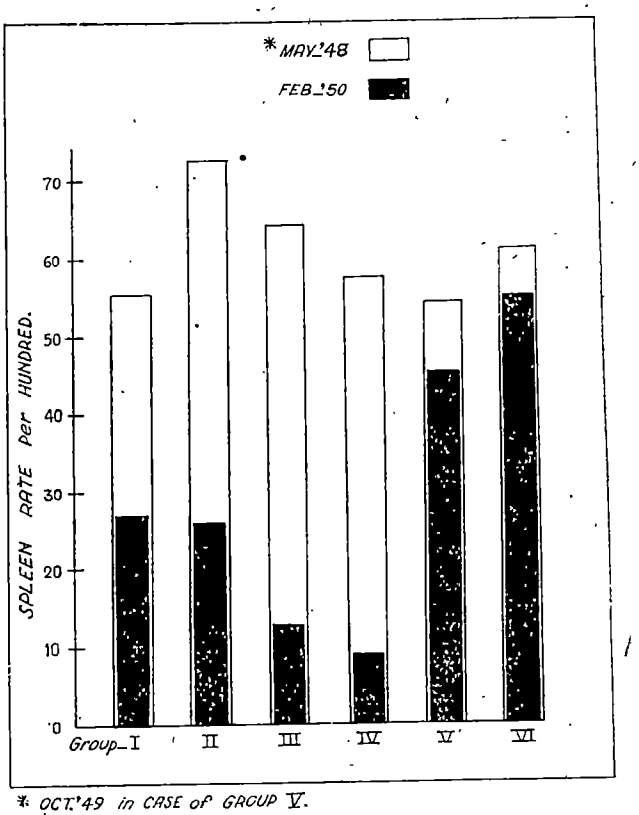
Spleen Rate

The reduction of the spleen rate is best seen from Table X.

TABLE X.—*Showing Effects on the Spleen Rate*

Group	May, 1948	Feb., 1949	Oct., 1949	Feb., 1950
	%	%	%	%
I	55·4	24·4	33·0	26·8
II	72·8	35·6	33·5	26·0
III	64·2	16·4	26·3	12·4
IV	57·7	18·2	25·7	8·8
V			53·4	43·1
VI	61·2	50·6	54·2	55·4

In keeping with their effects on the parasites, camoquin and chloroquine had considerably reduced the spleen rates—namely, to 12.4 and 8.8% respectively in February, 1950 (for convenience final spleen examination was made in February each year)—and these figures are lower than in the previous year. Curiously enough, though proguanil acted differently on the parasites according to the dosage scheme, the spleen rates in both groups were about the same—namely, 26% in February, 1950 (see Chart). Quinine was undoubtedly least effective in respect of the spleen rate, which was 43.1% in February, 1950, the initial rate being 53.4%. This would throw doubt on the efficacy of quinine prophylaxis in spite of its effect on the parasite rate. The control group, in accordance with our expectations, showed a persistently high rate, never falling below 50%.



* OCT.'49 in CASE of GROUP V.

To arrive at a proper evaluation of the drugs so far as the splenic enlargement is concerned, a statistical analysis was made of those subjects who had an enlarged spleen at the beginning of the experiment and those who had no such enlargement. The results in the former are similar to the overall figures shown above. In the latter, whose spleen was initially not palpable, all the treated groups showed prevention of splenic enlargement in varying degrees (see Table XI).

TABLE XI.—*Showing the Effect of the Drugs on the Spleen of Patients who had no Initial Splenic Enlargement*

Group	1948–9 Experiment		1949–50 Experiment	
	No. of Cases with No Palpable Spleen in May, 1948	Percentage Showing Enlargement in Feb., 1949	No. of Cases with No Palpable Spleen in Oct., 1949	Percentage Showing Enlargement in Feb., 1950
I	73	15	117	11·1
II	32	12	130	8·5
III	47	0	85	4·7
IV	31	0	90	1·1
V	—	—	68	6·3
VI	56	27	59	27·1

All the treated groups show significantly lower spleen rates compared with the control, in which 27% developed splenic enlargement after the transmission season. It was striking that in 1948–9 the spleen was not palpably enlarged at the end of the experiment in any of those subjects in the camoquin (III) and chloroquine (IV) groups who had not shown it at the beginning. In 1949–50 the lowest spleen rate was recorded in group IV, and is significantly less than all the other groups except III, which occupies an intermediate position between group IV and other treated groups. It may therefore be concluded that all the prophylactic regimes were effective in preventing splenic enlargement, chloroquine being most valuable in this respect.

Malaria Incidence

The data for malaria incidence during the prophylactic period were more accurately collected in the second experiment. Nevertheless they should be regarded as only approximate, because there were difficulties in obtaining correct information from the villagers. The incidence rate of malaria in those who were under prophylactic treatment was 21.54% with bi-weekly proguanil, 12.28% with weekly proguanil, 3.12% with camoquin, 2.27% with chloroquine, and 26.1% with quinine, as compared with 62.98% in the control group. It should be mentioned that only parasite-positive cases have been taken in the above analysis, and a person suffering more than once has been counted as one.

We might say that all the treatments were effective in reducing the incidence rate in so far as the rates recorded for these were significantly lower than that of the control group. Group III and group IV treatments were definitely better than all the others. There was no statistical evidence of difference amongst the other treated groups (I, II, and V). The higher rates in groups I and V may have been partly due to the method of collecting the data. These groups were paid two visits a week as compared with one visit in the other groups. This has undoubtedly inflated the figures in groups I and V to some extent. But, even taking this fact into consideration, camoquin and chloroquine show the best results in the prevention of malaria.

Conclusion

As in chemotherapy, so in chemoprophylaxis, chloroquine (base, 0.25 g. weekly) and camoquin (base, 0.2 g. weekly) have proved superior to proguanil (salt, 0.3 g. weekly or 0.1 g. bi-weekly). They afforded high protection and reduced splenomegaly, thereby improving the general health of the population and increasing the working capacity.

In spite of the fact that the people were living in poor economic conditions, and in the absence of any other antimalarial measures, there was marked reduction in the incidence of malaria, which varied according to the drugs used. Until anti-mosquito measures are possible chemoprophylaxis should have an important place in the suppression of malarial fever. It causes no inconvenience—a dose once or twice a week is enough, and it need not be costly. What is wanted is malaria discipline, but, once impressed, the villagers are willing to co-operate.

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REFERENCES

Curd, F. H. S., Davey, D. G., Hendry, J. A., and Rose, F. L. (1950). *Brit. J. Pharmacol.*, 5, 438.
Davey, D. G. (1946a). *Ann. trop. Med. Parasit.*, 40, 52.
—— (1946b). Ibid., 40, 453.
Field, J. W. (1941). *Trans. roy. Soc. trop. Med. Hyg.*, 35, 35.
Jaswant Singh, and Bhattacharji, L. M. (1944). *Indian med. Gaz.*, 79, 102
Spinks, A., and Tottey, M. M. (1946). *Ann. trop. Med. Parasit.*, 40, 101

ATYPICAL ABDOMINAL TUBERCULOSIS WITH HAEMATOLOGICAL MANIFESTATIONS

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Enlargement of the liver and spleen is an uncommon mode of presentation of abdominal tuberculosis. The four cases reported below illustrate the clinical appearance of this condition and, in addition, demonstrate the association of blood disorders with hepato-splenic tuberculosis.

Case 1

A woman aged 69 had had enlarged lymph nodes excised from her neck at the age of 6 years and a tuberculous right axillary lymph node removed when aged 36. For one year she had suffered from lassitude, haemorrhoids, and an uncomfortable swelling of the abdomen. The cardiovascular, respiratory, and nervous systems were normal. The spleen was hard, painless, and enlarged almost to the umbilicus, with a firm raised swelling 2½ by 1¾ in. (6.4 by 4.4 cm.) in size palpable on its surface. The liver was enlarged 1–2 in. (2.5–5 cm.) below the costal margin. She was afebrile and of a steady weight. A blood count on admission showed: Hb, 63% (9.1 g.%); red cells, 4,500,000 per c.mm.; white cells, 30,000 per c.mm. (neutrophils 86%, lymphocytes 4%, monocytes 3%, eosinophils 1%, metamyelocytes 2%, myelocytes 4%); platelets, 320,000 per c.mm. The blood film revealed hypochromia, microcytosis, and anisocytosis. The sternal marrow gave a total nucleated cell count of 200,000 per c.mm. (myeloblasts 3%, promyelocytes 2%, myelocytes 32%, metamyelocytes 10%, polymorphonuclears 38%, lymphocytes 1.5%, monocytes 0.7%). The myeloid/erythroid ratio was 9:1. These figures supported the clinical diagnosis of chronic myeloid leukaemia. After a course of deep *x*-ray therapy to the spleen her leucocyte count was 13,500 per c.mm., but rose subsequently to 28,000–50,000 per c.mm.

Six months later the patient was readmitted with severe pain in the left loin. She was ill, had lost 6 lb. (2.7 kg.) in weight, and ran a fever up to 102° F. (38.9° C.). The spleen reached beyond the umbilicus and was very tender. The liver was enlarged four fingerbreadths below the right costal margin. A blood count showed no anaemia. The leucocyte count was 15,900 per c.mm. (neutrophils 94%, lymphocytes 2%, monocytes 2%, eosinophils 2%). One week after admission ascites developed and a left pleural effusion collected shortly before her death.

Post-mortem Examination

The myocardium was pale and fatty. The left pleural space contained 2½ pints (1.4 litres) of yellow fluid, with some collapse of the lower lobe of the lung, roughening of the pleural surface, and slender fresh adhesions over the upper lobe. The right lung showed similar but less marked changes. No tuberculosis was found in either lung or in the mediastinal and cervical lymph nodes. The peritoneal cavity contained 7 pints (4 litres) of yellow fluid. The peritoneum and omentum were thickened and studded with white tubercles, chiefly small and discrete but some confluent, and most numerous in the omentum and the visceral peritoneum of the small gut. There were many peritoneal adhesions. The interior of the stomach and intestines appeared normal.

The spleen weighed 52 oz. (1.5 kg.), and on its anterior surface close to the tip was a circular mass 2 in. (5 cm.) in diameter, slightly raised above the surface, consisting of caseous material sharply demarcated by a fibrous capsule. The splenic pulp was soft and the follicular pattern could not be made out. The liver was considerably enlarged and on section was congested and fatty; the gall-bladder and bile ducts were normal. There were several caseous lymph nodes up to ¾ in. (1.9 cm.) in diameter grouped around the coeliac axis. The kidneys, suprarenals, and pelvic organs were normal. On splitting the right femur the marrow was seen to be pale pink in colour and soft in consistence, and it extended to the lower end of the bone.

Microscopical Examination.—The omentum contained many tuberculous giant-cell systems, some with caseous centres; occasional tubercle bacilli were found in them. The abdominal lymph nodes contained similar tubercles. In addition, one node contained a large caseous area surrounded by a hyaline fibrous capsule which showed early calcification. There was chronic venous congestion of the liver, which was infiltrated by a moderate number of miliary tubercles consisting of groups of epithelioid cells only, but containing occasional tubercle bacilli. The large mass in the spleen consisted of a structureless granular centre surrounded by a hyaline fibrous capsule. No organisms were found in it. The pulp of the spleen was congested, with hyperplasia of the sinus endothelium and many collections of epithelioid cells. No tubercles were seen in the substance of the lung, but some were present in the pleura. The bone marrow was vascular, few bone trabeculae remaining, and it contained tubercles similar to those in the liver. Haemopoietic cells were reduced in number, most of the cells present being reticulo-endothelial in type, resembling epithelioid rather than primitive myeloid cells.

Case 2

A man aged 67 had suffered from rheumatic fever when 14 years old; otherwise his health had been excellent. Early in 1949 he was admitted to hospital with congestive heart failure and auricular fibrillation. The spleen was enlarged and the liver palpable. He was anaemic (Hb, 46%; red cells, 3,800,000 per c.mm.) and had a leucocytosis of 22,000 per c.mm. (polymorphonuclears 80%). His heart failure and anaemia responded to treatment. By July, 1949, he had become plethoric and a blood count showed: Hb, 130%; red cells, 6,400,000 per c.mm.; white cells, 17,400 per c.mm. Venesection was performed repeatedly.

In February, 1950, he suffered again from congestive heart failure and after treatment was transferred to the Middlesex Hospital for radiotherapy for the polycythaemia. He had lost 14 lb. (6.4 kg.) in weight, looked ill, and had a pyrexia of 98–100° F. (36.7–37.8° C.). The chest was normal on both clinical and radiological examination. The heart was normal apart from auricular fibrillation and a blowing apical systolic murmur. The spleen, firm and slightly tender, was enlarged almost to the umbilicus, and the liver was palpable three fingerbreadths below the costal margin. Ascites was present. A blood count showed: Hb. 103%; red cells, 6,180,000 per c.mm.; white cells, 15,600 per c.mm. (86% polymorphonuclears); reticulocytes, 1.4%; platelets, 600,000 per c.mm. The sternal marrow gave a total nucleated cell count of 49,000 per c.mm. (myeloblasts 0.6%, premyelocytes 3.3%, myelocytes 6%, metamyelocytes 5%, polymorphonuclears 62.3%, lymphocytes 3%, monocytes 7.3%, plasma cells 0.6%). The myeloid/erythroid ratio was 7:1. The erythroid series was within normal limits and there was an increased number of megakaryocytes. He was thought to suffer from a myeloid leukaemic termination of polycythaemia and was given a diagnostic course of *x*-ray therapy (800 r) to the spleen, without effect upon the leucocytosis, which continued unchanged until his death.

Post-mortem Examination

The heart was enlarged—18 oz. (510 g.)—from hypertrophy of the left ventricle, but was otherwise normal. Both lungs were congested and oedematous, with bilateral pleural effusions. No tuberculous lesions were detected in either lung. The hilar lymph nodes were normal. The peritoneal cavity contained 9 pints (5.1 litres) of blood-stained purulent fluid and there was marked thickening of the peritoneal surfaces, with widespread firm adhesions. The stomach and intestines were normal. The liver weighed 70 oz. (2 kg.) and its capsule was thickened; on section, it was congested and showed diffusely distributed white deposits of miliary size. The spleen weighed 50 oz. (1.4 kg.) and many nodules varying in size from ⅛ to ½ in. (0.3 to 1.25 cm.) were found in its substance. Most of the nodules were firm, but some were soft and caseous in their centres. The intervening splenic pulp was greyish red in colour and soft. Both kidneys contained simple cysts. The suprarenals, pancreas, and pelvic organs were normal. The abdominal lymph nodes along the aorta and at the root of the mesentery were enlarged, and on section areas of caseation were seen. A film of the peritoneal fluid stained by Gram's method showed numerous pus cells with profuse Gram-positive cocci and Gram-negative bacilli.

Microscopical sections of the abdominal lymph nodes showed numerous tuberculous giant-cell systems with areas of caseous necrosis containing scanty tubercle bacilli. Sections of the spleen showed considerably larger areas of caseation with extensive fibrosis of some of the lesions, but less granulomatous reaction and no tubercle bacilli. In the liver, miliary tubercles were abundant, with very occasional tubercle bacilli in them. The lungs showed congestion and oedema but no tuberculosis.

Case 3

A man aged 41 complained of lassitude and of pains in the joints for eight days. For five days he had noticed a rash on his skin, initially on the shins but later involving the whole of his body. He was pale and pyrexial—97–99.6° F. (36.1–37.6° C.). There were no abnormal physical signs, apart from a palpable spleen tip on full inspiration and a widespread skin rash. The rash was macular and ecchymotic, the majority of lesions being surmounted by small pustules. The rash did not fade on pressure, was not tender and was most pronounced on the legs. Hess's test was positive.

A blood count on June 19, 1945, showed: Hb, 49% (7.1 g.%); white cells, 2,600 per c.mm. (polymorphonuclears 33%, lymphocytes 63%, monocytes 3%, eosinophils 1%);

platelets, 350,000 per c.mm. A radiograph of the chest was normal. Serial blood counts showed that the anaemia and leucopenia persisted in the range: Hb, 33–49%; red cells, 1,600,000–2,600,000 per c.mm.; and white cells, 1,400–3,700 per c.mm., with an absolute neutropenia and relative lymphocytosis. The sternal marrow gave a total nucleated cell count of 25,000 per c.mm. (polymorphs 11%, metamyelocytes 4%, myelocytes 4%, premyelocytes 2%, myeloblasts 1%, lymphocytes 28%, monocytes 1%, late normoblasts 47%, intermediate normoblasts 2%). The myeloid/erythroid ratio was 0.5:1. A diagnosis was not made; the illness progressed steadily, with increasing fever, until the patient died one month after the onset of his symptoms. During the last week of life the spleen became impalpable, although coincidentally the liver enlarged and became tender on palpation.

Post-mortem Examination

Both pleural spaces contained 5 oz. (140 ml.) of yellow fluid. The lungs were voluminous, both lower lobes being solidified by coagulated oedema fluid, with areas suggesting infection of this jelly-like material. The upper lobes were emphysematous, congested, and oedematous. The hilar glands were enlarged and soft. There were no adhesions or free fluid in the peritoneal cavity. The stomach and intestines were normal. The spleen weighed 28 oz. (795 g.) and was purple in colour. No Malpighian bodies could be identified, but throughout the pulp were many nodules up to ⅛ in. (0.3 cm.) in diameter, firm, and golden yellow in colour. The liver weighed 72 oz. (2 kg.); the left lobe was represented by fibrous tissue, but the right lobe was enlarged to the iliac fossa. On section there was pronounced mottling, suggesting alternating areas of congestion and fatty change; the gall-bladder and bile ducts were normal. A mass of soft swollen lymph nodes was seen in the upper part of the abdomen around the coeliac axis, individual glands being about ½ in. (1.25 cm.) in diameter. There was a single large calcified gland in the ileo-caecal mesentery. The other abdominal organs were normal. When the sternum was split it was found to contain red marrow; there was red marrow in the neck and upper third of the shaft of the left femur.

Microscopical Examination.—The abdominal lymph nodes, liver, and spleen contained areas of caseous necrosis surrounded by radially arranged cells resembling fibroblasts and by lymphocytes. No giant cells or typical epithelioid cells were seen, but very large numbers of acid-fast bacilli were found. The bone marrow was vascular, but haemopoietic cells were scanty and were surrounded by a loose fibroblastic tissue in which were numerous scattered, minute areas of necrosis. Although tubercle bacilli were absent, the lesions were histologically similar to those seen in the liver, spleen, and lymph nodes.

Case 4

A woman aged 60 complained of a goitre of recent onset and of excessive bruising for some years. Her spleen was palpably enlarged. A blood examination showed: Hb, 96% (13.9 g.%); red cells, 5,200,000 per c.mm.; white cells, 7,300 per c.mm. (polymorphs 63%, lymphocytes 30%, monocytes 5%, eosinophils 2%); platelets, 40,000 per c.mm. (two weeks later they numbered 55,000 per c.mm.); bleeding time, 8½ minutes (method of Duke); coagulation time, 4½ minutes (method of Lee and White). Splenectomy was performed without difficulty and the liver appeared normal. Five days later a blood count showed: Hb, 81%; red cells, 4,400,000 per c.mm.; white cells, 18,500 per c.mm. (polymorphs 85%, lymphocytes 9%, monocytes 6%); platelets, 350,000 per c.mm. The patient has remained well and entirely free from purpura since the splenectomy. The spleen was normal in size and weighed 3½ oz. (100 g.). It was firm but showed no abnormality on its cut surface. Microscopically there was some congestion and fibrosis of the pulp. There were occasional typical small tubercles with caseous centres throughout the organ.

Discussion

This type of abdominal tuberculosis probably originated in the para-aortic lymph nodes which had been involved in a lymphatic spread of infection from either a mesenteric or an intrathoracic tuberculous gland. The erosion of a caseous para-aortic node into a visceral branch of the abdominal aorta would disseminate the disease to the liver and spleen and to the intestines. The miliary tubercles in the bone marrow (Cases 1 and 3) cannot be regarded as the result of a blood-borne spread of the disease from the liver because of the absence of similar pulmonary lesions (apart from a few tubercles on the pleura in Case 1), and they remain unexplained.

Cases of this variety of abdominal tuberculosis have been reported under many titles (Winternitz, 1912; Fittipaldi, 1938), the most satisfactory being "atypical abdominal tuberculosis," suggested by Blair and Pagel (1947) in describing four unusual pathological types of tuberculosis of the abdomen. Both sexes may be affected at any age, and unlike the classical forms of the infection, this atypical disease occurs not infrequently in old people, in whom tuberculosis may easily be disregarded as a cause of hepato-splenomegaly.

The disease has usually begun insidiously, most patients complaining of upper abdominal discomfort and swelling, lassitude, and malaise. Marked loss of weight and fever above 100° F. (37.8° C.) were uncommon. In a few cases a blood disorder has been the presenting feature, and in a minority the disease ran the rapid course of an abdominal tuberculous septicaemia (Ball *et al.*, 1951). Haematemesis has been recorded rarely as an initial symptom (Engelbreth-Holm, 1938; Howells, 1939). The spleen usually reached to, or even beyond, the umbilicus, and was firm, smooth, and often tender, but pain was caused only by infarction. The liver was moderately enlarged, smooth, and slightly tender in most cases. Ascites has been recorded.

When the cause of the hepato-splenomegaly was diagnosed before operation or death it had been suggested by the finding of active extra-abdominal tuberculosis, such as tuberculous lymphadenopathy (Hickling, 1938; Coffee and Lipton, 1943), bone and joint tuberculosis (Konstam, 1949), or active pulmonary disease.

Investigations in this disease have been singularly unhelpful. The Mantoux reaction has been of little assistance (Dietz, 1946). Radiographs of the abdomen may assist diagnosis by showing calcification in the spleen (Shands, 1933; Moorman, 1937), liver and spleen (Konstam, 1949; Astley and Harrison, 1949), or spleen and mesenteric glands (Solomon and Doran, 1939). Calcification in the lesions has been so uncommon that this method of investigation cannot be relied upon always to yield positive information.

There seems to be no certain method of distinguishing atypical abdominal tuberculosis from the many diseases producing a similar clinical appearance, apart from direct inspection of the abdominal contents. Coyon *et al.* (1927) performed splenic puncture and recovered tubercle bacilli from the aspirated material by guinea-pig inoculation. Liver puncture biopsy could perhaps be used with less risk (Graddock and Meredith, 1949).

The haemocytopenias associated with tuberculosis of the spleen have been attributed either to splenic or to bone-marrow tuberculosis. Engelbreth-Holm (1938) suggested that the infected spleen exercised an excessive control upon the emission of blood cells from the bone marrow, and Howells (1939), Dietz (1946), and Meredith *et al.* (1949) reported cases in which a leucopenia was corrected after removal of a tuberculous spleen. Solomon and Doran (1939) and Weiner and Carter (1941) recorded the cure of thrombocytopenic purpura in the same manner. Ball *et al.* (1951) ascribed the leucopenia of their cases of tuberculous septicaemia, and Gouley *et al.* (1949) the thrombocytopenia of their case of purpura and tuberculosis, to the tuberculous foci found in the bone marrow.

The return of the blood cell content to normal after splenectomy may be best explained by assuming hypersplenism, and not marrow tuberculosis, to be the cause of the haemocytopenias; hypersplenism may be excluded only if the blood count fails to respond to splenectomy. Although Ball *et al.* (1951) found marrow aplasia by sternal puncture in one of their cases, we obtained a normal marrow picture in our Case 3 with leucopenia, and the marrow was hyperplastic in the thrombocytopenic case of Gouley *et al.* (1949). The last finding is usual in cases of hypersplenism. Marrow tuberculosis is not always associated with a leucopenia, and in Case 1 there was in fact a leukaemoid reaction without anaemia.

The association of leukaemia and tuberculosis is rare, but a leukaemoid blood reaction may occur in the presence of tuberculosis. If the infection causes splenomegaly the simulation of true leukaemia may be perfect, the correct diagnosis being obtained only from a biopsy of the liver or spleen. When the tuberculosis is apparently confined to the abdomen its presence may not even be considered. Similarly, patients suffering from hepato-splenic tuberculosis and polycythaemia vera commonly present with no indication of abdominal tuberculosis. The polycythaemia in such cases was attributed to the splenic tuberculosis by Fitzpatrick and Schwartz (1949) when they reviewed the 36 recorded cases. Splenectomy has not been found to reduce the red blood cell count in these patients, and in Guild and Robson's (1950) case both irradiation of the spleen and its subsequent removal increased the severity of the polycythaemia. The evidence available does not confirm a causal relationship between splenic tuberculosis and polycythaemia.

Atypical abdominal tuberculosis has very rarely been treated with the correct diagnosis previously made. Splenectomy was advised by Winternitz (1912) in order to prevent a spread of the infection from the spleen, but it is improbable that the spleen is the most important focus of the disease, and, in fact, the tuberculosis may progress despite this operation (Frank, 1939). Splenectomy may become necessary, however, to relieve abdominal pressure symptoms or to correct a haemocytopenia.

Streptomycin has been used only twice in the treatment of hepatic or hepato-splenic tuberculosis (Guild and Robson, 1950; Melville, 1951). The results obtained were satisfactory, and at present it seems to be the treatment of choice for this condition.

Summary

Four cases of atypical abdominal tuberculosis are reported. Post-mortem examinations were made in three cases, all of which demonstrated tuberculosis of abdominal lymph nodes, liver, and spleen. Two of these cases also had miliary tuberculosis of the bone marrow.

One patient showed a leukaemoid reaction; another appeared to have suffered from polycythaemia; a third, whose illness was rapidly fatal, had a profound neutropenia and anaemia. The last case presented with thrombocytopenia. The relation of these blood disorders to the abdominal tuberculosis is considered.

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REFERENCES

Astley, R., and Harrison, N. (1949). *Brit. J. Radiol.*, 22, 723.
Ball, K., Joules, H., and Pagel, W. (1951). *British Medical Journal*, 2, 869.
Blair, E. J., and Pagel, W. (1947). *Tubercle*, 28, 115.
Coffee, H. D., and Lipton, S. (1943). *Arch. Surg., Chicago.*, 47, 478.
Coyon, A., Clog, W., and Brun, C. (1927). *Bull. Soc. méd. Hôp. Paris*, 51, 48.
Dietz, C. R. (1946). *Arch. Pediat.*, 63, 168.
Engelbreth-Holm, J. (1938). *Amer. J. med. Sci.*, 195, 32.
Fittipaldi, C. (1938). *Haematologica*, 19, 75.
Fitzpatrick, W. J., and Schwartz, S. O. (1949). *Amer. Rev. Tuberc.*, 60, 660.
Frank, T. J. (1939). *Roy. Melbourne Hosp. Clin. Rep.*, 10, 113.
Gouley, B. A., Blumberg, N., and Grayson, R. J. (1949). *New Engl. J. Med.*, 241, 147.
Graddock, C. G., and Meredith, H. C., jun. (1949). Ibid., 241, 527
Guild, A. A., and Robson, H. N. (1950). *Edin. med. J.*, 57, 145.
Hickling, R. A. (1938). *Quart. J. Med.*, 7, 263.
Howells, L. (1939). *Brit. J. Tuberc.*, 33, 178.
Konstam, G. (1949). *Proc. roy. Soc. Med.*, 42, 512.
Melville, I. D. (1951). *British Medical Journal*, 1, 1187.
Meredith, H. C., Early, J. Q., and Becker, W. (1949). *Blood*, 4, 1367
Moorman, L. J. (1937). *Amer. Rev. Tuberc.*, 36, 376.
Shands, H. R. (1933). *Amer. J. Surg.*, 20, 707.
Solomon, H. A., and Doran, W. T. (1939). *N.Y. St. J. Med.*, 39, 1288
Weiner, J. J., and Carter, R. F. (1941). *Ann. Surg.*, 113, 57.
Winternitz, M. C. (1912). *Arch. intern. Med.*, 9, 680.

X-RAY APPEARANCES IN ASTHMA

A STUDY OF 200 CASES

BY

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The object of this investigation was to review the *x*-ray appearances in a series of patients suffering from asthma, together with the clinical findings in the same subjects, in order to find out if *x*-ray appearances could be correlated with clinical types, and to see in what proportion of cases complications occur.

Previous reviews of radiological findings in asthma—for example, Lapage (1922), Manges and Hawley (1927), Bray (1930)—are remarkable for the wide variety of terms used and for the comparatively few films which were regarded as normal. Little effort was apparently made to recognize emphysema, which we know clinically to be such an important and common complication, and segmental collapse was either not seen or not recognized at all.

Present Series

This series consists of 200 cases of bronchial asthma investigated at an allergy clinic, unselected in any way except that they were divided into two groups, the first consisting of 100 children aged from 14 months to 12 years, the second of 100 adults from 13 to 65 years. Such a division was found convenient, not because I consider that there is any fundamental difference between asthma in childhood and asthma in adult life, but because it is easier to compare films of similar-sized chests, and also because obviously the average duration of the disease will be longer in the older age group.

Table I shows the distribution between the sexes, the family history of allergy, and the average duration of the disease. There is little need to comment on these figures.

TABLE I.—*Sex Incidence, Family History, and Average Duration of Disease*

	Children 1–12 Years	Adults 13–65 Years
Total No. of cases	100	100
Males	66	50
Females	34	50
Positive family history of allergy	66	58
Negative ,, ,, ,, ,,	27	26
Family history doubtful or not available	7	16
Average duration of disease	3 yrs. 10 mths.	11 yrs. 10 mths.

which show the usual preponderance of males over females among the children, and the large proportion with a positive family history of allergy (including asthma, hay-fever, chronic urticaria or dermatoses of allergic type, and migraine). They differ in no important respect from the many other similar series which have been published.

Aetiology

With regard to aetiology we find ourselves on very controversial ground in the present state of our knowledge. The classification adopted is one which is thought likely to be acceptable to a majority of students of asthma. While it is true that often more than one aetiological factor is operative, most cases fall into the broad groups set out in Table II: (*a*) "extrinsic" allergy—that is, hypersensitivity

TABLE II.—*Aetiology*

	Children	Adults
(*a*) Extrinsic allergy	42	38
(*b*) Intrinsic allergy	15	17
(*c*) Combined	40	31
(*d*) Cause not definitely assigned	3	14

to specific inhaled or ingested allergens, giving rise to excessive antigen-antibody reactions; (*b*) "intrinsic" allergy, or hypersensitivity to invading micro-organisms or their products in the respiratory tract (this type is sometimes called infective asthma); (*c*) a combination of extrinsic and intrinsic allergy; (*d*) a group of cases in which an aetiological diagnosis was not made. Psychogenic factors and peripheral irritation are recognized as being important, but are regarded as being subsidiary or reinforcing. The relationship to endocrine activity is still too obscure to be useful from a classification point of view.

The diagnosis of infective asthma was made on clinical grounds: history, physical examination, pus in sputum or nasal discharge; and specialized rhinological examination. Laboratory help in the form of sputum examinations, blood counts, and sedimentation rates was sought in those cases where it was considered necessary. No single test was found to be reliable enough to make a diagnosis of bacterial allergy without support. The sedimentation rate, though increased when infection is active, gives no help in those cases of asthma caused by infrequent acute respiratory infections, where investigation is carried out in the free interval. Blood eosinophil counts were very variable, sometimes rising to 25% or more, and did not seem to bear any direct relation to the type of case under investigation.

Sinus Radiographs

Sinus radiographs showed, rather unexpectedly, a higher proportion of abnormalities in the children (62%) than in the adults (54%) (Table III). These figures compare closely

TABLE III.—*Abnormalities Shown by Sinus Radiography*

	Children	Adults
Minor changes (slight mucosal thickening, etc.)	19	18
Marked changes (complete opacity, gross mucosal thickening, etc.)	43	36
No abnormality	38	46

with those of Unger (1945), who analyses nine reports of the incidence of sinus disease in asthma, giving an average of 60.4%, with a 26–82% variation.

It appears to be true that many "normal"—that is, symptom-free—individuals show opacities or mucosal thickening on sinus radiographs; Kern and Schenck (1929) found as many as 72% in 50 non-asthmatic controls. If we are to accept the work of Grove and Cooke (1933), these changes, which only in acute exacerbations become suppurative, are always caused by an infection which, in certain subjects, could at least theoretically lead to bacterial sensitization with resultant asthma. There is still, however, considerable lack of uniformity of opinion on the significance of these findings, and until there is more certainty I have tended to adopt a conservative attitude, and an abnormal sinus radiograph without other clinical evidence of infection has not been deemed sufficient to place the case in the infective groups.

Chest Radiographs

From the point of view of radiological appearances the cases seemed to fall naturally into the groups shown in Tables IV and V. A large number appeared to be within normal limits; others were normal apart from varying degrees of emphysema; another group, including some of the emphysematous ones, had markedly increased hilar shadows, with or without calcification; while a much smaller group had other important abnormalities.

Minor abnormalities, such as congenital malformations of the ribs, small diaphragmatic adhesions, small calcified

TABLE IV.—*Chest Radiographs in 100 Children*

	No. of Cases	Infective	Non-infective	Average Duration
No abnormality	57	24	33	2 yrs. 11 mths.
Emphysema only	22	16	6	5 yrs. 9 mths.
Emphysema plus increased hilar shadows	6	5	1	
Increased hilar shadows	11	7	4	
Other important abnormality (4 cases):				
Segmental collapse	4	3	1	

TABLE V.—*Chest Radiographs in 100 Adults*

	No. of Cases	Infective	Non-infective	Average Duration
No abnormality	30	9	21	9 yrs. 6 mths.
Emphysema only	35	14	21	12 yrs. 1 mth.
Emphysema plus increased hilar shadows	11	8	3	
Increased hilar shadows	14	10	4	
Other important abnormality (10 cases):				
Segmental collapse	4	2	2	
Pulmonary tuberculosis	3	3	0	
Miscellaneous	3	3	0	

lesions in the lung fields, and so on, were not taken into account, nor were the enlarged heart shadows of the occasional adult with coincidental hypertension.

For the purpose of comparing the *x*-ray findings with clinical types it was found most convenient to divide the latter quite simply into infective and non-infective cases. The infective group consisted of those with "intrinsic" allergy (*b*) and the "combined" type (*c*) in Table II; the non-infective comprised the other two types, (*a*) and (*d*) in Table II.

Emphysema

It is important, from the point of view of prognosis, to distinguish between irreversible chronic "hypertrophic" pulmonary emphysema and pulmonary distension due to an asthmatic attack. In order to do this it may be necessary to repeat the physical and *x*-ray examination, and the measurement of vital capacity, at a time when the patient is "at his best"; this has been done in some cases in the series under review. Considerable help in the diagnosis can be obtained by taking films in full inspiration and full expiration and comparing the difference in translucency, density of the broncho-vascular markings, height of the diaphragm, etc., in the two films. Comparison between a film taken in expiration with that of a normal control of similar age and build has also been of assistance in some cases. In spite of these devices, however, there is probably a margin of error, especially in the case of the children, where scope for examination is of necessity somewhat limited.

Tables IV and V show that emphysema, as we would expect, was found in a greater number of adults than children (46 to 28). In both children and adults the average

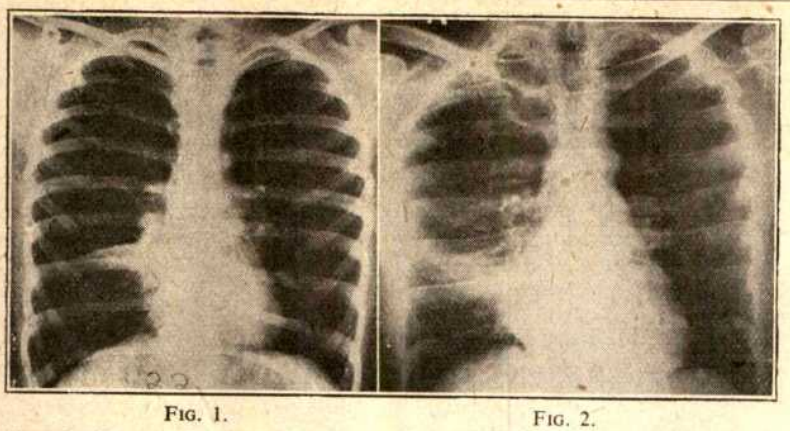

FIG. 1. FIG. 2.

FIG. 1.—Segmental collapse, middle lobe, in girl aged 11. Fig. 2.—Segmental collapse, middle lobe, in man aged 36.

duration of the disease was longer in those with emphysema. In the adults the distribution of emphysema between infective and non-infective cases was about equal (22 to 24), but in the children the infective type largely predominated (21 to 7). This might be interpreted as indicating either that infective asthma is more severe in children or that the chronic cough, which many of the infective cases have, produces that added strain on the alveolar walls which determines the onset of emphysema. In the case of adults, the element of chronicity alone seems to be of importance.

Increased Hilar Shadows

It is assumed that, for all practical purposes, these indicate enlarged tracheo-bronchial glands, which again argues past or present lung infection. Some of these were undoubtedly due to a primary tuberculous infection in early childhood, others to acute or chronic non-tuberculous bronchial or pulmonary infection. It is therefore not surprising to find that in this group the infective cases largely predominate (30 infective to 12 non-infective in the whole series).

Bronchiectasis

This has not been taken into account here. Without doing routine bronchograms it would obviously be impossible to say what number had developed this complication, and bronchograms have been done in only a small number of cases. Of the whole 200, including those with phthisis, only nine had any haemoptysis, and this was usually slight, while clubbing of the fingers was seen in only two. Bullen (1933) found bronchiectasis in 7.75% of asthmatics, and Chapman and Hoskins (1941) state that when it occurs it is usually of the cylindrical type. Only one of our bronchograms showed definite saccular bronchiectasis, and my impression is that permanent bronchiectasis of clinical significance is not a common complication of asthma.

"Thymic" Asthma

Pressure on the trachea by an enlarged thymus is sometimes given as a cause of asthma—like dyspnoea in infants and young children. A lookout was kept for any radiological evidence of enlarged thymus, but it did not appear. It must be uncommon, and hardly a force to be reckoned with from the point of view of differential diagnosis.

Segmental Collapse

This was seen in eight cases (four children and four adults). Among the children it affected the middle lobe in three cases and the left lower lobe in one case. The latter took over a month to re-expand, whereas in the others re-expansion was rapid. In one case there was complete disappearance of the typical wedge-shaped shadow in a film taken 24 hours later (see Fig. 1). Of the four adults with segmental collapse the middle lobe was affected in three cases, and the lower part of the left upper lobe in the other. In all cases re-expansion was rapid (see Fig. 2).

It should be emphasized that all these patients were investigated as out-patients, and that none was acutely ill at the time. Except for the child with left lower lobe collapse, I do not think that it would have been possible to diagnose the condition without radiographs. The severity of the patient's asthma seemed to bear no relation to the presence of collapse. One man, who had been gravely ill with acute asthma as an in-patient, had a clear *x*-ray film when in hospital. When referred for investigation 10 days later as an out-patient, much improved, another *x*-ray film showed an area of collapse, which completely disappeared within the next week, without any noticeable change in his physical condition.

It seems probable that collapse, due presumably to the blocking of a smaller or larger tube by a mucous plug, is commoner in asthma than is generally realized, though all degrees of it, up to massive collapse of a whole lung, have been described by various writers—for example, Clarke (1930), Maxwell (1937), Friedman and Molony (1939).

Pulmonary Tuberculosis

There has been much speculation in the past about a possible relationship between pulmonary tuberculosis and asthma, but most of the available evidence suggests that the former occurs no more frequently in asthmatics than in the population as a whole. In the series under review no cases of active pulmonary tuberculosis were found among the children, but three adults, aged 29, 35, and 65 years, had the disease. All of these were asthmatics of long standing; two had positive family histories of allergy, and all had tubercle bacilli in the sputa. The incidence of 1.5% of phthisis in this series is probably higher than that in the total population, but the numbers involved are too small for any conclusion to be drawn from this.

Miscellaneous Abnormalities

Three cases come under this heading. The first was a woman of 60, with a lifelong history of asthma, whose radiograph showed part of her stomach to be above the

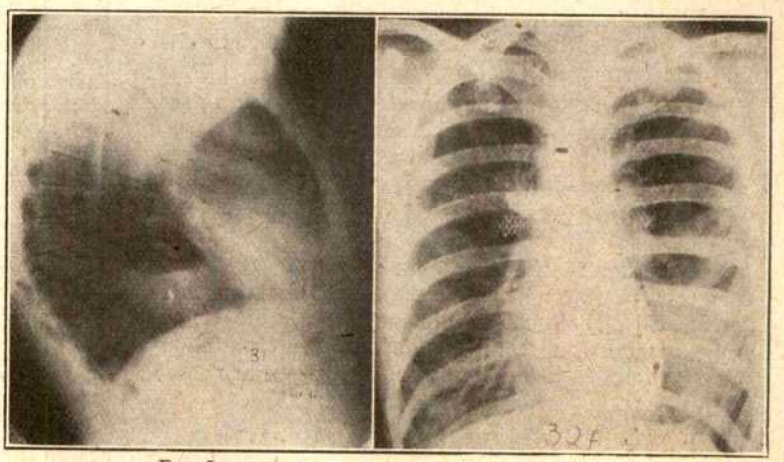

FIG. 3. FIG. 4.

FIG. 3.—Thoracic stomach. Woman aged 60. Lateral film. FIG. 4.—Dense opacity, left lower lobe. One of several opacities recurring in different situations.

diaphragm. There was an ulcer on this portion, from which she later had a large haematemesis. This condition had, of course, no relation to her asthma, but the case serves to illustrate how important coincidental conditions sometimes come to light in the course of a routine investigation (see Fig. 3).

The other two cases, both young adults with incessant asthma since infancy, showed recurrent evanescent shadows in different situations on their chest radiographs during a follow-up period of over four years. One patient subsequently twice developed pulmonary abscesses, which she spontaneously evacuated, and material sucked from the infected area through a bronchoscope grew a *Streptococcus viridans*. The other patient also at one time developed a small abscess cavity with a fluid level, which quickly disappeared spontaneously. In neither case did the blood eosinophils ever exceed 6% (see Fig. 4).

Transitory opacities seen in the chest radiographs of asthmatics, such as occurred in the last two cases, have been described by many authors—for example, Peshkin (1927) and Sédillot (1934). There has been considerable speculation about their nature, particularly whether they are caused by localized areas of infection or by eosinophilic infiltration. The character of these two cases suggests that infection is the cause in some of them.

Summary and Conclusions

A review of the radiological findings in 200 cases of asthma, 100 children and 100 adults, is presented, and an attempt made to correlate the *x*-ray appearances with clinical findings. The series consists of typical cases of asthma, seen as out-patients only.

Sinus radiographs show changes in over half the cases, there being a higher proportion with marked abnormality in the children than in the adults.

Chest radiographs, disregarding minor abnormalities, fall into five groups: normal, emphysema, emphysema and increased hilar shadows, increased hilar shadows, and other important abnormality. The last group includes cases of pulmonary tuberculosis, segmental collapse, and recurrent transient shadows believed to be due to localized areas of infection.

In attempting to distinguish between irreversible emphysema and pulmonary distension due to the bronchiolar obstruction of asthma, the value of radiographs taken in full inspiration and full expiration, and of comparing one taken in expiration with a normal control, is stressed.

Emphysema is the commonest complication, and is judged to be present in 28 children and 46 adults. The evidence suggests that both chronicity and infection are important factors in its development.

Enlarged hilar shadows are present in a higher proportion of the infective than of the non-infective cases. Segmental collapse, with subsequent satisfactory re-expansion, is present in 4%, and is seen in both infective and non-infective types. Active pulmonary tuberculosis is found in 1.5%.

In conclusion it should be pointed out that the chest radiograph in uncomplicated asthma is normal, but that a great deal of help can be obtained from radiography in the diagnosis of complications, in the elucidation of the aetiology, and in the discovery of coincidental conditions.

I should like to express my thanks to Drs. C. N. Pulvertaft and R. A. Ashwin, consultant radiologists to the County and City General Hospitals, York, whose co-operation and assistance with the radiological diagnosis have made this investigation possible.

REFERENCES

Bray, G. W. (1930). *Arch. Dis. Childh.*, 5, 252.
Bullen, S. S. (1933). *J. Allergy*, 4, 402.
Chapman, J., and Hoskins, H. (1941). *Amer. Rev. Tuberc.*, 43, 512.
Clarke, J. A. (1930). *Arch. intern. Med.*, 45, 624.
Friedman, T. B., and Molony, C. J. (1939). *Amer. J. Dis. Child.*, 58, 237.
Grove, R. C., and Cooke, R. A. (1933). *Arch. Otolaryng.*, 18, 622.
Kern, R. A., and Schenck, H. P. (1929). *Amer. J. med. Sc.*, 178, 168.
Lapage, C. P. (1922). *British Medical Journal*, 2, 1267.
Manges, W. F., and Hawley, S. J. (1927). *J. Amer. med. Ass.*, 89, 870.
Maxwell, J. (1937). *St. Bart's Hosp. Rep.*, 70, 187.
Peshkin, M. M. (1927). *Amer. J. Dis. Child.*, 33, 880.
Sédillot, J. (1934). *Bull. Soc. Méd. Paris*, 138, 573.
Unger, L. (1945). *Bronchial Asthma*, p. 259. Springfield, Illinois.

THE TREATMENT OF RECENT TRANSCERVICAL FRACTURES OF FEMUR

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Much has been written on this subject during the past 20 years, and our only excuse for adding to the literature is that we have evolved a simple method of treating these injuries, the results of which seem to compare favourably with those of any other method so far described.

It is now generally agreed that the treatment of choice in transcervical fractures of the femur, particularly those of the adduction type, is some form of nailing operation, with or without a bone graft according to the nature and age of the fracture; and our treatment is based on the internal fixation operation originally described by Smith-Petersen *et al.* in 1931. During the past four years rather more than 100 such operations have been carried out, and we wish to describe the management and the results in a consecutive series of 100 cases in which the end-result is clear. The number of patients involved was 98, two of them having the second hip nailed a few months after the first. The great majority of them were women, the injury being much less common in men.

Selection and Management of Cases

Abduction fractures with impaction are excluded from this series, it being unnecessary to operate on most of them. Apart from these, all the cases admitted with adduction fractures of the femoral neck have been included, and were subjected to operation unless they were moribund or were suffering from advanced senile mental changes. Indeed, several cases from a neighbouring mental hospital have been successfully treated.

Unlike Bankart (1942), who advocated that few patients over the age of 80 should be operated upon, we have not made age alone a bar to operation. The average age in this series was 73, and the range extended from 44 to 93, 60% of them being in the age group 71–85.

On admission all patients are subjected to a full clinical examination and radiographs are taken of the injured hip to determine the nature of the fracture. The patient is then put to bed and a simple form of skin traction is applied to the injured leg by means of extension strapping applied below the knee. The usual weight employed is 9 lb. (4 kg.), which is connected to the strapping by means of a cord passing over a pulley attached to the lower bed-rail. This simple form of traction does not immobilize the

fracture, but it has the merit of preventing, or correcting, any gross shortening. It also steadies the limb, thus relieving the patient of a considerable amount of pain.

Should the general examination reveal the presence of moist sounds at the lung bases, penicillin is given in the form of its procaine salt, 300,000 units daily; and in all cases breathing exercises are begun under the direction of a physiotherapist. A simple explanation is also given of the patient's post-operative management, and foot drill is initiated. In most cases no other pre-operative measures are carried out, but should a patient be suffering from diabetes mellitus this is stabilized as rapidly as possible. None of the resuscitative measures described by some surgeons (Harmon, 1945), such as blood transfusion, have been found to be necessary. As soon as a suitable opportunity occurs the patient is operated upon, and this is usually carried out within a few days of the injury.

The Operation

Here again simplicity has been our keynote, and all direction-finding aids have been discarded except one—namely, the hinged gauge (London Splint Co.). All patients have been given a general anaesthetic, usually thiopentone, gas-oxygen, and "trilene," with D-tubocurarine or similar drug, and the operation is nearly always completed well within an hour.

A slightly modified fracture table is employed, a padded wooden platform being fitted in place of the usual small sacral rest. Beneath the platform is a slot into which cassettes can be inserted without disturbing the position of the patient.

The patient is placed upon the table and enough traction put on the uninjured limb to steady the pelvis. The injured limb is then manipulated by hand into a position of abduction and internal rotation and enough traction applied to render the limb just taut. In nearly all cases these simple manœuvres are sufficient to ensure full and accurate reduction of the fracture.

As Van Gorder (1948) and others have already mentioned, a bony spike attached to the inferior border of the femoral head may make accurate reduction difficult, and it may be shown that further manipulation is necessary after the initial *x*-ray films are developed.

Two portable *x*-ray units are then placed in position and the hinged gauge is attached to the front of the hip with strapping in such a position that the hinge lies just below the anterior-superior iliac spine; one limb lies in the groin crease and the other lies in the line of the femoral shaft. After the first films are developed, the accuracy of the reduction is checked, and from the superimposed image of the gauge in the antero-posterior film two points can be marked on the skin with methylene blue which, when joined, will show the correct line for the nail in the horizontal plane. The correct line for the nail in the vertical plane is taken as being parallel with the floor, with, if anything, a slight posterior tilt.

It has been our aim to insert the nail at a slightly more oblique angle to the shaft than the long axis of the femoral neck, as advocated by Bankart (1942), thus converting shearing forces at the fracture site, especially in those cases corresponding to Pauwel's (1935) group 3, to impacting forces. We also try to complete the operation with the nail lying slightly behind and below the long axis of the neck, and with its tip coming to rest just beneath the articular surface of the head. With the nail so placed, there is much less danger that it will cut out if the femoral head undergoes avascular necrosis or if the capital fragment is very small.

With these aims in mind the operation is proceeded with in the usual way, the guide-wire being inserted well into the head fragment to prevent rotation while the nail is being hammered in. We have no objection to the guide-wire perforating the articular cartilage of the head, but do not make a point of pushing it right through into the pelvis, thus completely transfixing the head, as described by Bankart. The guide-wire is of known length, and the correct size of nail can be determined by measuring the length of guide-wire protruding from the lateral cortex of the femur. The nail is hammered in over the wire, without the preliminary use of a starter. The wire is withdrawn, traction on the limb is slackened, and the fragments are impacted with a few blows from the mallet.

The wound is then closed, no additional measures, such as the insertion of cross-pins, being taken to prevent the nail from sliding out during convalescence. There are two reasons for omitting this step. The first is that if the nail should become loose enough to allow lateral extrusion the anchoring cross-pin will probably loosen also. The second is that complete prevention of lateral sliding is apt to cause slight separation of the bony fragments due to the bony absorption that occurs about any fracture during the early stages of healing, and therefore gives rise to delayed union or non-union.

Post-operative Care

Various methods of restricting external rotation of the injured limb after operation have been tried and discarded. As a routine measure we now use the abduction frame designed by McLean (1949). This frame prevents external rotation and adduction of the limb while permitting flexion and extension of the knee- and hip-joints. It also acts as a bed-cradle, thus relieving the legs of the weight of the bedclothes.

The day after operation active exercises under the direction of a physiotherapist are begun, all movements of the hip, knee, and ankle being permitted except external rotation and adduction of the hip-joint.

At the end of one month a radiograph of the injured hip is taken, and if the position of the nail and of the bony fragments has been maintained the patient is allowed up daily for non-weight-bearing exercises on crutches. Further *x*-ray films are taken at intervals of a month, and, provided that there is radiological evidence of bony union, graduated weight-bearing exercises are begun at the end of three months. If union has not occurred, or its degree is doubtful, weight-bearing is postponed until it is definitely present, and this may mean a delay of six months or more in some cases.

Provided home conditions are satisfactory and the general condition of the patients is good, they are discharged from hospital when they have learnt to manage crutches. Most of our cases, however, have remained in hospital for the full three months, principally because they lived alone.

Results of Treatment

In view of the fact that the nailing operation has been carried out in every case unless it was obvious that the patient was moribund on admission, we believe our results compare favourably with most of those published to date. A few surgeons have achieved a higher percentage of union, but they have usually been on a smaller series of cases and a more careful selection has been made, thus lessening the risk of failure.

In our series of 100 operations, union has been achieved in 75, with one death attributable to the operation. This death occurred in a woman, aged 85, 24 hours after operation. Altogether nine patients died while under treatment, but in eight death did not occur until several weeks or months after operation, and in none of them could the cause be related to the operation. The full results are summarized below.

No. of patients	98	
No. of operations	100	(bilateral in two patients, aged 66 and 78)
Average age	73	(range 44 - 93)
No. united	75	
No. ununited but ambulant	10	(7 with and 3 without callipers)
No. of nails removed	4	(1 had united)
Incidence of wound sepsis	Nil	
Deaths while under treatment	9	

Causes of death:
- 1 operative shock, aged 85
- 1 cerebral arteriosclerosis (senility), aged 81
- 2 myocardial degeneration, aged 80
- 1 pulmonary embolism, aged 74
- 1 acute gastro-enteritis and cardiac failure, aged 79
- 1 coronary thrombosis, aged 75
- 2 hypostatic pneumonia, aged 74 and 76.

Summary

A simple method of treating adduction fractures, and abduction fractures which have disimpacted, of the femoral neck is described. The results appear to be satisfactory according to modern standards. Bone grafting was not carried out in any case.

In those cases in which the nailing operation failed, further surgical intervention was not undertaken because of the age of the patients and their general condition.

We are indebted to Sister Pinfield, the sister of the ward in which most of these patients were treated; to our anaesthetist, Dr. R. E. Gibson; and to Miss Savin and her all-too-small band of physiotherapists for any success we may have achieved in the management of this series of fractures.

REFERENCES

Bankart, A. S. Blundell (1942). *Lancet*, 1, 249.
Harmon, Paul, H. (1945). *J. Bone Jt Surg.*, 27, 128.
McLean, E. K. (1949). *British Medical Journal*, 2, 754.
Pauwels, F. (1935). *Der Schenkelhalsbruch: ein mechanisches Problem.* Stuttgart.
Smith-Petersen, M. N., *et al.* (1931). *Arch. Surg., Chicago*, 23, 715.
Van Gorder, G. W. (1948). *J. Amer. med. Ass.*, 137, 1181.

ADDENDUM.—Since this paper was written one more case must be listed as a failure. Thus the percentage of successful cases in this series is 74.

THE KAHN TUBE TEST WITH DROPPING-PIPETTES

BY

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In recent years many laboratories have abandoned the Wassermann test and substituted the Kahn standard tube flocculation test as being superior to complement-fixation methods. The belief that the Kahn test gives more false positive results than the Wassermann has been seriously challenged by Berger and Sutherland (1944). But though the Kahn method is relatively simple, in performance it is exacting, especially in the measurement of small volumes of antigen in graduated pipettes. This disadvantage can be largely overcome, and the test set up more rapidly, by the use of pipettes standardized to deliver drops of known volume. Such pipettes have already been advocated in other serological tests for the diagnosis of syphilis—for example, in the Wassermann reaction (Donald, 1916), the sigma reaction (Dreyer and Ward, 1921), and in slide flocculation tests (Mazzini, 1942; Gradwohl, 1943; Harris *et al.*, 1948).

As regards the Kahn test, the volumes of reagents used are economical and the smallest practicable for volumetric work in test-tubes. Osmond (1940) used a dropping-pipette to deliver the standard 0.0125 ml. of antigen suspension. He recommended a pipette with a tip diameter equivalent to No. 54 on the Morse scale (1.397 mm., or 0.055 in.).

Two pipettes are described below—one for the delivery of 0.0125-ml. volumes of antigen, the other for 0.15-ml. volumes of the patient's serum.

Dropping-pipette for Antigen

30-cm. lengths of 7-mm. soft glass tubing are drawn to make two pipettes. The tip diameter is found by thrusting the capillary portion into the No. 55 Morse gauge hole (1.321 mm.) of a Starrett plate and cutting the tube at the point where it jams in the hole. When cut the capillary portion should be about 6 cm. long, with sides nearly parallel for the last 4 cm. The external diameter of the tip, which should be 1.30 mm. (0.051 in.), is checked by a micrometer screw gauge, making two measurements at right-angles to one another. It is useful at this stage to mark the capillary shaft with waterproof ink exactly 1 cm. from the tip, so that after cleaning, etc., pipettes with broken tips may be readily recognized and discarded.

The correct diameter (1.30 mm.) was arrived at as follows. A pipette was calibrated with mercury to contain 1 ml., and the weight of 1 ml. of antigen suspension was found to be 0.91 g. Weighed 0.91-g. amounts of the antigen suspensions were then drawn into dropping-pipettes of different tip diameter to determine which delivered 80 drops to the ml.—that is, 0.0125 ml. per drop. (A 1.397-mm. pipette (Osmond, 1940) was found to deliver 77 drops to the ml.)

This volume is delivered in one drop when the rate of dropping is one per second from a vertically held pipette. But even with care in maintaining an even rate of dropping there is some variation in the size of the drop. It was not possible, however, to minimize the error by delivering the same volume of liquid in a number of smaller drops. Thus to deliver two drops of half the required volume (0.00625 ml.) a tip diameter of 0.62 mm. was necessary, and capillary shafts of this size are too fragile for routine use.

Compared with 0.1-ml. *graduated* pipettes, marked to deliver 0.0125-ml. volumes, the dropping-pipette is much quicker and easier to use. In a two-tube test, one receiving one drop (0.0125-ml.) and the other two drops (0.025 ml.), it took about four minutes to dispense antigen suspension for 100 tests. With graduated pipettes the same operation took 22 minutes. The dropping-pipette technique is readily acquired by the laboratory technician, whereas the use of graduated pipettes demands more experience and entails much more eye strain.

Dropping-pipette for Patient's Serum

The Kahn standard test requires the delivery of 0.15-ml. volumes of serum. The weight of 1 ml. of a pool of five inactivated human sera proved to be 1.02 g. Of this pool 0.918-g. amounts (0.9 ml.—that is, six 0.15-ml. drops) were tested in pipettes of different tip diameters, with the following results:

Tip Diameter (mm.)	No. of Drops in 0·9 ml.	0·15 ml.
2·8	18	3
5·0	12	2
9·3	6	1

Only the results with pipettes delivering simple fractions of 0.15 ml. are cited above. The 2.8-mm. diameter was selected because in practice the variation in volume is less when the 0.15 ml. is delivered in three drops than in two or one.

With this 2.8-mm. pipette, delivering 0.15 ml. of serum in three drops (0.05 ml. of serum per drop) at the rate of one drop per second, 100 sera could be dispensed, each in three 0.15-ml. volumes and with a triple rinse of the pipette in saline for each serum, in 33 minutes. With a graduated 1-ml. pipette, similarly rinsed for each serum, the same operation took 45 minutes.

The Kahn Test with Dropping-pipettes

Apart from the saving of time and labour in the performance of the test, and the ease with which accurate dropping-pipettes can be constructed by a competent laboratory technician, the dropping-pipette technique permits a modification that is useful, especially when the test is done in hot climates. In the standard test the antigen suspension is dispensed first, and when large numbers of sera are to be tested there is a real risk of evaporation of the smallest dose (0.0125 ml.) of liquid. Serum is added to antigen, and not vice versa, presumably because the antigen pipette might

become contaminated with serum left on the upper part of the tube when graduated pipettes are used. With dropping-pipettes, on the other hand, there is no chance of such cross-contamination, and the bulkier serum volume, which is proportionately less susceptible to evaporation, can be dispensed first. It is, indeed, convenient to dispense the serum while the antigen suspension is "ripening."

There seems to be no good reason why this change in the order of adding reagents should not be made. In order to make sure that nothing goes wrong if Kahn's recommendations in this respect are not adhered to, 500 sera were tested both ways, 100 on each occasion, using the same bottle of antigen each time. The results, in which 60 of the sera were positive, agreed in every instance.

Another economy can be achieved by omitting the first of the three tubes used in the Kahn standard test (Osmond, 1940; Panton and Marrack, 1947). This tube contains the largest volume of antigen suspension (0.05 ml.), and its omission not only saves time and labour but results in a very real saving of antigen. The only advantage of this tube seems to be that its floccules, when present, are usually the most easily visible with the naked eye when the two other tubes have to be read with the aid of a magnifying glass. There is no great loss when that tube is omitted, because a magnifying lens has to be used in any case. The most useful magnifying glass for detecting small floccules is one that shows them in sharp focus when the lens mount is applied *in direct contact* with the tube. The Bausch and Lomb ×7 achromatic focusing magnifier (for photomicrography) satisfies this condition. A microscope eyepiece can be used if the top lens is removed and the observer's eye applied to the lower end. The Bausch and Lomb ×5 Huygenian eyepiece is satisfactory, because the Kahn tube can be held in contact with the end of the eyepiece tube, from which the top lens has been removed. Not all makes of eyepieces are suitable.

Summary and Conclusions

The performance of the Kahn standard test is greatly facilitated by the substitution of dropping-pipettes for graduated pipettes. Dropping-pipettes are easy to make and simple to use without eye strain.

A dropping-pipette with an external tip diameter of 1.3 mm. delivers the required standard 0.0125-ml. volume of Kahn antigen suspension when the rate of delivery is one drop per second. In routine tests antigen is dispensed in about one-fifth the time needed with graduated pipettes.

A dropping-pipette with an external tip diameter of 2.8 mm. delivers the required standard of 0.15-ml. volume of serum in three drops when the rate of delivery is one drop per second. It can be readily rinsed in saline for each serum. Compared with graduated pipettes, its use in dispensing serum makes routine tests about 30% quicker.

In the Kahn standard test, sera are dispensed *after* the antigen, and the small 0.0125-ml. volume of antigen may partly evaporate before serum is added. With the dropping technique the bulkier volume of serum, from which evaporation is proportionately less, may be dispensed first.

REFERENCES

Berger, F. M., and Sutherland, P. L. (1944). *J. Path. Bact.*, 54, 237.
Donald, R. (1916). *Lancet*, 2, 423.
Dreyer, G., and Ward, H. K. (1921). Ibid., 1, 956.
Gradwohl, R. B. H. (1943). *Clinical Laboratory Methods and Diagnosis*, p. 1433. St. Louis.
Harris, A., Rosenberg, A. A., and Del Vecchio, E. R. (1948). *J. vener. Dis. Inform.*, 29, 72, 313.
Mazzini, L. Y. (1942). Ibid., 23, 123.
Osmond, T. E. (1940). *British Medical Journal*, 1, 252.
Panton, P. N., and Marrack, J. R. (1947). *Clinical Pathology*, p. 184. London.

Medical Memoranda

Hour-glass Bladder

The name hour-glass bladder seems familiar, but it is not mentioned in several standard textbooks consulted. Perhaps the apparent familiarity of the title is due to memories of hour-glass stomach. However, the following case seems worthy of record as an hour-glass bladder.

CASE REPORT

A spray painter aged 33 was seen at the West London Hospital on March 21, 1946. He had had cystitis, with difficulty of micturition, in 1942 and 1945, when cystoscopy, sulphanilamide, and prostatic massage figured in the treatment. He now again had had difficulty of micturition for nine months, with burning during the act, and slightly increased frequency (D/N=2–4 hours/0–1), but no haematuria. He also had a feeling that he was not emptying the bladder properly, and had occasionally noticed swelling of the abdomen during the past nine months, with some suprapubic tenderness, and nine months previously had had acute retention.

There was no venereal history or any evidence of stricture or enlarged prostate. The urine contained pus in fair amount, a few red cells, and many coliform bacilli. *Proteus vulgaris* was grown.

Plain *x*-ray films on March 28 and April 8 showed no stone shadow, but apparently a big bladder shadow that filled the pelvis. Intravenous urography on the latter date, while showing good bilateral renal excretion shadows in five minutes without renal or ureteric dilatation, also showed a big bladder shadow, filling the pelvis, even after micturition.

On April 4 cystoscopy revealed a bladder capacity of 3 pints (1.7 litres) and a well-marked narrow ridge, projecting forwards from the posterior wall, with the ureteric orifices situated laterally on the ridge. The blood urea was then 72 mg. per 100 ml. On April 11 the bladder was still up to the umbilicus after the withdrawal of 2 pints (1.1 litres) of residual urine. A $\frac{13}{16}$ English metal bougie was passed. The urine urea was 0.98%.

On admittance on April 12 the bladder, over which there was no tenderness, was found distended only half-way to the navel. Dr. Redvers Ironside found no organic signs referable to the nervous system or any clinical evidence of associated congenital abnormality.

On April 23, after a period of catheter drainage and bladder lavage, cystoscopy again showed a free interureteric bar, and cystotomy a large bladder with thickened and reddened mucosa lying convexly inwards in flabby folds.

A transverse fold, attached posteriorly, free anteriorly, and projecting forwards like a shelf, lay loosely across the bladder, with the right ureteric orifice identified and probed on it, and a very deep capacious proximal recess, bigger than a closed fist, and seemingly bigger than the distal division of the bladder.

The fleshy fold was held up and, ½ in. (1.3 cm.) to the left of the right ureteric orifice, was cut antero-posteriorly in the middle line for about 2 in. (5 cm.), the cut not reaching to the bottom of the fold, yet entering a cavity—not the rectum, but presumably the recto-vesical interval.

The proximal mucosa was sewn to the distal mucosa by a continuous suture on the right and left of the V-shaped gap thus formed, the temptation to cut away the resulting triangular flaps being resisted because of the ureteric orifices on the free margin of the fold. The bladder and space of Retzius were drained by plain tubes.

Looking again at the intravenous urography films one detects, in the 30-minute film, some evidence of this curious division of the bladder cavity into two compartments.

On July 1 the blood urea was down to 48 mg. per 100 ml., and the residual urine to 9 oz. (255 ml.), the catheter urine showing a deposit of epithelial cells, a few leucocytes and red cells, triple phosphate crystals, and numerous Gram-

negative coliform bacilli, growing as *Proteus vulgaris*. On July 8 the residual urine, thick and purulent, was down to only 6½ oz. (185 ml.), while the deposit from the mid-stream urine contained a few pus cells and a few streptococci, growing poorly as non-haemolytic streptococci. The patient has not been subsequently seen, and cannot be traced.

As stated, the recess proximal to this extraordinary transverse fold, which is obviously congenital, and whose origin may be left to embryologists, seemed larger than the distal recess; and it appeared as if a collection of urine in the upper pocket might distend the fold downwards and so obstruct the internal urethral meatus. The median division of this fold would, it might be supposed, prevent this by allowing urine to flow freely from the upper to the lower pocket. That this reasoning is correct is suggested by the course of the case, mere median division of the fold being followed by a fall in the residual urine from 60 to 6½ oz. (1,704 to 185 ml.).

It would be interesting to know if others have met with similar cases.

ALEX. E. ROCHE, M.D., M.Ch., F.R.C.S.

Blindness in Southern Nigeria

What are the causes of blindness in Southern Nigeria? Does blindness in this part of tropical Africa result mainly from tropical diseases, epidemic or endemic? As there were no reliable answers to these questions and as this subject is of considerable importance, an attempt was made to investigate and to record the immediate and remote causes of all cases of blindness seen at the Lagos Eye Clinic.

Harold Ridley (1945) has described an area in the Gold Coast where a considerable number of the inhabitants are blind from onchocerciasis, which is endemic in that district. No condition comparable to this has as yet been discovered in Nigeria. Trachoma is widespread and entropion from contraction of the lids has been reported to be very common in the Northern Territories of the Gold Coast and Northern Nigeria (Dr. Cave and Dr. Branch, personal communications). It was seen less often in cases from Southern Nigeria.

It has been said that a large proportion of the blindness in Nigeria is due to epidemics of smallpox. Occasionally, in cases of leucoma, the patient has stated that smallpox was the direct cause of the condition, but accurate information about the real number so affected is lacking, and there are no grounds for such a dogmatic statement. Tropical diseases undoubtedly increase the liability to blindness by lowering tissue resistance to infective processes, but it is not possible to assess the effects of malaria, helminthic disease, etc., which are commonly found coincidently with eye disease in Southern Nigeria.

RESULTS OF INVESTIGATION

The Lagos Eye Clinic deals with 7,000 new cases yearly and 20,000 attendances. From 1946 to 1949, inclusive, all cases of blindness attending the clinic were examined and the records kept. The standard of blindness adopted was visual acuity less than 3/60 Snellen. In a large number of cases it was not possible to do more than make a diagnosis of the condition present at the time of the examination. There were, for example, 29 persons totally blind with staphyloma, leucoma, or phthisis bulbi. When these patients were led into the clinic it was apparent that treatment could not improve their condition. In such cases it is not always advisable to ask questions about the origin of the condition. Almost all the cases recorded were from Southern Nigeria, being referred from district hospitals or coming of their own volition.

Total Blindness.—The accompanying Table shows that the commonest causes are cataract, glaucoma, and optic atrophy in that order of frequency. To the figure for cataract might be added the 11 cases blind from the operation for couching. So far as I am aware the fact that couching for cataract is being done in Nigeria has not hitherto been reported. It is probable that as the more orthodox operations are not available this ancient practice is widespread. From personal observations it seems that two types of operative procedure are practised: dislocation by a needle or thorn is sometimes employed, or manual dislocation by pressure with the fingers. So far as can be ascertained the native manipulators are all Hausa—that is, natives of Northern Nigeria. Acute glaucoma is rarely seen in Lagos. The cases recorded are all the end-result of the chronic simple type of symptomless glaucoma. It will be noted that a considerable proportion of the blindness could be prevented or cured. This investigation shows definitely that no single disease can be quoted as a main cause of blindness in Southern Nigeria.

Table of Blindness

Causes of Blindness	Blind in Both Eyes	Blind in One Eye
Leucoma, phthisis, staphyloma	29	213
Choroiditis	13	32
Cataract, senile	115	223
Cataract, congenital	20	19
Local infections	16	94
Traumatic	0	129
Glaucoma	72	49
Optic atrophy	44	39
Optic neuritis	1	0
Myopia	5	16
Avitaminosis	3	0
Trachoma	19	19
Iridocyclitis	2	90
Retinal detachment	3	9
Orbital tumours	0	2
Couching	11	13
Onchocerciasis	1	1
Interstitial keratitis	2	0
	356	948

Monocular Blindness.—The records of this condition were made for comparison and interest. The total number recorded is 948, and the males and females are about equal. It was also found that right and left eyes were equally affected. The sequence of frequency was cataract; leucoma, phthisis, and staphyloma; trauma; local infection; iridocyclitis; and glaucoma.

From this short report it will be appreciated that much remains to be done before comparison of figures and conditions can be made with those of more civilized countries.

I wish to thank the Director of Medical Services, Nigeria, for permission to publish this paper.

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BIBLIOGRAPHY

Blindness in British Africa and Middle East Territories (1948). H.M.S.O., London.
Dickson, R. M. (1946). *Brit. J. Ophthal.*, 30, 381.
Ridley, Harold (1945). Ibid., monograph, suppl. X.

A short article in *La Presse Médicale* of February 2 gives news about medicine in Germany to-day. In Western Germany there are 63,000 doctors as compared with 44,000 before the war. Medical students number more than 22,000 in the universities—in proportion to the population this is more than twice the number in the United States. Doctors are paid very little, and less than half the 17,000 in hospitals are receiving a living wage, so it is scarcely surprising that most of them have to take other jobs and are employed as night watchmen, musicians, and so on. This surfeit of doctors is due partly to the large numbers of refugee medical men and partly to the fact that during the war many hundreds of doctors were trained for service in the Forces. Those most affected are the young newly qualified doctors; the specialists are rather better off. Private patients are rare, and the doctors depend upon State payment for their treatment of insured patients; often they earn less than Post Office employees. There is virtually no freedom for the doctor in modern Germany, who is not even permitted to use his car unless the patient is more than two kilometres away from his home. He is not allowed to refuse to treat a patient. War and its aftermath have meant that Germans frequently fall ill, and the doctors, in spite of their great numbers, work twice as hard as they did before the war for about the same sum of money.

Reviews

HUMAN PHYSIOLOGY

Human Physiology. By Bernardo A. Houssay, M.D., Juan T. Lewis, M.D., Oscar Orías, M.D., Eduardo Braun-Menéndez, M.D., Enrique Hug, M.D., Virgilio G. Foglia, M.D., and Luis F. Leloir, M.D. (Translated by Juan T. Lewis and Olive T. Lewis.) (Pp. 1,118; 499 figures. £5 19s.) London: McGraw-Hill Book Co., Inc. 1951.

Professor Houssay and his colleagues are all professors or directors of physiology, pharmacology, or biochemistry in institutes of research in Argentina. No one section is officially written by any one author; the team takes collective responsibility for every page. The translation is excellent and the illustrations are well chosen, most being taken from the original papers quoted. There are ample and complete references to the original literature, both as footnotes to the pages on the matter under discussion and also at the ends of chapters to the main reviews and monographs.

This book is excellent in its approach to the subject. It is balanced, though it might be possible for a specialist to say that his aspect has not had justice done to it. It is to be compared with the standard textbooks of Starling and Halliburton in this country, and with Best and Taylor's in Canada, or Fulton-Howell's in the U.S.A. It has the great advantage of them all—that it is a first edition; it is new and therefore a comprehensive treatment of the application of physiology to the human subject in a framework and plan cast in the mould of physiology as it was in 1951; it is uninhibited by being written to a plan of earlier years and adapted as different aspects have grown or regressed in importance.

The personalities and authority of the authors are visible throughout, and the book is to be recommended to all physiologists, physicians, and libraries. Its sole disadvantage in England is its price.

A. ST. G. HUGGETT.

ADVANCES IN BACTERIOLOGY

Recent Advances in Bacteriology. Edited by J. H. Dible, M.B., F.R.C.P. Third edition by J. D. Maclennan, M.B.E., M.D., with the assistance of Mary Barber, M.D. (Pp. 325. 14 figures. £1 5s.) London: J. and A. Churchill. 1951.

Nearly twenty crowded years have elapsed since the last edition of this book, and the choice of subjects in rewriting it cannot have been easy. Staphylococcal toxins, the serological classification of streptococci, the typing of diphtheria bacilli, and the evolution of the sulphonamides are among those chosen, although much of the work on them was done in the 'thirties. The central feature of this edition is a group of six chapters on anaerobic infections. Three of these are devoted to tetanus and gas gangrene, and one to botulism: 27 pages may seem an excessive allowance for the last-named in view of its great rarity as a human disease, but it occurs also in animals and birds, and its toxin, as implied in these pages, has been intensively studied as a potential war weapon, defence against which would require universal immunization. Various forms of anaerobic coccal infections of wounds are also described. The authors accept Meleney's distinction between "post-operative bacterial synergistic gangrene" and "chronic undermining burrowing ulcer" and his statement that the streptococci concerned are respectively non-haemolytic and haemolytic. The final chapter in this group is on non-sporogenous anaerobic bacilli and particularly those Gram-negative organisms for which the generic term *Fusiformis* is so inappropriate and *Bacteroides* at least preferable. The author protests vigorously against the neglect of these common pathogens, and the frequent omission of methods of cultivation whereby their presence can be verified. The simple classification proposed is helpful, but it would not enable the bacteriologist to name all the strains he meets, and in fairness to him it should be said that to identify all such bacteria encountered in mouth and throat sepsis, pulmonary suppuration, bowel lesions and peritonitis, and uterine sepsis is simply impracticable until further study has provided better methods of isolation and stricter criteria of identity. Even so, the task of sorting out these mixtures of delicate and slow-growing organisms may often be too time-consuming for a busy clinical laboratory: this is the real reason for their neglect.

All the illustrations but one are in the chapter on morphology, which tells of additions to knowledge of the structure of the bacterial cell afforded by the electron microscope and by Feulgen staining. There are also two introductory chapters on bacterial physiology, one on the classification of colon and paracolon bacilli and *Shigellas*, and three on chemotherapy. The treatment of this subject is general, including history, commercial production, pharmacology, and clinical effects, whereas perhaps a greater attention to such aspects as species sensitivity and the mode of action of antibiotics on bacteria would be more appropriate here. Viruses are excluded as now entitled to books of their own. It would be easy to suggest other (bacterial) subjects which might have been included had space permitted. Many readers will prefer the exhaustive treatment of a limited number which has been adopted. The authors were faced with a heavy task in trying to present so vast an amount of accumulated knowledge, and have earned our gratitude by discharging it so thoroughly. Most chapters are fully documented, and the number of references independently checked in preparing the text is mentioned as having been 17,000.

L. P. GARROD.

INDIVIDUAL PSYCHOLOGY

Inferiority Feelings in the Individual and the Group. By Oliver Brachfeld. (Pp. 302. £1 5s.) London: Routledge and Kegan Paul. 1951.

The view is widely held among psychiatrists that the idea of the sense of inferiority and of the psychological means by which it can be compensated is too superficial a principle upon which to found a comprehensive system of psychopathology. None the less, the school founded by Alfred Adler has always had a strong appeal for historians, anthropologists, and thoughtful physicians, who have been able to see its application in many forms in their daily work. The Adlerian schema is perhaps a little too obvious and lacking in mysticism and emotionality to become really fashionable. Its acceptance in the English-speaking world has also been hampered by poor translation of the basic literature. This situation has recently been much improved by the teaching of Rudolf Dreikurs and his school in Chicago and by the recent publication of Lewis Way's *Adler's Place in Psychology.** To these may now be added the book under review. It may be described as a comprehensive and scholarly compilation in which the author traces the origin of the "Gulliver complex" in philosophy and literature.

The author describes the present trend of the Adlerian school and its application to new fields of social psychology. The principle of compensation is followed from Montaigne, through Hobbes, to Pierre Janet, to whom the author gives full credit as the herald of modern psychopathology. The Adlerian system is lucidly presented, and there is a review of the literature in which it has been elaborated and extended. The author's own interest is clearly in the social applications of the theory, and at intervals he suspends the task of presenting the work of others to express his views on the relation of the sense of insecurity to recent political upheaval. In these chapters the reader may feel that Dr. Brachfeld is not giving him a chance to think for himself. The book is, however, an up-to-date and

*London: George Allen and Unwin. 1950 Reviewed in *British Medical Journal*, January 13, 1951, p. 76.

most valuable contribution to the literature of individual psychology, and it will be indispensable to those seriously interested in the subject. The translator, Marjorie Gabain, is deserving of high praise, and the impression is that little of the original has been lost.

ALEXANDER KENNEDY.

DIAGNOSTIC RADIOLOGY

Lehrbuch der Röntgendiagnostik. By H. R. Schinz, W. E. Baensch, E. Friedl, E. Uehlinger, and others. Fifth edition. Part 4: Skelett. (Pp. 514; 674 figures. M. 84.) Stuttgart: Georg Thieme. 1951.

More use is being made of radiography in diagnosis every year, and the appearance of a comprehensive treatise is therefore of the first importance. This volume is a worthy companion for Germany to the great British textbook which has just been completed, and which we recently reviewed. Naturally they follow very similar lines, but in some respects they are complementary, and the German work has several features which deserve attention.

The present volume is mainly on the spine, the skull, and the vascular system. Abnormalities of the vertebrae and their effect on the spinal column are fully described and illustrated. Outline sketches and drawings of sectional specimens make clear the changes which have occurred and their underlying pathology. The results of injury and disease are fully illustrated, and so clearly that they are readily appreciated without reference to the text. In an important section on myelography prolapsed disks and spinal tumours are discussed. The use of contrast media and of gases by injection is fully and exactly described and illustrated.

The article on the skull occupies 240 pages. Injuries and tumours of the skull are fully described, but the sections on ventriculography by Lindgren, and arteriography by Krayenbühl, are of quite exceptional interest. They are illustrated by superb radiographs with clear explanatory diagrams, and they include precise details of the exact technique required in these difficult and important fields. The application of these methods and the diagnosis of cerebral tumours is fully elaborated and finely illustrated, and represents a technical achievement of a very high order.

Radiography of the temporal bones is discussed in a very original and suggestive article. The localization of foreign bodies in the eye is dealt with in a fascinating study in which most ingenious methods are described. In a brilliant chapter on angiography Lindbom describes methods as daring as they are successful and produces illustrations of the results obtained which are really amazing.

In a short review it is impossible to do justice to the vast amount of valuable and original material contained in this volume. It concludes with an ingenious series of outline sketches covering the whole field of differential diagnosis throughout the skeletal system and serving as a visual index to the whole volume. The sketches will be valuable to the teacher and a help to those who do not read German. But such a book as this is worthy of the most careful study and, indeed, will fully reward the effort to be able to read the great language in which it speaks.

HENRY SOUTTAR.

GLAUCOMA

The Glaucomas. By H. S. Sugar, M.D., F.A.C.S. (Pp. 469; 123 figures. £4 4s.) London: Henry Kimpton. 1951.

This small book on glaucoma is a useful and interesting summary of modern views on this perplexing disease. The cognate questions of the physiology of the production, circulation, and drainage of the intraocular fluids and of the maintenance and variation of the intraocular pressure are briefly discussed before the more clinical aspects of the subject—the primary and secondary glaucomas, their aetiology, diagnosis, and treatment by medical and surgical methods.

The amount of recent research directed towards solving the problems of the intraocular pressure and its pathological variations has been enormous, with the result that our views on this subject have changed considerably over the last ten years. The reader will find an adequate presentation of these problems in this book, and, although some will question certain of the conclusions, the general teaching is sound. The author accepts, for example, Friedenwald's unconfirmed claim that Schlemm's canal has an afferent arterial supply and that consequently primary glaucoma is caused by a diminution of the plasma content of this canal owing to sclerosis of these vessels; this results in a failure in osmotic attraction into the canal which would facilitate drainage if it existed. Many authorities would question these assumptions. But on the whole a difficult subject is treated in considerable detail with great fairness and common sense, and new additions to our knowledge of the theoretical problems involved, as well as the immense amount of new techniques in treatment, both with regard to recently introduced miotics and surgical procedures of recent development, are adequately assessed. There is an effective and challenging final chapter on the presentation of popular educational programmes and the conduct of glaucoma clinics to deal with the sociological and administrative problems offered by this disease.

STEWART DUKE-ELDER.

A DOCTOR'S ADVICE

The Doctor. His Career. His Business. His Human Relations. By Stanley R. Truman, M.D. (Pp. 152. £1 4s.) London: Baillière, Tindall and Cox. 1951.

In introducing this book I cannot do better than quote the last paragraph of Dr. Truman's introduction: "The purpose of this book is to interpret for the medical student, resident and practising physician, the professional problems as well as the relationships and responsibilities of the physician to the patient, the public, and his fellow physicians, so they may develop an understanding and a feeling of what is meant by the practice of medicine." The book faithfully carries out this intention. It contains the ripe experience of a doctor trying to convey just the advice he so badly needed when he graduated, and which he failed to get.

He begins by discussing the reasons why students choose medicine as a career, and goes on to the various branches open to the new graduate. As a general practitioner he strongly presses the claims of family practice, but much of what he says applies to any branch of medicine. He discusses the prospects in the various specialties, the pros and cons of town and country, of independent *versus* group practice, and all his opinions are backed up by what he has seen in investigating many kinds of practice in various States. In view of the discussion over here of a possible College of General Practice it is interesting to note that Dr. Truman strongly advises all general practitioners to aspire to membership of the American Academy of General Practice, whose object is "to refocus the attention of the public and the profession on the importance of the general practitioner." One of its requirements from its members is 150 hours of postgraduate education every three years. The Academy is now, next to the American Medical Association, the largest medical organization in the U.S.A.

Shrewdness characterizes every chapter, not least that on equipment of the doctor's "office." Dr. Truman thinks that a general practitioner really established should have a secretary-receptionist, a nurse-assistant, and a laboratory-technician-assistant. It will be evident that the book is primarily addressed to the U.S.A. doctor, but *mutatis mutandis* it would interest any doctor anywhere, especially if he is young. No aspect of practice is left untouched, and the advice obviously comes from one who knows what he is writing about and does it in a most agreeable way. I congratulate the author on striking an original line in a neglected field and feel sure his book will be a success.

A. COX.

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MEDICAL TREATMENT OF HYPERTENSION

Over the last 100 years the life expectancy of the population has been doubled, so that now the *average* life-span is close to three-score years and ten. This is largely attributable to the decline in infant mortality, improved nutrition, the greater safety of childbirth, the spectacular achievements of surgery, and the successful war against parasites and microbes. Such victories have thrown into relief our failure to deal effectively with rheumatic fever, cancer, atherosclerosis, and essential hypertension, and emphasize the fact that real cures are unlikely to be found until the aetiology of a disease is properly understood. Of the four mortal diseases just mentioned essential hypertension is the most prevalent. According to Master and his colleagues[1] it occurs in 5% of young adults, 30 to 40% of those over 40 years of age, and in 65 to 75% of all persons over 70 (the lower figures apply to men, the higher to women). It is responsible for 15 to 20% of all deaths in people over 50.[2 3] Of these deaths about 60% are cardiac, 20% cerebral, and 10% renal.

It is impossible to assess the value of any treatment unless the natural history of the disease is known. Fortunately there have been several excellent long-term studies of untreated patients, such as those by Janeway,[4] Blackford, Bowers, and Baker,[5] Keith, Wagener, and Barker,[6] and Bechgaard.[7] From these and similar reports certain important facts emerge. First, the mortality rate in men is at least one and a half times that in women except in malignant hypertension, when it is equal. The two sexes should therefore be considered separately. Secondly, the prognosis in any series depends greatly on the nature of the material, and survival rates can be compared only when the patients are grouped according to certain well-defined criteria. In simple terms these are based on the general level of the blood pressure itself and on the reactive behaviour of the ocular fundi, the heart, and the kidneys—four grades of severity being usually recognized. In this kind of grouping not enough attention has been paid to occlusive coronary atherosclerosis as a complicating factor which may alter the whole course of the disease. Thirdly, the fatality rate is about 10% in five years and 20% in ten years for patients in group 1, 20% and 40% respectively for group 2, 40% and 80% for group 3, and 95 to 100% for group 4, being higher for men and lower for women in the first three groups. Lastly, in the unselected series of cases of essential hypertension the death rate is about twice that in the general population.

There is now little doubt that surgical treatment has materially lowered the fatality rate of hypertension.[8] The question at issue is whether modern medical treatment can do better. The subject was recently discussed at a meeting of the Section of Medicine of the Royal Society of Medicine (reported on page 597 of this issue). Conservative treatment in the past has meant little beyond increased rest and relaxation, avoidance of mental and physical stress, weight reduction, and sedatives. With this kind of regime and the moral support of a doctor about 60% of hypertensive patients remain more or less free from symptoms. It is common knowledge that headaches, fatigue, insomnia, and dizziness occurring in patients with high blood pressure are often due to an associated anxiety state, and psychiatric help (accidental or by design) may be of great benefit. Much of the earlier criticism of surgical therapy was based on the belief that the drama associated with the operation might well remove symptoms by the influence of suggestion. Physicians must apply the same strict criteria to their own results that they advised surgeons to apply. This means long-term studies of the fatality rate in treated and untreated patients, as well as objective evidence concerning the ocular fundi, the heart, and the general level of the blood pressure.

Kempner[9] has reported that 70% of 777 patients treated by the rice diet showed objective improvement: for example, the T-wave in lead I became upright in 122 out of 224 cases in which it was previously inverted. This is impressive, and Kempner's good results have been achieved by others. The essential feature of the diet is its low sodium content, which must not exceed 0.5 g. daily.[10] It is a mistake to assume that such a diet can be given only in hospital; on the contrary, a good housewife, feeling

1 *J. Amer. med. Ass.*, 1943, **121**, 1251.
2 Bell, E. T., and Clawson, B. J., *Arch. Path.*, 1928, **5**, 939.
3 Fahr, G., *Amer. J. med. Sci.*, 1928, **175**, 453.
4 *Arch. int. Med.*, 1913, **12**, 755.
5 *J. Amer. med. Ass.*, 1930, **94**, 328.
6 *Amer. J. med. Sci.*, 1939, **197**, 332.
7 *Acta med. scand.*, 1946, Suppl. 172.
8 *Hypertension*, edited by E. T. Bell, 1951, London, p. 429.
9 *Ann. int. Med.*, 1949, **31**, 821.
10 Corcoran, A. C., Taylor, R. D., and Page, I. H., *Circulation*, 1951, **3**, 1.
11 Dock, W., and Frank, N. R., *Amer. Heart J.*, 1950, **40**, 638.
12 *British Medical Journal*, 1951, **1**, 1217.
13 Kauntze, R., and Trounce, J., *Lancet*, 1951, **1**, 549; **2**, 1002.

responsible for her husband's health, is often more certain of maintaining a strict diet than many hospital kitchens. The cation-exchange resins[11] may be expected to play an increasing part in the control of hypertension by dietetic means.

Hexamethonium bromide has passed through its early trials with greater success than was at first predicted. The largest series so far reported is that by Smirk and Alstad,[12] who describe their results in 53 cases, but only 32 of them had been treated for six months or more. Both Smirk and Rosenheim, who spoke at the R.S.M. meeting, prefer parenteral therapy, but oral administration should not be despised. Hexamethonium tartrate may be used when large doses are necessary, so that there need be no risk of bromism. Smirk has emphasized the value of combining hexamethonium with a low sodium diet. This has much to recommend it. For patients on this diet the dose of oral hexamethonium usually lies between 250 and 750 mg. three times daily, and serious variations in the day-to-day response can be countered by altering the diet rather than by juggling with the dose of hexamethonium. There is little evidence to favour the often expressed view that hexamethonium soon loses its effects, that it is of little value for prolonged treatment. On the contrary, there is every reason to believe that the building-up of tolerance is short lived and that the final maintenance dose is known within two or three months, after which it does not have to be increased, although occasionally it may have to be lowered. Side-effects have proved less troublesome than expected and are usually easily countered.

Compared with the low sodium diet and hexamethonium, other drugs for lowering the blood pressure have proved unsatisfactory. This applies to thiocyanate, which is more difficult to handle, too toxic, and less effective; to "veriloid" (discussed by Dr. R. Kauntze at the R.S.M. meeting and in earlier papers[13]), which too often causes vomiting; and to various adrenergic blocking agents such as dibenamine.

The medical treatment of hypertension is likely to remain far from satisfactory until the cause of the disease is known. In the meantime a combination of a low sodium diet and hexamethonium may give the best results; but only a follow-up study over 5–10 years can show whether this treatment is superior to sympathectomy. Owing to the imperfections and troublesome side-effects of nearly all effective treatments and to the benign course of relatively mild hypertension, patients in groups 1 and 2 are probably best left alone, treatment being reserved for those in groups 3 and 4.

CORTISONE AND HYDROCORTISONE

Early publicity, despite the very careful wording of the original reports, quite understandably threw a spotlight on the dramatic rapidity of the relief which cortisone brought to those suffering from the painful and crippling effects of severe rheumatoid arthritis. It is only recently that critical assessments of the potentialities of this extremely important and powerful therapeutic weapon have appeared, and they deserve close study. About six months ago in this *Journal* Dr. E. W. Boland,[1] of Los Angeles, discussed three most important questions about cortisone therapy: Can suppression of rheumatoid arthritis by cortisone be maintained? Will continued administration lead to side-effects necessitating discontinuation? And will continued therapy cause irreparable damage to other organs, especially the adrenals? Enough patients have now been treated over periods of three months to one year or more to give at least partial answers to these questions. The first two are closely related, since the possibility existed that suppression of symptoms could not be obtained without side-effects so serious that reduction below the therapeutic dose would become necessary. Experience has in fact shown that the incidence of side-effects varies with the size of the maintenance dose. Physicians at the Mayo Clinic were able to maintain satisfactory suppression on doses of 75 mg. of cortisone a day or more in 29% of their patients and on smaller doses in the remainder.[2] Of the patients receiving the larger doses 63% showed side-effects, while only 21% did so on the smaller doses. Men were less prone to these side-effects than women, for in the smaller range of doses they appeared in only 5% of men but in 24% of premenopausal women and 31% of post-menopausal women. With the larger doses the comparable figures were much higher—50%, 72%, and 85%.

In an important report[3] published in the *Journal* three weeks ago a team of workers prominent in this country suggest that the significance of these side-effects should not be exaggerated. Facial rounding and irregularity of the menstrual cycle, they point out, are not serious enough in themselves to warrant cessation of treatment. Although the Mayo Clinic figures are high, most of the side-effects are reversible and did not, in fact, lead to discontinuation of the treatment. While, therefore, a careful watch should be

1 *British Medical Journal*, 1951, **2**, 191.
2 Ward, E. W., Slocumb, C. H., Polley, H. F., Lowman, E. W., and Hench, P. S., *Proc. Mayo Clin.*, 1951, **26**, 361.
3 Copeman, W. S. C., Savage, O., Bishop, P. M. F., Dodds, E. C., Kellie, A. E., Stewart, J. W., Glyn, J. H. H., Henly, A. A., and Tweed, J. M., *British Medical Journal*, 1952, **1**, 397.
4 *J. Amer. med. Ass.*, 1951, **147**, 1538.
5 *British Medical Journal*, 1952, **1**, 341.

kept for more serious side-effects such as the masking of an intercurrent infection, activation of a quiescent tuberculous lesion, or diabetes, the appearance of minor complications of treatment should not lead to precipitate withdrawal but only to a greater watchfulness. By carefully selecting their cases Copeman and his colleagues[3] were able, within a period of treatment of only three months, to get 17 out of 20 patients back to work on maintenance doses of cortisone without the appearance of serious side-effects.

No one has yet put forward evidence to substantiate fears of permanent adrenal suppression. Freyberg and his co-workers[4] found that in just under half of their 24 patients treated continuously for at least 100 days the Thorn test showed that adrenal function had been suppressed after withdrawal of cortisone, but this did not prove to be of clinical importance, and in every case recovery occurred within six weeks. The relapse rate after discontinuation is high: in Freyberg's cases 83% relapsed, nearly all within a month, to the condition they were in before treatment began. Since the action of cortisone is purely suppressive, this is to be expected, and it emphasizes that for cortisone treatment to be practical it must be prolonged, unless it is used for other special reasons. These include the treatment of a patient whose arthritis is rapidly progressive, when deformities due to spasm may be corrected during the time that cortisone brings relief. Similarly it may be useful when orthopaedic surgery or manipulation is indicated. But if it is to be used for prolonged treatment of a disease such as rheumatoid arthritis with a long natural history, measured often in years, it is clear that studies over still longer periods are much needed. In addition to relapse of the disease the appearance of a post-cortisone withdrawal syndrome, as recently described by Duthie,[5] is a serious complication. It occurred in 21% of Freyberg's patients. On withdrawal of cortisone not only does the disease relapse but sometimes in addition severe malaise with depression, fatigability, anorexia, and weakness, combined with the symptoms of relapse, may give rise to a distressing illness. Very gradual withdrawal of the hormone, when this is decided upon for any reason, is an essential precaution.

Since it seems probable that hydrocortisone (Kendall's compound F) is the naturally occurring active principle of the adrenal gland, studies of the effects of this substance may provide the solution to some of these problems of cortisone therapy, and in the opening pages of this issue Dr. Boland does suggest that hydrocortisone may be more effective and, possibly, that its enhanced antirheumatic action is not associated with an increased incidence of side-effects. The acetate ester of hydrocortisone is not so active as cortisone acetate, but the non-esterified product—hydrocortisone (free alcohol)—appeared to have approximately 50% greater activity than cortisone itself. While these differences may be accounted for in part by the difference in solubility, this may not be the whole answer, especially if the reduction in side-effects is confirmed.

Only very tentative conclusions may be drawn at present about the practicability of prolonged cortisone therapy. It seems clear that rheumatoid arthritis of itself is not an absolute indication for cortisone, and very careful selection of cases is required. But the criteria for selection have not yet been defined. It has not so far been shown that the very early, acutely active disease is the most suitable for long-term treatment, since the dose which may be needed in this type of case has not been established. It remains to be seen whether cortisone treatment maintained for years on end will produce better final results than other modern methods, or whether simultaneous treatment with, for instance, gold will reduce the relapse rate after withdrawal of cortisone. Cautious conclusions are still necessary, but it is certain that these detailed studies of rheumatoid arthritis, in which the disease processes are being carefully observed and, what is more important, being measured, will lead to the development of more effective control in the foreseeable future.

SHERRINGTON

In *A Mathematician's Apology* the late G. H. Hardy had some interesting things to say on age and intellectual activity. Poets and mathematicians, he thought, had often done all their original work before they were 40, an age at which novelists and biologists were only just coming to maturity. Certainly this seems to have been true of Sherrington, though he was clearly from the first a brilliant student. Chance took him to Cambridge rather than Edinburgh, and so to the then most stimulating centre of physiology—particularly of the nervous system—in Britain. Good fortune enabled him to travel in Spain, Italy, and Germany and to work with a number of the leading scientists of the period, an opportunity much rarer for the promising young man to-day than it was in the heyday of Victorian insecurity and freedom. Sherrington grew up at a time when clinical neurology, neurohistology, and the physiological study of both brain and peripheral nerve were all very actively and fruitfully pursued, and not least in England, by such men as Hughlings Jackson, Gowers, and Ferrier.

And it was thus that in 1891, when he was already 34, he was at last ready to start his life's work.

The historical circumstances were powerful, the opportunity of having so many experimental animals probably unique, and Sherrington had a mind that loved precision and order. It was his continual search for the exact word, the completely accurate statement, which made his lectures and his writings difficult and yet at the same time enabled him to see more deeply than his contemporaries and not to take anything for granted. Through his long training he had learned the scientist's supreme wisdom, which is to know how to ask the right questions, how to frame the experiment within the available technical resources so as to obtain an unequivocal and significant answer. The result was *The Integrative Action of the Nervous System.*

He reached his 60th birthday in the middle of the first world war, not long after his transfer to Oxford. Had he died then, or thought chiefly of his impending retirement as so many men might, there could hardly have been an Oxford school of neurophysiology to give so much to the world in training able men and analysing the mechanisms of the spinal reflexes. But he worked on for another 20 fruitful years, and in *Man on His Nature* celebrated his retirement with a scrupulous analysis of the nature of the mind, in which he came to the conclusion that it was something other and more than the integrated functioning of a myriad of nerve cells, a view which commanded great respect and agreement, though here and there dissident opinions and voices were heard.

So another great Victorian genius is gone from us. But his work will endure as long as civilization itself, and his example as a man of science who embraced the humanities will serve as a steadying influence to those who in the contemporary world are trying to challenge the materialism that too facile an interpretation of science encourages.

PROPHYLAXIS AND TREATMENT OF MALARIA

Among the most important of the findings of Fairley and his co-workers[1] which made possible the military successes in Burma and the Pacific in 1944–5 was that the large-scale introduction of treatment with mepacrine abolished blackwater fever. This was observed in both New Guinea and West Africa. In 1942 in New Guinea the use of quinine as a suppressive drug led to chronic latent or recrudescing falciparum malaria, in the presence of which blackwater fever was prone to develop. Later, with the same strain of *Plasmodium falciparum,* Fairley found that 10 gr. daily completely failed to suppress overt attacks or to produce radical cure in experimentally infected volunteers. For this reason alone the use of quinine as a suppressant and for treatment of chronic falciparum infections should be discontinued. Whether quinine is given by the intramuscular, intravenous, or oral route the danger of blackwater fever is present in patients with chronic falciparum infections who have previously taken this drug. It should not be forgotten, moreover, that in patients severely ill with cerebral malaria caused by *P. falciparum* blood slides may show only scanty parasites, and also that vivax parasites have been mistaken for those of *P. falciparum.* The latter error is particularly likely to occur when thick films are used and where pathological services are ill developed or during epidemics when the practitioner is swamped with work. A further pitfall is the case presenting as overt vivax, ovale, or quartan malaria, but also suffering from a latent chronic falciparum infection without falciparum parasites being present in the blood. The administration of quinine in such cases will cure the overt infection but may precipitate blackwater fever. For these reasons there is much to be said for the avoidance altogether of quinine and the use in its place of one of the synthetic antimalarial drugs.

For severely ill patients in whom speed of action is essential, mepacrine musonate given intramuscularly in doses of 0.36 g. is probably the drug of choice from among those at present available. It produces an effective concentration in the blood 15 minutes after injection and may be repeated in a few hours if necessary. Fairley[2] stated that chloroquine is probably the most potent schizonticide yet discovered, and elsewhere in this issue Drs. R. N. Chaudhuri, N. K. Chakravarty, and M. N. Rai Chaudhuri report favourably upon it. Scott[3] incorporated 400 mg. chloroquine (base) in 500 ml. sterile saline and administered the solution by intravenous drip over one hour. With this technique no serious toxic symptoms developed, and very rapid cures were obtained. Scott considers this to be the best method of treating patients severely ill with falciparum malaria. If, however, quinine is preferred in such cases an intravenous injection will ensure prompter action than one given intramuscularly, and if administered slowly few side-effects will occur. Intravenous quinine injected rapidly may produce a dangerous drop in blood pressure. Intramuscular injections, though followed by less prompt benefit than intravenous, incur the same risk of blackwater fever plus the possibility of sequelae such as abscesses and painful nodes. In falciparum malaria, therefore, they are best avoided.

In the treatment of the vivax attack and of falciparum infections when cerebral symptoms are absent, chloroquine given orally is probably the drug of choice, acting more rapidly than any other schizonticide. Mepacrine in suitable dosage is almost as effective, and experiences in the 1939–45 war showed it to be a schizonticide acting more rapidly than quinine when administered orally.

Camoquine is a new 4-aminoquinoline drug, and as reported by Chaudhuri and his colleagues appears to be second only to chloroquine in schizonticidal properties.

[1] *Trans. roy. Soc. trop. Med. Hyg.*, 1945, **38**, 311; ibid., 1946, **40**, 105, 229, 621.
[2] *British Medical Journal*, 1949, **2**, 825.
[3] *Amer. J. trop. Med.*, 1950, **30**, 503.
[4] *British Medical Journal*, 1950, **2**, 7.

It is regrettable that accurate assessment of the relapse rate after the various forms of treatment they used was impossible, as they were working in an area where malaria is endemic and fresh infections common.

Chemotherapeutic prophylaxis of malaria may be effected by drugs acting on the pre-erythrocytic cycles of the parasite or by schizonticidal suppressants. Among the former proguanil occupies pride of place and is the least toxic of all known antimalarials. Tissue forms of falciparum parasites have been shown[1] to be 30 times more sensitive to its action than blood forms, and their growth in the liver to be completely inhibited. The drug is rapidly absorbed and excreted so that daily dosage with 100 mg. is recommended for maximal effect. Although Chaudhuri and his colleagues have found the results of suppression with chloroquine to be better than those with proguanil it should be noted that in these trials the dosage of proguanil was lower than usually advised. It should also be remembered that proguanil given daily will bring about effects on the tissue phases of the malaria parasite unattainable with any other drug, and also that it effectively sterilizes gametocytes. When suppressants are taken without strict supervision malaria is encountered even among those using drugs known to be capable of suppressing the disease completely. In this connexion Bruce-Chwatt and Bruce-Chwatt[4] found the comparative incidence of malaria among non-Africans in Nigeria to be 10% in proguanil-takers, 21.5% in quinine-takers, 22.6% in mepacrine-takers, and 22.5% in chloroquine-takers.

It is known that proguanil when given in doses too small to be curative may induce resistance of the parasite. Such doses taken by indigenous Malayans may account for the occurrence there of resistant strains of malaria parasites as reported on page 564 by Drs. T. Wilson, D. S. Munro, and D. R. Richard. It is unfortunate that in their cases irregular dosage of suppressive proguanil cannot be excluded. Experience in the last war showed that suppressive discipline was bad in many units where it had been thought to be satisfactory. A lapse in administration of proguanil may permit growth of the tissue forms of the parasite—i.e., the forms which are most susceptible to proguanil.

Many problems concerning the chemotherapy of malaria remain to be solved, but we now have potent synthetic remedies of tried worth, capable of controlling the disease and of abolishing the risk of blackwater fever. It would seem rational to use them rather than older remedies with their associated dangers.

LEFT HAND, RIGHT HAND

It has long been known that the phenomenon of handedness is not peculiar to man. Consistent individual preferences in the use of one hand rather than the other have been reliably reported in rats, monkeys, and apes, although there is no evidence to suggest that a general tendency to right-handedness exists at any level below that of man. In a recent study of handedness in monkeys, Glees and Cole[5] describe consistent individual hand-preferences in the performance of a simple manipulative task, but find that the left hand is preferred in at least as many animals as is the right. This is in full accord with Yerkes's[6] classical observations on handedness in chimpanzees. In general, hand-preference in primates is consistent for a wide range of manual tasks, although the degree of dominance of one hand over the other varies to some extent in different animals.

The origin of individual differences in handedness is far from clear. Glees and Cole put forward the suggestion that they may be due, in part at least, to a virtually fortuitous asymmetry of neural organization. In studying pyramidal degeneration after lesions of the motor cortex in monkeys they were struck by the considerable variation in the number of fibres which remain uncrossed, and are led to suggest that ". . . in motor acts which demand greater skill, that hemisphere which gives rise to a comparatively large proportion of crossed fibres has a slight advantage over the other." Variability in the number of decussating sensory fibres which reach one hemisphere through the thalamus is also proposed as an additional cause of lateral dominance. Interesting as these suggestions are, it must be borne in mind that no direct evidence is adduced in support of either hypothesis. Until this is done, the explanation advanced by Glees and Cole must be regarded as wholly speculative.

In man it is generally held that dextrality is linked in some way with the evolution of language and its unilateral representation in the cortex. Indeed, the concept of cerebral dominance has largely arisen in connexion with aphasia and kindred disorders of speech. Recent studies, however, suggest that the relationship of handedness to aphasia may be more complex than has hitherto been supposed. In particular, the incidence of aphasia in left-handed individuals with unilateral cerebral lesions shows considerable variability. Thus Conrad,[7] in a survey of 800 cases of brain injury, reports on 18 cases in which dysphasia was associated with pre-existing left-handedness. In these cases the lesion was left-sided in ten and right-sided in only seven. Further, the language disorder in all these cases was considerably less severe and long-lasting than in comparable cases of dysphasia in right-handed individuals. Conrad is therefore led to suggest that in left-handed persons there is typically some degree of bilateral representation of speech and that the dominance of one or other hemisphere for this function is seldom as complete as in the right-handed. In his view, left-handedness expresses a less-advanced degree of specialization of cerebral function.

The view that handedness itself is less firmly developed in sinistrals finds some support from a recent inquiry into consistency of hand-usage among healthy adults. Humphrey,[8] on the basis of a questionary distributed among 70 left-handed and 35 right-handed male subjects, reports far greater consistency of hand-preferences in the latter group. Many self-styled "left-handers" are, he believes, more fittingly described as "ambilateral." If the weaker hand-dominance of the left-handed reflects less determinate cerebral dominance, the results of Conrad and others on the incidence of dysphasia among

5 *Experientia*, 1951, **7**, 224.
6 *Chimpanzees*, 1943, Yale University Press.
7 *Nervenarzt*, 1949, **20**, 148.
8 *Brit. J. Educ. Psychol.*, 1951, **21**, 214.

sinistrals find a measure of explanation. If cerebral dominance is less firmly established in relation to manual skill, it is not unreasonable to suppose that language will enjoy a similar freedom from rigid unilateral control. This, however, is a hypothesis which will require to be tested by large-scale clinical and statistical investigation. At present, all that can be said with certainty is that the relation of "handedness" to "brainedness" is by no means as clear-cut as has been supposed in the past.

NAILING THE FEMORAL NECK

The multiplicity of instruments originally designed to facilitate nailing the femoral neck remain as a monument to the anxiety with which the operation was originally approached. The elderly patient's further existence without a nail is so unhappy, and the strain of the well-conducted operation so small, that no patient, unless the victim of some urgent crisis such as bronchopneumonia or cardiac failure, should be denied the consolation of the operation. Mr. D. O. Williams and Mr. E. K. McLean, who report their technique in this issue, are not alone in having reduced the operation to its barest essentials, and many surgeons are content to dispense with the hinged gauge and rely on their sense of touch and the radiographic position alone. With the exception of the unavoidable complication of avascular necrosis of the femoral neck, "the bad results of nailing are the results of bad nailing," as Eric Lloyd has emphasized. The success achieved by Williams and McLean is therefore a tribute to their careful technique, though it would have been interesting to know their failures due to necrosis. Even this complication is losing its terrors with the introduction of the plastic femoral head. Other surgeons are not so happy to dispense with the cross-pin. In the aged the nail is almost entirely dependent on the strength of the cortical bone of the great trochanter for its fixation, and if this is thin or widely opened by the pin-starter its grip is very weak. Although the majority of extrusions are due to absorption of the neck or slipping of the pin, nature tends to extrude it even when it is doing its work successfully, and the insertion of a cross-screw, which adds little to the time of operation and is readily removed, has no disadvantages. The pin which is fixed to the nail tends to break if there is any alteration in the angle of the nail and is to be avoided.

With a simplified technique of operation there is room to simplify the post-operative regime, which in most hospitals still drags out a weary three months. Confidence in early weight-bearing, from the surgeon's point of view, is dependent on a good position of the nail, good impaction, and a relatively horizontal fracture line; and from the patient's point of view on the redevelopment of effective muscular control. The surgeon's requirements are apparent from the beginning, and the patient's progress is obvious at the end of the first month. There is no reason why the selected patient should not start weight-bearing at this time—in fact an appreciation of the importance of compression strain on bony union would encourage such attempts. Once such a regime is started it is probable that the period of bed rest would be further shortened and the more doubtful cases included in the early ambulatory group. Three months' bed rest is a severe test of the fitness of the elderly patient.

A short period of preliminary traction by either a tibial pin or skin traction is a great comfort to the patient, and tibial traction has the added advantage of almost always reducing the fracture, thus enabling the patient to be placed on the operating table without any forcible preliminaries. Such pre-operative treatment is a necessity in hospitals in which an emergency operation cannot be performed. It is true that a short period of waiting will occasionally allow a complication to develop and so prevent operation before the end of the first week. On the other hand, too rapid assessment of the case will probably result in some operative tragedies. Before the emergency operation can be endorsed, it remains for its proponents to prove that it lowers mortality, lessens complications, and produces results as good as those obtained by other methods.

CIBA FOUNDATION

The *Report* for 1951 shows an ever-increasing valuable activity of this charitable trust (which was founded by the well-known Swiss firm in 1947) for promoting international co-operation in medical and chemical research. A series of international colloquia have again been held at the Foundation's house in Portland Place, on such subjects as the visceral circulation, isotopes in biochemistry, and the control of anterior pituitary secretions. Many foreign medical men have been entertained, and particular attention is being given to the promotion of Anglo-French medical relations by the provision of scholarships for British clinical postgraduate students to visit France for short periods (see *Journal*, March 8, p. 555) and for French workers to come here, and by bringing together the editors of the *Lancet*, *British Medical Journal*, *Presse Médicale*, and *Semaine des Hôpitaux* to encourage co-operation and awareness of one another's activities and points of view. The Foundation has also collaborated with the British Council and the Foreign Office (German Section), and provides a home for the Hunterian Society's museum and library and for meetings of the Renal Association. Very close relations with the Royal Society of Medicine have developed, part of its library being temporarily stored in Portland Place, and Fellows of the R.S.M. being able to stay there when the rooms are not required for foreign visitors. The Foundation is building up its own library, chiefly of books and periodicals on endocrinology. Altogether it is coming to occupy a position of key importance in the organization and international relations of British scientific medicine, and the trustees—Dr. E. D. Adrian, O.M., Lord Horder, Lord Beveridge, and Mr. Raymond Needham, Q.C.—and the executive council under them, of which Dr. G. E. W. Wolstenholme is the secretary, are to be congratulated on this valuable achievement after only two and a half years of active work. There was clearly a need for the services the Ciba Foundation is now so imaginatively supplying, and it has a great part to play in future development.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

FOOD-POISONING

BY

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Food-poisoning is a difficult term to define, but through common usage it is accepted as meaning an acute intestinal disturbance coming on within a few hours of the consumption of unwholesome food or drink. It is distinguished from other food-borne infections such as enteric fever, dysentery, or primary abdominal tuberculosis by the occurrence of acute gastro-enteritis, though intermediate cases do occur in which the differential diagnosis, particularly from that of dysentery, may cause difficulty.

Food-poisoning may be due to injurious chemical substances, poisonous plants, or harmful bacteria or bacterial products in food. The most usual type of food-poisoning encountered in this country is bacterial in origin, being caused by organisms of the *Salmonella* group. The disease is due to the multiplication of these organisms in the intestinal tract of the host and is known as the "infective type." Food-poisoning due to the ingestion of bacterial products is also fairly common. Some bacteria while growing in food are able to produce toxic substances which on ingestion cause vomiting and diarrhoea; this disease is known as the "toxin type" of food-poisoning. In a report on food-poisoning in England and Wales during 1950, of 3,979 recorded incidents, 2,170 were of bacterial origin (2,021 salmonella infection), 2 chemical, and 1,807 of unknown causation.

Infective Type

The *Salmonella* group of organisms, which now comprises about 250 recognized species, has its natural reservoir in birds, mammals, and reptiles. The organisms multiply in the intestinal tract of man, causing swelling of the mucosa of the stomach and small intestine and the production of a slimy exudate. The mucosa may become ulcerated. In severe cases these lesions may extend to the large intestine, and there may be an accompanying septicaemia. It is believed that a large number of salmonellae must be ingested in order to give rise to clinical symptoms. The organisms are widely distributed in nature and may be transferred to food in a variety of ways: the food may come from an infected animal, or may be contaminated with infected faeces from mice, rats, pets, or other animals; flies may transfer infected material to food; or human carriers may infect food during handling. Carriers sometimes give a history of a recent attack of diarrhoea, but many have had no intestinal disturbance nor have they been contacts of known cases.

As in most instances many bacteria or large quantities of their products must be ingested to cause symptoms, the most dangerous foods are those which are good culture media and which remain at a warm temperature long enough for bacterial multiplication to take place. These conditions are provided by meat dishes, gravies, and soups, particularly if reheated some time after preparation, and also by foods such as custards prepared at low temperatures. Most tinned foods are autoclaved during processing and are sterile, but once opened they are as liable to contamination as other foods. Small tins of ham can be autoclaved, but large tins are pasteurized, as autoclaving results in loss of palatability and changes in appearance. As a result, pathogenic organisms may be present in tinned ham, particularly in the large tins, and therefore it is wise to keep the tin in the refrigerator to limit multiplication and not to store it for too long. Hens' eggs are rarely infected, but a number of cases of food-poisoning have been traced to the consumption of ducks' eggs. The latter should be placed in boiling water for at least 10 minutes before being eaten and should not be used in the preparation of lightly cooked foods.

A number of other organisms are believed to cause food-poisoning, though their mode of action is unknown. Foods heavily contaminated with faecal organisms such as *Bact. coli* and *Proteus* have caused disease though the organisms themselves have not been shown to be pathogenic or to produce toxins.

One particular type of food-poisoning, caused by the eating of meat dishes which have been cooked the previous day and allowed to cool down overnight, is seen especially in those eating canteen meals, and is apparently caused by the anaerobic organism *Clostridium welchii*.

Toxin Type

Food-poisoning due to bacterial toxins is most commonly caused by the toxin produced by *Staphylococcus pyogenes*. The toxin is formed in the food during the growth of this organism. It is not destroyed by ordinary cooking processes, so that an infected food which is recooked may still cause disease. The food is usually contaminated by a food-handler who may have a septic lesion on the hands or may transfer the organism from his nose or throat via his hands to the food. Food which has been stored before consumption is the most common source of this disease. Ice-cream, cheese, as well as "made-up" reheated foods, are usually the cause. Other organisms such as non-haemolytic streptococci are known to cause the toxin type of food-poisoning. Little need be said about botulism. This toxin type of food-poisoning is extremely rare in Great Britain, only four incidents ever having been recorded. The disease is caused by the toxin of *Clostridium botulinum*, which acts on the central nervous system, causing diplopia, ocular paresis, and sometimes aphasia accompanied by vomiting and constipation.

Chemical Poisons

Food-poisoning may also be due to injurious chemical substances in the food, though such cases are comparatively rare. There are, however, many instances on record in which food has been in containers which have been used for chemical poisons. Some drinks may be contaminated with antimony or zinc as the result of placing acid liquids—for example, lemonades—or acid stewing-fruits in cheap enamel or zinc vessels. The symptoms usually develop very soon after drinking the fluid.

Death Cap

Some foods are poisonous in themselves. Poisoning due to the "death cap" (*Amanita phalloides*), a fungus eaten in mistake for mushrooms, is well known. The mortality rate is high, and children are particularly susceptible. The incubation period is between 4 and 24 hours, when the patient complains of very acute abdominal pain, vomiting, and diarrhoea. The vomit and faeces may contain blood and mucus. In severe cases anuria may follow, and later jaundice and cyanosis.

Allergy

Diarrhoea and vomiting may occur in individuals who have idiosyncrasies to certain foods. These attacks rarely last more than 24 hours. There is an acute onset soon after the food is eaten. Abdominal pain may be severe, but there is no rigidity. Though this syndrome may occur at any age, it is more common in childhood. Sometimes there is a history of other allergic manifestations in the patient or his family. The diarrhoeal stool from these patients usually contains eosinophil cells. The symptoms are cured by the injection of 3 to 5 min. (0.18 to 0.3 ml.) of adrenaline (1:1,000).

Investigation of Suspected Cases

In all suspected cases of food-poisoning it is important that the patient and the suspected food should be investigated as soon as possible, as knowledge of the causal agent may determine the treatment of the patient and the control measures to stop the spread of the disease. The patient's faeces, collected preferably during the acute stage of the disease and before starting treatment, should be sent to a laboratory. Laboratories provide sterile screw-capped receptacles containing spoons with which a portion of faeces may be transferred to the receptacle. If faeces are not available a sterile throat swab should be passed into the rectum, and care taken to see that the swab shows faecal staining; no lubricant or antiseptic should be used. Such swabs, which are suitable for bacteriological purposes only, must be transported to the laboratory before they begin to dry. Vomit may also be sent to a laboratory, although it rarely assists the investigation. Organisms of the *Salmonella, Shigella,* and staphylococcal groups are usually readily isolated if no treatment has been started. Suspected food, if available, should always be sent to the laboratory, as the proof that a particular food has caused disease depends on the correlation of the findings in the patients with those in the food. The assessment of the role of any particular organism isolated from food, other than the accepted pathogens such as salmonellae, shigellae, and some types of staphylococci, is extremely difficult.

Clinical Picture

The diagnosis of food-poisoning when a number of persons are affected usually presents few difficulties, but the diagnosis of an individual case may be far from easy. It should be borne in mind that an accusation of food-poisoning is a common form of blackmail brought against expensive restaurants. In such cases the doctor should never give a certificate to say that the patient has suffered from food-poisoning without the fullest supporting bacteriological and epidemiological evidence.

The symptoms in any single outbreak vary considerably in severity: some patients complain of no more than a vague discomfort which is disclosed only on questioning, while others are severely ill. These latter range from those whose main symptoms are diarrhoea and vomiting to those in whom these symptoms may be overshadowed by a clinical picture more closely resembling that of enteric fever. The symptoms vary with the agent which has caused the food-poisoning, but only the more usual types encountered in this country are dealt with. The most common type is that due to the bacterial infection of food and drink.

The incubation periods of the different types of food-poisoning may give some indication of the cause. Chemical poisons are usually rapid in their effect, symptoms occurring with a sudden onset in about half an hour or less. The toxin type, being due to the absorption of preformed bacterial toxin, also has a short incubation period, though it is longer than that of chemical poisons. The incubation period of the toxin type is between 2 and 12 hours, and there is also a sudden onset. Food-poisoning caused by the multiplication of organisms in the intestine has a longer incubation period, usually between 12 and 48 hours. The onset of this type may be sudden, though a number of patients complain of feeling ill before the main symptoms occur.

*Incubation Period of Food-poisoning**

Chemical	Bacterial Toxin		Infectious
	Staphylococcus	*Cl. welchii* and Streptococci	
0–30 minutes	2 hours	12 hours	20 hours

In all types the patient usually complains of nausea, vomiting, and diarrhoea. Commonly there is also headache, abdominal cramps, sweats, shivering, and giddiness. At the height of the illness the patient may be severely prostrated. In the toxin type the disease is of sudden onset and may be very similar to sea-sickness: the more severely ill patient is in a state of collapse and unable to stand; he sweats, and does not care whether he lives or dies. These patients commonly have a subnormal temperature; it is rarely above 99° F. (37.2° C.). They recover rapidly, usually in 24 hours.

In the infective type the disease develops rather more slowly and is accompanied by a rise in temperature, commonly to 102° F. (38.9° C.). The abdominal pain is of a colicky nature, starting usually in the epigastrium but spreading over the whole of the abdomen. Though the abdomen is tender there is no rigidity. The disease usually lasts for about four days and the patient complains of lassitude for some days more. The severely ill patient may look drawn and show signs of dehydration. If death supervenes it is usually about the tenth day of the disease, but death is unusual except in the very young, the old, or those with some additional serious illness.

The vomit is watery; it may be bile-stained, but is only tinged with blood if vomiting is excessive. The stools are watery, usually with faecal colouring, and they are very offensive. Blood is not often present and the mucus tends to be slimy, whereas in dysentery pus and blood are usual. In salmonella infections some patients may show the rose spots and the clinical picture of enteric fever. Patients generally recover rapidly. A certain number of the infective type may be operated upon as cases of appendicitis. It is probable that in these the appendix is inflamed, but the symptoms usually subside as the patient recovers, without necrosis of the appendix.

Complications may occasionally be encountered with salmonella infections. Very rarely empyema, purulent arthritis, or osteitis occur. Meningitis may be found more particularly in young babies. Occasionally patients have a long febrile period, sometimes of a septicaemic type. After an attack of food-poisoning some patients become prone to dyspepsia and intestinal upsets.

Differential Diagnosis

Correct diagnosis is important from the point of view both of treatment and of preventing fresh cases. In dysentery vomiting is seldom a major symptom and rarely lasts for long. In addition the stool is usually blood-stained and contains large numbers of pus cells. Intestinal obstruction, intussusception, or volvulus usually cause localizing signs in the abdomen which are absent in food-poisoning. In practice these conditions are rarely confused with food-poisoning

A disease which occurs in this country is extremely difficult to distinguish from food-poisoning of the types already described. This condition, which occurs more commonly in winter and spring, cannot be traced to any particular food. It may start by affecting a number of persons at the same time, and when institutional outbreaks occur

*From *Modern Trends in Gastro-enterology*, edited by F. Avery Jones. Butterworth and Co., London.

secondary cases are the rule, usually with an incubation period of three to five days. A good review of this disease has been given by Hargreaves.* who refers to it as "epidemic diarrhoea and vomiting," though its more usual name is "the winter vomiting disease." In America similar outbreaks have been studied, and as the result of various investigations it seems probable that a filterable agent, probably a virus, is excreted in the faeces. The onset of the disease is sudden and not uncommonly occurs at night. The main symptoms are vomiting and diarrhoea, but vertigo may be a prominent symptom. Some patients have complained of acute upper abdominal pain, and some tenderness is elicited on deep palpation over the liver area. The differential diagnosis between these patients and true cases of food-poisoning presents many difficulties.

Treatment

Rest in bed is essential in all definite cases of food-poisoning, as recovery is always more rapid and relapses less common if this is observed. The treatment should be symptomatic. If poisoning by chemicals or fungi is suspected the patient's stomach should be washed out with the specific antidote if the offending chemical is known, otherwise with normal saline. In the early stages of other types of food-poisoning patients who are vomiting should be given a glass of warm water containing one teaspoonful of sodium bicarbonate in order to get rid of excessive mucus. If as the result of vomiting and diarrhoea the patient becomes dehydrated intravenous glucose saline should be administered. Persistent diarrhoea may be treated with bismuth carbonate or subnitrate. Opium in any form should be used only if there is no doubt about the diagnosis.

A specific antiserum for poisoning due to *Amanita phalloides* is available.† This serum should be injected intramuscularly and given as early as possible in the disease. The dose for a child is about 20 ml.

There are no specific remedies for bacterial food-poisoning. Antibiotics have been tried, but they have not given good results in the ordinary disease in which diarrhoea and vomiting are the main symptoms. Rarely some cases caused by salmonella infection may have a long-continued fever suggestive of septicaemia. In such cases chloramphenicol should be tried, as some patients seem to improve clinically; the drug does not, however, appear to shorten the period during which the organisms are excreted in the faeces, nor does it have any effect on the carrier condition. The usual dose of chloramphenicol for adults is 50 mg. per kg. of body weight in 24 hours. It is given at intervals of six hours, and should be continued until symptoms have been controlled, after which the dose should be halved for a further three to four days before stopping treatment. During the convalescent period the change to normal diet should be made gradually, particularly in patients who show a tendency to relapse.

Prevention of Spread

In salmonella food-poisoning the patient's excreta should be treated as in typhoid by the addition of 1:20 carbolic acid, corrosive sublimate, or other disinfectants which are known to act on Gram-negative organisms. The patient should be warned of the possibility that the organisms may be excreted for some time after recovery and told to wash his hands after defaecation and before taking food. He should not be allowed to handle food until laboratory tests have shown that the organism is no longer being excreted.

The prevention of bacterial food-poisoning depends on the education of the public in personal hygiene, in clean methods of food storage, and in clean methods of food preparation. Emphasis should be placed on the desirability of keeping food cool, preferably in a refrigerator, until it is ready for cooking; if it is not eaten immediately after cooking it should be rapidly cooled down and kept cool until it is reheated.

Under Section 17 (1) of the Food and Drugs Act, 1938, it is compulsory for a registered medical practitioner who becomes aware of or who suspects that a patient whom he is attending is suffering from food-poisoning to notify immediately the medical officer of health of the district, giving particulars of the case. If this is done early, laboratory investigations may determine the cause of the disease, the food at fault, and the source of the contamination. Such information will help to stop the spread of the disease.

British Medical Journal, 1947, 1, 720.

†From the Central Public Health Laboratory, Colindale Avenue, London, N.W.9 (*Telephone:* Colindale 6041).

Next Refresher Course Article.—"Tenosynovitis and Tendovaginitis," by Mr. D. Lloyd Griffiths.

MEMORANDUM ON FAMILY PLANNING, WITH PARTICULAR REFERENCE TO CONTRACEPTION*

The subject of family planning is clearly of fundamental importance to the welfare of the community. The Royal Commission on Population, after sifting evidence from many sources, expressed itself as in no doubt of the need for a positive family-planning policy. The National Health Service Act makes provision for the care of pregnant and parturient women but does not lay down any plan of action in respect of family planning, though it may be argued that this should come under the heading of general medical services.

Family planning can be considered under three main headings: (1) the need for facilities for contraception; (2) marriage guidance; and (3) the treatment of involuntary sterility. As regards marriage guidance and the treatment of infertility, there is general and indeed increasing support from all sections of the community, irrespective of religious beliefs. But on contraception opinion is still sharply divided, and a certain number of persons, including all Roman Catholics, regard the use of appliances and withdrawal as morally unjustifiable in any circumstances. They object to public moneys being spent on any clinics where contraceptive teaching is given, or on contraceptive appliances. The use of the "safe period" is, however, accepted by the Roman Catholic Church, and, where spacing is indicated for health or social reasons for such patients, this method may be advised.

Inquiry into the Position

Towards the end of 1949 the Family Planning Committee of the Medical Women's Federation instituted inquiries to ascertain the position of family planning in respect of its three aspects—contraception, marriage guidance, and the treatment of involuntary sterility—as it stood after more than one year's working of the National Health Service Act.

The medical officers of health of 197 local authorities were circularized and were asked the following questions:

*A memorandum prepared by the Family Planning Committee of the Medical Women's Federation: Miss Beatrice Turner, F.R.C.S., F.R.C.O.G. (chairman), Dr. Annis Gillie, Dr. Olive Gimson, Dr. Margaret Hadley Jackson, Dr. Isabelle Little, Dr. Mary Macaulay, Dr. Joan H. Buchanan (honorary secretary), with Dr. Doris M. Odlum and Miss Josephine Barnes, D.M., F.R.C.S., as *ex-officio* members.

Information Received from 159 Medical Officers of Health of Counties and Cities in Great Britain

	No. of Replies Recd.	Negative	Affirmative	Affirmative Replies: Contraceptive Advice Only	Affirmative Replies: Contraceptive plus Subfertility and Marital Difficulties	Local Authority Own Clinics	Local A. plus Vol. Clinics	Voluntary Clinics Only	Remarks
England	107	51	56	29	24	20	9	25	6 among negative replies (as classified) state suitable cases referred to antenatal clinics and some to gynaecological department at hospital. Four to voluntary associations such as Marriage Guidance Council and Family Planning Association
Scotland	39	29	10	3	5	3		3	5 in the 29 negative classification state antenatal clinics sometimes used. One stated clinics at considerable *distance* deliberately chosen if consultation advisable
Wales ..	13	8	5	3	2	2	1	2	4 out of the 8 negative replies state existing antenatal clinics meet need. Occasionally gynaecological department at hospital used

N.B.—Where totals do not tally it is because some replies were in the affirmative but no details were given of the type of advice or clinics available. Some replies stated, "No family planning arrangements," but proceeded to state, "Birth control clinic run by local authority." Such replies have been included in the affirmatives.

Do facilities exist in your area for the giving of advice on family planning? If so, are they for contraceptive advice only, or do they also cover the investigation of infertile marriage and of marital difficulties? Do you provide your own clinics, or do you rely on voluntary clinics in part or altogether?

In response to this inquiry 159 replies were received, and the answers are summarized in the Table. The most striking fact that emerges is that in well over 50% of all areas no clinics or special hospital out-patient facilities were available.

The deans of 27 medical schools were also circularized and were asked whether instruction on contraceptive technique and on the investigation and treatment of infertile marriage was given to medical students. Twenty-four replies were received, and these indicated that in most medical schools some sort of instruction, though sometimes an outline only, is included in the course of ordinary obstetric and gynaecological teaching. In only four were special lectures given on family planning and contraception. Practical experience in the fitting of caps was provided in a few cases by attendance at neighbouring voluntary or municipal birth-control clinics. Only two teaching hospitals held special sessions for out-patients where contraceptive advice was given, but a number held fertility clinics. Attendance by students at these was on a voluntary basis and was not regarded as an essential part of the curriculum. In fact, three medical schools expressed the opinion that these subjects were more satisfactorily dealt with after qualification.

Two main facts therefore emerge from this inquiry. First, that the facilities for family planning which existed in 1949—and there is little reason to suppose that there has been any great improvement since then—are totally inadequate for the needs of the community. This applies especially to contraception, since advice and treatment for infertility are given in many gynaecological departments which do not provide separate clinics for such cases. Secondly, the majority of medical students are qualifying without receiving an adequate introduction to all the aspects of family planning and cannot therefore be expected to give authoritative advice to their patients or to recognize the need for postgraduate training in the subject.

As to contraception, it is important that all general practitioners (apart, of course, from those who have religious or other objections) should have, as a minimum, knowledge of the best and safest methods. The public still turns naturally to the medical profession for advice on this matter: if this advice is not forthcoming, then those less reputable firms who advertise widely will replace informed medical advice. The methods advocated by such firms are often unsatisfactory and the accompanying literature distressing and distasteful. This has important repercussions, since failure of contraception is a serious factor in leading women to criminal abortion, and in addition family instability is increased when attempts made to space pregnancies fail.

The G.P. and Family Planning

The place of the general practitioner in the sphere of family planning is an obvious one, although no special provision is included in the National Health Service. Certain points may be made. It is manifestly impossible to prohibit any duly registered medical practitioner from practising any branch of the art or science of medicine. It is obvious, too, that over large areas of this country the family doctor is the only accessible person to give advice on contraception. It is not always so clearly recognized that the time required to fit an inexperienced or worried woman with a contraceptive appliance may be considerable and is not easily given when the case is seen during a surgery hour. The actual technique of fitting is relatively quick when accuracy is maintained by practice, except in a minority of cases. The training of the woman, however, to use the appliance and to ensure that she has accepted the idea of its regular use without reluctance or distaste often requires considerable time and patience. The general practitioner's knowledge of the woman herself and of her home conditions is an advantage often overlooked, especially when advice on marital difficulties is sought at the same time.

Many general practitioners undertake to give contraceptive information: most of these have made a special study of the subject, and some have had experience as medical officers at birth-control clinics. On the other hand, others prefer to send their patients to clinics which specialize in this particular branch of medical work. There are some patients, too, who prefer to consult a stranger on the question of contraception rather than turn to their own doctor. The outlay of considerable time on such work as part of the general medical services must necessarily deter some practitioners, especially those with the larger lists of patients.

Women seeking contraceptive advice fall into two main groups. First, those who on medical grounds have been advised to avoid pregnancy. It needs emphasizing that the general practitioner in such a case must ensure that his patient does secure contraceptive training from the best available source. Only too often the advice to prevent pregnancy is not accompanied by specific training on contraception or a letter to obtain such training from a clinic, hospital, or colleague. The second and continually expanding group is made up of women who wish to plan their family with intervals between the births of their children. It is these who present a challenge to the medical profession, since they can easily obtain non-medical advice which is increasingly freely advertised and is often of poor quality. Women who seek contraceptive advice

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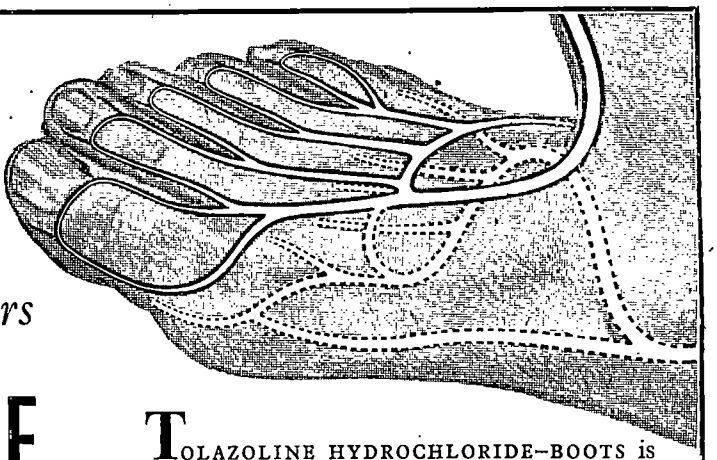

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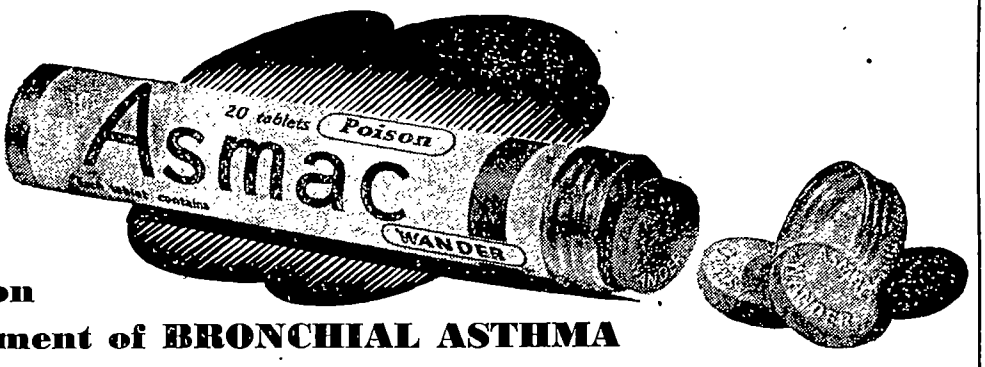

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on these social grounds are glad to avoid the hospital out-patient department, and prefer either the local health authority or voluntary clinic, or their general practitioner. The advantage to the community resulting from the employment of general practitioners on a part-time basis at local health authority clinics for family planning is obvious.

With regard to infertile marriages the position is very different. Modern investigation and treatment of infertility is a complicated procedure involving elaborate pathological investigations and specialized treatment. Most general practitioners, in consequence, refer their patients to clinics or to hospital out-patient departments after a preliminary survey.

Concerning the supply of contraceptive appliances, the opinion was unanimous, after careful consideration, that these should not be prescribed on the N.H.S. form E.C.10. Abuse of the supply on extravagant lines would follow easily. The free source of appliances might lead to lack of attention to fitting, and thus to a high failure rate, particularly in large urban practices where experience in technique, time, and chaperonage may all be in short supply. Necessitous cases have always received consideration at voluntary clinics, and the case that is urgent both on medical and on economic grounds can be supplied from the hospital out-patient department.

Payment

The question of payment for giving contraceptive advice naturally arises. It would seem reasonable that in areas where there is no local authority clinic a suitably qualified general practitioner should undertake this work and should be paid by the local authority. It is questionable whether the giving of contraceptive advice on purely social grounds, in the absence of any medical necessity, may be considered as coming under the heading of general medical services. It is suggested, therefore, that general practitioners who are prepared to undertake this kind of work should be entitled to collect a fee from the patient even though she may be on their list.

It is fully appreciated that there are large areas of the country (especially in urban districts) where women have no difficulty in obtaining the contraceptive advice they seek. There remain very many who find this difficult or impossible to obtain in the absence of accessible clinics or of a family doctor who has both experience and time to give to the matter.

Summary

The following recommendations are submitted as being passed by the council of the Medical Women's Federation:

1. The provision of facilities for family planning must be regarded as an integral part of the National Health Service. All local health authorities should be *required* to provide clinics for family planning, and these should be run jointly by the local health authority and the regional hospital board in view of the extensive investigation and treatment required for subfertility.

2. It is recommended that when use is made of existing voluntary clinics *adequate financial support* should be given.

3. Contraceptive appliances should not be included in the schedule of goods to be prescribed on form E.C.10 in any future scheme.

4. We recommend that advice on family planning should be available to women who require it on medical grounds, and also *to women who ask for it for the purpose of family spacing*. Such advice should be given by (*a*) local health authority clinics; (*b*) voluntary family planning clinics staffed by doctors; (*c*) gynaecologists in hospitals; and (*d*) general practitioners with special training and experience in this work who are willing to allot the time to it. These should be specially selected, and a panel of their names should be available locally. A fee for this service should be paid by the local health authority or, alternatively, by the patient.

Reports of Societies

TREATMENT OF HYPERTENSION

A meeting of the Section of Medicine of the Royal Society of Medicine was held at 1, Wimpole Street, on February 26, when medical treatment of hypertension was discussed.

Professor M. L. ROSENHEIM recalled that a similar meeting five years ago, on the therapy of hypertension, had been chiefly devoted to surgical treatment. He then reviewed the medical methods that have been developed in recent years.

There was no evidence that the prognosis of mild, symptom-free hypertension was improved by any form of therapy, and reassurance with mild sedation should continue to be employed. Continuous treatment was indicated in the more severe forms of essential and renal hypertension, in both the benign and malignant phases. Such treatment could be tolerated only by those in whom the symptomatic relief was sufficient to outweigh the discomforts and inconveniences of therapy. Cessation of treatment was invariably followed by a recurrence of hypertension and of symptoms.

Salt Restriction

The hypotensive effect of the low sodium diet, in which the daily salt intake must not exceed 0.5 g. (200 mg. sodium), had fallen into disuse in the past owing both to inadequate salt restriction and to the monotony of the diet. The hypotensive action of the rice diet was due to its low salt content, and the claims of Kempner have been confirmed in a Medical Research Council trial: 70% of the cases investigated had described symptomatic relief; in addition, improvement of retinopathies and regression of electrocardiographic changes had been noted. Salt restriction was contraindicated in the presence of renal failure owing to the persistent sodium loss from the diseased kidney which might result in a severe hyponatraemia. The low sodium diet was rarely practicable for patients outside hospital owing to the difficulty of preparing it at home.

Medical Sympathectomy with Methonium Compounds

Various drugs had been used to induce a medical sympathectomy. Of these ganglion-blocking agents, hexamethonium was the most effective. Tetraethylammonium bromide had too transient an action, and "priscol" had little hypotensive effect. Hexamethonium blocked both the sympathetic and parasympathetic ganglia; the former action caused hypotension, but the latter gave rise to various undesirable effects such as impairment of visual accommodation and dryness of the mouth. Constipation and abdominal distension also might occur, but they responded to neostigmine. Postural hypotension must not be confused with these side-effects, as it was an indication of effective therapy. In the presence of diseased cerebral or coronary arteries, the induction of sudden hypotension might cause thrombosis. Owing to poor absorption of hexamethonium from the gut, the oral dosage must be 10 times greater than that required by parenteral routes; if the bromide salt of the drug was used, bromism might result. In addition, irregular absorption might cause the sudden onset of side-effects. For these reasons subcutaneous administration was preferred. Hexamethonium was not metabolized, but was rapidly excreted by the kidneys. Should renal failure be present the drug must be given in small doses owing both to the reduced rate of excretion and to the danger of aggravating renal failure which would be shown by a further rise of blood urea. If renal function was normal, there appeared to be no danger of deterioration on prolonged administration of the drug.

The patient must be in hospital for the beginning of therapy. An initial dose of 25 mg. of hexamethonium

bromide was given by either intramuscular or intravenous routes; and, if the hypotensive effect was satisfactory, treatment commenced with a dosage of 25 mg. subcutaneously three times daily. Following each injection, the patient usually preferred to remain lying for an hour in order to avoid the effects of postural hypotension, but was otherwise encouraged to be up. Thereafter the efficacy of the drug was assessed by measuring the blood pressure two to three hours after the injection, with the patient in the recumbent and standing positions. Tolerance usually developed early, necessitating an increased dosage, and within two to three weeks the satisfactory maintenance dose was apparent: as much as 750 mg. daily might be required in some cases. The patient was then discharged to administer his own injections, and periodic observations were made thereafter to assess the efficacy of the dosage. The three injections of hexamethonium daily increased the lability of the blood pressure and were not intended to maintain a constant degree of hypotension throughout the 24 hours.

Symptomatic relief was marked, with the disappearance of headaches, dizziness, and nocturnal dyspnoea. Cases had been treated for as long as 15 months, but it was too early as yet to compare the results with those obtained by surgery. Hexamethonium was certainly not the ideal hypotensive agent, but was preferable to the low sodium diet.

Veriloid

Dr. R. KAUNTZE described his observations on the hypotensive effects of "veriloid," a stable reproducible mixture of alkaloids derived from *Veratrum viride*. The drug acted directly upon the afferent branches of the vagus and the central nervous system, giving rise to dilatation of arterioles in muscles, skin, and the splanchnic area, and constriction of the veins. The resulting hypotension could be reversed by ephedrine intramuscularly. Other actions were bradycardia of vagal origin, which was abolished by atropine, and emesis; the latter might be primarily central or follow the hypotension.

Intravenous infusion of veriloid (1 μg./kg. body weight/minute) for 10 minutes lowered the blood pressure in almost all cases of hypertension, except those in the preterminal malignant phase. Intravenous therapy was useful in hypertensive encephalopathy, but otherwise all patients were maintained on oral treatment. By mouth the maximal hypotensive effect was apparent three to five hours after ingestion. Three or four doses daily were employed, starting with 8 mg. divided equally, spaced at not less than four and a half hours and taken after meals to minimize toxic effects, the chief of which were substernal burning, salivation, hiccup, nausea, recurrent vomiting, and peripheral circulatory collapse. The combination of phenobarbitone with veriloid had been effective in reducing nausea and vomiting. The dosage might need frequent adjustment.

About 60% of hypertensives responded to veriloid orally, but in half of these the therapeutic and toxic levels were so close that the drug could not conveniently be used out of hospital. Thus there remained 30% who responded well to out-patient treatment, but in these the disease appeared to progress, although the tempo might be slowed. The pure alkaloid germitrine was similar in action to veriloid and the nausea proportionately no less.

Mechanism of Postural Hypotension with Methonium

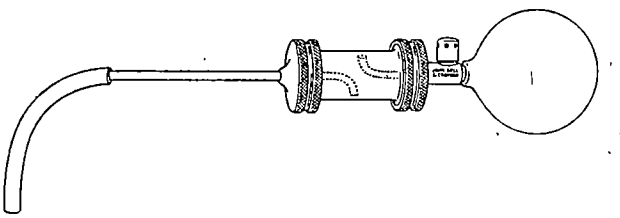
Professor J. MCMICHAEL described investigations which explained the mechanism of postural hypotension caused by hexamethonium. In the normal subject, change of posture from the horizontal to the upright position was associated with a fall in cardiac output, which elicited reflex vasoconstriction to maintain the mean blood pressure. Under the influence of hexamethonium, standing caused the same reduction of cardiac output, but reflex vasoconstriction did not occur, and a profound fall in blood pressure ensued. The effects of this drug, given by injection, on a series of cases was described. Of seven patients with malignant hypertension, three in whom treatment had been begun late had died, but four were now under good control and back at work. Of 27 cases of complicated benign hypertension, 7 had stopped treatment for various reasons, and 18 had responded satisfactorily with objective and subjective improvement. The usefulness of the drug in renal hypertension was also emphasized.

Preparations and Appliances

MUCUS EXTRACTOR FOR USE ON THE NEWBORN INFANT

Mr. H. H. FOURACRE BARNS, gynaecological surgeon, Hospital for Women, Soho Square, W.1, writes: The disadvantages of the ordinary mucus evacuator used for clearing the upper respiratory passages of the newborn infant are: (1) Aspiration of the mucus into the mouth of the attendant, since mouth suction is used. (2) To avoid this contamination of the mouth the attendant often blows out the mucus on to a towel so as to empty the reservoir of the evacuator. By so doing there is the obvious risk of the attendant's nasopharyngeal organisms reaching the end of the evacuator which is to be replaced into the infant's nasopharynx. (3) When using the ordinary mucus evacuator the attendant has to disarrange his face-mask to place the sucking end into his mouth. On occasion this may not be as easy as one would like, and contamination of the gloved hands by the mask may occur.

In order to avoid these disadvantages the mucus extractor shown in the diagram has been made for me by Messrs. John Bell and Croyden, Ltd. The reservoir has a capacity



of approximately 20 ml. It consists of a hollow cylinder with two ends which screw on to form airtight joints. A tube passes through the centre of each of these ends, and in the interior of the cylinder the tubes curve away from each other to form a simple trap device which prevents mucus passing over into the suction mechanism. The distal curved tube is continuous with the cannula to the infant, and the proximal one is continuous with a screw joint for the valve. The suction is produced by a rubber bulb working in conjunction with a small double-ball-valve mechanism. When the bulb is compressed, air passes out of the outlet holes at the top of the valve, and on reinflation it sucks air through the reservoir. The end of the extractor which is to be inserted into the nasopharynx of the infant is covered with rubber tubing, which projects ½ in. (1.25 cm.) beyond the end of the metal. This minimizes the trauma to the mucous membrane. The whole instrument can be held and worked with one hand. It can be wet-heat sterilized, the usual precaution being taken to prevent contact between metal and the surface of the rubber bulb.

The instrument consists of five separate parts—namely, cannula and distal end of reservoir, cylinder, proximal end of reservoir, the valve (which is itself in two parts), and the rubber bulb. It can therefore be cleaned easily.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Doctors' Opinions in Lay Press

SIR,—A number of letters and articles by medical practitioners have appeared in the lay press recently which have attacked or criticized, sometimes with considerable rancour, other sections of the profession. Many of these statements can have done nothing but harm to the general standing of the profession with the public, and it is regrettable that they should have ever been sent for publication.

If a doctor wishes to ventilate a grievance or expound his views on some controversial point, it would be wise for him to do so in such a manner as not to bring his professional colleagues into disrepute. If reflections cannot be avoided, lay journals are not the appropriate place nor lay readers a suitable audience for such matters. The correspondence columns of the medical press are always open to him, and it is there, where any doctor's statements can be checked and if necessary corrected by his professional equals, that such statements should appear.—I am, etc.,

JOHN THWAITES,
Chairman, Central Ethical Committee, British Medical Association.

Treatment of Anaemia

SIR,—I was dismayed to read the letter of Dr. S. Shubsachs (February 23, p. 437), who suggests that there is some merit in adding folic acid to iron pills. No controlled clinical studies are available to show that folic acid is of value in the treatment of iron-deficiency anaemia, and if patients are suffering from pernicious anaemia unknown to their practitioner the haematological picture may be so obscured by the prescription of iron or vitamin pills containing folic acid that the subsequent diagnosis of the patient's disorder may be rendered at least temporarily impossible. Moreover, since folic acid does not prevent the neurological complications of pernicious anaemia, the patient may report to his doctor on account of the symptoms of subacute degeneration of the cord without anaemia. Instances of this nature have already occurred where pernicious anaemia patients who did not know that they suffered from the disorder made a regular habit of eating vitamin pills containing folic acid. Quite apart from the inherent dangers of prescribing such preparations it should be realized that the ordinary ferrous sulphate preparations cost less than 2s. per 100, whereas one of the popular preparations containing folic acid costs more than £1 per 100.

I was interested, too, to read the excellent article by Drs. Nancy Benstead and G. W. Theobald (February 23, p. 407), in which they show no better haematological results from ferrous sulphate tablets containing molybdenum than from those without it. So far as toleration of molybdenized ferrous sulphate is concerned, the following note may be of interest.

In 1948 Messrs. Glaxo kindly prepared for me some tablets of ferri. sulph. co., each of which contained, in addition to the usual ingredients, 3 mg. molybdenum sesquioxide. These tablets were white. Like Drs. Benstead and Theobald, I found that patients who could not tolerate "fersolate" tablets on account of alimentary disturbances were able to tolerate the ones containing molybdenum. I then asked Messrs. Glaxo to provide tablets identical with fersolate but coloured white. These tablets were given to 16 patients who were quite certain that they could not tolerate fersolate, and in 14 of these patients, more than half of whom were in hospital, the white tablets that were otherwise identical with fersolate were tolerated without difficulty. No alteration was made in dosage. The colouring matter added to fersolate tablets is an aniline dye used in the strength of 240 gr. to 600,000 tablets, and it can hardly be held responsible for the symptoms of intolerance of which the patients complained. It is difficult to see how the difference in tolerance can be due to anything other than psychological causes.

—I am, etc.,

Edinburgh. R. H. GIRDWOOD.

SIR,—In their interesting survey of doctors' prescriptions (February 9, p. 292) Professor D. M. Dunlop and his colleagues refer to "shot-gun" preparations of iron, with folic acid, liver, or hog's stomach. They add the comforting statement that these combinations of substances are prescribed only rarely, though it is possible that analysis of "private" prescriptions might reveal a higher proportion.

Dr. S. Shubsachs (February 23, p. 437) and Dr. W. N. Leak (March 1, p. 484) infer that patients with iron-deficiency anaemias improve more rapidly when iron is administered together with folic acid. Since they do not offer any proof, one can only hope that their remarks are not indicative of a widespread prejudice in favour of such blunderbuss "haematinics."

No doubt the travellers in these commodities are very persuasive, and the attractive titles of the preparations suggest a benefit greater than that to be expected from time-honoured remedies, while the prescriber may be influenced by the common fallacy of confusing expense with value.

Whatever the reasons for their continued though, one hopes, limited use, I feel that it is time for the positive disadvantages of such preparations to be pointed out.

1. They obscure diagnosis. Since the preparations contain several substances, each of which would be capable, in *adequate* dosage, of curing different types of anaemia, the incentive towards making a correct diagnosis is lacking. If a temporary improvement, often called a "cure," results, the nature of the original anaemia remains obscure. In the case of pernicious anaemia even after discontinuing treatment the blood picture may be misleading for a considerable time, and both patient and doctor be lulled into a sense of false security.

2. The dosage of each of the constituents is inadequate to produce good results (with the possible exception of iron). The quantities of liver, yeast, and hog's stomach are too small to be of any therapeutic value, and their inclusion must be regarded simply as groundbait, whereas the inclusion of folic acid is positively dangerous. Patients suffering from pernicious anaemia and partially treated with folic acid are exposed, in a small proportion of cases, to the real risk of developing subacute combined degeneration of the cord.

3. These preparations are expensive. Iron-deficiency anaemias, that is, the only anaemias in which such combinations of substances can be given with safety, or with anything approaching adequate effect, are curable by cheaper and better methods.

—I am, etc.,

Bristol. J. NAISH.

What Doctors Prescribe

SIR,—The original article (February 9, p. 292) and subsequent letters have made thoroughly worth-while reading. Particularly those of Professor Dunlop, and the findings of the general practitioners, show a hope of future co-operation. Were a professional panel to produce annually, at the Ministry of Health's expense, a supplement of new drugs of proved worth therapeutically and economically for distribution to general practitioners, these gentlemen would be spared much anxiety and time, the State much expense.

I submit that the idea is not original. Its initial limited application to one of Professor Dunlop's areas would be ideal to test its practical value.

Subsequent alteration in prescription costs for the area could be readily seen. More important still, the general practitioner's constructive criticism would be available.—I am, etc.,

London, S.W.3. D. D. MACDONALD.

SIR,—Professor Robert Platt's remark about his "healthy contempt for most of the pharmacopoeia" of 1920 (March 1, p. 484), and the article by Professor D. M. Dunlop and others (February 9, p. 292), raise problems which have been

discussed repeatedly in this *Journal*. The understanding and treatment of organic diseases have progressed rapidly. We have powerful drugs and we can therefore afford to discard many pharmacological substances, the use of which could be excused as long as we had nothing better to offer to our patients. Yet many teachers of pharmacology continue to teach the use of outmoded drugs, and the students have to learn them. Most students are so impressed by the progress in the treatment of diseases that they are insufficiently prepared when in general practice they are called upon to treat patients who suffer from minor ailments which one does not often see in hospital and for many of which there is no treatment. In particular does the young doctor find it difficult to wean his patients—on whom he is financially dependent—from the use of drugs which are of no value.

While many illnesses have been wiped out or can be cured when they occur, the number of patients consulting doctors in general practice has not decreased. More and more we are coming to realize that the complaints of many patients can be properly understood only in terms of psychosomatic medicine, and most of these cannot be cured by the physical remedies at our disposal. Yet we are still inclined to behave as if the patients' illusion that health in all its aspects can be bought in the shape of a bottle of medicine or a tablet is correct.—I am, etc.,

Stockport. A. MODEL.

SIR,—The ability to assess the value of a drug requires accurate observation, intelligent interpretation, and unbiased judgment. Our profession is well trained in the first two faculties, and is above the average in the third, but then the average is deplorable. That truly objective judgment is a rarity in man, and virtually non-existent in women, can be seen by considering the variety of opinions one hears expressed on certain standard subjects.

The public's attitude towards medicines is more akin to superstition than to reason, and that this is true for all educational levels shows that education as we know it is not enough. My brother, a bachelor of laws and a solid citizen in other respects, attributes his relative freedom from colds this winter to his daily ingestion of a halibut-liver-oil capsule, despite the fact that his diet is in no way deficient. I have several patients who return year after year for anti-catarrhal vaccine, which they are convinced raises their immunity to colds; and yet controlled experiments in industry and the Services have proved that dummy injections are as effective. A doctor friend avidly consumes all his own samples of multivitamin capsules, and as many of mine as he can lay his hands on. The fact that his wife and children enjoy as good health as he, although denied these dietary embellishments, appears irrelevant.

Every child after the age of 5 should be imbued with a spirit of analytical scepticism, and training in objective judgment should be given a permanent place in school curricula.

Until such time as the public and, much more, the doctors have learned to take a more rational view of pill-swallowing, may I suggest that here is a fertile field for State enterprise? What is wanted is a small range of capsules in a variety of bright colours, and composed of some inert substance. The vast quantities required would enable them to be produced at negligible cost, perhaps 3d. per 100, and an additional advantage would be that their inert composition would render their exhibition less fraught with incidental hazards such as the gastric upsets and idiosyncrasies occasionally encountered in orthodox therapy. The range of colours would cover all common indications, and doctors would prescribe them in all cases in which no clear indication for drug treatment existed. The name of the preparation desired by the patient would be written out in full, followed by some agreed appellation to denote the dummy preparation.—I am, etc.,

Bridge of Weir, Renfrewshire. MUNGO B. HAY.

SIR,—Two points arise from the letter of Dr. Frewen Moor (February 23, p. 436). First, I also have felt this difficulty in ordering proprietary drugs because I cannot remember the pharmacopoeial equivalent. However, my attention was drawn to the *Index of Modern Remedies* (Mair, 1950, price 5s., published by *The Scottish Chemist*). This is easily accommodated in a doctor's bag and gives full lists of even the most recent proprietary drugs with their presumed action, forms of packing, pharmacopoeial equivalent, and in many cases also the price.

Secondly, with regard to his continuous colds, I presume Dr. Moor has had his sinuses examined. My personal experience is that this was the fundamental cause of such colds.—I am, etc.,

Ayr. W. O. G. TAYLOR.

Test for Anaemia

SIR,—I have seen a good deal of correspondence in the *Journal* lately about anaemia. It is very difficult for a busy G.P. to test the haemoglobin; he has not the time even if he has the instrument and ability. I have been a G.P. for over 40 years, and I know that very few G.P.s do test the haemoglobin. The following clinical test does not seem to be well known—it takes no time or trouble.

Give 30 gr. (2 g.) ferri et ammon. citr. thrice daily after meals. If this does not constipate much or even causes some diarrhoea the patient is anaemic and the iron will do good; if it constipates to the point of marked inconvenience she is probably not anaemic. A very simple test, it can do no harm and is right in 80% or 90% of cases. Sometimes ferri et ammon. citr. causes diarrhoea; if so, add liq. morph. 4 or 5 minims (0.3 ml.) to each dose. Tablets of ferri sulph. exsic. are of no use for this test.

I have used this test for over 20 years and found it most useful in the common anaemia of pregnancy and other anaemias. I discovered this about 20 years ago when I got anaemic and took ferri et ammon. citr., and to my surprise found that it cured my constipation, from which I had suffered nearly all my life.—I am, etc.,

Limpsfield. G. D. LAING.

Salivary Tumour of the Hard Palate

SIR,—With reference to the letter by Dr. A. T. H. Glanvill and Mr. B. Martyr entitled "Interesting Tumour of the Palate" (February 9, p. 329), the following account of a tumour of the hard palate should prove of interest.

A woman aged 62 had a three-years history of a swelling in the hard palate, causing no pain, only discomfort. The swelling, 2½ by 2 cm., was sessile, circumscribed and broad-based, softish in consistence, and there were no glands. Under gas and air the tumour was removed without difficulty in March, 1950. It had slightly eroded the hard palate. The incision was closed by sutures and compression applied. The patient made an uneventful recovery and there has been no recurrence so far. The pathological report was: "Section shows typical mixed tumour of salivary gland type with mucoid change in the stroma. There is no evidence of malignancy, but, as in their salivary counterparts, local recurrence is a possibility."

On looking up the literature I found that in reports of 419 salivary tumours 23 (about 5½%) were in the palate.—I am, etc.,

London, W.1. ARTHUR MILLER.

Shortage of X-ray Films

SIR,—After your masterly leading article (January 12, p. 94) and the letters of your contributors I think we may now safely surmise that there will always—in our time—be a shortage of *x*-ray film. Demand for film can, and must therefore, be reduced.

In the last thirty years many devices have been used successfully in radiography in which expensive double-coated film is not needed. There was no real need in the spacious days to use these devices regularly. In my own limited experience I saw the development of pin-hole minia-

'. . . Greater use might be made of penicillin by mouth . . . This method is suitable for adults as well as for babies and older children, and it is particularly convenient in general practice; its wider adoption would save doctors' and nurses' time and hospital beds, besides lessening the patient's discomfort.'

EDITORIAL (1951) *Lancet*, i, 725

ESKACILLIN 50 presents crystalline potassium penicillin G in a pleasantly flavoured aqueous vehicle — the ideal form for oral administration. The aqueous vehicle is buffered so that **ESKACILLIN 50** retains its potency for at least seven days after it has been dispensed.

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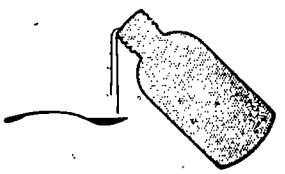

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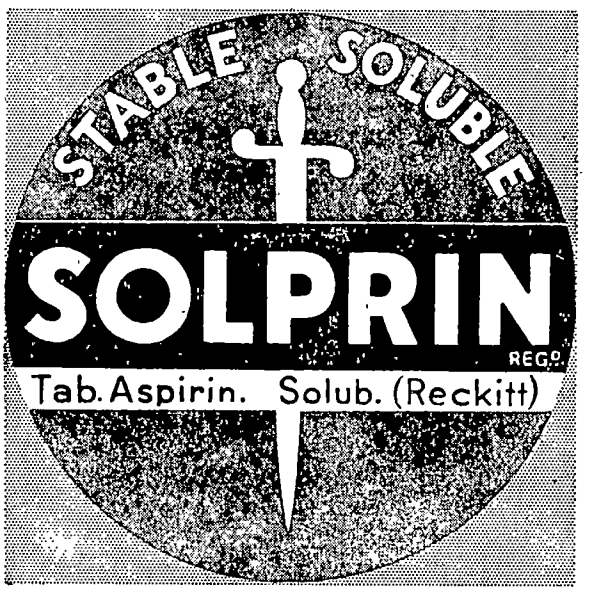
PIII

Aspirin tablets made soluble and palatable. A successful approach to a difficult problem.

It has long been known that aspirin, being an acid substance of low solubility, may act as an irritant to the gastric mucosa, producing inflammatory changes which may cause symptoms of dyspepsia. In massive dosage, or even in moderate dosage over a prolonged period, it may also, because of its acidity, encroach upon the alkali reserve. 'Solprin' tablets provide aspirin in a substantially neutral, stable, soluble and palatable form.



The therapeutic advantages of calcium aspirin over aspirin have long been stressed in medical literature. Aspirin is an acid substance only slightly soluble, and often behaving as a potential gastric irritant. Calcium aspirin, when free from decomposition products is neutral, highly soluble and bland. Unfortunately, however, calcium aspirin is unstable. The reaction by which it is produced is reversible, and the compound thus becomes increasingly contaminated with nauseous breakdown products, chiefly acetic and salicylic acids.

The difficult problem of the preparation of calcium aspirin in stable and palatable tablet form has now been solved. Solprin embodies all the virtues of aspirin, but is free from the above defects of this valuable analgesic and those of calcium aspirin as ordinarily available. When placed in water, Solprin tablets yield a solution of calcium aspirin which is substantially neutral and palatable.

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Stable, soluble, palatable calcium aspirin

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ture exposures from the actinic fluorescence of a screen in the middle 'twenties, and the use of bromide paper in the traumatic surgery of the Palestine fracas of 1935–7.

At the present time the greatest demand for large film is from tuberculosis clinics. In the last few years tuberculosis practitioners have come to rely solely on *x*-ray findings for both diagnosis and progress. It is my contention that the use of full-size film is not in all these cases justified. The original diagnosis may well be on the usual 15 by 12 film. The follow-up, the hordes of contacts, spread over a year or more, in most cases, are surely the case for which "mass miniature" came into being. The mobile mass miniature is nowadays but a bus-ride away in most regions.

Casualty and fracture work is efficiently performed on bromide paper, as is follow-up work in orthopaedics; one late film is all that is required in salpingography. In the majority of cases in barium meals, a serial-changer at the radiologist's screening session will give a concrete diagnosis, in good hands, on one film. One tomograph film, after a moment's thought, is as good as all the routine films at blunderbuss levels, in thick structures for which this technique was introduced. I submit that economy should not yet be applied to procedures which still show room for improvement. I instance cholecystography, pyelography, arteriography, and skull work. The amount of film likely to be used for these is trivial. A camera adaptation has been devised in my area which will have the approval of even the most financially embarrassed management committee. Its cost is a bagatelle, its upkeep is that of an amateur's camera, and its construction is within the scope of the hospital handyman. The details will shortly appear in the radiographers' technical journal, for anyone who may be interested.—I am, etc.,

West Norfolk. G. E. CHURCH.

Sterilization of Woollen Fabrics

SIR,—With reference to Dr. H. F. Barnard's paper on the sterilization of woollen fabrics (January 5, p. 21), I can confirm his findings regarding hypochlorite treatment of blankets not being adequately bactericidal. In tests carried out over a period of three months at a hospital laundry it was found that when blankets were washed with soap in the normal way the wash liquors and rinse waters soon became heavily contaminated. Starting with uninfected water and washing one load of 30 blankets, the total bacterial count of the wash liquor was of the order of 1,000,000 organisms per ml. with presumptive coliforms present in 0.01 ml. Next, sodium hypochlorite was added to the wash liquor to give 200 p.p.m. available chlorine together with a synthetic detergent in place of soap, and another load of used hospital blankets washed. Over a period of time only a slight improvement bacteriologically, as compared with results from normal soap washes, was noted. In a matter of seconds the hypochlorite reacts with the wool protein, and there is no available chlorine present to kill micro-organisms.

In direct contrast to this, quaternary ammonium compounds (Q.A.C.), as pointed out by Dr. Barnard, retain their germicidal properties when adsorbed on to woollen fibres, at the same time controlling infection in the wash and rinse liquors. Many types of Q.A.C. can be shown to be effective. An example is tetra decylpyridinium bromide; when adsorbed on to hospital blanket fibres its growth-inhibitory action against *Staph. aureus* can be clearly shown (see Fig.). For practical purposes it is important to remember that if blankets are first washed with soap, as is the common practice, then the bactericidal efficiency of any subsequent Q.A.C. disinfectant rinse will be reduced because the Q.A.C. will to some extent be neutralized by the soap residues in the fabric.

To effect economy in practice it is advisable to use a non-ionic detergent in place of soap. The Q.A.C. treatment may then be applied in the final rinse. Dosage will depend on the weight of blanket fabric washed, the type of Q.A.C. used, and to some extent on the mode of washing. Although the process is perfectly simple it is wise to seek expert advice in the first place and later institute bacteriological control at the hospital laboratory on blanket fibres, wash liquor, and rinses.—I am, etc.,

London, W.1. CHRISTINA M. COUSINS.

A.C.T.H. and Cortisone in Leprosy

SIR,—I have read with great interest your leading article "Cortisone and Tuberculosis" (December 29, 1951, p. 1570), in which you discuss the action of A.C.T.H. and cortisone in tuberculosis, and the difficulties and dangers attending their use in this disease.

I have recently been studying the action of A.C.T.H. and cortisone in the sister disease, leprosy, in which the same relief of symptoms attends the use of these hormones, but in which also their use is attended with difficulties and dangers. The following is a brief extract from a summary report on this subject.

Knowledge of leprosy and its complications ("reaction," acute neuritis, acute eye inflammation, etc.), and of A.C.T.H. and cortisone and their mode of action in other diseases, suggests that these hormones might relieve the acute symptoms of leprosy, which can be very troublesome, but they are not likely to benefit the leprosy itself, and might even aggravate it by diminishing or abolishing the tissue reaction which keeps the disease in check. If these expectations are fulfilled the question arises whether by careful regulation of dose, and by continued or intensified chemotherapy given at the same time, it might be possible to secure the good effects of hormone treatment and avoid the bad ones.

Trials of A.C.T.H. and cortisone in the acute and subacute complications of leprosy have been carried out here. Thirty-eight such cases have been treated and studied during a period of four months.

In all cases the immediate response to treatment has been excellent. Severe "reaction," acute neuritis, and severe eye inflammation have been relieved within a day or two. The cessation of treatment has, however, been far too often followed by a recurrence of the symptoms, and also by the development of other complications, and further treatment has given only temporary relief, followed by complications becoming more severe and more frequent, and definitely indicating an aggravation of the leprosy. All attempts by modification of dosage to prevent this deterioration have failed, and the conclusion is that, in general, the use of these hormones is contraindicated in leprosy.

There are, however, two ways in which these hormones are of great value in leprosy. In sulphone sensitization, with drug fever, dermatitis, hepatitis, etc., which may be so severe as to endanger life, a three-day course of A.C.T.H. or cortisone is enough to set the patient well on the way to recovery, although occasionally a second course is needed; in leprous eye inflammation the local use of cortisone in the form of eye drops appears to be of great value in preventing serious damage and possibly blindness. Neither of these procedures has been followed by an exacerbation of the leprous process. A report is in preparation.

—I am, etc.,

Uzuakoli, E. Nigeria. JOHN LOWE.

Cortisone in Rheumatism

SIR,—Dealing with the complications of cortisone therapy Dr. W. S. C. Copeman and his colleagues in their paper (February 23, p. 397) say: "The preoccupation of many observers with these mild side-effects reminds one of a house-proud woman overconscious of a speck of dust which the visitor has not noticed." Many readers, I feel sure, will disagree with their estimate of the importance of these side-effects. Intestinal perforation and haemorrhage, hypertension, and glycosuria, sodium retention and potassium depletion, the development of a modified Cushing's syndrome

—all these add up to more than a speck of dust. It is, however, with the significance of the complications rather than their severity that I am concerned.

Very often a study of the side-effects of certain forms of therapy reveals a lot about the mechanism of the disease under consideration. I have not myself introduced any form of drastic treatment in disease, but I have witnessed the effects of some heroic, not to say peculiar, forms of therapy in leprosy and rheumatism. A recession of lesions in leprosy—cure of a kind—followed such treatment as intravenous tinned milk, intravenous sodium salicylate, intravenous dyes and chemicals of uncertain constitution, potassium iodide in doses of half an ounce daily, and so on. The author who introduced intravenous tinned milk observed that the patient complained of precordial pain and often collapsed on the roadside where the injection was given. His relatives picked him up and took him home and noticed the recession of lesions in due course. At a recent meeting of the Royal Society of Tropical Medicine and Hygiene at which leprosy was discussed the favourable effects of A.C.T.H. on lepra reaction were mentioned, but I was disappointed to note that there was not a single reference to dye therapy or tinned milk. Really there is no need for authors to blush at the mention of previous drastic treatments in leprosy or rheumatism. The original findings, published in all sincerity, were correct. It often happens that subsequent observers emasculate the therapy in their efforts to avoid toxic effects and so it falls into disuse. But this does not mean that the original therapy did not produce a recession of lesions as well as side-effects. Instead of trying to write down or minimize the value of the complications in each case it would be more profitable to inquire what cortisone and tinned milk have in common.

Before the advent of cortisone I was able to show (*Ann. rheum. Dis.*, 1942, **3**, 89) that all the agents which effected cure in leprosy and rheumatism had some debilitating or toxic effect. We can easily recognize it in a long list of agents known to produce cure or recession of lesions—for example, gold and heavy metal therapy, pregnancy, major operations, toxic and infective hepatitis, and, recently, hypoglycaemia in rheumatism; malaria in general paralysis; hypoglycaemia, electroconvulsive therapy, and leucotomy in schizophrenia; pregnancy, prolonged arsenical therapy, and hypervitaminosis D in psoriasis.

The inflammatory reaction which is the basis of rheumatism and leprosy, and the behavioural reactions of schizophrenia, are dynamic in nature. What is more natural than that they should be toned down or suppressed in circumstances of debility or trauma? We may be deluding ourselves in trying to believe that cortisone has some mysterious endocrinological effect which rights what is wrong in rheumatism and that the side-effects are unfortunate accidents to be eliminated by further experience.

In Dr. Copeman's series nearly half the patients showed some obvious manifestations of hyperadrenalism. The side-effects were reversible, and so, for that matter, was the cure. Other authors have described the same phenomenon, and Sprague (*Amer. J. Med.*, 1951, **10**, 567) goes so far as to say: ". . . A state of hormonal excess of some degree must be established before a favourable clinical effect can be achieved." When authors record that in a given case the drug had to be discontinued because of side-effects and that relapse followed, they also imply that so long as there was a state of hyperadrenalism there was no rheumatism. There is no evidence of adrenal or pancreatic deficiency in rheumatism any more than there is evidence of vitamin-D deficiency in lupus vulgaris. Cure in these diseases is associated with *hyper*adrenalism or *hyper*insulinism and *hyper*vitaminosis D respectively.

We have, therefore, to consider two propositions. Cortisone cures rheumatism and it produces profound alterations in metabolism; or cortisone cures rheumatism *because* it produces profound alterations in metabolism. The first proposition might reduce the value of the side-effects to a speck of dust. The second brings out their true significance. The cortisone therapy of rheumatism may be more elegant than the tinned-milk treatment of leprosy, but the same factor of debility is quite evident in both.—I am, etc.,

Bristol WILLIAM HUGHES.

SIR,—The report by Dr. W. S. C. Copeman and others (February 23, p. 397) is the most objective and helpful paper published in this country. One expression, however, I would cavil at, the use of the phrase "suppression of symptoms." Surely the arrest of fibroblastic activity and the associated diminution in joint swellings are indicative not merely of symptomatic suppression but of actual therapeutic value, either of cortisone itself or of its power to liberate the repair mechanisms of the body?—I am, etc.,

Sunderland. W. GRANT WAUGH.

Critique of Therapy in Rheumatoid Arthritis

SIR,—The tragic effect of premature publicity on true scientific advance is now nearly complete with the publication of Dr. J. J. R. Duthie's report on "Rheumatic Diseases in the U.S.A." (February 16, p. 341), and so it may be opportune to review briefly the unscientific and often puerile attempts made during the last few years to explain these diseases and the results of steroid treatment by theories which could not be upheld, except by ignoring a wealth of knowledge already verified by past experience. That such a review is necessary I have no doubt, since it is possible that a new therapeutic attack is imminent which, based as it is upon a theory at present unsubstantiated by adequate data, has already led to trial treatment by one of the newer antibiotics with "suggestive" results.

Prior to his paper (*Proc. Mayo Clin.*, 1949, **24**, 181), Hench had expressed the opinion that the pathological changes in rheumatoid arthritis were reversible, basing this view upon the amelioration which often takes place during pregnancy and infective hepatitis. That such improvement takes place is common knowledge, but it is equally true that the disease again advances when the physiological or infective process comes to an end. The same sequence of events occurs in psoriasis, but it is not so widely reported that these diseases may in fact deteriorate, and I have personally observed cases of rheumatoid arthritis and psoriasis in which signs and symptoms were *aggravated* by pregnancy. It is hardly necessary to point out that the scaly patches on the skin in psoriasis are a sign of the disease and not the disease process itself. This distinction is important, since the disappearance of these patches merely removes a sign, leaving the dynamic cause completely unaffected.

The easy acceptance of reversibility, coupled with the dramatic effects of cortisone, led to the belief that the problem of rheumatoid arthritis was near final solution. Selye's work, the importance of which has been obscured by the many and vain attempts made to twist its findings to explain the action of A.C.T.H. and cortisone, led to the popularity of the word "stress" for the aetiological agent. I found it very difficult to get a definition of this term stress, but after much discussion it appeared that "any noxious stimulus" could under certain circumstances fill the bill, with the result that really anything harmful could cause rheumatoid arthritis. Was the popularity of the word due to the fact that it could mean all things to all men—i.e., psychological to the psychiatrist, infective to the bacteriologist, etc.?

But, even so, there were difficulties, since it afforded me no explanation of the fact that rheumatoid arthritis is primarily a disease of women, and I felt that it was carrying feminism too far to believe that they are exposed to the action of stress more than their male counterpart. Again, the ready dismissal of a specific infective agent was difficult to understand, since rheumatoid arthritis carries so many facets pointing to infection. The fact that no such agent has been discovered even after many years of patient research militates not one jot against such an explanation.

Rapidly the picture took shape as cortisone and A.C.T.H. were found to have effects on many other diseases, and so the "collagen group" became the convenient pigeonhole for many of our obscure disease problems, which, although having some common pathological features, nevertheless are quite distinct in their clinical signs and symptoms.

Now and then during the past few years some were heard questioning the basis on which all this superstructure was built, but the chorus of enthusiastic followers of cortisone therapy (swelled from time to time by "fellow travellers" with useless reports on the efficacy of related steroids) denied them a hearing until now, when after a few years' experience with this substance it is realized that the problem of rheumatoid arthritis is as obscure as ever.

I think it will be admitted that after an unbiased perusal of Duthie's report we may conclude that cortisone and A.C.T.H. have no effect whatever on the cause of rheumatoid arthritis.

They are powerful two-edged physiological weapons which can temporarily obscure the signs and symptoms of certain diseases (and incidentally, from another point of view, intercurrent disease), and repair is not a concomitant of the period during which signs and symptoms are suppressed.

Their use as a therapeutic agent is attended by grave dangers (now especially that cortisone can be dispensed in tablet form), and, since cessation of treatment is followed by relapse and often deterioration, restriction of their use is strongly indicated.

It appears that the "collagen group" may be on its way out, but, unfortunately for our patients, only as a term.

Finally, to point a moral, may I refer again to a portion of Duthie's report touched upon in my opening paragraph dealing with the work of Wickelhausen? This worker suggests that organisms of the pleuropneumonia-like group may act as the antigen in rheumatoid arthritis, and then on this assumption proceeds to use "terramycin" as a therapeutic agent. The clinical response to this therapy is listed under three headings: (1) gradual improvement, (2) reactivation after withdrawal of the drug, (3) severe exacerbation after a single dose, thought to be due to the destruction of the organism with the release of antigenic material. Here we have the ingredients of another muddled pie of "suggestive" trials, and I fear that soon a new wave of enthusiasm for this new therapy may develop, leading to numerous papers showing masses of statistically significant results of cure, near-cure, and improvement. Therefore let it be stated now categorically that as yet the role of the pleuropneumonia-like group of organisms in disease is unknown and that they cannot be identified with any particular disease process. Any suggestion, therefore, that clinical observations following the use of terramycin in rheumatoid arthritis have the slightest value as evidence that these organisms have any aetiological significance, and any conclusions drawn therefrom, are completely unwarranted.

To condemn treatment by terramycin does not imply that I deny that the pleuropneumonia-like group can play an important role in rheumatoid arthritis. That they may do so is in my opinion possible, since these organisms have been often found in cases of so-called non-specific urethritis in the male, and when it is realized that in cases of this nature a rheumatoid-arthritis-like complication—especially in those following sexual exposure—is common the inference is obvious. Until, however, it is settled what role, if any, this group of organisms plays in the pathogenesis of disease, let us keep our theories as theories, since much disappointment will result from unfulfilled expectations of a therapy based on such flimsy grounds.—I am, etc.,

London, W.1. F. L. LYDON.

Splenins A and B in Rheumatoid Arthritis

SIR,—May I pick a statistical bone with my good friends Drs. G. D. Kersley, D. Watson, and L. Mandel?

In their letter (February 23, p. 438) they write, "Our mean bleeding-time . . . was 97 seconds (S.D. ±26 seconds, n=95)." This is improper from the point of view of both purity of statistical thought and clarity of expression. Standard deviation (S.D.) "is a measure of the scatter of the observations around their mean" (Bradford Hill). It is measured in the same units as the observations and is a positive measurement. The ± sign after a mean is used to indicate the error of the mean, the standard error or the probable error. The error of the mean should not be loosely confused with the standard deviation of a set of observations. Later in the letter they write, "80 bleeding-times . . . gave a mean . . . for B 201±58." The reader is left confused: does ±58 refer to the error of the mean or the standard deviation?

These comments are not merely of academic interest but of practical importance. Let us examine the figures I have quoted, assuming that all figures after the ± sign refer to standard deviations. The problem is to decide: is the difference between the two means 201 and 97 seconds, that is 104 seconds, significant? The standard error of the difference may be calculated from the formula $\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}$, giving a value of 7 seconds. The observer is at liberty to choose any level of significance he wishes. Twice the standard error is usually adopted, meaning the difference would occur by chance only once in every twenty trials. Thrice the standard error would be achieved by chance only once in 370 trials. In the case we are considering the difference of the means is nearly 15 times its standard error. If the samples are regarded as too small for this treatment, Fisher's extension of Student's theorem to the comparison of two means could be applied and a precise measure of the probability of this difference occurring by chance made.

If these workers had had a clearer idea of what is meant by standard deviation and the error of a mean they would have been able to state not only that their results supported "to some extent" Ungar's figures, but to what extent in terms of probability, and saved themselves the labour of considering other methods of investigation. I am reminded of the teacher who asked the student, "What is the bleeding time?" and the student replied, "Five-thirty, plus or minus three minutes."

—I am, etc.,

Flimwell, Kent. GEOFFREY E. LOXTON.

SIR,—With reference to Dr. G. E. Loxton's criticism of our letter published in the *Journal* of February 23 (p. 438) we are well aware that S.D. is a measure of scatter and agree that it would have been more correct to repeat S.D. through the letter in place of the ±. We purposely did not attempt to come to anything but negative conclusions, not because of our inability to work out the standard error, but because of our practical assessment of the method. While we recognize the essential value of statistical analysis of figures, we are of the opinion that the wrongful application of statistics to unsatisfactory experiments may apparently prove what is not true.—We are, etc.,

G. D. KERSLEY.
D. WATSON.
Bath. L. MANDEL.

Treatment of Hypoprothrombinaemic Haemorrhage

SIR,—For many years it has been known that vitamin-K analogues correct the hypoprothrombinaemia associated with certain types of jaundice. The response in these cases is always more rapid when these water-soluble products are given intravenously. Drs. A. S. Douglas and Alexander Brown (February 23, p. 412) have investigated the action of vitamin-K preparations on the hypoprothrombinaemias induced by dicoumarol and "tromexan," and they suggest that vitamin K_1 (2-methyl-3-phytyl-1:4-naphthoquinone) is the only preparation which would act as a reliable antidote if a haemorrhage was to occur during treatment.

With proper laboratory control dicoumarin drug therapy should now be fairly free from haemorrhagic complications. This is no doubt the reason why these workers were unable to furnish us with an example of any such case treated with vitamin K_1. The vitamin is not easily obtained and the mode of administration advocated by them far from perfect. I refer in particular to the large volume of fluid (500 ml. 5% glucose containing 200–400 mg. vitamin K_1) and the length of time for its infusion—that is, 5½ hours.

Haemorrhagic complications during dicoumarin drug therapy are either moderately severe (haematuria, epistaxis) or very severe (cerebral haemorrhage, haemopericardium). The moderately severe cases clear up on withdrawing the drug and administering vitamin-K analogues intravenously. I reported such a case two years ago (*British Medical Journal*, 1950, 1, 183).

The severe cases of haemorrhage are hopeless and they die in a matter of minutes or a few hours. Drs. Douglas and Brown are optimistic if they believe vitamin K_1 is going to save such cases.

Of all the cases which they treated, in their endeavour to prove the superiority of vitamin K_1 over the vitamin-K analogues, only two could be said to have prothrombin levels which I could consider in the danger zone. Both were on tromexan.

With tromexan there appears to be less need for anxiety until the prothrombin activity is below 10% of normal. I have records of several patients where this occurred, and, on withholding the drug for 24 hours *without any vitamin-K*

analogue being given the prothrombin activity was then found to be over 50%. The two cases alluded to would appear to have reacted in a similar way.

On the other hand, when patients on dicoumarol are found to have a prothrombin activity in the region of 10%, although no haemorrhage has occurred, I have found vitamin-K analogues of value. The dicoumarol is withheld and a small dose of one of these analogues given intravenously. This has always prevented a further fall in prothrombin activity, and in fact an increase to a level of about 20–30% is found next day. The dicoumarol treatment is then continued with carefully graded maintenance doses.

I am afraid the advantages predicted for vitamin K_1, alas, can be evaluated only when a case on dicoumarin drug therapy, complicated by a severe haemorrhage, is treated with this new antidote.—I am, etc.,

Manchester. H. LEMPERT.

Habitual Abortion

SIR,—Dr. D. C. A. Bevis (February 23, p. 440) says, "I await with great interest the results of a series of patients treated by Drs. Bishop and Richards with the implantation of inert tablets." This presumably refers to the following sentence in our paper (February 2, p. 244): "There is of course an obvious way of settling the question whether a progesterone implant is endocrinologically or merely psychologically therapeutic—namely, to treat alternate cases with implants of progesterone and an inert compound such as cholesterol." We would like to point out that this does not mean that *we* intend to carry out this experiment—indeed, we do not. It is still our personal impression that a woman who has had two, three, or more previous "idiopathic" abortions before the end of the fifth month of pregnancy stands a better chance of bringing her next pregnancy to a successful termination if she receives a progesterone implant. Whether she stands this better chance because of the endocrinological, psychological, or any other effect of the implant is, to our mind, beside the point.

On the other hand, if there are gynaecologists who genuinely and sincerely believe that there is no treatment that improves the success rate in cases of habitual abortion they would, in our view, be doing a valuable piece of work by implanting alternate patients on the one hand with progesterone and on the other with an inert compound. We believe that this would provide a better index of the part played by psychotherapy (if any) than would be obtained by giving the patients no treatment whatever, as Dr. Bevis and your leader writer suggest. The person who conducted such a study would need to be endowed with an extremely forceful personality if, in these days when even the patient herself has been led to understand by hearsay that there is some kind of treatment for cases of habitual abortion, he can persuade the patient and her doctor that no treatment is better than, or at least as good as, some treatment and can ensure that the patient will not sneak off to another gynaecologist or undergo some form of treatment on the sly.

Even supposing such a strong-willed individual were successful in collecting this no-treatment series, could it be regarded as having satisfied the principles of random sampling and therefore reflect the true incidence of habitual abortion any more faithfully than the figures provided by Eastman and Malpas, about which your leader writer makes the criticism that "though Malpas's and Eastman's figures may have applied to the populations they were studying, they may not, nevertheless, have universal validity"?

It may turn out that the spontaneous cure rate is far higher than has been generally supposed, as your leader writer suggests, but we should be surprised if it becomes an established fact that 85% of women having had two consecutive idiopathic abortions before the end of the fifth month will bring their next pregnancy to a successful termination or that 72% of those who have had three or more consecutive abortions will produce a live baby as the result of their next pregnancy. So long as we can achieve such results, however, following progesterone implantation, we shall consider ourselves morally obliged to continue implanting progesterone.—We are, etc.,

P. M. F. BISHOP.
London, S.W.3. N. A. RICHARDS.

Intra-partum Uterine Rupture

SIR,—I have read with considerable interest the medical memorandum by Mr. Robert Hodkinson (February 9, p. 308).

In a recent case, where rupture of a previous classical caesarean section scar occurred before the onset of labour, the patient was at her home in a state of extreme collapse, but blood transfusion of five pints (2.8 litres) of blood was undertaken over a period of two hours before she was moved. As a result of this her condition was sufficiently improved to make laparotomy and hysterectomy a comparatively safe procedure, and she made a very rapid and completely uneventful recovery.

The point I should like to make is that the firm contraction of the uterus which Mr. Hodkinson mentions was so marked that the uterus was, in fact, turned inside out and complete haemostasis had been secured as a result of this. It would seem, therefore, that if this is a common finding in these patients there should be no question of rushing prematurely into operation, but that they should be retained where they are until adequate resuscitation has been carried out. The uterus, once it has emptied itself of its contents, is likely to arrest its bleeding spontaneously and will therefore allow ample time for transfusion before the patient is moved. It is the moving before resuscitation that is so often fatal in these cases, and attention to this point may do much to reduce the mortality of a very dangerous accident of pregnancy.—I am, etc.,

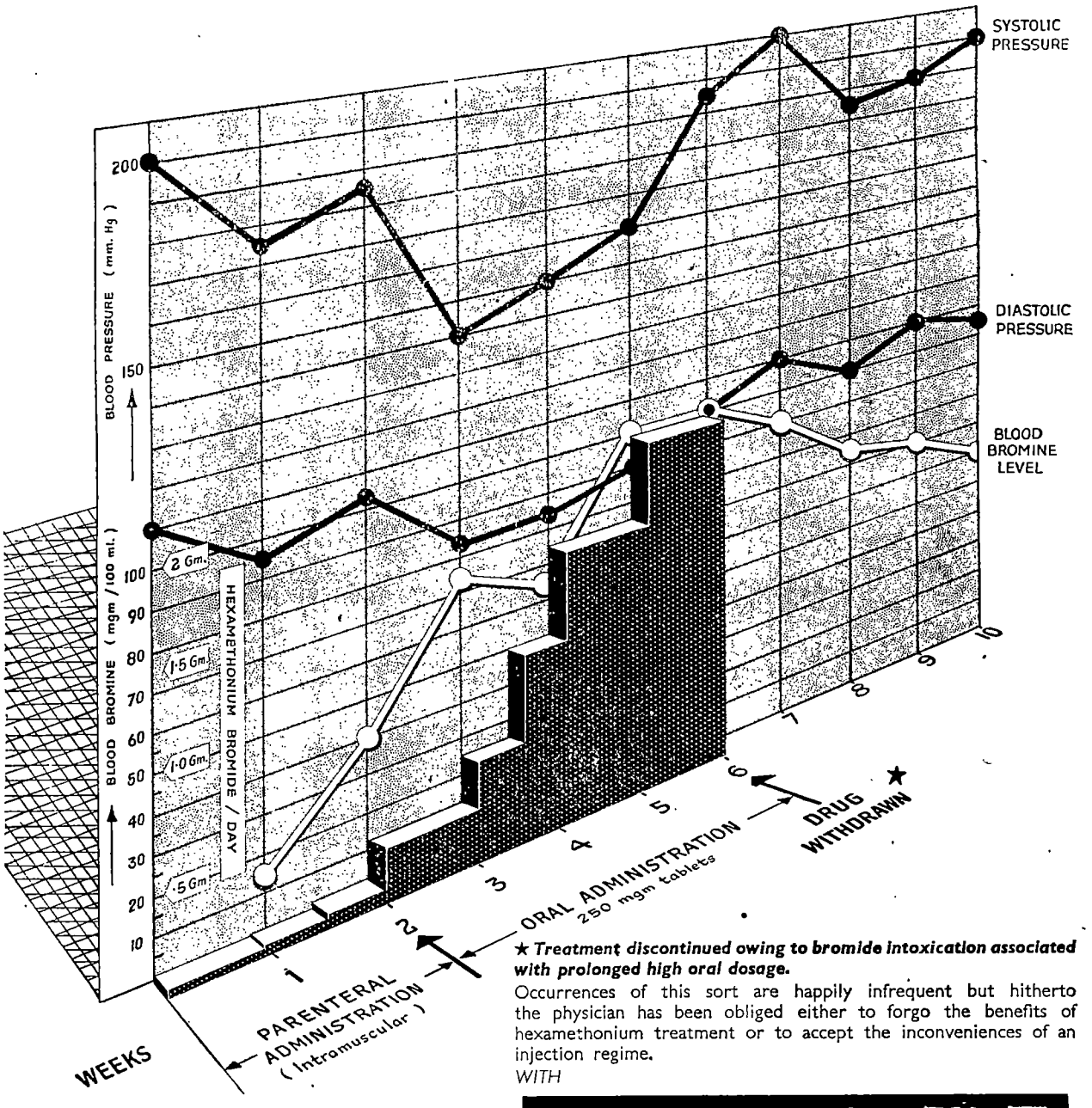
Worcester. J. A. CHALMERS.

SIR,—Dr. T. F. Redman (February 23, p. 438) and I have no difference of opinion regarding the more serious nature of the spontaneous lower segment rupture as compared with rupture of the lower segment section scar. The latter is a herniation through fibrous tissue, self-limiting in extent—at any rate for some appreciable time—as was so patently shown in the paper by Drs. Dewhurst and Rowley (*J. Obst. Gynaec. Brit. Emp.*, 1951, **58**, 630). The spontaneous rupture is a tearing and separation of muscle fibres, with no limiting boundaries in the uterus. The figures which I quoted in my article (February 9, p. 308) clearly prove that lower segment ruptures (as a group) are more serious than upper segment ruptures. A number of these cases of lower segment rupture do not reach the hospital, and are certified as deaths from obstetric shock, and not until all cases of maternal death are examined post mortem can the full extent of the problem be known.—I am, etc.,

Church Village, near Pontypridd. ROBERT HODKINSON.

SIR,—The following case history bears out Dr. T. F. Redman's comments (February 23, p. 438) on intra-partum rupture in a subsequent pregnancy of a previous lower uterine segment caesarean section scar.

The patient, a married woman of 17, was delivered of her first child by lower segment caesarean section on November 29, 1949, following a trial of labour. The child's head was abnormally large, and, although a mild degree of hydrocephalus was considered to be a possible cause, this diagnosis could not be established until after birth. The birth weight was 9 lb. 5 oz. (4.2 kg.). The mother's pelvis was clinically and radiologically normal. To avoid undue lateral extension of the transverse incision in the lower uterine segment during the delivery of the head a short vertical incision was made into the upper segment in the midline, making the incision T-shaped. This wound was closed in the manner described by Mr. D. G. Wilson Clyne (February 19, 1949, p. 323). There was moderate pyrexia during the first four days of the puerperium, which responded to treatment with sulphathiazole and penicillin. Thereafter the mother's progress was satisfactory and she was discharged on December 18. The child died on February 16, 1950.



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The patient became pregnant again at an early date, the expected date of confinement being October 31, 1950. Her pregnancy was uneventful. She was admitted to hospital on November 3. There was no disproportion. Labour began on November 9, following surgical induction. The first stage lasted about five hours. Early in the second stage, by which time the vertex was engaged, a change in the shape of the abdomen was observed. The portion of the uterus below the umbilicus appeared broadened and foetal parts were so readily palpable as to indicate uterine rupture. The patient's condition was good and strong uterine contractions continued. On opening the abdomen the lower segment was found to have ruptured without bleeding having occurred. The edges of the previous wound in the lower segment were separated and the gap bridged by intact membranes. The sac was ruptured and a living male child weighing 6 lb. 15 oz. (3 kg.) was extracted. The tissues of the lower segment were so thin and deficient that there was no safe alternative to subtotal hysterectomy. Both mother and baby made good progress and were discharged on November 26.

—I am, etc.,

Stockport. W. LOVE.

Scientific Exhibition at the Annual Meeting in Dublin

SIR,—We would like, through the medium of the *British Medical Journal*, to draw attention once more to a new feature which is being introduced at the Joint Annual Meeting of the B.M.A. and I.M.A. in Dublin this July.

This will consist of a series of scientific exhibits, each staged in a stand having an open front of about 10 ft. These exhibits will demonstrate the newest ideas in various branches of medicine and surgery and will be open to all members attending the meeting; a member of the profession will be in attendance at each stand to deal with any queries.

The scheme in this, its first year, will necessarily be small in extent, and those wishing to avail themselves of space should apply as early as possible, so that the organizers may make adequate arrangements. The general pattern will follow, on a much smaller scale, the exhibitions held at the annual meetings of the American Medical Association. Originality in display will be welcomed, and charts, drawings, specimens, and other displays can be provided with lighting, which should increase the value of the display. No charge will be made for stands, nor for reasonable lighting.

Full particulars of the stands and details of method of application will be found on page 100 of the *Supplement*.—We are, etc.,

R. A. Q. O'MEARA. M. D. HICKEY.
Dublin. W. J. E. JESSOP. D. K. O'DONOVAN.
Organizing Committee, Scientific Exhibition.

POINTS FROM LETTERS

Prostatic Obstruction and Hernia

Mr. J. CLAPHAM COATES (Hull) writes: Mr. Thomas Moore's medical memorandum (February 16, p. 362) rightly advocates the simultaneous treatment of hernia and the causative prostatic obstruction. Another simple method of attaining the same end is to take advantage of the exposure of the prostate to gain access to the internal aspects of the femoral or inguinal canals as originally proposed by Henry. This adds very little to the operation. Henry's method is a very good one for femoral hernia as a routine, but its value in oblique or direct inguinal hernia is more debatable and I use it for these only where there is associated prostatism. I agree with Mr. Moore that, with modern chemotherapy, the disadvantages are mainly theoretical. Elderly patients are always very pleased to part with two disabilities at one operation.

Pink Disease and Infections in Infancy

Dr. W. J. M. MCLEOD (Belfast) writes: I read with interest Dr. A. S. Cook's letter (February 16, p. 383) on pink disease. Before the advent of antibiotics I saw an infant with typical pink disease well established for six weeks, when it developed whooping-cough. Treatment consisted of vitamin supplements, especially B complex The whooping-cough proceeded to a moderate attack without complications. In three weeks' time there was neither sign nor symptom of pink disease. In a brief search of the literature at the time I could not find any similar occurrence reported, but did find a statement that in Australia pink disease had been cured by an attack of measles. There would appear to be scope for investigation of the relationship between pink disease and the common infections of infancy by someone able to cast a wide net.

Forgotten Tourniquet

Dr. C. D. SANDERS (Kuala Lumpur) writes: It is nowadays understood that not only shall the person putting on a tourniquet be responsible for timing and also removal of it, but the anaesthetist, as it is put on under his supervision in the anaesthetic room in the majority of cases, shall also share the responsibility, leaving the surgeon, freed of clock-watching, to press on with his task. Various devices, such as egg-timers, stop-watches, and tying the anaesthetist's wrist or gown to the end of the tourniquet tape, have been used, but none are altogether satisfactory. The most satisfactory device I have so far come across is a timer which can be set for any number of minutes up to one hour, and when the allotted time has expired a bell rings. It is attached quite simply to the anaesthetic machine. The obvious advantage of such a timer is that the automatic ringing of the bell informs everyone in the theatre that the allotted tourniquet time has expired.

Medico-Legal

DAMAGES FOR PERSONAL INJURIES

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

In civil actions arising out of personal injury or death the task of compensating the victim in terms of money falls upon the jury if there is one. If there is not it falls upon the judge. Either party can appeal to the Court of Appeal if dissatisfied with the amount awarded, but the Court of Appeal will interfere only if the court below either took into consideration or omitted from consideration something which in law it should not have done, or arrived at a figure which in the view of the Court of Appeal was wholly unreasonable. There is a further appeal by leave only to the House of Lords. Whether such an action is tried at first instance by a judge and jury, or a judge alone, depends on whether either party asks for a jury.

The difficulties involved in assessing a proper amount have been commented on in the Court of Appeal[1] in an action in respect of personal injuries to a boy of 6 who was knocked down by a motor-cycle. As a result of injury to his head his whole personality had been changed, and from a bright intelligent boy he had become irritable and irresponsible in his actions. The court of first instance, sitting without a jury, awarded him £5,000 damages, and the appeal was brought on the ground that the award was inadequate.

The Lords Justices in dismissing the appeal said that in cases of serious personal injuries it was most desirable that damages should be assessed by a jury. To make such an assessment was one of the most difficult tasks which fell to a judge sitting alone In the past, most such cases had been tried by juries, and then there was a period when insurance companies thought a judge would not be as sympathetic as a jury and juries went out of fashion. Later, insurance companies concluded that a judge was apt to give more damages than a jury, and they became more attached to juries.

Lord Justice Singleton added that in his view the time of the courts would be saved if in cases of serious personal injury damages were assessed by a tribunal composed of three judges of the King's Bench Division. He thought they would reach a decision on a more stable basis than had been reached so far in the assessment of damages, and he thought their decision should be final.

This suggestion should be of particular interest to the medical profession and to the Ministry of Health, because serious personal injuries or death are involved, as the readers of these columns will be well aware, in nearly all actions for professional negligence against doctors and hospital authorities.

[1] *Manchester Guardian*, July 4, 1951.

Obituary

Sir CHARLES SHERRINGTON, O.M., G.B.E., M.D. F.R.C.P., F.R.C.S., F.R.S.

The death on March 4 of Sir Charles Sherrington at the age of 94 is the passing of the man of genius who laid the foundations of our knowledge of the functioning of the brain and spinal cord. His classic *Integrative Action of the Nervous System* (1906) is still a source of inspiration to physiologists all over the world; it was reprinted as recently as 1947 for the first post-war International Congress of Physiology. His work did for neurology what the atomic theory did for chemistry. Neurones were shown to be the functional units of the nervous system, and their orderly interaction on one another through synapses—a term he invented—formed the basis for understanding of reflex action and of many common clinical conditions, such as tabes dorsalis and hemiplegia. He received many honours, including the Order of Merit in 1924, and in 1932 the Nobel prize in physiology and medicine jointly with Dr. E. D. Adrian.

[Allan Chappelow, B.A.

Charles Scott Sherrington was born in London on November 27, 1857, and educated first at Ipswich Grammar School. He then began his medical studies at Edinburgh, but was soon transferred to Cambridge to be with his brother, and he entered Caius College, where he was later to be a Fellow and then an Honorary Fellow, in 1880 when he was nearly 23. At this time the notable part of the Cambridge Medical School was the physiological department, which had been built up by Sir Michael Foster and which contained such men as W. H. Gaskell and J. N. Langley, both working on the physiology of the nervous system. In fact Sherrington published his first scientific paper with Langley in 1884, the year in which he went down to begin his clinical studies at St. Thomas's Hospital, and the subject was a histological study of the brain of a dog on which F. L. Goltz, of Strasbourg, had previously demonstrated the physiological effects of decortication. Before he qualified M.R.C.S. in 1885 he had also found time to go to Alsace for a brief while to work with Goltz.

At this formative period he was not yet committed to neurology. In the summer of 1885 he was sent by the Royal Society, with C. S. Roy and J. J. Graham Brown, to study a cholera epidemic in Spain, and in the following year for a similar purpose to Italy, afterwards going on with his necropsy material first for two months to Virchow's laboratory in Berlin and then transferring to that of Robert Koch, where he stayed nearly the whole of 1887. During this time he attended courses on bacteriology and histology, including one by Waldeyer, who in 1891 was to establish that the nervous system was composed anatomically of discrete microscopic units, the neurones. He also worked for a month with the experimental physiologist Zuntz. When he returned to London towards the end of the year he was appointed lecturer in physiology at St. Thomas's Hospital.

Anatomy, pathology, and physiology were not then so completely separated in thought and practice as they are to-day. Sherrington's only paper in 1888 was on the pathological anatomy of a case of locomotor ataxy. The following year he published among other work some observations on the formation of scar tissue and the processes of healing, and in 1891 his publications included two in the *British Medical Journal*, "Note on Some Functions of the Cervical Sympathetic in the Monkey," and "Note on the Nerve Supply of the Bladder and Anus." At the same time he was interested in leucocytes, and in measuring the blood volume, but his principal effort remained in neuro-anatomy and neuropathology, and for this his foreign experience was very valuable. Even the cholera investigations were not wasted, since through them he had met the Spanish neuro-anatomist Ramón y Cajal, and the Italian Golgi.

In 1891 he was appointed professor and superintendent of the Brown Institution in succession to Victor Horsley. This was a veterinary hospital (destroyed during the 1939–45 war) intended for the prevention of cruelty to animals, and Sherrington was able to experiment on the animals under the terminal anaesthesia which was humanely and mercifully destroying them. Now at the age of 34 he began his classical researches by making a systematic study of the effects of cutting the dorsal and ventral spinal nerve roots in cats, dogs, and monkeys, discovering their segmental distribution and mapping the sensory dermatomes, which are similar in monkey and man. He found also that one-third to one-half of the nerve fibres passing to a skeletal muscle are sensory nerves, and not all motor nerves as hitherto assumed, and that they were linked to the muscle spindles previously described by Golgi. This was the discovery of a new sense, proprioception, and led to the understanding of tendon reflexes such as the knee-jerk, and the classification of the pathological physiology of such diseases as tabes dorsalis, where the spinal tracts carrying the proprioceptor impulses are damaged. It led on, also, to

the study of the reciprocal innervation of antagonistic muscles and their reflex interactions—work now a commonplace of elementary teaching in every medical school. A second line of work was the precise mapping of the motor area of the cerebral cortex in monkeys, with the effects of stimulation and ablation of different parts of it, which led to the understanding of decerebrate rigidity as the free play of lower brain centres released from cerebral control, and hence to the explanation of the signs of hemiplegia.

This work was continued and developed when Sherrington moved to the Holt chair of physiology at Liverpool in 1895. Much of it was brought together and interpreted in the *Integrative Action of the Nervous System* (1906), henceforth a classic. In 1913 he left Liverpool for the Waynflete Chair at Oxford, and took up the more detailed analysis of individual reflexes, in particular the stretch reflex by which the tone of an individual skeletal muscle is maintained in response to stimuli from the stretch sense organs in its own substance. This and much other work was summarized in *Reflex Activity of the Spinal Cord* (1932), written jointly with his collaborators, J. C. Eccles, E. G. T. Liddell, D. Denny-Brown, and R. S. Creed. He retired from the chair in 1936, at the age of 79.

In addition to his neurophysiological researches Sherrington made special investigations for various bodies, including the B.M.A. (effects of chloroform, 1902–6) and a number of Government Departments, and found time to take an interest in school hygiene, and to sit on many official committees (sight tests, 1910–12, factory lighting, 1913, etc.), and to act as chairman of the Industrial Fatigue Board (1918) and of the committee on Foot and Mouth Disease (1924). He also served a term on the Medical Research Council. Very many honours and distinctions came his way. He held honorary doctorates of 21 universities throughout the world, and was an honorary fellow, member, or associate of over 40 academies. He was a president of the Royal Society and a Royal and Copley medallist, an honorary F.R.C.P. (1912) and F.R.C.S.Eng. (1921), and a president of the British Association (1922, the year in which he was created G.B.E.). He became a member of the British Medical Association soon after qualification, and served as secretary of the physiology section (London, 1895), vice-president (Ipswich, 1900; Toronto, 1906), and president of the anatomy and physiology section (Belfast, 1909). He was quite a frequent contributor to the *British Medical Journal*, a special issue of which (November 22, 1947) was produced to celebrate his 90th birthday, and his last contribution was an appreciation of Goethe (1949, 2, 449).

The Integrative Action of the Nervous System provided above all a set of concepts by which the nervous system could be understood. In his Gifford lectures, published as *Man on His Nature* (1940; second edition with bibliography of all his writings, 1947), Sherrington expanded his philosophical outlook to consider the place of mind in the universe. This discussion was partly historical, and part of it was further elaborated and considered in *The Endeavour of Jean Fernel* (1946). The elaborate care with which these books were written illustrates his interest in words, which found another expression in the writing of poetry, some of which was published in 1925 in *The Assaying of Brabantius*. The reading of Spanish literature was a by-product of his expedition of 1885, and he had a wide acquaintance with many literary by-paths, and with painting and architecture. As an undergraduate he had played for his College XV, and been a mountaineer, in spite of short sight. He married in 1892. His wife died in 1933, and they are survived by one son.

We are much indebted for the following appreciation to Dr. E. D. Adrian, O.M., P.R.S.: Sir Charles Sherrington retired from active work in the laboratory 17 years ago. Since then his Gifford lectures, *Man on his Nature*, and his book on Fernel have had wide recognition from a public knowing little of the nervous system, and he has been thought of more and more as our foremost authority on the development of biological ideas, on man's interpretation of his experiences. So he was; but he is the scientist's philosopher because he had advanced natural knowledge himself by skilled observation and experiment, by 50 years' unremitting work in the laboratory, and because his own interpretation of his discoveries had given a new extension to the biologist's outlook. Physiologists will know this well enough. To those who have had to struggle with the mass of detailed material about the brain and cord Sherrington's *Integrative Action of the Nervous System* brings order out of chaos: it is hard reading at first, because every sentence is charged with meaning, some of it direct enough, but some reaching out to half-formed pictures of a wider landscape. Though it was published in 1906 it is still as refreshing as it was then. It has needed no revision, but Sherrington's experimental work went on at high pressure for another 30 years, filling in the gaps and strengthening the framework.

He had a mastery of all the technique of mammalian experiment, so that no laboratory in the world could vie with the standard he set at Liverpool and Oxford, and he was an acute observer who could see all that was happening outside the immediate range of his experiments. But it is very seldom that such a brilliant experimental skill is combined with such an appreciation of wider bearings. He studied the spinal reflexes, and through them he came to the picture of man reflecting on his nature.

It was always a great privilege to listen to his talk, for he had a store of vivid reminiscences about the events of his long scientific career, about his mission to Spain in 1885 to study the cholera epidemic, his dinner with Pavlov in Leningrad in the troubled times of the Tsarist regime, his work at the Brown Institute, and all the notable people he had met. And his stories of these remote times, seldom repeated and never without some fresh detail, were the stories of a man who was a scientifically trained observer of persons and things but was never without a kindly tolerance and wisdom. He faced life with a deep humility and no malice: he could be indignant at insincerity and pretentiousness and at the abuse of authority, and he was an effective councillor and administrator because his modesty did not prevent him from speaking his mind. But his poetry and the books and lectures he published after his retirement show most clearly why he was so well loved. Even in his strictly scientific writings he could not conceal his charming flashes of humour, his lively imagery, and his wide range of knowledge, but it is in some of his shorter poems and in his occasional lectures that Sherrington is revealed most clearly.

The lecture on Goethe which he gave at Lady Margaret Hall in 1942 is a good example. He took great pains to be fair to Goethe as a scientist and published an expanded version of the lecture seven years later. The opening sentences could not have been written by anyone else. They show not only Sherrington's tricks of language and construction but how tellingly he could use them. "Two facts we may, at outset, recall about Goethe. Poet though he was, he was yet lifelong an ardent student of the sciences of Nature. And this other, that with him—not merely as usage of the German language—Nature was usually Nature with a capital N. The thoughts of few men can be more liberally on record than are Goethe's, biographically and autobiographically, in his formal views and in his correspondence. We may look therefore to exceptional opportunity of knowing what this Nature with a capital N stood for in his mind. He would have wished us to know."

Sherrington the scientist, in spite of all his courtesy and tolerance, cannot quite bring himself to stomach Goethe's setting himself up as a greater Newton, but Sherrington the poet could not resist the pleasure of quoting Goethe's verse or withhold admiration for his courageous acceptance of the world. Sherrington's acceptance of the world was that of a man of essential humility, realizing all the limitations of the human intellect but finding a constant encouragement as his researches brought him closer to what is at least one aspect of the truth. He was puzzled by the problem of mind and matter, a real problem to him and not a verbal quibble, but he had found an absorbing interest in both sides of the picture and he was grateful that his friends took such a kindly view, so he would have described it, of what he had done.

Dr. F. M. R. Walshe, F.R.S., writes: To his physiological colleagues and pupils we may leave the just description of Sherrington's contribution to their science, the appreciation of what these have meant to physiology, and also—and perhaps even nearer the heart—the expression of their deep sense of the lustre he has conferred upon the British school of physiology.

There remains to be given to his memory a tribute of affection and admiration not less sincere or gladly given from the body of clinical neurologists. It would be difficult to overestimate the inspiration he has been to clinical neurology, or the influence his work and genius have had upon neurological thought throughout the world, but perhaps first and most deeply in his own country.

There is perhaps something singularly appropriate in this, for it was from a clinical neurologist, Hughlings Jackson, that Sherrington himself derived no little inspiration. The very phrase, "Integration keeps pace with differentiation," that we associate with Sherrington, and that we find implied in the title of his classic work, *The Integrative Action of the Nervous System*, he took from Jackson, and he has returned to neurological medicine in overflowing measure the gift he got from its most distinguished exponent.

Those who are familiar with neurological literature during the early years of the present century will find that neurology had in that period departed somewhat from the close and fruitful association with experimental neurophysiology that it had enjoyed during the last quarter of the nineteenth century. Largely under Continental influences, it had become predominantly nosographical in methods and interests, and the steady growth of new knowledge and the discovery of new diagnostic signs were not being accompanied by a corresponding analysis and interpretation of these phenomena in physiological terms. For example, the florid and purely descriptive terminology that grew up around the study of cerebellar syndromes—based upon no scientific principles, telling us nothing of cerebellar functions, but showing wholly undeserved powers of survival in the literature—illustrates the contemporary outlook of the period, and another example of this was the crop of eponymous signs and syndromes that developed like unsightly weeds in neurological writings. Then, during the second decade of the century, the influence of Sherrington's work began to show itself in clinical neurology in this country, a little later in America, and still later and haltingly and imperfectly on the Continent. Physical signs hitherto regarded purely empirically began to find interpretation in terms of physiology. The familiar Babinski plantar response was found to be an integral part of Sherrington's nociceptive flexion reflex, the hypertonus of upper motor neurone lesions was qualitatively identified with decerebrate rigidity. Later the work of Magnus and de Kleijn, an offshoot of Sherrington's school, provided the elucidation of other clinically observed phenomena. This process of rationalizing symptomatology has gone on steadily and is not yet ended, and the face of clinical neurology has changed remarkably in our time under the living influence of Sherrington's work. Nor is this all, for the carrying over of animal physiology to man makes its own contribution to physiology.

But it is not for this alone that neurologists will remember Sherrington, it is not only as one of the master builders of modern neurology that he has gained our regard. All those who have had the privilege of knowing and working with him, or have sought his assistance in their problems, will recall his sympathetic interest and his unstinted generosity in time and effort, and not less the thousand and one kindnesses he so unobtrusively and thoughtfully rendered them. Great as was his scientific achievement, he was far greater than his work, and it has been given to few men to command the intense warmth of affection and regard that Sherrington aroused in all who had the privilege of his friendship.

In his writings, whether purely physiological or philosophical as in his Gifford lectures, Sherrington's literary style was all his own, and, difficult as it sometimes was, it nevertheless came to have a fascination for those who knew it and appreciated its essential clarity. Some of his verbal coinings have permanence and have taken their place in nomenclature, and of these the term "synapse" is perhaps the most familiar example.

As we survey in retrospect the vast mass of his writings, perhaps one small disappointment remains—namely, that in his Gifford lectures he came to rest upon so negative a position in respect of the problem of the relationship of mind to the nervous system. Some cannot believe that this is the last word on the subject, even the final word that could be uttered in the present state of knowledge. Yet his conclusion will satisfy many as being more prudent than the false simplicities of those who say that the problem is a phantom one and evade its difficulties by saying that it does not exist. The problem is not yet solved, nor within sight of solution, and it is surely better that he should have said so than that he should have had recourse to an easy dialectic that is no substitute for knowledge.

If we have to sum up the lesson of his work for science, surely it is that he combined in it a perfect balance of accurate observation and the capacity to ask the right questions of Nature with an imaginative and logical synthesis of the facts that in sum constitute the true quality of scientific genius.

Professor J. C. Eccles, F.R.S., writes: The impact of the news of Sherrington's death left his friends a tragic sense of personal loss. There was a sudden realization that one could no longer communicate with that mind of unsurpassing versatility and vigour. I recently returned to England after nearly 15 years' absence and expected that Sherrington would be changed beyond all recognition, on account of his physical disabilities. One approached him with some misgiving and apprehension. But immediate reassurance came on hearing him speak. Here was the same person that we had known and loved still speaking from that aged and disabled body. There was even at times that bird-like quizzical look, that sharp understanding, and there was as always that solicitude for friends.

We should try to see his life in the long perspective of years as the unity that it was to him. For nearly 50 years there was that amazing performance as a scientific investigator. We can now only faintly realize the labour and insight that were required in order that the prevailing vagueness and confusion should be reduced to those clear principles on which modern neurology is so securely based. One thinks at random of synapse, convergence, and the final common path, the motor unit, algebraic summation of the excitatory and inhibitory influences on the motoneurone.

But throughout all this detailed analytical study he never lost sight of the behaviour of the whole animal and that ultimate of all human problems: What is the nature of man? It can be said that in the last two decades of his life he was obsessed with this problem, for he returned to it again and again. He knew that many of his friends and colleagues had not accepted his dualistic view of man. Only nine days before his death he spoke to me at length, and I can recall some pertinent fragments. "My writings on dualism have not been well received; they have found a

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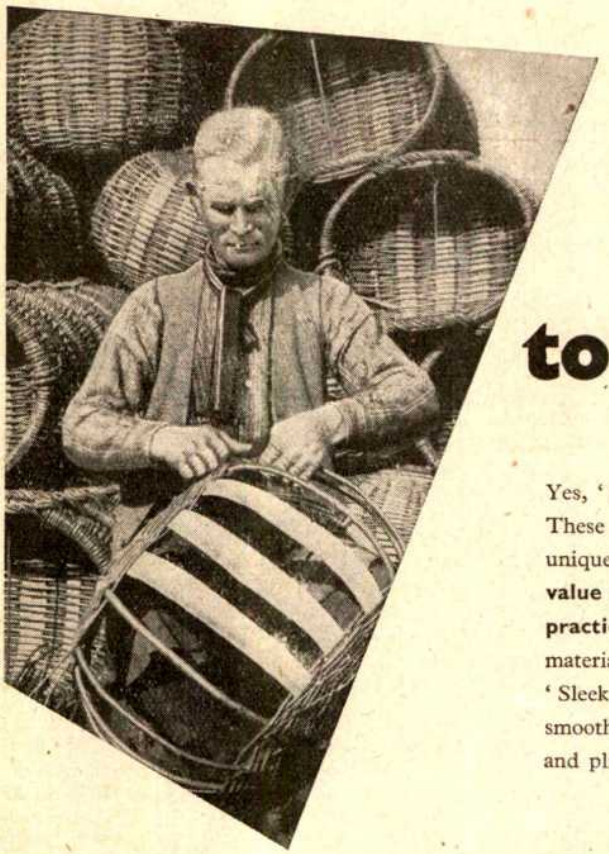

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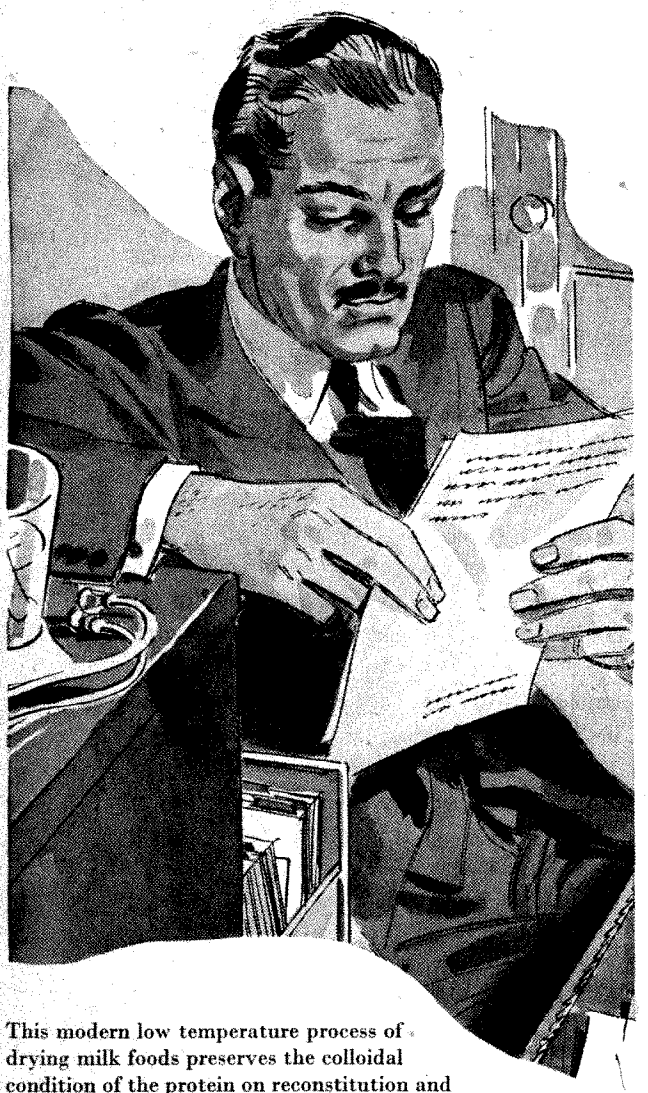

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very unfavourable climate of opinion." "X thinks Nature is very simple, but it is not like that." "For me the ultimate reality is the soul of man."

I would venture to suggest that had he lived longer he would soon have seen the climate of opinion growing more favourable, a change that would be largely due to his own pertinent arguments for the reality of both the body and the mind of man.

Medical Notes in Parliament

LORDS' AMENDMENTS TO DENTISTS' BILL

The House of Lords on March 4 went into Committee on the Dentists' Bill.

Lord WOOLTON moved to insert a provision that the General Dental Council could direct that a person who had passed examinations required to obtain a foreign diploma should be treated as a person holding a foreign diploma. He said this was designed to prevent hardship to about 30 foreign dentists in the United Kingdom who, although they had passed their examinations in the country where they were trained, had been deprived of their diplomas for political or religious reasons. Lord JOWITT suggested that refugee Jewish dentists who had fled to Britain from the Hitler tyranny and had not practised dentistry for a considerable time might require some kind of refresher course. He presumed there was power for the General Dental Council to impose such a course. Lord WOOLTON agreed to look into the matter, and the House approved the amendment.

Lord SILKIN moved to insert a provision instructing the General Dental Council, within 12 months after the coming into force of the clause, to make regulations for the establishment of dental prosthetists. These were defined as dental technicians with special qualifications to undertake the fitting, insertion, and fixing in the mouth of dentures, artificial teeth, and other oral dental appliances. He said the prosthetist would be permitted, with proper supervision, to take the impression in the mouth, to fit the denture, and to complete the job. The framers of the Bill had left it to the General Dental Council to decide whether or not regulations should be made in any particular category of dental auxiliaries. He proposed that it should be obligatory upon the Council to make regulations setting up this class. He realized that the amendment would not be welcomed by the dental profession, who had made public a number of objections to it. It was expected that some 2,000 technicians would undergo the necessary training to permit them to become registered as dental prosthetists.

Lord WEBB-JOHNSON urged the Government not to accept the amendment. To allow technicians to do work which should be done by qualified dentists was not justifiable. When there were dangers in carrying out a procedure that procedure should be in the hands of a qualified professional man. Badly fitting dentures might lead to loss of other teeth and to serious disease of the gums. He had seen several cases of cancer produced on the gum by badly fitting dentures. The right body to decide whether a special ancillary class should do this work was the General Dental Council.

Lord WOOLTON could not accept the amendment. He had discussed the matter with Mr. Crookshank and had no reason to think that the Minister was likely to alter his mind.

The amendment was withdrawn. The House accepted another amendment, proposed by Lord ONSLOW, to make it clear that ancillary dental workers, while permitted to work as such only in specified services, might, if qualified to do another kind of ancillary work (for example, that of an oral hygienist), be permitted to work in that wider field. On the motion of Lord WEBB-JOHNSON the House accepted an amendment providing that dental auxiliaries should be permitted to extract only deciduous teeth.

Dental Companies

A long amendment dealing with the right of appeal of dental companies to the Privy Council against the decision of the General Dental Council to end their right to continue in the business of dentistry was proposed by Lord WOOLTON and accepted. He said the Government considered that the growth of such companies was rather undesirable. Since the National Health Service started 37 new dental companies had come into existence, and the total was now 62. The majority were small companies, employing one or two operating staff.

Lord WOOLTON promised to look into the nomenclature of dentists and ancillary workers before the report stage. Lord WEBB-JOHNSON reminded him that anyone who attempted to persuade the public that he was a qualified medical man when he was not was subject to penalties. For the protection of the public the titles of dentist, dental surgeon, and dental practitioner should be equally protected. Lord WOOLTON said protection was already given by the Act of 1921.

Tuberculosis in Tyneside

Mr. EDWARD SHORT on March 7 said that in 1919 the incidence of tuberculosis of the lung was much the same on Tyneside as in the rest of England, but that in the following 20 years the rate for England and Wales was halved while the rate for Tyneside dropped only slightly. From 1939 to 1949 the rate for Newcastle-upon-Tyne and most of the Tyne area became almost double the national level. Since the war there had been a great improvement, but the relative position between Tyneside and the rest had not improved at all. It nearly reached the high level of incidence in Scotland, which had been mentioned by Mr. Walter Elliot in an article in the *British Medical Journal* (1949, 2, 297). Mr. Short mentioned that the position for lung cancer was now nearly as bad as for pulmonary tuberculosis. Various reasons could be adduced for this. There was a very large child population and the schools were overcrowded. There was a large Irish population. The new tendency in the North-east for married women to remain at work might have increased the figures. But the greatest single factor in the Newcastle area was poor housing. By the standard of the Housing Act, 1936, more than 20% of the population of the city were overcrowded. Night sanatoria might help—they had been tried successfully in London—and there was also a question of hostels for children living in infected households.

Miss PAT HORNSBY-SMITH said the number of deaths from tuberculosis on Tyneside was half that of 20 years ago, despite a rapid increase in population. Deaths from respiratory tuberculosis in Newcastle-upon-Tyne were 227 in 1945 and 183 in 1950, a reduction of one-fifth. In Northumberland the figures were 186 in 1945 and 124 in 1950, a reduction of one-third. The figure for the whole of England and Wales over the same period showed a reduction of one-third. The figures for 1951 were not wholly available, but there was in general a substantial reduction in tuberculosis mortality. Tyneside figures were higher than those for some other areas, but were being progressively reduced. Figures for notification did not fall so fast, because increased numbers had been detected by mass-radiography.

Doctors' Cars.—Mr. Peter Thorneycroft informed Dr. Stross on March 6 that he was still considering representations made by the British Medical Association that some doctors could not find the money to pay a deposit of one-third for purchase of a motor-car and the remainder in 18 months.

Dr. Kroll.—Mr. Crookshank assured Mr. H. Hynd on February 28 that all suitable treatment for patients with certain brain injuries was already available within the National Health Service, and there was therefore no need for them to be sent to Dr. Kroll in Germany.

Vital Statistics

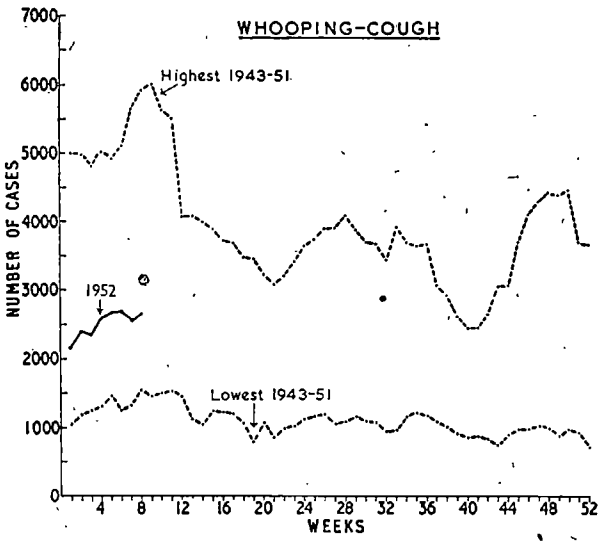
Smallpox in Lancashire

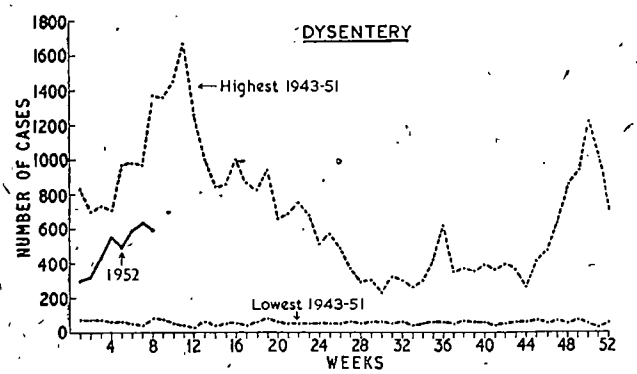
The diagnosis of variola minor is certain, and there have been no deaths. There was a flurry of cases at the beginning of March, but in the past few days the incidence has fallen. The disease is confined to Rochdale, apart from a few patients resident in neighbouring districts who were infected in Rochdale. In Littleborough U.D. the first case to be recognized was in an unvaccinated child who had been in contact with a patient in Rochdale but was not under surveillance. He sickened on March 1, developed a rash on March 5, and was removed to hospital on March 7. There are no reports of the disease in any other part of the country.

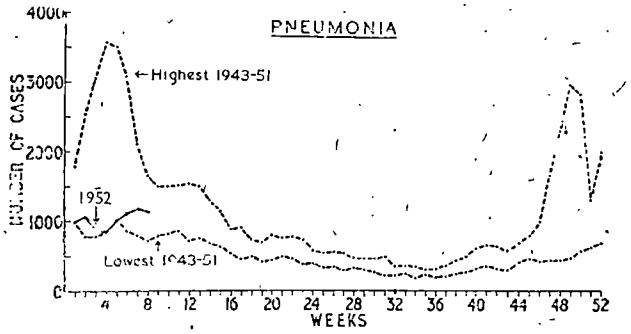
Notifications of smallpox received by the general register office this year are as follows: in the week ending February 16, 1; February 23, 18; March 1, 7; and March 8, 62.

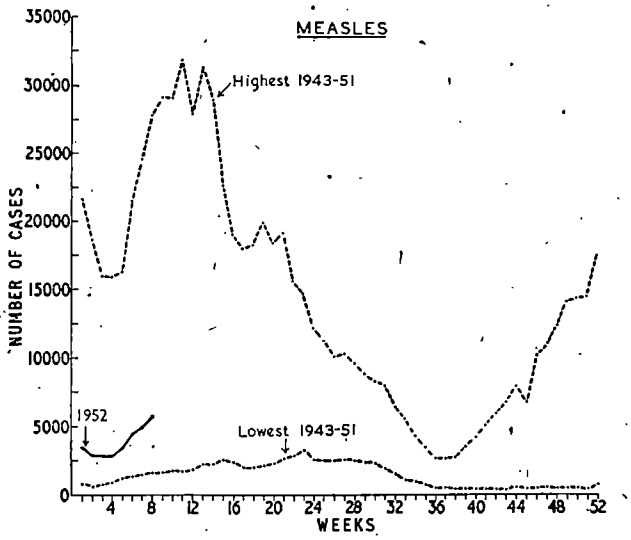
Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1943–51 are shown thus ------, the figures for 1952 thus ———. Except for the curves showing notifications in 1952, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.









Infectious Diseases

During the week ending February 23 an increase was recorded in England and Wales in the number of notifications of measles 754, scarlet fever 132, and whooping-cough 98, while the largest decline was 45 for dysentery.

A small increase in the incidence of measles was recorded in most parts of the country. The largest rises were Lancashire 191 and Durham 173. The variations in the local trends of scarlet fever were small; the only exception was a rise of 41 in Lancashire. The rise in the incidence of whooping-cough was due to the experience of the southern section of the country, while in the north a small fall was reported. The notifications of diphtheria were 11 fewer than in the preceding week; the chief feature of the returns was a decline of 8 in Lancashire. Almost one-half of the diphtheria cases in the country were notified in three towns —Lancashire, Darwen M.B. 6; Warwickshire, Birmingham C.B. 5; and Devonshire, Plymouth C.B. 4.

The 18 cases of smallpox were notified from Lancashire, Rochdale C.B.

The notifications of acute poliomyelitis were 4 fewer for paralytic cases and 2 fewer for non-paralytic cases than in the preceding week. Liverpool C.B. with 2 cases was the only administrative area with more than one case.

The largest centres of dysentery were Lancashire 129 (Liverpool C.B. 37, Oldham C.B. 30, Manchester C.B. 25); Norfolk 65 (Norwich C.B. 62); London 56 (Hackney 11, Islington 10); Surrey 42 (Woking U.D. 11); Middlesex 42 (Willesden M.B. 17); Glamorganshire 33 (Cardiff C.B. 28); Southampton County 20 (Portsmouth C.B. 10); Northumberland 20 (Newburn U.D. 13); Yorkshire West Riding 20.

Week Ending March 1

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,506, whooping-cough 2,789, diphtheria 33, measles 6,233, acute pneumonia 1,061, acute poliomyelitis 19, dysentery 647, paratyphoid fever 12, and typhoid fever 4.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **February 23** (No. 8) and corresponding week 1951.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 160 great towns in England and Wales (London included), London administrative county, the 17 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	37	3	21	1	1	43	7	10	1	3
Dysentery	591	56	78	3	1	1,366	112	247	9	
Encephalitis, acute	5	0	0	0		8	1	0	0	
Enteric fever:										
Typhoid	3	0	0	1	3	5	2	0	0	2
Paratyphoid ..	6	0	1 (B)	0		13	0	0	0	
Food-poisoning ..	85	21		0		119	15		1	
Infective enteritis or diarrhoea under 2 years				10	13				15	18
Measles*	5,734	123	483	152	137	27,776	3746	195	63	64
Meningococcal infection	45	5	25	3	5	45	4	19	2	
Ophthalmia neonatorum	40	2	13	1		32	2	15	0	
Pneumonia† ..	1,143	50	478	20	3	1,656	81	269	13	137
Poliomyelitis, acute:										
Paralytic ..	9	1	1	1		16	1	3	2	
Non-paralytic ..	5	0				5	0			
Puerperal fever§ ..	218	39	9	2		81	6	10	0	
Scarlet fever ..	1,613	141	251	18	55	828	43	149	37	70
Tuberculosis:										
Respiratory ..			161	29				179	29	
Non-respiratory..			35	4				30	4	
Whooping-cough ..	2,648	128	418	103	73	5.928	425	840	40	117

DEATHS in Great Towns	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	0	0		0	0	*1*	0	*0*	0	0
Dysentery	0	0		0			0		0	
Encephalitis, acute		0			0		0			0
Enteric fever ..	0	0		0		*0*	0	*0*	0	
Infective enteritis or diarrhoea under 2 years	14		1	0	1	*18*		*7*	1	0
Influenza	29	6	9	1	0	*317*	22	*11*	6	18
Measles		0	1	0	0		1	*0*	0	0
Meningococcal infection		0					0	*1*		
Pneumonia ..	368	57		18	20	*434*	62		11	10
Poliomyelitis, acute	0	0			0	*2*	0			0
Scarlet fever ..		0		0	0		0	*0*	0	0
Tuberculosis:										
Respiratory ..	176	24	30	4	14	*200*	33	*28*	10	11
Non-respiratory..		3	5	1	4		1	*5*	2	3
Whooping-cough ..	4	0		2	1	*14*	2	*1*	0	1
Deaths 0–1 year ..	296	32	43	23	13	*289*	28	*50*	5	30
Deaths (excluding stillbirths)	6.856	967	796	162	202	*7.009*	1007	*799*	177	276
LIVE BIRTHS	8,101	1249	910	234	375	*7,593*	1242	*941*	237	358
STILLBIRTHS .	231	30	28			*222*	26	*26*		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.

Medical News

Medical Society of London.—Mr. A. C. Palmer presided over the 172nd anniversary dinner of the Medical Society of London at Claridge's on March 6. After the loyal toasts and the customary silent toast to John Coakley Lettsom, the health of the society was proposed by Lord Radcliffe. Expressing his pleasure to be dining with the society, he said that in reading the life of Lettsom he had been interested to see the emphasis Lettsom placed upon the pleasures of dining—"tea, punch, and fine liqueurs came in their turn." Lord Radcliffe said he enjoyed speaking to members of a kindred profession, for this made for informality. But the learned professions were a dying industry. The ideals of a factory civilization were creeping in, clocking-in and clocking-out being the rule of the day. People might come to forget what was the meaning of these learned professions, requiring a long apprenticeship in their skill and a background of knowledge studied as a fruitful source for the pursuits of the calling. The learned professions were institutions with a long history behind them. Their traditions and codes built up over the years gave them, the members of the profession, strength. With the help of its codes and standards a member of a learned profession had the guidance necessary to balance, as he always had to, the interests of the patient or client and the interests of society. These were virtues which you could destroy but not re-create. Lord Radcliffe ended by giving an enchanting description of Zoffany's picture of Lettsom, the founder of the society. Zoffany, added Lord Radcliffe, was the perfect painter of the conversation piece.

In reply the president said he could recall no time in which there had been such a flowering of new discoveries in medicine, and it was the function of the society to discuss these. Somewhere beyond the future, he said, there lay perhaps the discovery of the ingredients of synthetic man. He ended by paying a tribute to the honorary secretaries and the treasurer of the society and to Sir Hugh Lett, who, he said, had taught him the principles of surgery. The health of the visitors was proposed in a witty and apt speech by Dr. Wilfrid Oakley, who, admitting that in a moment of weakness he had agreed to propose the toast, said he now understood the fate of the Roman Empire, which at least had had the wisdom to decline before it fell. In welcoming the principal guest of the evening, Lord Radcliffe, he made appreciative reference to his recent Reith lectures on "Power and the State." He reminded those present of one of Sir Hugh Lett's early contributions to surgery, which was a statistical review of a thousand cases of appendicitis, and also of Sir Hugh's accomplishments as a musician. In reply Sir Hugh Lett said that as a registrar at the London Hospital he was encouraged by Treves to collect records of cases of appendicitis, and that was how he came to give his account of the thousand cases. Treves was led to this as a result of a discussion which took place in the Medico-Chirurgical Society. Sir Hugh, in paying a tribute to the society, said that the standard of its lectures and discussions was very high. They had a fine old library, and pervading everything was a friendly and genial atmosphere of its own. Together with Jonathan Hutchinson, junior, he had presented a paper to the society in 1905. Sir Hugh ended with a warm tribute to the president, Mr. A. C. Palmer, whom he recalled as a New Zealander who played rugger for England against Ireland.

Ministry of Health NOT in Whitehall.—Although the Ministry changed its address over eight months ago, four out of every ten letters are still wrongly addressed. This not only causes delay but involves extra work in sorting and re-directing. All correspondence should be addressed to Savile Row, London, W.1.

New Medical Journal at Leeds.—The University of Leeds used to produce a medical magazine which was partly the

organ of the Medical Society and of students, nurses, and auxiliaries. However, it was found that most of the subscribers were qualified doctors, and the magazine has therefore been reborn as the *University of Leeds Medical Journal*, with the support of the Leeds and West Riding Medico-Chirurgical Society, in a form likely to appeal to the graduate and to general practitioners in the region. There will be three issues a year, the first being a symposium: this year on tuberculosis, and in 1953 on emergencies in general practice. It should play a very valuable part in developing that regional enthusiasm in medicine which is so necessary for healthy development and which the present domination by London may impede.

"Ulisse" Prize for 1952.—*Ulisse*, an international cultural magazine, founded in 1949 a prize of one million lire to be awarded annually to the author of a scientific publication produced during the preceding five years. The 1952 prize will be for a work on biochemistry considered in relation to the human organism, with special emphasis on its application to medicine. Works published during the last five years in Europe (in any European language) will be considered, and entries should be submitted to the *Rivista Ulisse*, Corso d'Italia, 43, Rome, not later than April 15.

Ulster Paediatric Society.—A joint meeting of the society with the British Medical Association (Northern Ireland Branch) was held in the Whitla Medical Institute, Belfast, on February 7, when Mr. James Crooks spoke on sinusitis in childhood, and illustrated his talk with a film showing the out-patient treatment. At a further meeting at the Royal Maternity Hospital, Belfast, on February 19, Dr. Mary Cross spoke on retrolental fibroplasia.

Emergency Bed Service: Applications and Admissions.—During the seven days ending March 10 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,176, of whom 87.15% were admitted.

COMING EVENTS

Cancellation.—The postgraduate course in venereology organized by the Institute of Urology announced in the *Journal* of March 8 (p. 555) has had to be postponed.

Medical Association for the Prevention of War.—The inaugural meeting of the London and Home Counties branch will be held at 8 p.m. on Thursday, March 20, in the Small Meeting Hall, Friends House, Euston Road, N.W.1. Dr. E. H. S. Burhop will speak on atomic physics in the cause of peace. All members of the medical profession are invited. The meeting is in no way under the auspices of the Society of Friends. A short business session will precede the talk to establish a permanent committee. Nominations for members are invited and should be sent to Dr. Antony Ryle, 28, Bartholomew Road, N.W.5.

Postgraduate Radiology Course.—The Faculty of Radiologists is holding a week-end course for postgraduates on March 22 and 23 at the Royal College of Surgeons, Lincoln's Inn Fields, W.C.2. The morning sessions will be devoted to diagnostic radiology and the afternoons to radiotherapy. Details may be had from the dean of the Faculty, 45, Lincoln's Inn Fields, W.C.2.

Week-end Course on Rheumatism.—The Empire Rheumatism Council will hold its spring week-end course for postgraduates at the Arthur Stanley Institute, Middlesex Hospital (Peto Place, N.W.1), on April 25 and 26. The fee for the course will be two guineas, and the number of entries is limited to 60; application should be made to the general secretary, Empire Rheumatism Council, Tavistock House (N.), W.C.1, at least one week before the course.

8th International Surgical Congress.—The International College of Surgeons will hold its next congress in Madrid from May 19 to 24. Full details may be obtained from the secretary of the congress, Instituto Nacional de Medicina y Seguridad del Trabajo, Facultad de Medicina, Pabellón 8, Ciudad Universitaria, Madrid.

Harveian Oration.—The Oration of the Harveian Society of London will be delivered by Sir John McNee at the Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C., on Thursday, March 20, at 8.15 p.m. His subject is "Infective Hepatitis: A Problem of World Health."

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Friday, March 14

SOCIETY OF PUBLIC ANALYSTS: BIOLOGICAL METHODS GROUP.—At Chemical Society, Burlington House, Piccadilly, London, W., 6.30 p.m., "*The Assay of Coagulants and Anticoagulants*," papers by Dr. Rosemary Biggs, and Mr. V. J. Birkinshaw and Mr. K. L. Smith. A discussion will follow.

Monday, March 17

HUNTERIAN SOCIETY.—At Talbot Restaurant, 64, London Wall, E.C., 7 for 7.30 p.m., dinner-meeting: "*The Contribution of Surgery to Neurology*," discussion to be opened by Professor Lambert Rogers and Dr. J. Spillane.

Tuesday, March 18

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., 5.30 p.m., "*Physical Techniques in the Medical Applications of Ionizing Radiations*," by Professor W. V. Mayneord.

EUGENICS SOCIETY.—At Royal Society, Burlington House, Piccadilly, London, W., 5.30 p.m., "*The Stability of Marriage*," by Mr. A. J. Brayshaw, B.A. All interested are invited.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—5.30 p.m., "*Parasitic Diseases*," by Dr. S. Thomson.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—5 p.m., "*Transplantation of Homologous Tissue and its Surgical Applications*," Hunterian Lecture by Professor M. F. A. Woodruff.

SOUTH-WEST LONDON MEDICAL SOCIETY.—At Bolingbroke Hospital, Wandsworth Common, London, S.W., 8.30 p.m., "*Modern Skins and Modern Drugs*," by Dr. W. J. O'Donovan.

Wednesday, March 19

BIRMINGHAM MEDICAL INSTITUTE: MIDLAND MEDICAL SOCIETY.—At 154, Great Charles Street, Birmingham, "*Diagnosis and Treatment of Ulcerative Colitis*," by Professor T. L. Hardy and Mr. B. N. Brooke.

FACULTY OF ANAESTHETISTS: ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—4 p.m., annual general meeting. 5 p.m., "*Antecedents of Early Anaesthetic Apparatus*," Joseph Clover Lecture by Professor R. R. Macintosh.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—5.30 p.m., "*Immunology in Relation to Dermatology*," by Dr. J. O. Oliver.

INSTITUTE OF UROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., 4.30 for 5 p.m., "*Enuresis*," by Mr. A. R. C. Higham.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, London, W.—3.30 p.m., "*First Aid in the Home*," by Dr. R. W. Barr-Brown.

Thursday, March 20

BRITISH INSTITUTE OF RADIOLOGY, 32, Welbeck Street, London, W.—8 p.m., "*The Sieve in Radiotherapy*," by Dr. B. Jolles.

BRITISH POSTGRADUATE MEDICAL FEDERATION.—At London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., 5.30 p.m., "*Biological Effects of Radiation*," by Dr. J. F. Loutit.

EDINBURGH CLINICAL CLUB.—At B.M.A. Rooms, 7, Drumsheugh Gardens, Edinburgh, 8 p.m., "*The Psychological Approach in General Practice*," by Dr. A. Murray Marr.

●INSTITUTE OF CHILD HEALTH, Hospital for Sick Children, Great Ormond Street, London, W.C.—5 p.m., "*Genito-urinary Surgery*," by Mr. T. Twistington Higgins.

LIVERPOOL MEDICAL INSTITUTION.—At County Hospital, Whiston, nr. Prescot, Lancs, 2.30 p.m., afternoon clinical demonstration.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—5 p.m., "*Hyperplasia and Metaplasia in Synovial Membrane*," Hunterian Lecture by Professor G. R. Fisk.

ROYAL SANITARY INSTITUTE.—At Town Hall, Tavistock, 10 a.m., Papers: "*Rural Planning with Particular Reference to National Parks*," by Mr. Geoffrey Clark, L.R.I.B.A., M.T.P.I.; "*The Incidence of Infantile Paralysis in a Rural Area During the Last Fifteen Years*," by Dr. E. D. Allen Price. Afternoon visits.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At Royal Army Medical College, Millbank, London, S.W., 7.30 p.m., laboratory meeting.

Friday, March 21

BIOCHEMICAL SOCIETY.—At National Institute for Medical Research, Mill Hill, London, N.W., 10.30 a.m., annual general meeting. Scientific papers will be read.

BRITISH INSTITUTE OF RADIOLOGY, 32, Welbeck Street, London, W.—5 p.m., medical members' meeting; 6.30 p.m., "*The Schmidt Camera—Its Possibilities and Limitations in Photofluorography,*" by Mr. W. A. Langmead, M.Sc.

FACULTY OF RADIOLOGISTS.—At Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C., 4 p.m., Radiotherapy Section Meeting. "*The Application of Plastic Surgery to Radiotherapy,*" by Mr. J. Scott Tough.

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—5.30 p.m., clinical demonstration by Dr. E. J. Moynahan.

MANCHESTER UNIVERSITY.—5 p.m., "*Women in the Professions,*" Margaret Ashton Memorial Lecture by Miss Rose Heilbron, Q.C.

MIDDLESEX COUNTY MEDICAL SOCIETY.—At Hillingdon Hospital, nr. Uxbridge, Middlesex, 3 p.m., general meeting; demonstration of cases, etc.; 4.45 p.m., "*Pharyngeal Diverticulum; Aetiology, Diagnosis, and Treatment,*" paper by Mr. F. Boyes Korkis.

●ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—5 p.m., "*Nocturia—A Defeat in the Battle Against Gravity,*" first Thomas Young Lecture, by Professor J. G. G. Borst (Amsterdam).

SOCIETY OF CHEMICAL INDUSTRY: FINE CHEMICALS GROUP.—At King's College, Strand, London, W.C., 7 p.m., annual general meeting; 7.30 p.m., "*The Physico-chemical Aspects of Drug Administration,*" by Dr. N. Evers.

Saturday, March 22

NUTRITION SOCIETY.—At Physiology Lecture Theatre, Manchester University, 10.30 a.m., "*Diet in Relation to Renal and Cardiovascular Disease,*" speakers, Dr. J. F. Wilkinson, M.Sc., Ph.D. (chairman), Professor R. Platt, M.Sc., Dr. D. A. K. Black, Dr. Honor Roscoe, Ph.D., Dr. A. M. Jones, M.Sc., Professor A. M. Boyd, M.Sc., and Dr. A. H. Ratcliffe, D.Sc. A discussion will follow.

APPOINTMENTS

The Queen has appointed Dr. Yeo Kok Cheang to be an Official Member of the Legislative Council of Hong Kong.

BARCLAY, GORDON ANDREW, M.B., B.Chir., F.R.C.S., Part-time Consultant Surgeon, St. Andrew's Hospital, Devons Road, London, E.

BIRCHALL, JOHN CRAVEN, M.B., Ch.B., D.P.H., Deputy Medical Officer of Health and Deputy School Medical Officer, County Borough of Croydon.

BOYLE, GERALD F., M.B., Ch.B., D.P.H., Assistant Medical Officer of Health, County of Stirlingshire.

HAWKSLEY, MRS. MARGARET, M.B., B.S., D.A., Consultant Anaesthetist, Hospital for Sick Children, Great Ormond Street, London, W.C.

HENDERSON, ALEXANDER, M.B., Ch.B., D.P.H., Medical Officer of Health, County of Kincardine, from October 1.

SANGSTER, A. J., M.B., Ch.B., D.M.R., Assistant Radiologist, Northern Regional Hospital Board (Scotland).

SOUTH-WESTERN REGIONAL HOSPITAL BOARD.—*Consultant Surgeon to Plymouth Clinical Area,* H. D. S. Vellacott, M.B., B.Chir., F.R.C.S. *Consultant Physician to Plymouth Clinical Area,* H. A. W. Forbes, B.M., B.Ch., M.R.C.P. *Consultant Pathologist to Plymouth Clinical Area,* G. A. Cary Lynch, M.D., D.P.H.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Black.—On February 18, 1952, in Birmingham, to Dr. Margaret Black, wife of Dr. Alan Black, a son.

Patey.—On March 4, 1952, at Paignton Hospital, Devon, to Jean Patey, M.B., F.R.C.S.Ed (formerly Mason), wife of John Patey, a sister for Robert and Johnny.

Rees.—On February 28, 1952, at Moorlands Maternity Home, Dewsbury, Yorks, to Marie, wife of Dr. D. F. Rees, twin sisters for Patricia.

Shribman.—On February 25, 1952, at Victoria Hospital, Barnet, Herts, to Hazel, wife of Dr. Irvine Shribman, a son—Jonathan Howard.

DEATHS

Bull.—On February 29, 1952, at Bedford, George Coulson Robins Bull, M.B., F.R.C.S., L.D.S., aged 94.

Findlay.—On February 21, 1952, John Findlay, M.B.E., M.D., of 14, Chada Avenue, Gillingham, Kent, formerly of Peterhead.

Green.—On February 25, 1952, in a London nursing-home, Frederick James Green, M.C., M.D. late of 9, Old Burlington Street, London, W., aged 83.

Murphy.—On February 23, 1952, Lionel Caldbeck Esmonde Murphy, L.R.C.P.&S.I. & L.M., aged 74.

Power.—On February 28, 1952, in London, Michael Patrick Power, O.B.E., M.C., L.R.C.P.&S.Ed., L.R.F.P.S., Colonel, late R.A.M.C., of the Naval and Military Club.

Preston.—On February 23, 1952, at his home, Redlands, Mansfield Woodhouse, Notts, Harold Braycott Preston, L.M.S.S.A.

Skevington.—On February 29, 1952, at Belmont, 15, York Road, Windsor, Berks, Sir Joseph Oliver Skevington, K.C.V.O., F.R.C.S., aged 79.

Walsh.—On February 24, 1952, in London, John Walsh, M.B., B.Ch., Major, R.A.M.C., retired, late of Classis, Ballincollig, Co. Cork, Eire.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Visiting Children in Hospital

Q.—*Is it true that there is good evidence to show that serious psychological harm may occur to young children in hospital, especially if they are not visited regularly by their parents? If so, can the policy of denying such visits to the patients in fever hospitals still be justified?*

A.—There are really several parts to this question, of which the first is whether separation from their parents causes psychological harm to young children. It is quite evident that it does upset some children, and they may show this at the time or on their return home. The second part of the question is whether the harm done is serious and long-lasting; there is fairly good evidence that this may be so, but by no means in the majority of infants. It is probable that serious harm is more likely to occur when separation is prolonged and in infants round about the small toddler age. It is more likely also where there is already some emotional disturbance in the home, or lack of a stable background. Thirdly, does frequent visiting diminish this risk? There is little doubt that frequent visiting increases the happiness of most children in hospital, so that it may be expected to diminish any harm that may come from separation; the value of weekly or less frequent visits must be more doubtful.

The final question is whether the possible harm done by separation outweighs the objections to visiting. The latter include such things as the increase in the strain on the nursing and cleaning staff caused by frequent visitors, and the risks of cross-infection where wards are open and the age groups mixed and where perhaps there is already some overcrowding. The effect on children who cannot be visited and the effect of the extra travelling on parents and transport must also be considered. In a fever hospital the question of the spread of infection by visitors and the maintenance of barrier nursing require consideration before visiting can be encouraged. It seems reasonable to say that frequent visiting seems good in itself and should be permitted, at least on an experimental scale, wherever conditions make it possible. It might be found impracticable in some hospitals, and it would then have to be stopped. It must not be forgotten that, as life in hospital can never be right for children, the aim must always be to return them home as soon as possible, and visiting must remain a secondary consideration to other medical and nursing requirements.

Dangerous Hypotension after Anaesthesia

Q.—*After a general anaesthetic, when the mask is removed from the patient's face there is a marked fall of blood pressure due to the anaesthetic and independent of the surgical manipulation. What is the cause of this fall of blood pressure? How may it be prevented?*

A.—The following are a few of the reasons why the blood pressure sometimes falls when the anaesthetic and the operation come to an end: (1) Stimuli from the operation field may have been reflexly keeping up the blood pressure. (2) The anaesthetic itself, particularly ether, and probably others too, may reflexly raise the blood pressure by stimulating nerve endings in the respiratory tract or the circulatory centre. (3) Carbon dioxide accumulation during the operation may keep the blood pressure up. This is found commonly when the semi-closed method is used. With gas-flow as low as 6 to 8 litres per minute there is

almost invariably some degree of re-breathing. In closed-circuit anaesthesia unsuspected partial exhaustion of the soda lime may occur. (4) With anaesthetics which depress the respiration, such as cyclopropane and thiopentone, or when relaxants are used, the ventilation may be insufficient for adequate carbon dioxide clearance and carbon dioxide accumulation occurs. (5) The volume of dead space may unsuspectedly be sufficiently large to cause some carbon dioxide accumulation.

All these causes cease to operate when the mask is taken off the face, and sometimes the resultant drop in blood pressure may be sufficiently severe to give the appearance of shock. The phenomenon may to a large extent be prevented by careful attention to adequate ventilation and carbon dioxide clearance throughout the operation, and to the correction of any chemical or physical factor in the apparatus which might hinder this.

Neonatal Priapism

Q.—*An infant delivered by caesarean section had a constant priapism for the first 14 days of life; the priapism is now intermittent. The baby in other respects appears quite normal, except that it needs circumcision. What is the likely cause of the priapism? What investigations, if any, are indicated? What are the prognosis and treatment?*

A.—Priapism is a not infrequent occurrence in the newborn period and is usually without significance. It occurs independently of the method of delivery, and is most unlikely to be an indication of spinal cord damage or local trauma in the case quoted. "Constant" priapism is said to have been present for 14 days. This is unusual, but a highly active reflex from the skin could quite easily cause an erection each time the infant was examined.

No investigations are indicated: no treatment is necessary: the prognosis is good.

Home-made Hair Oil

Q.—*Can you suggest an inexpensive prescription for a hair "fixative" for men?*

A.—A satisfactory preparation for those who prefer a non-greasy hair fixative is as follows: Powdered tragacanth 1.2%, alcohol 15%, glycerin 10%, water to 100%, perfume and preservative as required. A suitable preservative is 0.1% chlorocresol or the "solution for eye drops" of the *National Formulary*. For those who like a greasy preparation 10% of arachis or olive oil may be added to this formula. Further information may be obtained from *Modern Cosmeticology*, by Harry (Chapman and Hall, 1944).

Does Agene Destroy Vitamins in Flour?

Q.—*Has the agene process any effect on the vitamin content of flour, whether the vitamins are derived from the cereals themselves or are supplements?*

A.—The most obvious effect of agene (NCl_3) on flour is to reduce the yellow carotenoid pigments naturally present to about one-third of the original level, but as these are mostly xanthophyll, which is inactive as pro-vitamin A, this loss is of little importance from a nutritional standpoint. In the vitamin-B group there is probably some loss of riboflavin, but most of the other members are more stable. Probably vitamin E is reduced. The question of the vulnerability of added vitamins is difficult to answer. In Britain flour is not fortified with vitamins, while in the U.S.A., where vitamins are sometimes added, agene has been banned. However, it should be practicable to add unstable vitamins after the inactivation of the improver by the bulk of the flour. The action of agenized flour in producing "hysteria" in dogs, of course, is due to the formation of a toxic substance rather than to the destruction of vitamins.

Endocrine Therapy of Delirium Tremens

Q.—*I have heard it said that adrenocorticotrophic hormone (A.C.T.H.) and cortisone can cut short an attack of delirium tremens. Is this true? If it is, how should the treatment be given?*

A.—A considerable amount of evidence has accumulated to suggest that A.C.T.H. and cortisone may have a dramatic effect in cutting short an attack of delirium tremens. Both drugs will have to be used with great caution in such a condition, however, as delirium tremens is not infrequently associated with cardiac embarrassment which will be exacerbated by such therapy. Further, delirium tremens may be precipitated, as it often is, by an infective illness, and again acute infections may be aggravated by cortisone and A.C.T.H. In the treatment of delirium tremens A.C.T.H. is probably preferable to cortisone. A suitable dose would be 25 mg. six-hourly.

NOTES AND COMMENTS

Boy or Girl?—Mr. D. INNES WILLIAMS (London) writes: Many of your readers will have been interested in the case of the infant with an absence of the scrotum ("Any Questions?" February 9, p. 340). It is disappointing, however, to find that your questioner is advised to embark on endocrine therapy without any attempt to establish the diagnosis by ordinary clinical investigation. A simple rectal examination, to those accustomed to the procedure in infants, is capable of giving a great deal of information regarding the anatomy of genital passages: moreover, with instruments now available, urethroscopy is now possible at a very early age, and is of the greatest assistance in determining the sex in doubtful cases. The latter point is dealt with fully in a paper of mine now awaiting publication.

Emetine and Scorpion Stings.—Dr. C. HOLLINS (Dorchester) writes: I agree that intramuscular emetine is useless for scorpion stings ("Any Questions?" February 16, p. 396), but emetine injected at the site of the sting is an excellent remedy. I once did a controlled experiment (with the patient's consent) by first injecting saline at the site of the scorpion sting; the pain was aggravated. I then injected emetine and the pain was immediately relieved. The sting was on the foot, and there was already considerable pain in the inguinal glands. This pain disappeared a few minutes after the pain at the site of the sting. I have not noticed this effect with procaine, but pain in the regional lymph glands is unusual anyway.

Dr. H. ABDALLA (London), after stating that emetine was used in the Sudan for treating scorpion stings, writes: Injection of 1 gr. (65 mg.) emetine hydrochloride intramuscularly, or the local injection into the sting site of much smaller amounts (which may be as small as 1/16 gr. (4 mg.)) diluted with distilled water, causes immediate cessation of pain and all other symptoms of the sting. It is superior to local analgesic infiltration in that the latter has to be repeated in from 15 minutes to two hours and is of no use once the symptoms of shock have been established. As regards antivenin treatment, factors of supply, storage, climate, etc., continue to stand against its general adoption throughout scorpion-infested areas.

Notification of Pemphigus Neonatorum.—A MEDICAL OFFICER OF HEALTH has written to point out that the councils of some districts have under Section 147 of the Public Health Act, 1936, declared pemphigus neonatorum ("Any Questions?" February 23, p. 448) to be notifiable in their areas.

Correction.—Dr. CHARLES NEWMAN (dean of the Postgraduate Medical School of London) asks us to point out that the British Postgraduate Medical School is now termed a Federation, of which his school is a constituent, and that it is the Federation as a whole, and not his school, which is discussed in our annotation (March 1, p. 479).

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499 TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.
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SUPPLEMENT TO THE

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CONTENTS

The French Health Service. Paul Cibrie, M.D. - - 95
Adjudication March 18 - - - - - - - 97
Public Health Awards - - - - - - - 97
Public Health Committee - - - - - - - 98
The Association and Private Practice - - - - 98
Hospital Estimates - - - - - - - - 99
Regional Hospitals' Consultants and Specialists Association - - - - - - - - 99
Further Successful Appeals - - - - - 100
British Medical Association and Irish Medical Association - - - - - - - 100
Association Notices - - - - - - - - 106

THE FRENCH HEALTH SERVICE

BY

PAUL CIBRIE, M.D.

General Secretary of the Confédération des Syndicats Médicaux Français; Member of the Council of the World Medical Association

This article does not claim to be comprehensive but merely to indicate to British doctors the functioning of the medical part of the social security system in France to-day, and, in view of the national characteristics of the two countries, the reasons why we do not wish to introduce a system similar to the National Health Service.

Social insurances were created in France by a law dated April 30, 1930. This law was valid until October 19, 1945, when another was passed (the Social Security law) which has considerably extended the preceding one and introduced certain modifications which have given rise to violent protest by the medical profession. Doctors in France, however, all agree on the high import of the law and, in endorsing it, appreciate the noble end it sets out to achieve. Their criticisms, therefore, bear only on points of detail which we shall indicate in the course of this article.

Scope and Contributions

The risks covered are illness, disablement, old age, death, maternity expenses, accidents at work, and family allowances.

Insurance is compulsory for all who work for an employer, whatever the kind of work or remuneration. Only the working member of the family contributes, and this one contribution covers all members of the family—husband or wife, children under the age of 16 who are not earning, and any relative by blood or marriage who lives in the same house and devotes himself or herself entirely to work in the home and the education of at least two children under the age of 14 who are dependent upon the insured person.

The contributions, which at the present moment constitute the sole resources of the social security system, are made up as follows: the worker pays 6% of his salary (this is deducted at source by the employer), and the employer pays 10% salary for sickness insurance, 16% salary for family benefits, and a percentage varying from 1 to 8%, according to profession, covering the risk of accident at work, making the total contributions paid by both worker and employer about 39 or 40% of the salary earned. There is, however, an income level above which the contribution does not increase. At present it is 420,000 francs (approximately £420), and is revisable and fixed by the Government.

ADJUDICATION MARCH 18

The adjudication has been postponed to begin on March 18 because of the illness of counsel (see page 97).

PUBLIC HEALTH AWARDS

Local authorities continue to implement the Industrial Court Awards for public health M.O.s. For the latest reports see page 97.

The local offices under State control are responsible for all the administration within the framework of the law. The Social Security Agency is "a private body charged with a public service."

Benefits

"The insured person is free to choose his doctor"—this vital sentence appears in Chapter 1 of the law. It represents one of the fundamental demands of French medical men, who translate it by the words "freedom of trust." The insured person does not choose his doctor for a complete year or even for a shorter fixed period; he may at any time, even in the course of one illness, consult another doctor. It is therefore up to the doctor thus chosen to observe the rules of confraternal courtesy set out by our code of medical ethics (Code de Déontologie).

The basic principle of the scheme is that the patient pays the full doctor's fee and the full cost of medicines; he then claims for these expenses and receives, in general, up to 80% repayment from the local office.

Drugs, appliances, and laboratory tests are freely prescribed, and doctors are requested, in the text of the law, to exercise the greatest economy compatible with effective treatment. Proprietary products are paid for by the scheme if they are included in a list prepared by a permanent commission on which are represented the medical unions, the manufacturers, the Ministry of Labour and Social Security, the administrative council of the funds, etc. This list in fact contains all useful proprietaries costing slightly more than pharmacopoeial products of the same nature. All the vaccines, sulphonamides, and antibiotics may be prescribed. The list contains nearly 15,000 proprietary medicines, and there is thus complete therapeutic freedom. This freedom was likewise insisted upon by the medical unions.

The daily sickness benefit payments, in principle equal to half the daily salary on which the contribution is based, are made only to the person insured and not to members of the family.

Fees Paid by Patient

The doctor's fees are paid direct by the patient—except in cases of free medical attention or accident at work.

How are these fees established? Under the law of 1930 the fees were not determined, doctors requesting only the very lowest fee of their usual rates from those then insured, who were all low-paid employees or workmen. The present law (1945) having laid down the principle of an 80% reimbursement of fees—sometimes 100%—it was obviously necessary to fix the fees themselves. The law instituted a system of agreements or covenants by counties—medico-financial social security commissions. At present about 60 of the 91 counties follow this system of agreements. The county medical unions are, however, left free to sanction, or not to sanction, the covenants—whether from principle or inability to reach agreement. In these cases a national commission, of which representatives of the medical unions form one-third, set up a scale of fees which must stand. The law allows these fees, legally compulsory, to be exceeded when the financial situation of the patient, the renown of the doctor—generally university or hospital qualifications—or special circumstances enter into consideration. These are the three legal exceptions. For such cases 80% of the recognized rate is defrayed and the insured person himself is responsible for the extra.

As regards the payment of fees, or cases of abuse in the treatment or the issuing of prescriptions, litigation may arise promoted either by the insured person or by the sickness fund. These cases are judged by the regional councils of the L'Ordre des Médecins (exclusively professional jurisdiction) with the possibility of appeal before a special national commission composed of a councillor of state, who acts as president, two medical representatives, and two representatives of the social security financial organization. To date cases coming before these two bodies have been extremely rare in view of the numbers of doctors and insured persons.

Rates of Payment

Respect for professional secrecy is assured by the fact that the information given by the doctor on the medical certificate never contains any diagnostic indications. It was, however, obviously necessary to have an assessment which enabled the funds to apportion payments in accordance with the value of the medical attention without its being divulged. The answer to this problem was found in a system whereby a classification is given, followed by a coefficient—the list of all treatments applicable is included in the *Nomenclature of Medical Treatments*. The doctor indicates the nature of the attention given on the certificate that the patient has to send to the fund in order to be repaid: single consultation, C; home visit, V; operations, K.

To this key letter K—to which the agreement between the unions and the fund allots a fixed value—for example, K=200 (the present figure)—is added a coefficient which marks the value of the operation. For instance, appendicectomy is assessed K50, which means that the fund must reimburse 50×200 francs, making 10,000 francs. The doctor must by law ask this fee except in the legal exceptions referred to above. As a certain number of treatments both for the same and for different illnesses carry the same coefficient, secrecy is maintained—with verification if the need arises only by a doctor, who must himself keep the secret.

Maternity insurance covers medical and pharmaceutical costs, equipment, and hospitalization incurred during pregnancy, confinement, and subsequently. The insured person or his wife does not have to pay even 20% of these expenses.

Old-age insurance provides a pension for the insured person on his reaching the age of 60. On his death a lump sum is paid to those entitled to it, based on the figure 90×basic daily income. A widow dependent on a retired insured person is paid 50% of his pension, with a bonus of 10% if she has had three children. This allowance is stopped on remarriage.

Risks are covered (including the payment of a daily allowance for the insured person himself) for a period of six months—when the illness is one and the same. Beyond this period the insured person can be paid according to one of the two following rulings: either that for long-term illness, which may be continued for three years (this on principle is reserved for those who are curable—i.e., likely to get better within three years), or that for disablement when working capacity is reduced by two-thirds. Numerous arrangements regulate the various administrative problems raised by the application of the law.

Criticisms of the Present System

The present deficit in this medical insurance scheme—a difficulty experienced in other countries as well—is now forcing the French Government and Parliament to consider modifying the law itself in order to re-establish a balance.

Doctors realize the need for this modification. They want to help as far as they can, but they mean to defend, as in the past, respect for the dignity of the individual. They intend also that the practice of medicine shall retain its characteristic freedom.

At present great difficulties beset the establishment of agreements between the medical unions and the local agencies. These difficulties arise naturally from the fact that the agencies' interests, in so far as economy is concerned, are opposed to those of the medical men. These medical interests, however, uphold demands which are perfectly reasonable for the fixing of the recognized fees. The fees, once the covenant is signed, are compulsory for all the doctors in the area, and may be exceeded only for the reasons given above. When there is no covenant a national commission, of which doctors form one-third, fixes the rates. In fact, when the controlled rate thus introduced comes into force, doctors claim fees relatively high compared with this over-meagre rate, and as a result the patient has to pay 40 or 50% extra, although the law provides only for a 20% payment on his part for fees or medicines—in principle at any rate.

It should be noted that in cases where treatment is costly—major operations, for example—all expenses are refunded. On this particular point, considering the difficulties of reaching agreement, the medical unions propose that compulsory tariffs should be instituted only for low-wage earners—for instance, all those who earn less than the ceiling at present fixed at 420,000 francs a year. In this case the fees would be unregulated for insured persons earning more than this sum.

Amendments Wanted

The medical profession in France is particularly keen on direct patient–doctor fee payment, but it is obvious in many cases, certain costs being extremely high, that the low-paid patient is unable to advance the money, as repayment is often not made until several weeks after the outlay. This is why we are pressing for arrangements to be made for the estimated costs to be paid out to the insured person in advance. This arrangement, moreover, was allowed by the previous law. If the Government and Parliament, requested to modify the present law, follow our suggestions, the insured persons in this category would obviously be repaid at least 80% of all expenses, and this arrangement is particularly desirable from both the social and the humane points of view.

The medical unions have on many occasions pointed out all the reasons in favour of the present system—that is to say, the fixing of fees between doctor and patient—because in this way the patient retains both the idea that he has himself freely chosen his doctor and also his sense of personal responsibility. They have in addition pointed out the inevitable abuse that could arise were this system not observed.

Doctors also propose a certain number of modifications which seem indispensable to them: the improvement of the medical control—at present a number of doctors are

employed by the scheme to examine a certain proportion of patients who have been ill for some time as a check on both the honesty of the patient and the quality of the doctor's treatment—more effective preventive medicine, improved conditions of hospitalization with strict control over the length of a patient's stay in hospital, and a certain number of other smaller changes.

Is a National Health Service Possible in France?

Some politicians and trade unions advocate the establishment in France of a national health service rather like the Health Service in Britain, but perhaps with the patient paying a certain proportion of the fees and expenses. The Confédération des Syndicats Médicaux Français refuses categorically to entertain the idea of this system. (But first we should make it clear that we have no intention of either criticizing or discussing the functioning of the N.H.S. in Britain. It is entirely up to the British medical profession and the B.M.A. in particular to evaluate, approve, or criticize their national system. The ideas set out here are those only of a French doctor in relation to a system of social security which some people would like to introduce in his country.)

The national health service of which we are speaking would in point of fact be only the extension to the whole of France of what already exists on a small scale as the Mines Medical Service (la Médecine des Mines). Our miners are affiliated to a special social security fund, known as the Miners' Aid Fund (Caisse de Secours des Ouvriers Mineurs). The doctors are recognized by the fund and receive a salary based on the number of subscribers—which is very similar to the English system—each doctor holding a certain number of cards, each representing a miner and his family, whom he must attend. He receives a fixed amount annually for each card. The miner enjoys free treatment and medicine, and the doctor must answer the call of all his patients whether they are ill or supposedly so.

We often admire the respect for the law shown by our English friends. We ourselves, doubtless because of "French individualism," cannot count upon any such feelings. We French like to exercise all our rights, and, even more than in England, the unnecessary summoning of the doctor, particularly if the service were entirely free, would rapidly develop into a constant abuse. The result would be that every practitioner would have to see a large number of patients to whom he could not possibly devote sufficient time for proper treatment. It would be conveyer-belt work, without technical value. It would result in the impossibility of any personal perfection, and finally a bad medical service which would soon have a disastrous effect on public health. These are the principal reasons underlying the opposition of the French medical profession. It is because we have had experience of this system for many years that we are able to appreciate its grave disadvantages. Shall we have to enter into a serious struggle, which would be led by our medical unions, to avoid this transformation in the social security scheme? This possibility is quite likely, and may soon arise.

The medical unions united in our confederation represent nearly all practising doctors. Of course the bonds slacken during long periods of calm, and the fighting spirit wears off, but as soon as a grave threat appears we are on the defensive, and present a united front to our adversaries.

We are quite aware that our present national system has room for improvement, and that it is necessary to better it; from now on we shall make several suggestions for the sickness insurance section. We offer our loyal co-operation and we like to think it will be accepted. The social security scheme can give of its best only if its administrators and the doctors trust one another. We are the essential technical agents of the most important branch of the social security system—the sickness branch. It would be a monumental mistake to make enemies of us, and we do not think this mistake will be made.

ADJUDICATION MARCH 18

COUNSEL FOR THE ASSOCIATION

The date when the adjudication begins has been postponed to March 18 because of the illness of counsel.

An emergency meeting of the General Medical Services Committee, to which the members had been summoned by telegram, was held on March 6 consequent upon the intimation that one of the leading counsel briefed by the Committee in the forthcoming adjudication was ill and would be unable to open the case before Mr. Justice Danckwerts on March 12. Dr. S. WAND presided, and Mr. Leigh Taylor, of Hempsons, the Association's solicitors, was in attendance.

The Committee agreed unanimously that the proceedings must not be delayed, and on the suggestion of the solicitor also agreed to invite Mr. Frederick Grant, Q.C., to fill the place of counsel who had fallen sick. In view of the extreme complexity of the case counsel would have to present, it was understood that the adjudicator would not object to a postponement of a few days. The Committee decided to leave this question to its chairman and to counsel for decision with the adjudicator.

It was agreed that the profession should be informed of what had taken place, also that the ordinary meeting of the Committee which had been fixed for March 20 should be held as arranged, even though the adjudication was proceeding at that time, in order that other urgent business might be taken.

PUBLIC HEALTH AWARDS

FEW AUTHORITIES NOT HONOURING THEM

Appeals on Behalf of M.O.s

During recent weeks appeals against 24 authorities have been notified. The appeals vary in that they cover in some cases only one medical officer, in others several or all medical officers employed by the authority concerned. The situation as at March 1 was as follows:

Eight local appeals had yet to be heard. These were: Renfrew County Council (one M.O.), Fife County Council (one M.O.), Halifax County Borough (one M.O.), Dundee County of City (one M.O.), Ilkeston Municipal Borough (one M.O.), Morpeth Municipal Borough (one M.O.), Newbiggin-by-Sea Urban District Council (two M.O.s), and Brierley Hill Urban District Council (one M.O.).

Of the 16 local appeals already dealt with, seven resulted in the acceptance and implementation of the awards. These are: Wiltshire County Council (one M.O.), Bristol County Borough (certain M.O.s), Middlesbrough County Borough (all M.O.s), Stoke-on-Trent County Borough (all M.O.s), Coatbridge Large Burgh (one M.O.), Chesterfield Rural District Council (one M.O.), and Masham Rural District Council (one M.O.). Nine appeals, having been refused at the local level, were notified by the B.M.A., the "professional organization," to the appropriate regional appeals committee.

Of the nine regional appeals, six had been heard, and the ruling of the committee was in favour of the medical officer(s) concerned in these five cases: Derby County Council (all M.O.s covered by first award), Staffordshire County Council (two M.O.s), Leicester County Borough (three M.O.s), Northampton County Borough (one M.O.), and Hornchurch Urban District Council (one M.O.). In one case—Bolton County Borough (one M.O.)—there was not agreement in the regional appeals committee, but the matter has been settled satisfactorily on the advice of Whitley Committee C. The remaining three regional appeals—Birkenhead County Borough (one M.O.), Blackburn County Borough (two M.O.s), and Gateshead County Borough (all M.O.s)—are to be heard in the near future.

No advertisement is accepted for publication in the *British Medical Journal* from authorities who have failed to accept

and implement the awards. This refers to all authorities who are the subject of an appeal, together with those authorities who are still considering the awards and have not yet accepted them. This number is small, compared with the large number of authorities who have accepted and are honouring the awards as recommended by Committee C.

The local health authorities who had yet to come to a firm decision were Norfolk County Council (one M.O.), West Riding County Council (one M.O.), Dudley County Borough (two M.O.s), Grimsby County Borough (one M.O.), Leeds County Borough (certain M.O.s), St. Helens County Borough (all M.O.s), South Shields County Borough (all M.O.s), Tynemouth County Borough (all M.O.s), Warrington County Borough (certain M.O.s), West Ham County Borough (two M.O.s), and Newcastle County Borough (two M.O.s).

IMPLEMENTATION OF AWARDS

More local authorities continue to implement the public health awards of the Industrial Court. The following figures show the percentages of authorities implementing the two awards as at March 5:

	1st Award	*2nd Award*
Overall position England, Wales, and Scotland	81%	85%
Counties England and Wales	97%	96%
Counties Scotland	93%	100%
County Boroughs	82%	86%
Counties of Cities	75%	100%
Metropolitan Boroughs	96%	50%
Municipal Boroughs	76%	89%
Large Burghs (Scotland)	100%	100%
Urban District Councils	76%	83%
Rural District Councils	79%	82%

PUBLIC HEALTH COMMITTEE

DUAL APPOINTMENTS

A meeting of the Public Health Committee was held on March 7. In the absence through illness of the chairman, Dr. C. Metcalfe Brown, to whom the Committee sent a sympathetic message, Dr. H. K. COWAN was elected deputy chairman.

The Committee considered at length the question of dual appointments, which had occupied it at the previous meeting. The views of the Central Consultants and Specialists Committee were placed before it together with a minute of the Joint Consultants Committee.

The CHAIRMAN said that a difficult position had arisen, and it was important to consider action which would reconcile so far as possible the views of all concerned. Dr. T. DAVIES, representing the chairman of the Tuberculosis Group Committee, said his committee had confirmed the views put forward by the Joint Committee.

After long and detailed discussion it was finally agreed that the matter be referred to the Council of the Association, with a recommendation from the Committee that consideration be given to the possible reference of this matter to the Whitley machinery. It was also agreed that the Association representatives should continue discussion with the employers' side with a view to clarification of the difficulties, and that a special meeting of the Public Health Committee should be called if any important turn of events took place.

Implementation of Awards

A report was made to the meeting on the present position with regard to the implementation of the two awards of the Industrial Court. A report on the position as at March 1 appears on page 97.

The Committee also considered certain individual cases of medical officers on whether there were grounds for appeal and gave advice on each case.

The "Closed Shop"

A verbal report was given on the position in County Durham. The SECRETARY said that a meeting of the professional associations concerned in the Durham dispute was held the previous week, and it had been agreed to set up a joint professional emergency committee with three representatives from each of the professions. A meeting of this new committee would be held in the near future.

It was also reported that the borough of Dartford had rescinded its "closed shop" resolution so far as medical officers were concerned.

Other Business

The Committee had before it exceptionally full agenda, embracing some 11 documents and 50 separate items. The consideration of several matters had to be deferred. One question referred to the General Medical Services Committee arose on the puerperal pyrexia regulations, following a letter protesting that the new regulations would mean many notifications without regard to practical value or clinical need. The Committee is suggesting to the G.M.S. Committee that further information is necessary and is asking whether this could be obtained through local medical committees.

Among other matters on which reports, correspondence, and other information were received and considered were vaccination and immunization fees, the question of the reintroduction of compulsory vaccination, the conditions under which a medical officer of health acts in the capacity of medical referee, advertisement of all county M.O.H. appointments, and Public Health (Leprosy) Regulations.

Another item dealt with the legal opinion regarding advertisements for mixed appointments. It was felt that further information was necessary, and this is now being sought.

The agreement between the B.M.A. and the Society of Medical Officers of Health embodied in these principles agreed over a year ago was again discussed, and representatives were appointed to attend a joint conference on this matter which is to be held in April.

THE ASSOCIATION AND PRIVATE PRACTICE

Certificates of Incapacity Required by Employers

The Private Practice Committee of the Association held a meeting on February 27, Dr. I. D. GRANT presiding. A report was given of a meeting which had taken place with representatives of the British Employers Confederation to consider the question of certificates of incapacity required by employers. The representative of the Committee who had attended (Dr. Morgan) said that the meeting was a useful one. It was pointed out that the insistence of some employers on medical certificates after only one or two days' illness was a burden on general practitioners, particularly in epidemics, and it was suggested that, instead of requiring such certificates, cases of workers frequently absent should be investigated by the welfare department. The reply of the employers was that the rate of absenteeism over the whole country was about 5%, involving many thousands of people daily, and welfare departments could not deal with such numbers. But the Confederation was prepared to advise its members to look upon the matter of these certificates as leniently as possible; in any case considerable latitude would be advised during epidemics.

At the same meeting the Confederation agreed to remit for the consideration of employers the suggestion that no new form of medical report or certificate should be introduced without prior consultation with the profession. This

matter has also been discussed with a representative of the Trades Union Congress, who said that certain unions had certificates and report forms which required completion before the member joined a sick-pay scheme. He was under the impression that these forms were quite straightforward and comparable to the forms already agreed between the Association and insurance companies.

Fees for Lectures

The Committee discussed a number of items referred back from the Committee on Fees for Part-time Work under Local Authorities. It was considered that the time was not opportune for seeking revision of the 1947 agreement on sessional fees. One item concerned fees for lectures. Recently Committee B of the Medical Whitley Council had agreed a new scale of fees for lectures to nurses by members of hospital medical staffs, 2 guineas being paid to consultants, 1½ guineas to S.H.M.O.s, and 1 guinea to other grades. The Committee felt that fees should be uniform irrespective of the status of the lecturer.

A letter was read from the senior medical inspector of the Children's Department of the Home Office concerning the minimum remuneration of medical officers attending approved schools. The Committee had previously suggested that the proposed new minimum of £40 a year for schools with up to 50 pupils would not be unreasonable provided the average time spent by medical officers on duties outside the scope of the N.H.S. did not exceed half an hour a week. It appeared that in some of the smaller schools, especially the girls' schools, more time had to be spent on such duties. The view of the Home Office was, however, that circumstances differed in each school, and that the only practical method of determining remuneration was to relate it to the average number of pupils.

Fees for Post-mortem Examinations and Inquests

Dr. F. E. CAMPS, honorary secretary of the Association of Forensic Pathologists, attended the meeting for a consideration of the question of fees for post-mortem examinations and attendance at inquests. He said that it was a matter of concern to anyone associated with the working of coroners' courts that the statutory fees laid down in 1926 were still in existence. This was partly because the terms of reference of the Lord Chancellor's Committee on Coroners did not allow any recommendation of increase of fees to be considered. The schedules of fees varied widely among local authorities, from that of Middlesex, which was adequate, to local authorities which had no schedule at all. A long discussion ensued, and it was suggested that an approach be made to the County Councils Association and the Association of Municipal Corporations and also to the Home Office with a view to getting these fees established on a satisfactory basis over the whole country. Accordingly a small committee was appointed, consisting of Dr. Camps, Dr. J. A. Gorsky, and Dr. R. Forbes, with a pathologist member of the Central Consultants and Specialists Committee, to consider the matter.

In accordance with a request made at a previous meeting of the Committee a statement of information obtained from the various area boards of the British Electricity Authority relating to the tariffs applicable to doctors' houses was laid before the Committee. It appeared that the majority of the boards regarded doctors' surgeries as domestic premises.

The Committee considered the action taken by the Ministry of Pensions in terminating the contracts of members of its boards who are over 70 years of age. It was the view of the Committee that the imposition of an arbitrary age of retirement for doctors in any of the various forms of private practice was to be deprecated, and a recommendation was framed to that effect.

The modified report form for pre-employment examination of prospective employees of N.A.A.F.I. was approved. The Institute has agreed to pay a fee of 10s. 6d. for such reports; previously it was 7s. 6d.

HOSPITAL ESTIMATES

MORE LATITUDE ALLOWED

The Ministry of Health, in circular R.H.B. (52) 20, returns to regional hospital boards the power to approve the estimates of hospital management committees and to authorize transfers between subheads. The boards are thus to resume powers for a time exercised by the Ministry. These arrangements take effect for the estimates of 1952–3.

REGIONAL HOSPITALS' CONSULTANTS AND SPECIALISTS ASSOCIATION

The annual general meeting of the association was held at the Royal College of Surgeons on February 21. The annual report of the council, which had been sent to all members and which gave a résumé of the association's work during the year, was accepted.

The officers for 1952 are:

President: Mr. R. E. Jowett.

Honorary Treasurer: Mr. Kenneth Heritage.

Joint Hon. Secretaries: Mr Nigel Cridland, Dr. Donald Wilson.

Trustees: Mr. Clifford Morson, Mr. J. R. H. Turton.

The president referred to the council dinner, held at the Royal College of Surgeons, which was made notable by the speeches of the Presidents of the Royal College of Physicians and the Royal College of Surgeons and the presence of the President of the Royal College of Obstetricians and Gynaecologists and the chairman of the B.M.A. Central Consultants and Specialists Committee.

The accounts showed a very satisfactory financial position.

The meeting approved alteration of the rule governing membership of the association to read:

There shall be individual membership; consultants and all senior hospital medical officers who are engaged exclusively in the practice of their specialty shall be eligible as members if they are in whole- or part-time contract with regional hospital boards, as well as those who, in the opinion of the council, are suitable as members.

The subscription for associate members was abolished.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Southwark, Stoke Newington.

Non-County Borough Councils.—Crewe.

Urban District Councils.—Droylsden, Houghton-le-Spring, Huyton-with-Roby.

In future it will be left to the discretion of each ophthalmic services committee, in consultation with the local medical and optical committees, to decide whether the ophthalmic list should be sent to all general practitioners in the area. An alternative is to send amendments to the basic list. This arrangement, which would save money, is suggested in a Ministry of Health circular after consultation with the B.M.A., the Faculty of Ophthalmologists, and other interested parties. The Minister will also remove the obligation to send copies of the list and amendments automatically to hospital boards and committees on the understanding that the documents will be available to these bodies on request.

FURTHER SUCCESSFUL APPEALS

Three regional appeals were made under the Whitley regional appeal machinery recently where the Association made application with regard to the seniority of certain consultants. In each case the employing authority, the North-west Metropolitan Regional Hospital Board, had not afforded to the consultant full seniority as prescribed under the Terms and Conditions of Service—that is, dating from the acceptance of a hospital staff appointment with full clinical responsibility.

Two of these officers complained that their service as consultants under the E.M.S. had not been taken into consideration. In each case these consultants held senior-grade E.M.S. appointments—one as a surgeon and one as an orthopaedic surgeon. In the first stage of the appeals, when the individuals had themselves appealed under the provisions of the Whitley regional appeal machinery, it was made clear by the regional board that the E.M.S. appointments could not be considered as equivalent to consultant appointments. The board was told that the explanatory memorandum to the Terms and Conditions of Service (which was issued by the Ministry) specifically stated that boards should have regard to the date on which a consultant took up "a hospital (or E.M.S.) appointment of consultant status." But the reply was that the board had had regard to this but did not consider the appointments concerned were of consultant standing.

Unjustified Contention

On appeal, however, the board did not attempt to justify its contention, and evidence was brought to show that these E.M.S. appointments were those of evacuated teaching hospitals where the full run of major surgery was carried out in addition to the treatment of civilian casualties, and that the appointments were in every way comparable to normal senior staff appointments. Seniority was allowed in both cases.

The third appeal was on behalf of a consultant psychiatrist, medical superintendent to a large institution for mental defectives, to which he was appointed as acting medical superintendent in 1944. After the war this appointment was advertised and he was formally appointed as superintendent. (All such appointments were made on a temporary basis during the war.) In this case the regional board had afforded the consultant seniority only from the date of appointment as medical superintendent, ignoring the fact that he had for four years carried out the same duties at the same hospital in an acting capacity. Again the board did not attempt to justify its decision, which was contrary to the Terms and Conditions of Service. These lay down that seniority should be calculated from the date on which the consultant "first accepted a hospital staff appointment with full clinical responsibility."

Protest at Slowness

These three appeals illustrate the value of the Whitley regional appeal machinery. In each case the appeal has been on the interpretation of facts.

The B.M.A. has protested to the Ministry of Health against the slowness of the North-west Metropolitan Regional Board in accepting the appeal machinery laid down by the Whitley Council. These cases have only now been heard—a year and a half since the establishment of the appeal machinery.

This board has created difficulties for a number of its officers—first of all by delaying the application of the Whitley appeal machinery, and then by refusing to give the officers any reason for rejection of their claims.

Two National Insurance intermediate certificates are to be amalgamated into one. These are Form Med. 7 (hospital intermediate certificate) and Form Med. 8 (hospital special intermediate certificate). Form Med. 10 will replace these from March 31.

BRITISH MEDICAL ASSOCIATION AND IRISH MEDICAL ASSOCIATION

JOINT ANNUAL MEETING, DUBLIN, JULY, 1952

Dates of Meetings of Scientific Sections

Medicine	Two sessions	July 10 (p.m.)
		July 11 (a.m.)
Surgery	" "	July 9 (p.m.)
		July 11 (a.m.)*
Obstetrics and Gynaecology ..	" "	July 11 (a.m. and p.m.)
Anaesthetics ..	One session	July 9 (p.m.)
Cardiology	" "	July 9 (p.m.)
Child Health ..	" "	July 10 (p.m.)
Ophthalmology ..	" "	July 11 (p.m.)
Orthopaedics ..	" "	July 10 (p.m.)
Oto-rhino-laryngology	" "	July 9 (p.m.)
Pathology	" "	July 10 (p.m.)
Psychiatry	" "	July 11 (a.m.)
Radiology	" "	July 11 (p.m.)
Social Medicine and Occupational Health	" "	July 11 (a.m.)
Tropical Medicine ..	" "	July 11 (p.m.)

*Amended time.

Detailed programmes of the Sections will appear in a later issue.

SCIENTIFIC EXHIBITION

A Scientific Exhibition will be staged in the Convocation Hall of University College, Dublin, from July 8 to 11 in connexion with the Joint Annual Meeting of the British Medical Association and Irish Medical Association.

Applications for space at the Exhibition, which must be accompanied by brief details of the proposed exhibit, should be received *not later than March 31* and should be addressed to the Organizing Committee, Scientific Exhibition, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

Each stand will be 10 ft. wide and 6 ft. deep and the walls will be 8 ft. high. The front will be open, and a shelf 2 ft. 6 in. above the floor and 1 ft. wide will extend all round the three walls. Chairs will be provided if required. Fluorescent lamps will be fitted to the walls but can be omitted if exhibitors require indirect lighting for show-cases, transparencies, etc. The current is A.C. 200–240 volts.

The exhibitor will be expected to pay the cost of the preparation, transportation, and installation of his exhibit, but no other expense will fall on him unless he requires alterations to the booth or special construction. Although it is hoped that the latter may not be required, any special demands will be dealt with sympathetically so far as possible. The cost of such alterations will be borne by the exhibitor.

No motion pictures will be shown in the booths, but separate arrangements will be made for these elsewhere. Exhibitors are expected to provide their own transparency cases for slides or *x*-ray films. There is ample free storage space for packing-cases.

Exhibits should be shown in the name of an individual person (or persons), who must be a member attending the Annual Meeting. The name of the hospital or institution at which he works may appear as part of the address.

The booths will be ready for the installation of exhibits by *Sunday, July 6.* Installation should be completed by *6 p.m. on Monday, July 7.*

Heard at Headquarters

Holiday Exchange

A French doctor in Algeria would like to get in touch with an English family with a view to arranging a holiday exchange for his 14-year-old son and 15-year-old nephew, or to send them to a doctor's family in this country for a month as paying guests. Would anyone interested in this request please write to Dr. Sandiford, International Medical Visitors Bureau, B.M.A. House, Tavistock Square, London, W.C.1.

N.A.D.

Correspondents sometimes take us to task for allowing incomprehensible groups of initials to appear in the papers we publish. Quite rightly so, for even initials whose meaning is well known in Britain may be strange to one of our many foreign readers. The medical profession, like the armed Forces, seems to have a predilection for initials, no doubt because they save time. But their use can be carried too far. A doctor now sends us two communications he received from a hospital. They summarize the details of treatment that two of his patients received. In the first, under the heading "Treatment," is nothing but this cryptic statement: "B.A.P.W.O. and Ts and As." In the second, one of his patients is described as having had "P.I.A. by Mr. X under G.O.E. Anaesthetist Dr. Y."

News in the Local Press

The article we published in the *Supplement* of February 16 (p. 63) on getting news into the local press has brought a response from another lay journalist. In fact, he was prompted by it to devote a column in his newspaper to explaining the doctors to the public, and his account was both well-informed and friendly. In drawing our attention to this he agrees with the writer of our article, saying that doctors "would get sympathetic co-operation from local weekly newspapers all over the country" if the local P.R.O.s were to submit articles.

The Future of General Practice

Students from the London schools heard a wholehearted defence of general practice from Dr. G. O. Barber, of Great Dunmow, when he delivered his Metropolitan Branch lecture at B.M.A. House. Dr. Barber roundly declared that he had no doubt at all about the future of general practice. The general practitioner, he said, never stood higher than he did to-day, and there is nothing in our economic set-up or in the National Health Service to prevent the very best in the old relationships of general practice continuing happily as before. His reason for this confidence? Whatever the devices of the politicians or the plans of the planners or the regulations of the Civil Servants, it is the public who makes the final decision, and the public has shown unmistakably that it wants a family doctor at the hub of the Service. The patient, said Dr. Barber, wants to be treated as a person, not as a sickness unit, even with pin-point diagnosis and automatic treatment. He wants someone to treat him who knows his background, his peculiar troubles, perhaps his nagging wife, his uncertain future, his bad conscience. It is all very well to speak of the humdrum trivialities for which people seek their doctor; behind many of them there is some deeper trouble which the practitioner with sympathy and with leisure—and there's the rub!—can elicit. At the end of the lecture one student got up and asked how many patients a general practitioner can compass; he said that it had been impressed on him that a large practice was essential for economic survival. Dr. Barber could reply only that this was a personal matter. Every doctor would give a different answer. It depended a lot on whether it was a town or country practice, also on how hard the doctor wanted to work, the way he set about his work, and what help he had. He had no doubt that some doctors—a few—could give a first-class comprehensive service with lists of 4,000, but others would find it impossible to be responsible for lists of more than 1,500. He agreed that one could never know more than a small number of one's patients really intimately.

Exchange of Roles

A medical practitioner was trying to interest a parson in a patient under his care. He told him that the patient was a man who needed spiritual guidance, that his soul was adrift, that some ministration of the Church was called for to direct his mind to eternal things. The parson's answer was remarkable. "He looks to me," said the parson, "like a manic-depressive."

Questions Answered

Service on the Reserve

Q.—*(1) On completion of National Service, three and a half years have to be spent on the Reserve. Are income-tax expenses allowed during this time for cost of cleaning and general upkeep and perhaps a new uniform?*

(2) Under the heading of expenses, it is stated that if you have to spend part of your pay on tools, explosives, or special working clothes fixed allowances have been agreed upon by the trade unions. In refitting oneself with "tools" for civilian life again, I should be obliged if you could list me those items for which one may claim.

A.—(1) There is a recognized scale of allowances for serving officers, which is presumably approved by the assessing authority for the Service concerned, that is intended to represent the additional cost which a serving officer incurs over and above what would be the corresponding expense in civilian life. The allowances are so much per annum—e.g., if an officer joins the Forces half-way through the financial year he would receive one-half the yearly allowance. On that basis the most that could be expected while in the Reserve would be the proportion of the 52 weeks which is spent on actual service.

(2) The annual allowances agreed with the various trade unions are understood to be for upkeep of tools, special clothing, etc., not for the original equipment of tools, etc. If the questioner was in civil practice before serving in the Forces, there would seem to be grounds on which he could claim to deduct the cost of making good such equipment as had deteriorated during his period of service. But there are possible legal objections, and we know of no case law which throws light on the point.

Ship Surgeon's Income Tax

Q.—*I am a ship surgeon, and I have a number of special instruments of my own, the total original cost of which was about £100. Income tax in respect of salary is deducted at source, and I submit a separate return in respect of fees received from passengers. How much can I claim for depreciation?*

A.—The questioner's earnings fall under two different schedules and accordingly are governed by two different sets of statutory rules—his salary falls under Schedule E and his fees under Schedule D. Depreciation is allowable only in respect of "plant and machinery," and the equipment in question hardly seems likely to qualify under that category. Consequently the point arising is whether he is entitled to deduct as an expense the cost of replacing such articles as occasion may require. That expense may broadly be said to be allowable so far as it relates to the earning of the fees, but not against the salary unless the employing company requires the maintenance of such equipment as a condition of employment.

Correspondence

Registrar Appointments

SIR,—The cut in registrars which takes effect in October will leave many hospitals short of surgical staff. Where an extra consultant is needed the remedy is plain, but in many cases what is wanted is a man who is on the spot all day and whose status makes it proper for him to feel a sense of responsibility for all the surgical cases in the hospital.

It appears that an important number of senior registrars will be unemployed and a proportion will find their way into general practice. Some of these will make a valuable contribution to this branch of the Service, but all of them will have gone through an expensive process of training of which fully economical use will not be made. They cannot be ploughed back into the hospitals at a lower grade because of the terms of appointment for intermediate registrars. At the same time the supply of intermediate registrars is perceptibly slackening, and we may in future years find ourselves short of material for filling consultant posts.

A few years ago, in the heat of the discussion about the provisions of the Health Service, the specialists in general thought it wise to resist the designation of a grade less than that of full consultant. I wonder whether the time has not now come to reconsider this decision. There is something to be said, in the surgical field at least, for the creation of an R.S.O. grade. Only after discussion can one appreciate all the implications of the formation of such a grade. As a basis for such discussion it would appear to me that the posts would need to carry with them permanent appointment to the Service. They would be intermediate, in grade and salary, between senior registrar and consultant. They would, in these respects, be not greatly different from the S.H.M.O. grade in other specialties, but they would ordinarily lead to full consultant appointments. This final step, I imagine, would not be guaranteed, and every now and again a man might fail to make the final upward step.

I believe that it is up to the profession in general, and the young men now at senior registrar level in particular, to make the first move, if they wish something of this type to happen. To me it seems the only logical solution of our present problem, and one which would supply the hospitals with much-needed key men, make appropriate use of admirable training posts, absorb a number of individuals who may otherwise become redundant, serve the public and the country well, and, finally, insure us against a shortage of young surgeons in the near future.—I am, etc.,

University of Liverpool. CHARLES WELLS.

Registrar Establishments

SIR,—We have seen in the last few years many examples of how hasty conception and premature delivery have given rise in the hospital service to unexpected difficulties in the developing of well-intentioned plans. Is it too late to suggest that reconsideration be given to the formalizing and fixing of registrar establishments? So far as can be judged from what information filters out to the periphery, the new proposals look like being the source of even more unfairness and of being more hampering to freedom of training and development than the last. The one thing in their favour looks like being that they will cause less "trouble," as the turning aside from the goal will operate at an earlier, less articulate, and less certain stage of development.

Would it not be a great deal better to abandon the grade of senior registrar for the time being? There are many arguments in favour of such a course, but perhaps the most important is the fact that the hospital system has not reached that stage in its development which requires or can support the administrative tidiness of the new proposals. We all of us know how slow this development is for reasons of finance, of personalities, because of differences in interpretation of meanings, differences in ideals, and the dead weight of established custom. Why not go a little slower with these proposals about establishment, which may further hamper the changes which are slowly occurring? Differences are being made between teaching hospitals and non-teaching hospitals, teaching hospitals and other teaching hospitals, and between one and another non-teaching hospital which cannot be justified as the semi-permanent measure they are supposed to be. Besides this argument—that the time is not yet ripe—many can be raised which suggest that the extremely sharp division between registrars and senior registrars may be permanently undesirable.

Surely it would be better to have some such flexible system as this:

All registrar appointments to have the same title. A minimum of five to six years in such appointments to be done before appointment to consultant grade would be considered. The maximum period to be allowed, eight to ten years. Salary to rise by yearly increments to a maximum as at present.

A regional (or perhaps a central) professional committee would fix the duration of each appointment. They should be for one or two years. A special extension would be granted to some special hospitals—e.g., thoracic surgery, neurology, neurosurgery, paediatrics—and perhaps at certain general hospitals (especially of teaching status) if the holder of the post had not held other appointments of similar rank at the same hospital. Some of the registrar appointments at special hospitals whose specialties form part of more general consultant practice—e.g., paediatrics, rectal surgery and genito-urinary surgery, and cardiology and dermatology—might be made half-time and combined with a half-time appointment at a general hospital.

This brief survey has been written largely from the point of view of general medicine and surgery, but in general it applies to most of the specialties.

It is difficult to ignore the fact that it does not take quite so long to train a competent anaesthetist, dermatologist, or E.N.T. surgeon as a neurosurgeon or a thoracic surgeon. Whatever the present regulations may say about equality, this difference is repeatedly recognized and accepted by selection committees. In some specialties it may be decided that a shorter period of registrars' appointments (five to six years) may suffice, while in others it should be accepted as being longer. In the hope of having this letter printed I have been brief and have omitted the individual arguments in favour of these proposed changes.—I am, etc.,

London, W.1. ALAN SMALL.

Health Service Charges

SIR,—I think we are endeavouring to oversimplify the question of prescribing and its cost.

First, we must realize, despite statistics, that the health—feeling of wellbeing—of the nation is progressively deteriorating. Most people, though not ill in the medical sense, are endeavouring to feel better or well. People who feel well do not go to the doctor.

Secondly, under the Act the patient has been given full rights to anything that he considers will make him feel well or better, and the doctors have been allotted the duty of getting the patient better or well. He is our first and last consideration.

Thirdly, the population, by various means, know a great deal about the various drugs and their uses, and of *x* rays, barium meals, radiotherapy, physiotherapy, etc. It is no uncommon occurrence for a patient to walk into the consulting-room and ask for or demand a course of penicillin or "M. and B." or for an *x*-ray examination of his stomach, chest, or old rheumatic joints, or even for an electrocardiogram for his heart, which is playing him up. My experience is that seven or eight out of ten people who come to me come not for consultation but to get something, very often not for themselves but for a husband or wife or father or mother who is at work but wants something for a cough or indigestion or pain in the back or leg, etc. Are we, as G.P.s, to refuse the tonic or cough mixture or analgesic tablet? Again, what is the G.P. to do about the sometimes very expensive course of treatment with proprietary preparations prescribed by consultants? Are the consultants to be

directed by the Minister? I think we should be extremely careful about assuming any responsibility for banning any proprietary preparations. If the State is to standardize medicines and treatments it must be made to assume the sole and whole responsibility and not to throw it on to the profession.

Dr. L. S. Wolf (*Supplement*, February 23, p. 70) takes a rather oblique view of the increase in proprietary preparations. It is obvious that with medical science and research running at top speed more and more proprietary preparations will be placed at our disposal. Are they to be given a trial or banned right away? We are in no position to say whether any preparation is too expensive until we know the amount spent on research and putting the article on the market, and we would be presumptuous to say that anything which would give relief to, say, an asthmatic is too expensive. The reported statement by the Minister of Health that "the cost of medicines has risen enormously" is enormously out of court, as everything has risen enormously except the pay of the G.P. Cotton-wool, which pre-war sold for around 1s. per lb., was 11s. per lb. and is now 8s. per lb., and lint is now around 15s. per lb., to take but two articles whose daily consumption has always been enormous and always will be.

The question of 1s. per prescription is chiefly political, and we should not get involved in it. Parliament made its estimates of the cost of the Service. If it finds the cost too heavy it is the Government's job to find the money or reduce the Service, and we must not allow the politicians to put the onus on us to reduce the cost. We have already made our contribution by working the Service as well as it could be worked—for a pre-war rate of pay. It might be more advantageous to the Service to look into the cost of administration before reducing the cost of prescriptions.—I am, etc.,

St. Osyth, Essex. R. E. CLARKE.

SIR,—The proposed tax on prescriptions simply dilutes the whole essence of a free Health Service. Dr. Frank Murray (*Supplement*, March 1, p. 82) hits the nail on the head when he says that the proposed tax on prescriptions infers criticism on the doctors who issue them. Of course he is right, but under the capitation system "the customer is always right," because having built up our lists we just cannot afford to lose them. What a soul-destroying position we are in. And I am afraid the only solution is the dreaded salaried service (adequately paid according to length of service and qualifications, irrespective of the number of patients).

This may not be too bad under the present Government, for, although we should be controlled, we should in turn control the patient *in his interests*, and we should no longer prescribe a lot of useless placebos, thereby drastically reducing the national expenditure. Our patients would soon be re-educated into this new era, and, what is more important, our prestige will have risen overnight. At present we are just "floundering to our doom in our self-created chaos."—I am, etc.,

Nottingham. GORDON TRESIDDER.

Middle-class Practices

SIR,—Dr. I. E. D. McLean (*Supplement*, February 9, p. 55) suggests that patients should be allowed to contract out of paying their weekly contributions. Presumably he means weekly contributions to the National Health Scheme. This, however, is not a practicable proposition. Benefits under the National Health Act are not conditional on the payment of weekly contributions. For example, a newly born baby is immediately entitled to treatment and yet does not pay for a National Insurance stamp. Admittedly out of the total cost of the weekly stamp 10d. is allocated to the National Health Service, but this may cover a single person or a family of five; and the amount allocated to the National Health Service from this source represents less than 10% of the total cost to the country.

Dr. McLean is guilty of the misunderstanding deplored by Mr. Marquand in the *Journal* of February 2 (p. 272), that the National Health Service is paid for by the Insurance Fund. If Dr. McLean intends that patients should be allowed to contract out of the entire National Insurance stamp, they would of course have to forgo the benefits under the National Insurance Act, including sickness benefit, industrial injuries benefit, pensions, and unemployment benefits, etc. In any case Dr. McLean should know that patients are not compelled to avail themselves of the benefits of the National Health Act, and are expressly permitted by the provisions of the Act to contract out and become private patients if they so desire.—I am, etc.,

Liverpool. MONTAGUE SOLOMON.

Trainee Assistant Scheme

SIR,—Recently it was suggested to me that the trainee assistant scheme was giving rise to adverse criticism. From recent letters in the *Journal* it would appear that this is justified. Particularly in England, the scheme seems to be abused. Lately my present trainee assistant has had some interviews in England with a view to obtaining a permanent position at the end of his year's training with me. He has told me of practitioners securing trainees at Government expense and making these assistants undertake most of the work; of practitioners securing sanction for trainees so that they can try out assistants and, if a suitable one is obtained, perhaps offer a permanent assistantship or partnership. Indeed, from time to time there are advertisements in the *Journal* apparently confirming that this is so. Many of these practitioners appear to have no scheme of instruction, and are not attempting to "train" the assistants. They are only doing it to see what the scheme will do for them. It would be a great pity for those of us who try to make the scheme a success to have it taken away by the abuse of a few—either by dropping it altogether or by allowing only two to three years' permission to each trainer.

I am now due to start my third trainee, and with the experience of the previous two I hope to make this young practitioner's time with me even more valuable to him.

There must be method in the usage of the scheme. The selection committees should be exacting in their choice of trainers. They should attempt to avoid any likely abuse of the scheme by the careful selection of their trainers. If any trainer is found to abuse the scheme, immediately his name should be taken off the list. Considerable time for training is necessary for the trainer. Therefore no practice with a very large list should be allowed to have a trainee—say more than 3,250 for an urban practitioner and 2,500 for a rural practitioner. In Scotland I believe the selection committees are very particular in their choice. Apart from not allowing a trainee to a practitioner with too large a list, some committees will not allow trainees to any practitioner who has previously employed a paid assistant. The idea is that if the practitioner could afford an assistant he should not now get one at Government expense. In parts of Scotland the selection committees have already introduced a ban on a practitioner's being sanctioned as a trainer for more than two consecutive years, though I do not agree with this where genuine training is given.

A selected trainer should follow a definite scheme of training. First, I should state I have a rural practice which I can work myself (perhaps at times a bit hard, but it can be done). Therefore I have no particular need for an assistant "to work for me." I have a definite scheme of training on which, to save space, I shall not elaborate. On engagement, I give the trainee all income that accrues to me under the scheme, so that I do not gain financially. And, of course, as a corollary, I try not to lose—e.g., by giving the trainee a car allowance, but by letting him pay his own car expenses. The advantages I gain are from companionship in the work of the practice and also, after the preliminary training, from the knowledge that I have someone in the practice who knows my patients and my methods if I am off for my half-day.

Last year I met an American colleague, Dr. Benson Roe, who was in this country studying our methods and the Health Scheme. During discussions about the Health Service I told him about the trainee scheme. He considered it one of the most important advantages of the scheme for the young practitioner. The Cohen Report advocates such a scheme. If properly carried out the scheme can be of immense value. It is up to the selection committees and selected trainers to see that it is so.—I am, etc.,

J. WATSON,
Honorary Secretary, Dumfries and Galloway Division.

The General Practice of Medicine

SIR,—There is, I believe, a genuine wish to raise the status of general practice. It is hardly necessary to elaborate the reasons for this highly desirable objective. I would like to point out, however, that, as specialist knowledge in the medical world increases, the need for general practitioners of the highest order, who will regard the patient as a person as well as a collection of physical systems, becomes greater.

I have often found that well-meaning consultants condole with me over what they appear to regard as the depressed state of general practice. I venture to protest against this widely held view. The facts that better consultant services are available, and that many diseases can be better treated in hospital, do not lead to a lessening of the need for men of the highest order in general practice.

It is the purpose of this letter to attempt to show that the scope for good work in general practice is very great. The work of the G.P. is changing, but it demands greater care and higher qualities than it did 20 years ago, when the standard of medical care for the majority of people was lower. What, then, are some of the responsibilities and necessary qualifications of the good general practitioner?

First, he must have an adequate knowledge of all the branches of medicine—not of the rare diseases which affect the few, but of the common diseases which affect the many. He must know how to treat the upper respiratory diseases of children, the sinus and middle-ear infections; he must understand the management of infants. He must know which injuries justify an x-ray examination to exclude bony involvement; which cases of peptic ulcer would benefit by reference to hospital, which cases of rheumatic disease must be treated by placebos and analgesics, and which would benefit by reference to a rheumatologist or an orthopaedic surgeon. He must know what to do with the woman with a low backache—which is orthopaedic and which gynaecological—knowing full well that if he sends her to the wrong specialist she is only too likely to spend a very long time in treatment, or perhaps on a waiting-list, before it is discovered that such treatment is of no avail and the specialist of another department has to be consulted.

As specialist knowledge advances, so must that of the G.P. advance in all branches, so that he may be able to take proper advantage of the new knowledge. Advances in orthopaedics are a good example of this.

Secondly, the G.P. must have a good working knowledge of pharmacology. The analysis of prescriptions by Professor Dunlop and his colleagues (*Journal*, February 9, p. 292) shows clearly how great is the need for further understanding of the art of prescribing. The G.P. must have an adequate knowledge of the powerful antibiotic agents at his disposal. He must know how best to choose from the wide range of sedatives and analgesics. He must know which drugs are of value and which are a hangover from a less fortunate age when it was necessary to send up a great barrage of treatment in the hope that something would hit the invading disease. He must wait and watch the new drugs, such as the methonium compounds, until he is assured how best to make use of them. More extensive knowledge of pharmacology is needed now than twenty years ago because of the power and variety of the very real remedies in our hands.

Thirdly, he must, as always, understand the minds of men and women. The psychological background of dyspepsia, asthma, and the various nervous syndromes must be studied. The patients with a nervous element clouding and clogging their mild organic cardiovascular disease have to be lived with year after year, and the problem of the practitioner is the prolonged one of obtaining maximum activity compatible with safety from individuals whose instinctive mechanism for self-preservation has become useless. He must study the underlying neurosis of those unfortunates who suffer from allergic skin conditions and the background and psyche of the child with asthma.

Fourthly, he must acquire the special skill needed to do his surgeries. There is the constant need for "sorting," to assure the best distribution of time. He must know who has to be examined and who not examined. He must learn to spot the probable intussusception among a number of loudly proclaiming babies. He must not miss the elderly dyspeptic who has underlying coronary disease.

Lastly, he must learn how to educate his patients. How slowly proceeds the teaching of men and women of all sorts that a bottle of tonic is of no use to them, that good health comes with proper attention to rest, exercise, peace of mind, and purposive activity. Who does not experience the case of the man who receives twenty minutes of our time devoted to explanations and advice, but who has no medicine—only to come again two days later asking once more for "just a bottle of good strong tonic"? The G.P. must be like Chaucer's clerk—"Gladly would he learn and gladly teach."

Of the other activities that need a variety of skill and patience—the giving of adequate gas and oxygen or safe ethyl chloride for dental cases, of the patient, hopeless helping of the incurable, of the opportunities to observe and add one's own small contribution to medical knowledge—there is no space to write. May I plead, though, that here is work for the best that our medical schools can turn out?

General practice is not a specialty. Such nomenclature is a contradiction in terms. It is simply the general practice of medicine. May the time soon come when it is recognized for what it is—work harder than that of the consultant, more exacting than that of the pathologist, but with scope enough to satisfy the most ambitious members of our profession.—I am, etc.,

Midsomer Norton, Somerset. K. E. LANE.

Something Wrong

SIR,—After a few months' enjoyable and interesting work as a salaried assistant in general practice, from which I intend shortly to return to my specialty, may I express my surprise that the community should place such confidence in the integrity of any of its members—even doctors?

Perhaps it is not generally realized that a general practitioner is paid more per unit of work the less he does. The former safeguards of prestige and prosperity awaiting sound work having been abolished, the health of the nation now depends solely on the family doctor's conscience and love of his work. Dependable though these are, I feel that it would be in the public interest if the doctor was rewarded, in the natural human way, for services rendered.

What about a system of recording all primary surgery attendances and visits in each illness, with a statistically calculated bonus for above-average numbers? This, with an increased capitation fee for certain categories of patients, would enable the popular hard-working practitioner to receive a just reward for his labours. It would also cover the anomaly of the practitioners whose patients are hit by an epidemic when his neighbours are not. Perhaps then there would be fewer apologetic calls to adults with board-like abdomens and children with rigid spines.

The public has already an uneasy feeling that something is wrong, which even in my small experience prevents many from "troubling the doctor," sometimes until too late.—I am, etc.,

London, S.E.27. MARY ELLIOTT.

Notice of Retirement

SIR,—When a G.P. retires from the N.H.S. his patients receive notification on the first day of the quarter following his resignation, informing them that Dr. X has agreed to accept them, but if they wish to choose a different doctor they have a fortnight in which to do so. With this arrangement, if Dr. A or B takes any of these patients, Dr. X gets the payment for that quarter, as it has already started before

the patients get a chance to change. One might think this such a rare occurrence as not to matter, but since the N.H.S. started four G.P.s in this neighbourhood have resigned, and it is the same story each time.

I suggest that, as executive councils have three months' notice of a G.P.'s retirement, they could easily notify the retiring doctor's patients a fortnight before the end of the quarter, to enable them to get on the list of their new doctor by the time the next quarter starts.

With regard to the purging of lists, I find that most of the people who are noted as "untraceable" have lived for years at the address given and are still there, and others have changed their address in the same district; in both cases no very strenuous efforts can have been made to trace them.

On the obverse side, nearly every week someone comes for treatment who has no medical record envelope, though he joined the list long since, often with a Forces' release form. Sometimes, on writing up, the M.R.E.s are forthcoming, and sometimes the patients have to rejoin on E.C.1s, and I suffer the loss of capitation fee.

It is probably worth every G.P.'s while to get an official list of his patients, even at a small fee for the work involved. —I am, etc.,

London, N.8. E. J. RUBRA.

Sale of Goodwill

SIR,—Dr. Murray Bladon (*Supplement*, February 9, p. 54) should be thanked for raising at an opportune moment a fundamental issue. Some time before the appointed day I heard the present chairman of the General Medical Services Committee say that the goodwill clauses must be opposed because we ran a chance of being paid in a depreciated currency. At least in that he was right. The present time is opportune because an economizing Government might save £66m. and general practitioners might receive an enhanced money value for their practices.

I have been impressed by the number of our difficulties which arise from the loss of the right to sell our goodwill. The efforts to correct the difficulties and anomalies of present conditions, such as the Working Party, lead to one end only —a State-salaried medical service. This appears to be a fairly universal view, but equally universally there is a fatalistic belief that it is impossible to reverse present conditions. I will try to outline how a reversal might be made.

The old National Health Insurance right of any registered medical practitioner to have his name placed on any medical list should be re-established. This would mean the abolition of that egregious body the Medical Practices Committee—unregretted and a small contribution to economy. With a uniform capitation fee, distribution of doctors can be left to look after itself. Simultaneously the right to buy and sell practices should be restored.

There would at this time be two kinds of practices, those whose owners were entitled to compensation and the ones whose owners were not. If the owner of a compensatable practice decided to forgo his right to compensation, he would become entitled to sell his practice. He would require a fairly long period to exercise his option, however, because he could not fairly be expected to do so until a market had been created, and I suggest that the option should remain open from one to two years. The practices whose owners were not entitled to compensation, or whose owners, of compensatable practices, had elected to take compensation, would be saleable by the Government when they became vacant. Once a market had been established, some of the unentitled practitioners might want to buy the full rights in them from the Government, and machinery could be set up for that purpose, though it appears obvious that the purchase price in these cases would have to be appropriate to the date of entry into the practice and not to the date of purchase.

The greatest difficulty would be the adjustments in respect of interest paid on compensation, when a doctor decided to forgo his compensation. The interest, while he got it, was derisory in amount, and he certainly has a counter-claim arising from the fact that his right to dispose of his asset had, for a time, been restricted, and that some of his colleagues who could claim hardship were preferentially treated by receiving part or all of their capital. Some exceptional method will have to be devised for this problem, and I make no apology for suggesting that we should repay the net interest payments received, but be allowed to charge them as an allowable expense against our practices.—I am, etc.,

Wolverhampton. ROBT. S. V. MARSHALL.

Rules for Patients

SIR,—Dr. D. Kennedy's night call (*Supplement*, February 9, p. 56) prompts me to place on record the following urgent afternoon call. The message received by my maid was, "Come quickly, Mrs. X is very ill." I went immediately, only to have the door opened by a puzzled Mrs. X, who knew nothing of the call and who surprisingly enough didn't even ask me for anything "as I was there." I learnt later that the call originated from Mrs. X's sister-in-law, who had been rather upset when Mrs. X had used the excuse of a severe headache to break an appointment she had had with her sister-in-law.

In retrospect, like Dr. Kennedy, I find these incidents amusing, but in reality they are, to say the least, an impertinence. What I am really interested in is the action, if any, being taken by the B.M.A. to have legislation introduced to punish people who abuse the Health Service in such a manner. I remember reading (*Supplement*, December 22, 1951, p. 277) that such rules had been recommended by the Association. What has happened to them? Will they ever be made law?—I am, etc.,

Hayes, Middlesex. S. EDELMAN.

Binding Decision

SIR,—Is it a fact that our negotiators agreed that we (the doctors) would abide by the decision of the inquiry regarding our pay, but no similar binding decision was undertaken by the Minister of Health? If not, what is to prevent any award we may get being cut by half or even not being awarded anything at all?—I am, etc.,

West Kirby, Cheshire. E. S. A. ASHE.

*** The Secretary of the Association writes: The Minister of Health and the Secretary of State for Scotland have agreed to treat the award of the adjudicator as binding, subject to the overriding authority of Parliament and to a satisfactory distribution scheme being agreed by the parties. These terms were approved by the Conference of Local Medical Committees.

POINTS FROM LETTERS

Paying for the Health Service

Dr. HUGH W. FORSHAW (Liverpool) writes: With reference to the letter from Mr. Hilary C. Marquand (*Journal*, February 2, p. 272). . . . It was abundantly clear that any man who had been paying a weekly stamp for health insurance for 20 years would naturally presume that the said stamp on and after July 5, 1948, would be devoted to the same purpose. I venture to suggest that the "misunderstanding" was deliberately fostered by the Government then in power for very obvious reasons. Millions of pounds were spent annually by the Ministry of Information, but not one penny was spent in making this fact clear. It was left to the doctors themselves to instruct their own Public Relations Department to produce a leaflet at the *doctors'* expense explaining to the public how little of the weekly stamp was devoted to the Health Service. . . .

Allaying Anxiety

Dr. L. P. DAVIES (Harrow, Middlesex) writes: It is comforting to gather from the survey of Professor Dunlop and others (*Journal*, February 9, p. 292) that the free Health Service would not be wrecked if the charge for prescriptions made them unpopular. An idea has sprung up that, if a consultation (no charge) ends without a recommendation for a drug, an appliance, or a priority, the time has been wasted. One of our most important jobs in practice is to allay anxiety, and this requires no pricing bureau.

H.M. Forces Appointments

ROYAL NAVY

Surgeon Captain W. A. Hopkins has retired.

Acting Interim Surgeon Lieutenant-Commanders J. K. Irving and W. D. Mackenzie have been placed on the Emergency List.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Lieutenant-Commander E. M. Buzzard has retired.

Acting Surgeon Lieutenant-Commander T. S. Stewart to be Surgeon Lieutenant-Commander.

Temporary Acting Surgeon Lieutenant-Commander B. J. O'Meara has terminated his temporary commission on transfer to the R.C.D.C.

Surgeon Lieutenants G. J. F. Briggs and D. Kennedy to be Surgeon Lieutenant-Commanders.

COLONIAL MEDICAL SERVICE

The following appointments have been announced: F. S. H. De Bono, M.D., and W. D. A. Birch, M.B., Ch.B., Medical Officers, Sierra Leone; J. J. G. Hanratty, M.B., Ch.B., D. H. H. Robertson, M.B., Ch.B., and L. M. Wertheim, M.B., Ch.B., Medical Officers, Tanganyika; R. J. G. Hogg, M.B., Ch.B., Medical Officer, Sarawak; C. H. James, M.R.C.S., L.R.C.P., Medical Officer, North Borneo; J. F. McCourt, M.B., D.P.H., Medical Officer (Special Grade), Gambia; Miss P. C. Tatham, M.B., B.S., Lady Medical Officer, Federation of Malaya; A. J. Grochowski, M.D., Medical Officer, Gold Coast; A. Richter, B.M., District Medical Officer (temporary), Bahamas.

Association Notices

ELECTION OF MEMBERS OF THE COUNCIL BY BRANCHES NOT IN GREAT BRITAIN OR NORTHERN IRELAND

As a result of the nominations received for the election of members of Council by Branches overseas, the following have been elected for the three years 1952 to 1955:

Branches in the Republic of Ireland ..	P. T. O'Farrell, Dublin
New Zealand and Fiji	C. J. C. Britton, London
South Australian, Tasmanian, Victorian, and Western Australian ..	Myles L. Formby, London
Borneo, Ceylon, Hong Kong and China, Malaya	Kenelm H. Digby, Bromley

The following candidates have been nominated for the West Indian Branches:

A. G. Leacock, London.
H. B. Morgan, London.

Voting papers have been issued to all the members in the Group.

No nominations have been received in respect of the New South Wales and Queensland and Grouped African Branches.

A. MACRAE,
Secretary.

Diary of Central Meetings

MARCH

18	Tues.	Medical Students and Newly Qualified Practitioners Subcommittee, Organization Committee, 2 p.m.
19	Wed.	Joint Meeting of B.M.A. and T.U.C. Committees, 11 a.m. (Preliminary meeting of B.M.A. Representatives, 10.15 a.m.)
19	Wed.	Occupational Health Committee, 2 p.m.
19	Wed.	Subcommittee on Constitution and Procedure of Medical Service Committees, General Medical Services Committee, 2 p.m.
20	Thurs.	General Medical Services Committee, 10.30 a.m.
21	Fri.	Colonies and Dependencies Committee, 2 p.m.
25	Tues.	Legal Subcommittee, Alcohol and Road Accidents Committee, 2:30 p.m.
25	Tues.	Publishing Subcommittee, 5.30 p.m.
26	Wed.	**Council**, 10 a.m.
26	Wed.	Charities Committee, 1.30 p.m.
27	Thurs.	**Council.**

APRIL

1	Tues.	Orthopaedic Group, 2 p.m.
2	Wed.	General Practice Review Committee, 11 a.m.
9	Wed.	Amending Acts Committee, 2 p.m.
16	Wed.	General Practice Review Committee, 11 a.m.

Branch and Division Meetings to be Held

BATH, BRISTOL, AND SOMERSET BRANCH.—At Cinema, Musgrove Park Hospital, Taunton, Saturday, March 15, 8.30 p.m., meeting. Dr. Macdonald Critchley: "The Monster of Düsseldorf."

BLACKBURN DIVISION.—At Queen's Park Hospital, Blackburn, Tuesday, March 18, immediately on conclusion of meeting of Blackburn and District Medical Society at 9.45 p.m., special meeting.

BLACKPOOL AND FYLDE DIVISION.—At Savoy Hotel, Gynn Square, Blackpool, Wednesday, March 19, joint meeting with Local Law Society. 7.15 p.m. for 7.30 p.m., dinner; 8.30 p.m., lecture by Mr. J. R. D. Crichton, Q.C.: "Vicarious Liability for the Negligence of Doctors and Nurses."

ENFIELD AND POTTERS BAR DIVISION.—At Chase Farm Hospital, The Ridgeway, Enfield, Thursday, March 20, 2.45 p.m., clinical meeting. Members of North Middlesex Division are invited.

NORTH OF ENGLAND BRANCH.—At New Lecture Theatre, Royal Victoria Infirmary, Newcastle-upon-Tyne, Thursday, March 20, 7.15 p.m., clinical demonstration by Dr. C. C. Ungley; 8.45 p.m., address by Mr. J. J. Mason Brown: "Appendicitis in Infancy and Childhood, with Special Reference to Diagnosis and Treatment."

OLDHAM DIVISION.—At Oldham Hotel, Rhodes Bank, Monday, March 17, 9 p.m., Professor A. M. Boyd: "The Swollen Leg."

SOUTHAMPTON DIVISION.—At Royal Southampton Hospital, Wednesday, March 19, 8.30 p.m., general meeting. Address by Mr. J. E. Braybon, B.Sc.: "Nuclear Physics and its Biological Applications."

SOUTH BEDFORDSHIRE DIVISION.—At Luton and Dunstable Hospital, Friday, March 21, 9 p.m., meeting. Mr. H. J. Seddon: "Poliomyelitis."

SOUTH ESSEX DIVISION.—At Nurses Lecture Theatre, Oldchurch Hospital, Romford, Friday, March 21, 9 p.m., address by Dr. Bruce Cardew (Secretary, Medical Practitioners Union), on their proposals for the G.P.'s remuneration in the N.H.S.

SUNDERLAND DIVISION.—At Royal Infirmary, Sunderland, Friday, March 21, 8 p.m., address by Professor Harvey Evers: "The Perils of Placental Detachment."

SUTTON COLDFIELD DIVISION.—At Sutton Coldfield Hospital, Thursday, March 20, 9.15 p.m., annual general meeting.

Meetings of Branches and Divisions

NORTH WALES BRANCH

A meeting of the Branch took place at St. Asaph on October 11, 1951, under the presidency of Dr. J. G. MacQueen. The main business was a B.M.A. lecture on "Maternal Obesity" by Dr. J. H. Sheldon, physician to the Royal Hospital, Wolverhampton. There were 36 members present, and the lecture was enthusiastically received.

With the aid of lantern slides Dr. Sheldon described his researches. The most striking feature in his series of 100 cases, he said, was that weight tended to be put on rapidly over a short space of time and then slowed up markedly. Some gained during pregnancy and increased with each pregnancy. Others increased only after the pregnancy, and in others the gain might take place with one pregnancy only. In another rare type the patient might lose weight rapidly after the conclusion of a pregnancy.

There were two clinical types—one where the fat distribution was mainly on the trunk and the other where the buttocks and legs took the brunt of it. The women usually had large babies, with an increase in neonatal mortality. The women themselves were normal in vigour, blood pressure, menses, and lactation, but as a class were much more liable to develop diabetes. There might well be a hereditary factor, in that most had fat mothers and might have started life as fat babies.

Dr. Sheldon then discussed the aetiology of this condition. Citing experiments on the hypothalamus of rats, he thought some kind of stimulation of the human thalamus was the cause of the weight gain. Cortisone and A.C.T.H., by causing the adrenals to stimulate the hypothalamus, could give rise to staggering gains in weight. It was well known that instability of the steroid levels occurred in pregnancy, as evidenced by the formation of striae both in some pregnancies and after cortisone administration. He thought psychological factors operated in some cases too, and cited an instance of five successive girl babies without any change in the maternal weight, followed by a male child immediately associated with an enormous gain in weight.

As regards treatment, he had not had any success with endocrine preparations. Amphetamine was useful in reducing appetite. As many of these obese women could maintain weight on a low diet, the calorie intake had to be usually below 1,000 daily before the weight was lost. It was difficult to secure co-operation from the patients, and most of them, after losing weight, left off the diet and were soon back where they were before.

In the discussion which followed, Dr. Trevor Hughes suggested the use of chewing-gum. Dr. Sheldon replied that these women were not satisfied unless they felt something going down.

Are Vaginal Tampons Prejudicial to Health?

An Investigation* concerned with the bacteriology of vaginal flora following the use of internal tampons was undertaken at the request and with the co-operation of the visiting gynaecologists to a London Women's hospital.

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★ "Smears and cultures taken before and after each period showed no appreciable change in the bacterial flora of the vagina."

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★ "There was no aggravation of the condition or delay in healing following the use of tampons in the patients who had cervical erosions."

★ "In each case the underlying cause responded to treatment, and did not recur, which proves that the internal tampon does not act as an irritating foreign body."

★ "The rate of healing compared favourably with four control cases in which the perineal pad was used."

★ "The glycogen content was uninfluenced by the use of tampons."

★ "There was no appreciable alteration in the pH in the pre- and post-menstrual phases."

★ "Volunteers who had not previously used tampons stated that they did not cause the irritation usually found with the perineal pad."

★ "There was no evidence that vaginal tampons are prejudicial to health."

British Medical Journal, 1, 24 (1952)

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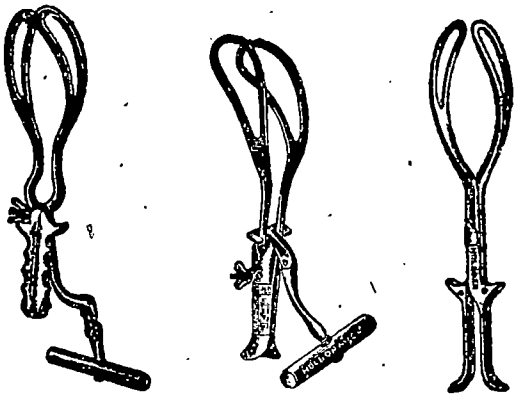

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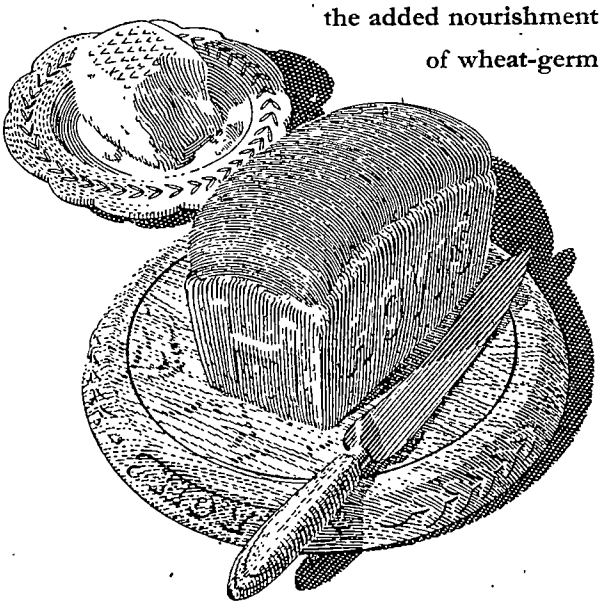

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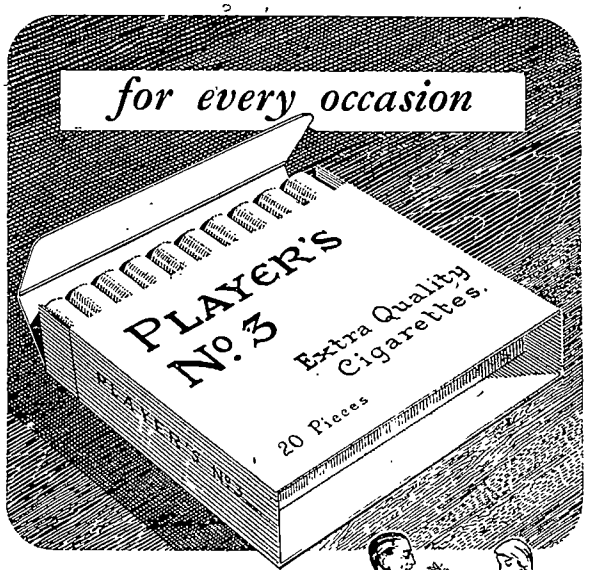

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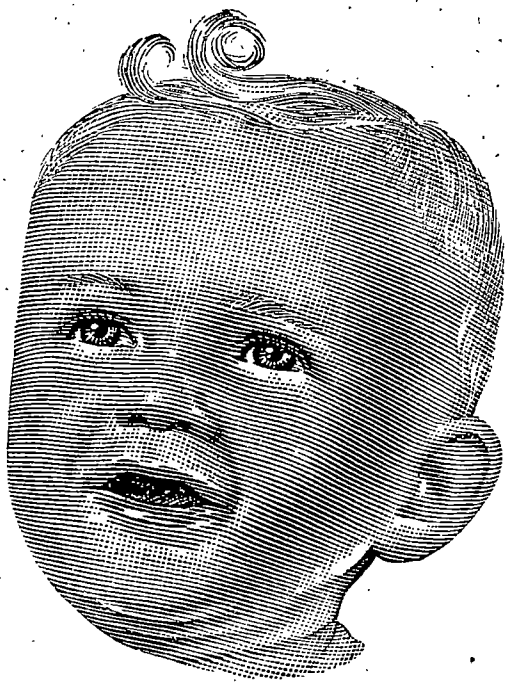

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Contents—March 1952

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APPOINTMENTS

Applicants should state name, address, age, nationality, qualifications, and enclose 3 copies (unless otherwise specified) of recent★ testimonials with short statement of experience and appointments held.

Applications should be sent at once if no closing date is given.

Canvassing in any form will disqualify.

★*SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

Deferment of call-up for "R" practitioners (i.e., practitioners liable for call-up under the National Service Acts) is granted at the discretion of the Central Medical War Committee and (in Scotland) the Scottish Central Medical War Committee. The Committees normally allow an "R" practitioner to hold a First House Officer post (N.H.S. salary £350 per annum) provided that he obtains it without delay. *Under present arrangements* the Committees also normally allow an "R" practitioner to hold a Second House Officer post (£400) and a Senior House Officer post (£670), provided in each case that the higher appointment is secured before the termination of the practitioner's current appointment

"R" practitioners may not accept Third House Officer posts (£450 per annum) unless they have obtained the special permission of the C.M.W.C. or (in Scotland) the Scottish C.M.W.C.

SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

Registrar Grades, Whole-time

(*a*) *REGISTRAR:* Posts obtained normally not less than two years after registration as a medical or dental practitioner and held normally for two years: £775 per annum in the first year; £890 per annum in the second and any subsequent years.

(*b*) *SENIOR REGISTRAR:* Posts obtained normally not less than four years after registration as a medical or dental practitioner and held normally for three years: £1,000 per annum in the first year; £1,100 per annum in the second year; £1,200 per annum in the third year; £1,300 per annum in any subsequent years.

Other Grades, Whole-time

(*a*) *HOUSE OFFICER:* £350 per annum for the first post held, £400 per annum for the second post held; £450 per annum for the third and any subsequent post held; with, in each case, a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Each post shall be tenable for six months.

The Minister will be prepared to authorize, in exceptional circumstances, salaries up to £50 per annum higher than the standard rates specified above where a post cannot be filled otherwise.

(*b*) *SENIOR HOUSE OFFICER:* Posts obtained normally not less than one year (in Scotland, two years) after registration as a medical or dental practitioner and normally held for one year only: £670 per annum.

(*c*) *JUNIOR HOSPITAL MEDICAL OFFICER:* Officers who have held house appointments but who are not Registrars and who have less responsibility than other hospital officers of non-consultant status: £700 (for an officer appointed not less than two years after registration as a medical practitioner) by £50 to £1,000 per annum.

ALL NATIONAL HEALTH SERVICE HOSPITAL APPOINTMENTS ARE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SERVICE OF HOSPITAL MEDICAL STAFF

Those intending to apply for resident appointments in the Registrar grades are recommended to make inquiries with regard to the deductions proposed for board and lodging at the time of submitting their applications, where this is not stated in the advertisement.

(22/2/52)

CLASSIFICATION

and order of appearance

Practices	Assistantships
Partnerships	Locums

HOSPITAL APPOINTMENTS

CONSULTANTS
S.H.M.O.s
REGISTRARS
J.H.M.O.s
SENIOR HOUSE OFFICERS
HOUSE OFFICERS
CLINICAL ASSISTANTS

under appropriate specialty headings, e.g.:—

Anaesthetics	Ophthalmology
Blood Transfusion	Orthopaedics
Cardiology	Paediatrics
Chest and Tb.	Pathology
Dermatology	Psychiatry
E.N.T.	Radiology
Geriatrics	Radiotherapy
Infectious Diseases	Urology
Neurosurgery	Medicine
Obstetrics and Gynaecology	Surgery
	Casualty

PUBLIC HEALTH
in alphabetical order of names of employing authorities

Governmental	Pharmacists, etc.
Industrial	Receptionists, etc.
Eire	Accommodation
Overseas	Consulting Rooms, etc.
University	Hotels
Personal	Motor Cars, Hire, etc.
Notices	Miscellaneous
Educational	Homes
Lectures	Agents
Situations(Non-med.)	

PRACTICES (Offered)

VENEREOLOGIST, S.H.M.O., GOING ABROAD, offers excellent house, consulting rooms, goodwill. Income £3,000, North-East Coast. Nice neighbourhood. Wide scope.—Box P1001, B.M.J.

PRACTICES (Exchange)

WORCESTERSHIRE. N.H.S. 2,100. ANNUAL income £2,800. House (six bedrooms) for sale. Wanted: Minimum income £3,800 any area except Scotland. Similar accommodation.—Box P1036, B.M.J.

PRACTICES (Wanted)

M.B., D.R.C.O.G., SEEKS SUCCESSION PARTnership, Assistantship, view, London, near. Capital available for house.—Box P811, B.M.J.

PRACTITIONER SEEKS PRACTICE, PARTNERship or Assistantship with early View to Partnership in rural or semi-rural practice. Capital available for property purchase.—Hugh McD. Mackey, Alton, Staffordshire.

PRACTICE OR PARTNERSHIP, PREFERABLY rural, or opening, South Cotswolds or West country, by experienced M.D., aged 45. Would exchange rural practice, Staffs, 2,700 units and private practice averaging £3,500 per annum. Similar income required.—Box P1002, B.M.J.

PARTNERSHIPS (Wanted)

Wanted, Partnership or Assistantship with view, preferably country, anywhere in England. Hospital, including obstetrics and G.P. Car owner. Aged 30. Free end of May. Married and R.C.—Box P902, B.M.J.

Experienced practitioner desires Partnership or Succession, London area. Capital for house purchase.—Box P1022, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, Trainee Assistant for partnership practice in Manchester.—Box 947, B.M.J.

Wanted, Assistant, rural practice N. Ireland. Car owner.—Box 1003, B.M.J.

Wanted, Male Trainee Assistant, outdoor, Manchester. £700 plus £150 car allowance.—Box 1015, B.M.J.

Wanted, Outdoor Assistant with View, male, single, C. of E. Rural practice. Partnership of two. Car essential. Cricketer preferred.—Dr. F. P. Rust, Boroughbridge, York.

Wanted, Trainee Assistant for Central London suburb. Work light. Full salary and allowances.—Box 1038, B.M.J.

Wanted, Assistant, outdoor, R.C. preferred, car desirable, but not essential. Pleasant Cheshire town.—Box 1040, B.M.J.

Wanted, Assistant, outdoor, driver, Essex suburb, London. Salary by arrangement.—Box 1039, B.M.J.

Wanted immediately, Trainee Assistant, outdoor, thirteen miles South Manchester. Car essential.—Box 1004, B.M.J.

Wanted, part-time Assistant, married. Detached house and small salary. Probably suit older man.—Write Dr. Jenkyn-Thomas, 179, Green Lane, Morden, Surrey.

Wanted, Trainee Assistant, preferably female, car owner essential. Midland rural district, near town. Usual salary, ample time for study. Accommodation available.—Box 1006, B.M.J.

Wanted, Bristol, married male Assistant, ample free unfurnished accommodation. Car owner. Must be fully experienced. No view. References and interview essential. Commencing salary £1,000 including car allowance.—Box 1007, B.M.J.

Assistant required in about six weeks. No view. Car essential. Unfurnished flat. N.W. London.—Full particulars to Box 1037, B.M.J.

Required, Assistant, male or female, mid-April. Large Partnership practice. East Midland town. No view. Salary by arrangement.—Box 927, B.M.J.

Assistant required for North London Partnership. Car essential. Furnished flatlet.—Box 1024, B.M.J.

Postgraduate required for stand-by duties, occasional nights and week-ends. Accommodation provided Central London, near teaching hospitals. Suit married man. Car owner preferred. Terms by arrangement.—Box 1042, B.M.J.

Trainee Assistant required for mixed practice, after the middle of May. Unfurnished flat available.—Drs. Drake Lee, Ogle and Brook, 15, Lower Street, Kettering, Northants.

Trainee Assistant, single, male, wanted early May, live in, varied work Private and Insurance. Partnership of five. Access hospital and maternity work. Full allowances. Car essential.—Dr. Jenner, Cherrimans, Haslemere.

Trainee Assistant, lady preferred, for good-class partnership practice. South Birmingham. Flat available over surgery. Car essential.—Box 1041, B.M.J.

Trainee Assistant, outdoor. Vacant May. Partnership two. Leeds. Work light. Car owner preferred. Arrange salary.—Box 1023, B.M.J.

Trainee Assistant, male, required mid-Sussex rural practice. Salary to scale. Car can be provided.—Dr. Greville Tait, Archpool, Handcross, near Haywards Heath, Sussex.

ASSISTANTS AVAILABLE

Wanted by woman experienced in general practice, Part-time Work or Locums during school term time. Weymouth or Dorchester area.—Box 1046, B.M.J.

Assistant, Protestant, desires contact N. Ireland principal contemplating retirement one to two years view succession.—Box 1008, B.M.J.

Assistantship wanted in London, Southern England, by Jewish M.B., D.R.C.O.G., 29, extensive hospital, G.P. experience. Car owner.—Box 1018, B.M.J.

Assistantship, with view or succession, wanted by Irish graduate, hospital, obstetric, general practice (two years) experience. Release from R.A.M.C. due first week in May. Married, one child.—Box 1026, B.M.J.

Assistants Available—contd.

Doctor available for Surgeries, Visits and for Week-ends. Nottingham-Derby area. Own car. —Box 1044, B.M.J.

Doctor, with wife and baby, desires Assistantship with View. Hospital and G.P. experience. English, Protestant, age 32, testimonials, own car. Must rent furnished house.—Dr. Ronald Sloman, 1, Frankland Crescent, Parkstone, Dorset. Telephone, Parkstone 803.

Experienced Jewish practitioner requires practice Partnership or Assistantship, preferably with View Capital available for house purchase. Married. Car. North-West London or South Coast preferred.—Box 833, B.M.J.

Jewish doctor, 28, married, requires Assistantship, 2½ years' G.P. experience. Car.—Box 1043, B.M.J.

Light Assistantship wanted by experienced woman doctor. Will do alternate week-ends. Car owner. Southern Counties preferred. Outdoor. £400 to £500 per annum, according to work.—Box 1045, B.M.J.

M.B., studying for membership, available for evening surgeries or night calls in S.E. London. Own car.—Box 1017, B.M.J.

Old Bart's man requires Assistantship, London district. Good experience private practice. Own car. Energetic and likes work. Available forthwith.—Kirkwood, Bay 1904.

Postgraduate free mornings or afternoons, London, preferably S.W.—Box 1027, B.M.J.

Registrar, 35, married, no children, conscientious, car owner, capital for house purchase, keen obstetrics, desires Assistantship with definite View, country or bordering country.—Dr. Holland, General Hospital, Dewsbury.

Scot M.B., Ch.B., B.Sc., wide experience G.P., seeks permanency succession, partnership, assistantship with view. Coast or country town Southern England or Scotland preferred. Own car. Free June. Minimum salary considered £1,000.—Box 1019, B.M.J.

Trainee or Assistantship, without view, wanted April 1, 30 miles London, by married man, locum experience. Car owner.—Box 1016, B.M.J.

Young Jewish doctor, single, hospital and general practice experience, requires Assistantship, with or without view. Jewish principal preferred. Own car.—Box 1025, B.M.J.

LOCUMS (Vacant)

Wanted, Locum, May 17 to June 1. Car owner. 15 guineas, plus 2 guineas.—Wade, Risca, Mon.

Wanted, Locum for April, not sole charge. Anaesthetic experience.—Drs. Duncan and Maclure. Evesham 359.

Experienced Locum required June 7 to 21 inclusive. Car owner preferred. General practice. All found.—Dr. Eric S. L. Allott, 66, Sheffield Road, Hoyland Common, Nr. Barnsley, Yorks.

Locum required, British, May 20 to June 3, Midland town. No midwifery. Car essential. Fees by agreement.—Box 948, B.M.J.

Locum, preferably with car, for four months from June 15. Residential area, East Riding of Yorkshire.—Box 932, B.M.J.

Locum required, occasional week-ends and summer holiday. Country practice, Hampshire. Permanent basis preferred.—Box 1047, B.M.J.

Locum wanted for North-East industrial practice (2,200 units). Remuneration 15 guineas per week plus 2 guineas car allowance. Own car necessary. Residence provided.—Box 1009, B.M.J.

Locum wanted, Stoke-on-Trent, for about three weeks about June 3. Work light, no midwifery. Car provided. Usual terms.—Box 1028, B.M.J.

Locum, May 3 to 17, rural practice near Norwich, work light. Own car. Hospitality wife. State terms.—Box 1020, B.M.J.

Locum wanted, June 29 to July 31 inclusive. Single-handed seaside and rural practice, Devon-Dorset border. Own car essential. Three guineas per day.—Box 1010, B.M.J.

Locum wanted, April 10 to 19, Birmingham. No midwifery, 3 guineas daily.—Box 1011, B.M.J.

Woman Locum required, April 15 to May 3, London. No branch surgeries.—Box 1048, B.M.J.

Poplar Hospital, London, E.14. Bow Group Hospital Management Committee.—Locum Casualty Officer required from April 3 to June 30. Salary £670 per annum. Apply to Assistant Secretary of hospital. (9589)

Birmingham, United, Hospitals.—Applications are invited for a **Locum Psychiatric Registrar (Senior Registrar Grade)** for a period of approximately six weeks. Candidates must be medical practitioners, registered for not less than two years, and must hold the D.P.M. (or Part I). The psychiatric department is an integral part of the departments of neurology, neurosurgery and psychiatry of the teaching hospital and of the university. The duties will include work in both the in-patient and out-patient departments of the hospital. Applications should be submitted at once on a special form, which will be forwarded on request to the undersigned, from whom all further information may be obtained.—G. A. Phalp, Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (9441)

Basingstoke, Park Prewett Hospital. South-West Metropolitan Regional Hospital Board. Park Prewett Group Hospital Management Committee No. 47.—Locum Tenens Psychiatric Registrar.—Applications are invited for the above appointment. Previous psychiatric experience not essential. Terms and conditions will be in accordance with national scales. Please apply to the Group Secretary as soon as possible. (9524)

Bournemouth and East Dorset Hospital Management Committee.—Locum Medical Registrar required for April and May. Non resident. (£775 per annum). Applications to Assistant Secretary, Royal Victoria Hospital, Bournemouth. (8966)

Hull (A) Group Hospital Management Committee. Hull Royal Infirmary.—Locum Resident Surgical Officer required (Senior House Officer grade) for six weeks as from March 24. Applications to the Administrative Officer. (9168)

Kettering and District General Hospital.—Applications are invited from registered medical practitioners for the post of **Locum House Surgeon (General Surgery)** from the middle of March to the end of June. Salary will be in accordance with National Health Service Regulations and dependent upon past experience. Applications, stating age, nationality, qualifications, and giving details of previous experience, together with not more than two recent testimonials, should be sent to the Assistant Secretary, General Hospital, Kettering, as soon as possible. (9131)

Nottingham City of, Health Department.—Applications are invited from medical practitioners with experience of maternity and child welfare for a **Medical Locum Tenens** (Summer period, 1952) appointment, beginning May, 1952. Salary will be at the rate of £850 per annum. Applications, accompanied by the names of two persons to whom reference may be made, should be sent to the Medical Officer of Health, Huntingdon Street, Nottingham, not later than March 24, 1952. —T. J. Owen, Town Clerk, Guildhall, Nottingham. (9068)

REPLIES TO BOX NUMBER ADVERTISEMENTS

The names and addresses of advertisers using box numbers are held by us in strict confidence and cannot be disclosed. Applications should be separately enclosed and clearly addressed.

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British Medical Journal,
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Tavistock Square, W.C.1.

All communications are forwarded to advertisers under plain cover.

It is not possible for this office to accept telephone messages for relay to advertisers.

Rochford, Essex, General Hospital (603 beds).—Applications are invited for the post of **Locum Senior Medical Registrar** at the above hospital on a month to month basis from April 1, 1952. Married quarters available. Applications, etc., should be forwarded to the undersigned not later than March 21, 1952.—J. C. Field, Secretary. (9161)

South-East Essex Hospital Management Committee. Locums required.—Senior Anaesthetic Registrar, Orsett Hospital, April 7 to May 7, 1952. Salary £1,100 per annum, less £130 emoluments. **Anaesthetic Senior House Officer, St. Andrews Hospital, Billericay,** April 15 to 30, 1952. Salary £670 per annum, less £130 emoluments. **Senior Surgical Registrar, Orsett Hospital,** March 24 to 30, 1952. Salary £1,200 per annum, less £130 emoluments. **Senior Orthopaedic Registrar, Orsett Hospital,** April 21 to 28, 1952, June 2 to 9, 1952. Salary £1,100 per annum, less £130 emoluments. Applications should be forwarded to the Secretary, South-East Essex Hospital Management Committee, Thurrock Hospital, Grays, Essex. (9385)

LOCUMS (Available)

Doctor, large city practice, would run quiet seaside practice two to four weeks August. Hospitality wife and two grown children. Own car.—Box 1012, B.M.J.

Experienced Locum available morning and evening surgeries, Kingston area.—Ring Kingston-on-Thames 3649.

Experienced woman doctor, excellent testimonials, free part-time or short Locums, preferably Sussex. Owner driver.—Phone Brighton 23865, or Box 1029, B.M.J.

Experienced G.P. requires Locum engagements. Excellent testimonials, own car if required.—Box 1030, B.M.J.

APPOINTMENTS

ANAESTHETICS

NATIONAL TEMPERANCE HOSPITAL.
Hampstead Road, N.W.1 (158 general beds)
North-West Metropolitan Regional Hospital Board
CONSULTANT ANAESTHETIST

Required two half-days a week. Applications, giving three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by April 19, 1952. Hospital may be visited by direct appointment. (9531)

NATIONAL HOSPITALS FOR NERVOUS DISEASES

The Board of Governors invites applications for the appointment of

ANAESTHETIST (Consultant status)
at the Maida Vale Hospital for Nervous Diseases, Maida Vale, W.9

The appointment will be part-time and the successful applicant will be required to attend four half-days per week. Applications (35 copies), giving the names of three referees, must be submitted to the undersigned not later than March 29, 1952.—H. Ewart Mitchell, Secretary, The National Hospitals for Nervous Diseases, Queen Square, W.C.1. (9495)

ST. GEORGE'S HOSPITAL GROUP, S.W.1

Applications are invited for the post of

PART-TIME CONSULTANT ANAESTHETIST

The holder will be required to give approximately three half-days' service a week, and must have had experience in anaesthetics for thoracic surgery. Duties to begin on or about May 1, 1952. Applications, together with the names of three referees, should be received by the undersigned not later than April 7, 1952.—P. H. Constable, House Governor. (9418)

WOOLWICH GROUP OF HOSPITALS
South-East Metropolitan Regional Hospital Board

Applications are invited for appointment as

CONSULTANT ANAESTHETIST

A total of eleven notional half-days is required and either one whole-time appointment or a number of part-time appointments within the total of eleven notional half days may be made. The work comprises five notional half-days in the regional neurosurgical unit at the Brook Hospital and six divided between general hospitals and out-lying small units for special work, particularly E.N.T. surgery. Candidates must have had wide experience in anaesthetics and hold the Diploma in Anaesthetics. The appointment will be in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales). Applicants may visit the hospitals concerned. The last day for acceptance of applications will be March 28, 1952, and selected candidates will be interviewed in London on May 8, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees and indicating the number of sessions available, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1. (9410)

KING EDWARD MEMORIAL HOSPITAL
Ealing (165 beds)
North-West Metropolitan Regional Hospital Board
WHOLE-TIME RESIDENT ANAESTHETIC REGISTRAR

Required for one year in first instance. Vacant May 22, 1952. Candidates may visit hospital by direct appointment. Application forms obtainable from, and returnable to, Secretary, South-West Middlesex Group Hospital Management Committee, West Middlesex Hospital, Isleworth, by March 25, 1952. (9590)

DUNDEE TEACHING HOSPITALS
Eastern Regional Hospital Board (Scotland)

Applications are invited for an appointment as

SENIOR REGISTRAR in Anaesthetics

at the Dundee Teaching Hospitals (Dundee Royal Infirmary, 550 beds, and Maryfield Hospital, 350 beds). The post is on the authorized Registrar establishment. Salaries and conditions of service in accordance with national agreement. Further particulars and forms of application from the Secretary to the Board, Bracknowe, 430, Blackness Road, Dundee, with whom applications must be lodged not later than March 31, 1952. (9532)

GRIMSBY AND DISTRICT GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the resident whole-time post of

REGISTRAR (Anaesthetics)

to the above hospital, which is recognized for training for the D.A. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 31, 1952. (9343)

LEICESTER ROYAL INFIRMARY
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the resident whole-time post of

REGISTRAR (Anaesthetics)

to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointment (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House Old Fulwood Road, Sheffield, 10, to arrive not later than March 31, 1952. (9387)

Anaesthetics—contd.

KINGSTON HOSPITAL
26, Wolverton Avenue, Kingston-on-Thames
(500 beds)
South-West Metropolitan Region
Kingston Group Hospital Management Committee
Applications are invited for the position of
WHOLE-TIME REGISTRAR (Anaesthetics)
for duties in the Kingston Group of hospitals (mainly at the Kingston Hospital). The appointment will be subject to the provisions of the National Health Service (Superannuation) Regulations, and becomes vacant on April 1, 1952. Candidates are invited to visit Kingston Hospital by appointment. Forms of application may be obtained from the Group Secretary (a foolscap stamped addressed envelope to be enclosed) and the completed forms returned to the Group Secretary, 35 Coombe Road, Kingston-on-Thames, within fourteen days of the appearance of this advertisement. (9323)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
SENIOR REGISTRAR in Anaesthetics
for duties mainly in the Hull "A" Group of hospitals, with additional duties as required in the Hull "B" and East Riding Groups. Applications, stating age qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than March 29, 1952. (9386)

LIVERPOOL, BROADGREEN HOSPITAL
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME ANAESTHETIC REGISTRAR
for duties in hospitals in the Liverpool and District Eastern Group, mainly at Broadgreen Hospital. This is a resident appointment for which a deduction from salary will be made in respect of emoluments valued at £130, but consideration will be given to the successful applicant becoming non-resident if accommodation is found within close proximity to the hospital. Request for non-residence should be stated in application. The post is recognized for the D.A., is temporary and tenable until September 30, 1952. Forms of application from and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than March 29, 1952.—Vincent Collinge, Secretary to the Board. (9533)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the post of
RESIDENT REGISTRAR in Anaesthetics
to the Macclesfield and District Group of hospitals, possibly with some duties in the Stockport and Buxton Group. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 24, 1952. (9534)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the non-resident whole-time post of
REGISTRAR (Anaesthetics)
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9046)

SOUTHAMPTON GENERAL HOSPITAL
(456 beds)
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME RESIDENT REGISTRAR
(Anaesthetics)
Post will be tenable for one year in the first instance. Candidates may visit the hospital if they so desire. Forms of application, which should be returned to the undersigned not later than March 29, 1952, will be forwarded on receipt of a stamped addressed envelope.—Frank Jennings, Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (9535)

SCOTLAND, NORTH-EASTERN REGIONAL HOSPITAL BOARD
Applications are invited for the post of
SENIOR REGISTRAR in Anaesthetics
on the staff of the Aberdeen General Hospitals
Candidates preferably should hold a higher qualification in anaesthetics. Salary is within the scale of £1,000 to £1,300 per annum. Terms and conditions are as laid down for hospital medical and dental staff (Scotland). Applications, together with the names of two referees, should be lodged by April 7, 1952, with the Secretary, 1, Albyn Place, Aberdeen, from whom further particulars may be obtained. (9491)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1,

or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
(Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

FIFE COUNTY COUNCIL
(Senior Medical Officer (Chief Executive School Medical Officer))

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE
(Assistant School Medical Officer)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,
A. MACRAE,
March 11, 1952. Secretary.

NEWCASTLE REGIONAL HOSPITAL BOARD
Regional Chest Surgery Centre (160 beds), Shotley Bridge Hospital, and associated Sanatoria
WHOLE-TIME ANAESTHETIST (Senior Registrar)
Locum tenens appointment, tenable up to August 31, 1952. It is possible that a longer term senior registrar post will be available after August 31, but this will be subject to open competition again. The great bulk of the work in the main centre, i.e., excluding the sanatoria, is concerned with non-tuberculous conditions (mediastinal, oesophageal, cardio-vascular as well as pulmonary). Candidates must possess a D.A., have had considerable experience with anaesthesia, and preferably have had a sound preliminary general medical and/or physiological training. Appointee must be prepared to take an active part in clinical and physiological investigations, pre-operative and post-operative management of patients in addition to undertaking the customary duties of an anaesthetist. The allocation of these duties may have to be varied from time to time according to clinical requirements by arrangement with the Senior Anaesthetist, but usually the work will be divided between the centre and the sanatoria. Appointment subject to National Health Service (Superannuation) Regulations, 1950. Applications, giving details of qualifications and experience, together with copies of one to three testimonials, and/or the names and addresses of one to three referees, should be sent to the Senior Administrative Medical Officer, Newcastle Regional Hospital Board, Blythswood South, Osborne Road, Newcastle, 2, within fourteen days. Candidates are entitled to visit the hospitals by arrangement with the Senior Surgeon, Regional Chest Surgery Centre, Shotley Bridge Hosp. (9344)

DONCASTER ROYAL INFIRMARY
(Recognized under the regulations for the D.A.)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners with the necessary experience for the appointment of
RESIDENT ANAESTHETIST
in the grade of Senior House Officer
Salary at the rate of £670 per annum, from which a deduction of £130 per annum will be made for board, residence, etc. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with copies of three testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (8968)

BIRMINGHAM (DUDLEY ROAD) GROUP OF HOSPITALS
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)
vacant from April 1, 1952, at Dudley Road Hospital (900 beds). Duties within the Group may occur. Hospital recognized for training for Diploma in Anaesthetics. Applications, stating age, nationality, qualifications and experience, with copies of three recent testimonials, within seven days, to Secretary, H.M.C., Dudley Road Hospital, Birmingham, 18. (9443)

BRADFORD ROYAL INFIRMARY
SENIOR HOUSE OFFICER (Anaesthetics)
Vacant now. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials to Secretary. (9080)

HULL (A) GROUP HOSPITAL MANAGEMENT COMMITTEE
SENIOR HOUSE OFFICER in Anaesthetics
Required for duties at various hospitals in the Group. Resident or non-resident. Salary £670 per annum; if resident, less £130 for residential emoluments. The post is recognized for the D.A. Appointment will be for twelve months in the first instance, but will be terminable at any time by two months' notice on either side. Application forms may be obtained from, and should be returned as soon as possible to, R. J. Carless, Secretary to Management Committee, Hull Royal Infirmary. (9419)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding
(Full Consultant Staffs)
Applications are invited for the appointment of
SENIOR HOUSE OFFICER in Anaesthetics
(Male or female)
for duty at the above hospitals for acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment, vacant now. Salary £670 per annum. National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley, as soon as possible. (8688)

PAISLEY, ROYAL ALEXANDRA INFIRMARY
Board of Management for Paisley and District Hospitals
Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
Salary £670 per annum. Applicants must be two years qualified. Post recognized for the D.A. examination and tenable for one year. Applications, stating age, experience, etc., should be addressed to the Group Medical Superintendent, Royal Alexandra Infirmary, Paisley, together with copies of two recent testimonials, within seven days from the date of this advertisement. (9496)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer Grade)
(Recognized for D.A.)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary Preston.—John Gibson, Secretary. (9591)

STOURBRIDGE (near), WORDSLEY HOSPITAL
(450 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
(Resident Anaesthetist)
Post now vacant. Applicants should have held house appointments and had previous experience in anaesthetics. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications, with dates, experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (6601)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY (225 beds)
Wigan and Leigh Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
for duties at the above hospital. The post, which is tenable for one year, will be resident, and is recognized for the D.A. examinations. Wide experience in all branches of anaesthesia is available, and there are particular facilities for experience in major thoracic and orthopaedic work. Applications, stating age, experience, and nationality, together with the names of two referees, should be forwarded to the undersigned as soon as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (9444)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 21

Anaesthetics—contd.

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT ANAESTHETIST and HOUSE PHYSICIAN
vacant mid-March, 1952. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications and experience, with a copy of two recent testimonials, and the name of one referee should be sent to the Group Secretary, St. Helier Hospital, Carshalton. (9047)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE OFFICER (Anaesthetics Department)
Post is vacant April 7, 1952, and recognized for D.A. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (9345)

BROMSGROVE, WORCS, ALL SAINTS' HOSPITAL (468 beds)
Mid-Worcestershire Hospital Management Committee
HOUSE OFFICER (Anaesthetics)
Required at the above recently opened General Hospital. Resident post, vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire H.M.C., Birmingham Road, Bromsgrove, Worcs. (9002)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Greenbank Road
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
RESIDENT ANAESTHETIST (House Officer)
vacant March 17, 1952. Salary and conditions of service in accordance with the National Health Service terms, with residential emoluments. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9248)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group 15 Hospital Management Committee
RESIDENT ANAESTHETIST
(House Officer grade)
Post recognized for the D.A. Vacant April 1, 1952. Applications, stating age, nationality, qualifications and previous hospital appointments, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (9171)

BLOOD TRANSFUSION

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the post of
PART-TIME MEDICAL OFFICER
for the Blood Transfusion Service
The medical officer appointed will be required to give three notional half days per week, with a possible extension to four, and salary will be at the rate of £175 per annum per session in accordance with paragraph 10(b) of the terms and conditions of service. Post superannuable. Applications, stating age, qualifications and details of experience, together with names and addresses of two referees, should be forwarded to the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, to be received not later than March 31, 1952. (9536)

CARDIOLOGY

WIRRAL, CALDY MANOR HOSPITAL, Caldy (41 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT HOUSE PHYSICIAN
for the above new hospital, which specializes in the treatment of heart cases. The appointment will become vacant on April 1, 1952, and will be tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging, and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Secretary, North Wirral H.M.C., Leasowe Children's Hospital, Moreton, Wirral, Cheshire. (8832)

CHEST AND TUBERCULOSIS

BIRMINGHAM REGIONAL HOSPITAL BOARD and WALSALL COUNTY BOROUGH COUNCIL
Applications are invited for joint appointment of
Whole-time CONSULTANT CHEST PHYSICIAN to Walsall Hospital Group and Walsall County Borough Council
Duties include dispensary and clinic work in Walsall with clinical responsibility for patients in Goscote Isolation Hospital (82 beds). Applicants must possess higher medical qualification and have had wide experience in treatment of tuberculosis. Successful applicant will devote 9/11ths of time to work for the Board and 2/11ths to prevention and after-care work for the Council. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies of applications, stating name, age, nationality, qualifications, present and previous appointments details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 31, 1952. Candidates may visit Group hospitals. (9592)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
CONSULTANT THORACIC SURGEON
(Whole-time or maximum sessions)
The consultant appointed will be based at Clare Hall Hospital, South Mimms, Barnet, Herts, but duties will include visits to Colindale Hospital, N.W.9, and associated general hospitals and clinics, including those in Bedfordshire. Applications, with names of three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by April 19, 1952. Hospitals may be visited by direct appointment. (9593)

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners with experience in tuberculosis and chest radiography for the whole-time post of
MEDICAL DIRECTOR
of the Lincolnshire Mass Radiography Unit, with headquarters at St. George's Hospital, Lincoln. The successful candidate will be required to reside within ten miles of Lincoln. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than April 12, 1952. (9388)

EDMONTON CHEST CLINIC
Temporary SENIOR REGISTRAR (Tuberculosis)
Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials or names of two referees, to Secretary, North Middlesex Hospital, Edmonton, by March 22. (9132)

ST. THOMAS' HOSPITAL, London, S.E.1
WHOLE-TIME REGISTRAR
Department of Thoracic Medicine
One year in first instance. Applications, including names and addresses of three referees, to Clerk of the Governors by April 5, 1952. (9469)

GODALMING, MILFORD CHEST HOSPITAL (348 beds)
South-West Metropolitan Regional Hospital Board
Godalming, Milford, and Liphook Group Hospital Management Committee
Applications are invited for the post of
Whole-time RESIDENT SURGICAL REGISTRAR
at the above hospital where all modern methods of treatment of tuberculosis are in use and some beds have recently been reserved for non-tuberculous chest diseases. The salary will be in accordance with the national scales and the appointment is subject to the provisions of the National Health Service (Superannuation) Regulations. Appropriate deductions will be made in respect of board, lodging, etc. Forms of application can be obtained from the Secretary of the Management Committee, Group Office, King George V Hospital, Godalming, Surrey, to whom they should be returned not later than March 28, 1952. (9336)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the post of
RESIDENT REGISTRAR in Tuberculosis
to the South Manchester Group of hospitals, with main duties at Baguley Hospital, Manchester. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 31, 1952. (9538)

PAPWORTH HOSPITAL, Cambridgeshire
East Anglian Regional Hospital Board
SENIOR REGISTRAR in Thoracic Surgery
Preference given to candidates with a higher surgical qualification and experience in thoracic surgery. House available. Applications, stating age, qualifications and details of present and previous appointments, with names of three referees, to Secretary of Board, 117, Chesterton Road, Cambridge, by March 24, 1952. Candidates invited to visit hospital by direct arrangement with Chief Medical Officer (8969)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
MEDICAL REGISTRAR
to the above hospital. Previous experience in diseases of the chest would be an advantage. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9048)

WALTHAM ABBEY, ESSEX, HONEY LANE HOSPITAL
RESIDENT REGISTRAR in Tuberculosis
The appointment is subject to review after one year. A local charge would be made for residential amenities provided. Applications (three copies), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with three copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 22, 1952. (9420)

CHEPSTOW, MON., MEMORIAL WARDS MINISTRY OF PENSIONS HOSPITAL
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
in Tuberculosis
National salary scales and conditions. The resident medical staff consists of a Senior Hospital Medical Officer and this post, while the Consultant visits regularly. Apply, with the names of three referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8692)

CHESTER (near), MEADOWSLEA HOSPITAL
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident)
Salary £700 to £1,000 per annum, less recognized charge for services provided by hospital. The appointed candidate will be a member of a chest team covering a wide area in North Wales with excellent opportunities for experience in hospital and chest clinic practice. Applications, stating age, qualifications, experience, together with the names of three referees, to the Secretary, Wrexham, Powys and Mawddach H.M.C., Maelor General Hospital, Wrexham, within fourteen days. (9005)

WORCESTER, KNIGHTWICK SANATORIUM (100 beds)
South Worcestershire Hospital Management Committee
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
The post, which is a resident one, would be suitable for a candidate convalescent from tuberculosis. Single quarters provided. There is ample opportunity for gaining experience in the modern treatment of pulmonary tuberculosis, and minor thoracic surgery is frequently undertaken. Arrangements could be made for chest clinic work if desired. Salary and conditions of service in accordance with National Health Service terms. Applications, stating age, nationality, qualifications and experience should be sent to the Secretary, Worcester Royal Infirmary, not later than March 29, 1952. (9421)

BLAYDON-ON-TYNE, NORMAN'S RIDING HOSPITAL, Winlaton (Tuberculosis, 76 beds)
Gateshead and District Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
at the above hospital. Norman's Riding Hospital is modern in every respect and is rapidly being developed into a first-class acute tuberculosis sanatorium Previous experience in the diagnosis and treatment of pulmonary tuberculosis is desirable. Applications, stating age, experience and submitting the names of three referees or three references, should be sent to the undersigned as soon as possible.—H. Clark, Secretary, The Lodge, I.D. Hospital, Sherift Hill, Gateshead, 9. (9468)

DRIFFIELD, YORKS, NORTHFIELD SANATORIUM
RESIDENT SENIOR HOUSE OFFICER (Medical)
Required at the above Sanatorium, which has accommodation for 80 adult cases of pulmonary tuberculosis. Salary £670 per annum. A charge of £175 will be made for residential accommodation. Applications to the Secretary, Westwood Hospital, Beverley. (8991)

Chest and Tuberculosis—contd.

ST. HELENS, LANCS, ECCLESTON HALL HOSPITAL
St. Helens and District Hospital Management Committee

Applications are invited from suitably qualified registered medical practitioners for the post of

SENIOR HOUSE OFFICER

at above hospital. Salary £670 per annum, less £150 per annum for residential emoluments. The person appointed will work under the supervision of the Tuberculosis Medical Officer, who is also on the staff of this hospital. There are 75 beds and the work comprises all types of tuberculosis. The appointment may also include duties at another hospital in the Group which is to be converted for the treatment of tuberculosis. Good residential accommodation for a single person, male or female is available. Applications to be forwarded to the undersigned immediately.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (9539)

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
RESIDENT HOUSE OFFICER
in Tuberculosis Department

Appointment for six months from May 1. Applications, with names of two referees, or copies of testimonials, to Medical Director by March 22. (9537)

ST. CHARLES'S HOSPITAL
Ladbroke Grove, W.10
Paddington Group Hospital Management Committee
285, Harrow Road, W.9

Applications are invited for the post of

HOUSE SURGEON
for the Thoracic Department

Previous experience an advantage. Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of two referees, to be forwarded to the Secretary to the Committee immediately. (9470)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (Thoracic Unit)

Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials to the Secretary. (9540)

CAMBRIDGE, PAPWORTH SANATORIUM
Papworth Hospital Management Committee
HOUSE PHYSICIAN

Applicants must have held resident surgical and medical posts in a general hospital. Appointment for six months, and salary at rate of £400 to £450 per annum, according to experience, less £100 for residential emoluments. Applications should be sent to the Secretary, Papworth Group Hospital Management Commitee, Papworth Hall, Cambridge, accompanied by three recent testimonials. (9471)

CHICHESTER (near), ALDINGBOURNE HOUSE SANATORIUM (71 beds) and BOGNOR REGIS ANNEXE (31 beds)
HOUSE PHYSICIAN (Male or female)

Required immediately, liaison with thoracic unit, Chichester. Resident at Bognor Regis. Apply to Physician Superintendent, Aldingbourne House Sanatorium, near Chichester. (9050)

CRANBROOK (near), KENT, BENENDEN SANATORIUM, Benenden
TWO RESIDENT HOUSE PHYSICIANS

Applications are invited from fully qualified registered medical practitioners, male or female, for two posts, one vacant now and one April 1, 1952. Appointment is for six months or one year. Salary £400 per annum (no deduction for full residential emoluments valued at £120). The Sanatorium of 154 beds is for the treatment of adult male and female pulmonary tuberculosis and is independent of the National Health Scheme. Applications, stating age, qualifications (with dates), and details of previous experience, together with copies of testimonials, should be sent immediately to the Secretary, Benenden Sanatorium. (9594)

SHEFFIELD, UNITED, HOSPITALS
Royal Infirmary, Sheffield

Applications are invited from registered medical practitioner male and female, for the following post, now vacant:

HOUSE SURGEON to the Thoracic Department

The post will be tenable for the period terminating July 14, 1952. Salary and conditions of service in accordance with the terms published by the Ministry of Health for House Officers. Applications should be sent forthwith to Frank Hart, Superintendent, Royal Infirmary, Sheffield, 6. (9595)

DERMATOLOGY

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the part-time (six sessions) post of

CONSULTANT DERMATOLOGIST

at Oldham, Ashton, and Stockport Hospital Centres and Manchester and Salford Hospital for Skin Diseases. Applicants must be of high professional standing. Wide experience and a higher qualification desirable. Forms of application can be obtained from the Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than April 8, 1952. (9541)

WAKEFIELD, CLAYTON HOSPITAL
Hospital Managemeent Committee No. 9, Wakefield "A" Group

Applications are invited for the appointment of

NON-RESIDENT SENIOR HOUSE OFFICER
in Dermatology

for work in the Wakefield "A," Wakefield "B," Dewsbury and Pontefract Groups. Salary and conditions of service are in accordance with national recommendations, and the post is subject to the National Health Service and Superannuation Acts. Application forms, together with any further information which may be required, may be obtained from the undersigned.—W. Read, Secretary. (9324)

EAR, NOSE, AND THROAT, etc.

QUEEN ELIZABETH HOSPITAL FOR CHILDREN, Hackney Road, E.2
PART-TIME E.N.T. REGISTRAR (Non-resident)
(Five sessions a week)

The appointment is subject to review after one year. A local charge would be made for any meals or residential amenities provided. Applications (in duplicate), stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 29, 1952. (9422)

LLANELLY HOSPITAL (164 beds)
Glantawe Hospital Management Committee

Applications are invited from medical practitioners for the non-resident appointment of

JUNIOR HOSPITAL MEDICAL OFFICER

at the above hospital, for work mainly in the E.N.T. Department. Applications, stating age, experience and qualifications, with the names of three referees, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe Hospital Management Committee, St. Helen's Road, Swansea. (9173)

SHREWSBURY, EYE, EAR AND THROAT HOSPITAL (70 beds)
Shrewsbury Group 15 Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (E.N.T.)

Post recognized for the D.O.M.S. and D.L.O.R.C.S. and tenable for a period of one year. Vacant May 1, 1952. Applications, stating age, qualifications, nationality and experience, together with copies of recent testimonials, should be sent to the undersigned.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (9397)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds) and SOUTHAMPTON GENERAL HOSPITAL (453 beds)
SENIOR HOUSE OFFICER (E.N.T.)

Applications are invited for this whole-time post, becoming vacant March 27. The post is recognized for the F.R.C.S. (Eng.) and D.L.O. examinations, providing experience in all branches of E.N.T. work, including audiometry. The Group includes a diagnostic and distributing hearing aid centre. Occasional work at other hospitals may be required. Applications, with copies of three recent testimonials, should be forwarded as soon as possible to the Secretary Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8226)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (E.N.T.)

Vacant now. Post recognized for F.R.C.S. and D.L.O. Applications, with copy testimonials, to be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent. (9411)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT HOUSE SURGEON (E.N.T. and Eyes)

Six months' appointment. Vacant May 1 or earlier. Application, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Sec. of hospital by March 26. (9498)

BRADFORD ROYAL EYE AND EAR HOSPITAL
HOUSE SURGEON (E.N.T.)

Vacant April 1. Hospital recognized for D.L.O. and F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9543)

ALTRINCHAM, CHESHIRE, ST. ANNE'S (EAR, NOSE AND THROAT) HOSPITAL (53 beds)
North and Mid-Cheshire Hospital Management Committee
RESIDENT MEDICAL OFFICER
(House Officer) (Male or female)

Required to commence duties on or about April 8, 1952. This is a busy hospital staffed by Manchester Consultants and a full-time Senior House Officer. Facilities for postgraduate study will be afforded, and there is also opportunity for much practical experience. Salary and conditions will be as laid down in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, qualifications, etc., should be forwarded to E. A. Biden, Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham. (9346)

ASHFORD HOSPITAL, Ashford, Midd'esex
Staines Group Hospital Management Committee
RESIDENT HOUSE OFFICER (Male)
Special Departments (E.N.T., Ophthalmology, etc.)

Six months' appointment. Vacant April, 1952. National Health Service terms and conditions of service. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by March 29, 1952. (9499)

EDINBURGH, ROYAL INFIRMARY OF

There will be a vacancy for a

RESIDENT HOUSE OFFICER (Male or female)
in the Ear, Nose and Throat Department

with effect from April 1, 1952, for a period of six months. Salary, etc., in accordance with the National Health Service rules. Applications should be made in person, or by letter, to the Surgeon-in-Charge Wards 39/40, Royal Infirmary, Edinburgh. (9544)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
HOUSE SURGEON

Required in the Ear, Nose and Throat Department at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. Recognized for D.L.O. National scales and conditions. Six-monthly appointment, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8468)

LEICESTER ROYAL INFIRMARY

Applications are invited for the post of

HOUSE SURGEON

to the E.N.T. Department for a period of six months from April 1, 1952. The post is recognized for the D.L.O. and the F.R.C.S. Applications, stating age experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (9051)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Ear, Nose and Throat)

Applications are invited from registered medical practitioners for the above post, which is now vacant. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience, £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8075)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)

Applications are invited for the post of

HOUSE SURGEON (E.N.T. Department)

Male or female. Vacant immediately. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

GERIATRICS

YORK, GRANGE HOSPITAL (259 beds)
JUNIOR HOSPITAL MEDICAL OFFICER
in Geriatrics

Salary £700 by £50 to £1,000. Charge for residence £153. Person appointed may be non-resident. Post vacant from March 19. Applications, giving age, nationality, experience, qualifications and names of two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (9545)

SUNDERLAND, GENERAL HOSPITAL
HOUSE PHYSICIAN
for Geriatric Department (264 beds)

Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (9494)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 21

INFECTIOUS DISEASES

MIDDLESBROUGH, WEST LANE ISOLATION HOSPITAL (203 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER
Salary £670 per annum, conditions of service being in accordance with the Ministry of Health Regulations. Applications, with copies of two recent testimonials, should be forwarded to the Physician Superintendent, West Lane Hospital, Middlesbrough, as early as possible. (9445)

EASTERN HOSPITAL (Fevers), E.9
HOUSE OFFICER (Third post)
Salary £450 per annum, less £100 per annum for residence. Duties include some work in chest unit. Applications, with testimonials, to the Group Secretary, Group Administrative Offices, Hackney Hospital, E.9. (9423)

BIRMINGHAM, LITTLE BROMWICH INFECTIOUS DISEASES HOSPITAL (750 beds)
Group 25. Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
(Male or female)
Applications, stating experience, with two testimonials, to the Physician Superintendent, Little Bromwich Hospital, Birmingham, 9. (9465)

EDINBURGH CITY HOSPITAL
HOUSE OFFICER (Male or female)
Required on April 1, 1952, for fever wards. Previous hospital experience desirable but not essential and appointment is for six months in first instance. National Health Service salary and conditions of service. Applications, stating age and experience, with names of two referees, or copies of two recent testimonials, to the Secretary, Board's Office, City Hospital, Greenbank Drive, Edinburgh, 10. (9446)

SOUTHAMPTON INFECTIOUS DISEASES HOSPITAL AND SANATORIUM
RESIDENT HOUSE OFFICER
(Male or female)
Required immediately for duties partly in the wards for infectious diseases, partly in the chest department. Post tenable for six months. Apply as soon as possible, with copies of testimonials, to the Group Secretary, Southampton Group H.M.C., Bullar Street, Southampton. (9424)

NEUROSURGERY

BRISTOL, FRENCHAY HOSPITAL
(470 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
in the Regional Neurosurgery Department
Vacant in March. This post offers useful surgical experience and the opportunity of gaining a working knowledge of neurological diagnosis. Two referees required. Applications to the Secretary, Frenchay Hospital, quoting "N.S.F." (8892)

OBSTETRICS AND GYNAECOLOGY

LIVERPOOL REGIONAL HOSPITAL BOARD
South and East Liverpool Areas
Applications are invited for the post of
CONSULTANT OBSTETRICIAN AND GYNAECOLOGIST (Part-time)
for six notional half days weekly. Duties mainly at Broadgreen Hospital and Sefton General Hospital. Applicants must possess the M.R.C.O.G. and a higher Diploma in Surgery would be considered an advantage. This appointment is vacant from October 1, 1952. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than April 5, 1952.—Vincent Collinge, Secretary to the Board. (9546)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
WHOLE TIME OBSTETRICAL AND GYNAECOLOGICAL REGISTRAR
Required at King Edward Memorial Hospital, Ealing, W.13 (18 gynaecological beds), and Perivale Maternity Hospital, Greenford (48 obstetric beds). Resident at Perivale Maternity Hospital. One year in first instance, post vacant May 15, 1952. Candidates are welcome to visit the hospitals. Application forms obtainable from, and returnable to, the Secretary, South-West Middlesex Group Hospital Management Committee, West Middlesex Hospital, Isleworth, Middlesex, by March 25, 1952. (9500)

ROYAL FREE HOSPITAL GROUP
Applications are invited for the appointment of
REGISTRAR
to the Gynaecological and Obstetric Department
for work at the Elizabeth Garrett Anderson Hospital, and Hampstead General Hospital. Applicants must be registered general practitioners of not more than ten years' qualification. The appointment is full time, resident for one year in the first instance. Duties to commence on May 1, 1952. Salary and conditions of service in accordance with those published by the Ministry of Health. Application forms may be obtained from the Secretary to the Board of Governors, The Royal Free Hospital, Gray's Inn Road, London, W.C.1, to whom they should be returned not later than April 1. (9210)

BIRMINGHAM, UNITED, HOSPITALS
Queen Elizabeth Hospital
Applications are invited for the post of
REGISTRAR
to the Department of Obstetrics and Gynaecology
The post is tenable for one year in the first instance. Candidates must be registered medical practitioners, and have held appropriate resident hospital appointments. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Candidates should obtain a form of application and return it with two testimonials, not later than April 6, to the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (9596)

ILFORD AND BARKING HOSPITAL GROUP
RESIDENT REGISTRAR IN OBSTETRICS, AND GYNAECOLOGY
The appointment is subject to review after one year. A local charge would be made for residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 29, 1952. (9425)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid-Herts Group Hospital Management Committee
TEMPORARY REGISTRAR
Required from April 1, 1952, for an indefinite period for duties mainly at Osterhills Unit for Gynaecological and Obstetric work. Hospital recognized for the D.Obst.R.C.O.G. and application for recognition of the M.R.C.O.G. is under consideration. Applications, giving full particulars of age, qualifications and experience, together with the names of two referees, to be forwarded to the Sec., Osterhills, Normandy Rd., St. Albans. (9052)

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of
REGISTRAR in Obstetrics and Gynaecology
to serve the Pontypridd and Rhondda Hospital Management Committee. The successful candidate will be based at Llwynypia Hospital, but will have some duties at other hospitals in the Group. There is a total of 146 obstetric and gynaecological beds in the Group. The post, which is recognized for the D.Obst.R.C.O.G., is resident, and will be subject to review at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh R.H.B., Cathays Park, Cardiff. (9547)

WEST DORSET GROUP HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board
OBSTETRICAL AND GYNAECOLOGICAL REGISTRAR (Registrar Grade)
Required for West Dorset Group, with duties mainly at Portwey Hospital, Weymouth (42 obstetrical and 26 gynaecological beds). Recognized for M.R.C.O.G. Resident or non-resident post, but if non-resident must reside in Weymouth area. Application forms, which should be returned, duly completed, by March 29, 1952, may be obtained from Secretary, West Dorset Group Hospital Management Committee, Damers Road, Dorchester, Dorset. (9547)

ASHTON-UNDER-LYNE, LAKE HOSPITAL
(600 beds)
Ashton, Hyde and Glossop Hospital Management Committee
SENIOR HOUSE OFFICER (Obstetrics)
Required April 1, 1952. Maternity unit of 65 and Gynaecological ward of 30 beds. Post recognized for M.R.C.O.G. Preference will be given to holders of previous House Officer posts. N.H.S. terms and conditions of service. Applications, giving age, nationality, qualifications, and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (8643)

BRADFORD, ST. LUKE'S MATERNITY HOSPITAL
SENIOR HOUSE SURGEON (Obstetrics)
Vacant April 1. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9548)

CROYDON, ST. MARY'S MATERNITY HOSPITAL (33 beds)
South-West Metropolitan Regional Hospital Board
Croydon Group Hospital Management Committee
RESIDENT SENIOR OBSTETRICAL HOUSE OFFICER
Vacant May 1. Salary £670 per annum, less a charge of £150 per annum for emoluments. Post recognized for M.R.C.O.G. (obstetrics only). Candidates must have previous obstetric experience. Candidate required also to undertake certain duties at Mayday Hospital. Post offers opportunity for reading. Application forms obtainable from George A. Paines, Secretary, Hospital Management Committee, General Hospital, Croydon. (9390)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for post, vacant now, of
SENIOR HOUSE SURGEON (Gynaecology)
(Male or female)
for duties at the above hospital and Scarthoe Road, Infirmary, Grimsby. Apply to Administrative Officer, Grimsby General Hospital. (7020)

GRIMSBY MATERNITY HOSPITAL (45 beds)
Grimsby Hospitals Management Committee
RESIDENT SENIOR OBSTETRIC HOUSE OFFICER
Applications are invited for the above post. Immediate vacancy. Salary £670 per annum. Applications, with names of three referees, to the Secretary, Grimsby Hospitals Management Committee, 13, Queen's Parade, Grimsby. (9391)

MANCHESTER, SAINT MARY'S HOSPITALS
United Manchester Hospitals
Applications are invited for two posts of
SENIOR HOUSE OFFICER (Obstetrical)
respectively at the Whitworth Street Branch and Prestbury Branch of the hospitals. The appointments are for six months, to commence on July 1, 1952. The successful candidates will be required to reside in the hospital and will discharge the duties of Assistant Resident Obstetric Surgeons. Candidates must have had, in addition to previous obstetrical and gynaecological experience, at least one year's postgraduate hospital experience in general medicine and in general surgery. Salary for each post is at the rate of £670 per annum. Forms of application for the appointment may be obtained from the undersigned, and should be returned not later than April 5, 1952. The names and addresses of three referees are required.—A. R. Wise, General Superintendent, Saint Mary's Hospitals, Whitworth Park, Manchester, 13. (9154)

POOLE GENERAL HOSPITAL
Bournemouth and East Dorset Hospital Management Committee
RESIDENT OBSTETRIC OFFICER
Salary £670 per annum. Post vacant March 25, 1952. The post is recognized for the D.Obst. R.C.O.G. Applications to the Assist. Sec. (8971)

ROSSENDALE GENERAL HOSPITAL
Rawtenstall
(Beds. 25 Obstetric, 8 Gynaecological)
Bury and Rossendale Hospital Management Committee
There is a vacancy for a
SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)
at the above hospital. Salary and conditions of service are in accordance with national recommendations. Applications, stating age, qualifications, experience, nationality, and other relevant details, together with the names and addresses of two referees, or copies of recent testimonials, should be sent to the undersigned as soon as possible.—H. Wilkinson, Sec. to Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9211)

WATFORD MATERNITY HOSPITAL
King Street, Watford (58 beds)
Applications are invited for the resident post of
SENIOR OBSTETRIC OFFICER
for duties commencing April 1, 1952. Salary £670 per annum, less £100 for residential emoluments. Post recognized for M.R.C.O.G. examinations. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and copies of three testimonials, should be sent to the Administrator. (9113)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT OBSTETRIC HOUSE SURGEON
Must have held house appointment in either medicine or surgery. Large obstetric and gynaecological department. Post approved for membership and Diploma R.C.O.G. Six months' appointment. Vacant May 1. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Secretary of hospital by March 22 (9175)

SOUTH LONDON HOSPITAL FOR WOMEN AND CHILDREN, Clapham Common, S.W.4
Applications are invited from registered medical female practitioners for the undermentioned appointment, to become vacant on June 2, 1952.
GYNAECOLOGICAL HOUSE SURGEON
(Post recognized for the M.R.C.O.G.)
Appointment is for a period of six months. For form of application apply to the Senior Administrative Assistant at the hospital. (9347)

SOUTH LONDON HOSPITAL FOR WOMEN AND CHILDREN, Clapham Common, S.W.4
Applications are invited from registered medical female practitioners for the undermentioned appointment, to become vacant on June 5, 1952.
OBSTETRIC HOUSE SURGEON
(Post recognized for the M.R.C.O.G.)
Appointment is for a period of six months. For form of application apply to the Senior Administrative Assistant at the hospital. (9348)

AYLESBURY, BUCKS, STOKE MANDEVILLE HOSPITAL
HOUSE SURGEON for Gynaecological Department
(First or second post)
Vacant now. Applications, with two testimonials, to the Administrative Officer. (9349)

Obstetrics and Gynaecology—contd.

ASHTON-UNDER-LYNE, LAKE HOSPITAL
(600 beds)
Ashton, Hyde and Glossop Hospital Management Committee
OBSTETRIC HOUSE SURGEON
Required late March. Maternity Unit of 65 beds and Gynaecological Ward of 30 beds. Post recognized for D.R.C.O.G. N.H.S. terms and conditions of service. Applications, giving age, nationality, qualifications, and experience, with copies of three testimonials, should be forwarded to the undersigned.—R. W. McVity, Secretary, Astley Road, Stalybridge, Cheshire. (8644)

BRIGHTON, SUSSEX MATERNITY HOSPITAL
Buckingham Road (65 beds)
Brighton and Lewes Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE SURGEON
for a period of six months from April 14, 1952. Salary at the rate of £350 to £450 a year, according to experience, less £100 a year in respect of emoluments. The hospital is recognized for the M.R.C.O.G. Applications, stating age, qualifications, nationality, and copies of recent testimonials, should be sent to the Administrative Officer on or before March 21, 1952. (9088)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE SURGEON
to the Gynaecological Department
commencing May 18, 1952. Applications, giving full details, togetheer with copies of two recent testimonials, should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings. (8174)

DARLINGTON DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Greenbank Maternity Hospital (53 beds)
Applications are invited for the post of
OBSTETRICAL HOUSE OFFICER
Post vacant April 10. The appointment will be in accordance with the terms and conditions for hospital medical staff. Applications, stating age, qualifications and experience, together with the names of two referees, should be addressed to the Secretary, Darlington Memorial Hospital. (9474)

DERBY CITY HOSPITAL, Derby
Derby Area No. 1 Hospital Management Committee
A recently built acute general hospital. There are seven residents. Applications are invited from registered medical practitioners, male or female, for the appointment of
OBSTETRICAL HOUSE SURGEON
Previous experience in obstetrics is desirable. The hospital has a large obstetrical department and is recognized in obstetrics for the Membership and the Diploma R.C.O.G. The appointment is vacant at the end of April Apply to Medical Superintendent as soon as possible. (8992)

DONCASTER HOSPITAL MANAGEMENT COMMITTEE
Hamilton Annexe, Western Hospital
Recognized under the Regulations for the D.Obst.R.C.O.G.
Applications are invited from registered medical practitioners for the appointment of
JUNIOR OBSTETRICAL HOUSE OFFICER
Duties to commence end of April. The appointment is for six months. Salary at the rate of £350, £400 or £450 per annum, according to previous posts held, from which a deduction at the rate of £100 per annum will be made for residential emoluments. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of two testimonials, should be forwarded to the Secretary to the Committee, Doncaster Royal Infirmary. (9325)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE SURGEON
to the Gynaecological and Abnormal Maternity Department
Required to commence duties on April 1, 1952. Salary in accordance with terms and conditions of service for hospital medical and dental staff, with full residential emoluments. Applications, together with copies of three recent testimonials, to be addressed to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, the Royal Infirmary, Huddersfield. (9549)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General hospital, 426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Obstetrics)
Applications are invited from registered medical practitioners. Post vacant mid-April, 1952, and is recognized for training for membership and Diploma in Obstetrics examinations of the R.C.O.G. Salary £350 to £450 per annum, according to experience. A deduction of £100 per annum will be made for residential accommodation and services. The appointment will be for six months. Vacancies occur periodically in the various departments and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies exist. Application forms may be obtained from the Secretary, Park Hospital, Davyhulme. (9550)

MANCHESTER, SAINT MARY'S HOSPITALS
United Manchester Hospitals
Vacancies in the resident medical establishment occur as follows:
OBSTETRICAL HOUSE SURGEONS
July 1, 1952, and October 1, 1952
GYNAECOLOGICAL HOUSE SURGEONS
January 1, 1953, and April 1, 1953
Applications are invited for any of these appointments from registered medical practitioners who have already completed one year's residence in a general hospital. Previous gynaecological or obstetrical experience is not required. Applications should state whether obstetrical or gynaecological appointments are sought, or whether applicants desire to apply for either type of appointment. Normally, the appointments are made three months in advance of the date of taking up duty, but candidates are not debarred from forwarding applications up to one year in advance of the date for which they wish their applications to be considered. National scales. Application forms may be obtained from the undersigned.—A. R. Wise, General Superintendent, Whitworth Park, Manchester, 13 (9153)

NEWCASTLE GENERAL HOSPITAL
Newcastle-upon-Tyne Hospital Management Committee
Department of Obstetrics and Gynaecology
Applications are invited from registered medical practitioners for the post of
RESIDENT OBSTETRICAL HOUSE SURGEON
to the above department (70 beds). The duration of the appointment will be for six months. The salary is in accordance with the terms and conditions of the National Health Service, according to experience. The department is recognized by the Royal College of Obstetricians and Gynaecologists for the Diplomas of M.R.C.O.G. and D.Obst. R.C.O.G., and undertakes the training of medical students in the University of Durham. The post is vacant on May 1, 1952. Applications should be sent without delay, together with one copy of two recent testimonials, or the names and addresses of two referees, to Sec., Newcastle General Hospital, Westgate Rd., Newcastle-upon-Tyne, 4. (9551)

NORTH SHIELDS, PRESTON HOSPITAL
South-East Northumberland Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Obstetrics)
Applications, with two testimonials, should be sent to the Secretary, S.E.N.H.M.C., Preston Hospital, North Shields, as soon as possible. (9529)

PETERBOROUGH MEMORIAL HOSPITAL and OBSTETRIC ANNEXES
Peterborough Area Hospital Management Committee
HOUSE OFFICER (Obstetrics and Gynaecology)
Applications are invited for this position. There are 56 obstetric beds, and the unit consists of a Consultant, Registrar and two House Officers. Vacant April 21, 1952. Applications to the Secretary, The Memorial Hospital, Peterborough. (9501)

RUGBY, HOSPITAL OF ST. CROSS and ST. MARY'S HOSPITAL
HOUSE SURGEON
for Obstetric (50 beds) and Gynaecological (12 beds) Departments
Required April 1, 1952. Applications stating age, qualifications, and experience, together with copy testimonials, to Assistant Secretary, Hospital of St. Cross, Rugby. (9212)

SHOREHAM-BY-SEA, SUSSEX, SOUTHLANDS HOSPITAL
Worthing Group Hospital Management Committee
HOUSE SURGEON
to the Gynaecological and Obstetrical Department
(30 gynaecological beds)
Post recognized by R.C.O.G. for membership. Vacant May 1. Appointment for six months. Salary in accordance with national scale. Application forms should be obtained from, and returned as soon as possible to, the Surgeon Superintendent, Southlands Hospital.—A. V. Oakton, Secretary Administrator. (9351)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited for the post of
GYNAECOLOGICAL HOUSE SURGEON
(Male or female)
vacant April 14, 1952. There are 50 gynaecological beds and two House Surgeons. The appointment is recognized for the M.R.C.O.G. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury, by not later than March 29, 1952.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (9135)

ST. LEONARDS-ON-SEA, BUCHANAN HOSPITAL (94 beds)
Hastings Group Hospital Management Committee
RESIDENT HOUSE SURGEON (Gynaecology)
Post vacant April 1. Is recognized for the M.R.C.O.G. National scales of salary. Applications to Administrator at the hospital. (9350)

OPHTHALMOLOGY

LEICESTER ROYAL INFIRMARY
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the non-resident post of
REGISTRAR (Ophthalmology)
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9012)

SCOTLAND, NORTH-EASTERN REGIONAL HOSPITAL BOARD
Applications are invited for the post of
SENIOR REGISTRAR in Ophthalmology
on the staff of the Aberdeen General Hospitals
Candidates preferably should hold a higher qualification in ophthalmology. Salary is within the scale of £1,000 to £1,300 per annum. Terms and conditions are as laid down for hospital medical and dental staff (Scotland). Applications, together with the names of two referees, should be lodged by April 7, 1952, with the Secretary, 1, Albyn Place, Aberdeen, from whom further particulars may be obtained. (9492)

MAIDSTONE, KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL (113 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
in the Ophthalmic Department of the above hospital. The hospital is recognized by the Examining Boards for the F.R.C.S. and the D.O. Appointment will be for twelve months. Post vacant March, 1952 Salary £670 a year, less £150 a year for residential emoluments. Applications should be forwarded as soon as possible to the Administrative Officer Kent County Ophthalmic and Aural Hospital, Church Street, Maidstone. (5359)

NOTTINGHAM AND MIDLAND EYE INFIRMARY
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Ophthalmic)
Required to undertake work at the above infirmary. Salary and conditions of service in accordance with those published by the Ministry of Health. The post becomes vacant on April 1, 1952, and applications, stating age, qualifications, and experience, together with copies of testimonials, should be sent to the undersigned.—Henry M. Stanley, Secretary, General Hospital, Nottingham. (8671)

SHREWSBURY, EYE, EAR AND THROAT HOSPITAL (70 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners of either sex for the post of
SENIOR HOUSE OFFICER (Ophthalmic)
Vacant May 1, 1952. Applications, stating age, qualifications, nationality, together with copies of recent testimonials, should be sent to the undersigned.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (9502)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Ophthalmic)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9597)

ORTHOPAEDICS

BARNSLEY, BECKETT HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
REGISTRAR (Orthopaedics)
to the above hospital. Single accommodation is available. The appointment is for one year in the first instance and may be renewed for a further year Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield, 10, to arrive not later than March 24, 1952. (9055)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 21

Orthopaedics—contd.

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

NON-RESIDENT REGISTRAR in Orthopaedic Surgery

for duties at St. James's Hospital, Leeds, and the Public Dispensary, Leeds. Applications, stating age, qualifications, details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate not later than March 21, 1952. (9013)

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the whole-time post of

REGISTRAR (Orthopaedics)

to the above hospital (269 beds). The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 31. (9352)

WELSH REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

REGISTRAR
to the Orthopaedic Unit of the Wrexham Hospitals

The department is closely associated with the Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, and will provide opportunity for postgraduate study. The post, which is subject to review at the end of the first year, may be resident or non-resident. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (9475)

WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the appointment of a

REGISTRAR IN ORTHOPAEDIC SURGERY

to serve the Mid-Glamorgan Hospital Management Committee. The successful candidate will be based on Bridgend General Hospital (412 beds). The post will be subject to review at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (9426)

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London, W.C.1

There will be a vacancy on May 15, 1952, for

HOUSE SURGEON
to the Orthopaedic and Plastic Departments
(Senior House Officer)

Further particulars and form of application, which must be returned not later than April 7, 1952, are obtainable from the undersigned.—H. F. Rutherford, House Governor and Secretary. (9136)

BRADFORD ROYAL INFIRMARY

SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Recognized for F.R.C.S. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (9552)

BRADFORD, ST. LUKE'S HOSPITAL

SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Recognized for F.R.C.S. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary.

ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9553)

BRAINTREE, ESSEX, BLACK NOTLEY HOSPITAL

Applications are invited for the post of

SENIOR HOUSE OFFICER

in departments of orthopaedic surgery and surgical tuberculosis at above hospital. Salary in accordance with the terms of service issued by the Ministry of Health. Applications, with copies of three recent testimonials, to the Secretary, Colchester Group Hospital Management Committee, 14, Pope's Lane, Colchester. (9476)

BRISTOL (near), WINFORD ORTHOPAEDIC HOSPITAL (235 beds)

SENIOR HOUSE OFFICER

Applications are invited from registered medical practitioners to fill vacancy at end of April, 1952. Position tenable for twelve months. Salary £670 per annum. Apply, stating age, qualifications and experience, with copies of testimonials, to the undersigned as soon as possible.—E. N. Roper, Secretary-Administrator. (9554)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

SENIOR HOUSE OFFICER

to the orthopaedic unit in the area of this Hospital Management Committee. The orthopaedic unit consists of 30 beds at Eryri Hospital, Caernarvon, busy Out-patient Clinics at the Caernarvon and Anglesey General Hospital, Bangor, work in peripheral hospitals, etc. The post offers excellent experience in orthopaedics and traumatic surgery. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, qualifications, details of previous experience, and names and addresses of two referees, to be forwarded within ten days of the appearance of the advertisement to the Sec., Plas Gwyn, Ffriddoedd Rd., Bangor, N. Wales. (9521)

CARDIFF, PRINCE OF WALES ORTHOPAEDIC HOSPITAL
Cardiff Hospital Management Committee

SENIOR HOUSE OFFICER (sole resident)

Orthopaedic experience essential. Transfer to new premises probably during appointment. Application forms from the Secretary, Cardiff H.M.C., 44, Cathedral Road, Cardiff. (8974)

CHERTSEY, SURREY, ST. PETER'S HOSPITAL
(Late Botleys Park War Hospital) (430 beds)

SENIOR HOUSE OFFICER
Orthopaedic Department

Previous orthopaedic experience not essential. Appointment very suitable for candidate reading for a higher qualification and is recognized by the Royal College of Surgeons for the F.R.C.S. Salary in accordance with terms and conditions of National Health Service. Applications, together with names and addresses of referees, to Physician Superintendent as soon as possible. (9392)

DONCASTER ROYAL INFIRMARY
Doncaster Hospital Management Committee

Applications are invited from registered medical practitioners with the necessary experience for the appointment of

ORTHOPAEDIC HOUSE SURGEON
in the grade of Senior House Officer

Salary at the rate of £670 per annum, from which a deduction of £130 per annum will be made for board, residence, etc. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with copies of three testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (8973)

GLOUCESTERSHIRE ROYAL HOSPITAL
(Great Western Road Unit) (350 beds)
Gloucester, Stroud and the Forest Hospital Management Committee

SENIOR HOUSE OFFICER

Required for the Orthopaedic and Traumatic Surgery Unit (100 beds). Salary £670 per annum, less £125 per annum emoluments. Applications, naming two referees, to the Secretary, Gloucestershire Royal Hosp., Southgate St., Gloucester. (9353)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
(140 beds—5 residents)

Applications are invited for the post of

RESIDENT SENIOR HOUSE SURGEON
to the Traumatic and Orthopaedic Department

Duties include charge of casualty department under consultant staff, care of in-patient beds and supervision of other residents. The hospital is a peripheral centre of the Oxford Regional Orthopaedic Service based on the Wingfield-Morris Orthopaedic Hospital. Salary £670 per annum, with deduction for residence. Post recognized for F.R.C.S. Applications, with testimonials, to the Secretary, St. Mary's Cottage, High Wycombe, Bucks. (9354)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of

SENIOR HOUSE OFFICER
(Orthopaedic Surgery)

at the above hospital. The appointment will be for a period of one year and the salary will be in accordance with the agreed terms and conditions of service of hospital medical and dental staff, namely, £670 per annum, with an appropriate deduction in respect of board, lodging and other services provided. Forms of application, available from the undersigned, should be completed and returned as soon as possible.—J. Folkard, Secretary to the Committee, Administrative Offices, St. James's Hospital, Leeds, 9. (8975)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)

TWO SENIOR HOUSE OFFICERS

Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out-patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible. (6671)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)

Applications are invited from registered medical practitioners for the posts of

RESIDENT SENIOR HOUSE SURGEONS

The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

SHEFFIELD, 6, KING EDWARD VII ORTHOPAEDIC HOSPITAL, Rivelin Valley Road
(140 beds)
Sheffield Regional Hospital Board
Sheffield No. 3 Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

RESIDENT SENIOR HOUSE OFFICER

at the above hospital. Candidates should have held a resident appointment in a hospital. Salary £670 per annum, subject to a deduction of £165 per annum for full residential emoluments. The appointment is normally for one year, subject to one month's notice either side. Applications, stating age, qualifications, experience, etc., to be forwarded to the Secretary, Sheffield No. 3 H.M.C., Lodge Moor Hospital, Sheffield, 10. (9477)

SOUTHAMPTON, ROYAL SOUTHAMPTON HOSPITAL (280 beds)

SENIOR HOUSE OFFICER (Orthopaedic)/CASUALTY OFFICER

Required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8744)

STOKE-ON-TRENT, ORTHOPAEDIC HOSPITAL
Hartshill (78 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

SENIOR HOUSE OFFICER (Orthopaedic)

Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Sec. (9056)

WAKEFIELD, CLAYTON HOSPITAL (200 beds)
Hospital Management Committee No. 9, Wakefield "A" Group

Applications are invited for the post of

RESIDENT ORTHOPAEDIC OFFICER
(Senior House Officer grade)

at the above general hospital. The person appointed will be required to deputize for the Resident Surgical Officer. Terms and conditions of service in accordance with national recommendations and the post is subject to the National Health Service (Superannuation) Regulations. Application forms may be obtained from the Administrative Officer.—W. Read, Secretary. (9326)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY
Wigan and Leigh Hospital Management Committee

SENIOR HOUSE SURGEON (Orthopaedics)
(Male or female)

Senior House Officer grade. Post recognized for the F.R.C.S. examinations. Applications, stating age, qualifications, etc., together with the names of two referees, should be received by the undersigned as early as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (9448)

HAMMERSMITH HOSPITAL AND POST-GRADUATE MEDICAL SCHOOL, London, W.12

HOUSE SURGEON (Orthopaedics)

Required May 1. Age, qualifications, experience, copies of two recent testimonials, to Secretary, Board of Governors, by March 22. (9503)

HIGHLANDS HOSPITAL
Winchmore Hill, London, N.21

HOUSE SURGEON
(Orthopaedic and Fracture Department)

Application forms obtainable from Hospital Secretary. (9427)

WHIPPS CROSS HOSPITAL
Whipps Cross Road, E.11
Leytonstone No. 10 Group Hospital Management Committee

Applications are invited for the posts of

ORTHOPAEDIC HOUSE OFFICERS
(First, second or third posts)

Application forms are obtainable from the Medical Supt., to be returned by March 25, 1952. (9449)

BRADFORD ROYAL INFIRMARY

ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER

Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (9555)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)

Applications are invited for the post of

ORTHOPAEDIC HOUSE SURGEON

Vacant now. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of appearance of this advertisement. (5801)

Orthopaedics—contd.

DARTFORD, SOUTHERN HOSPITAL
HOUSE SURGEON (Specialty—Orthopaedics)
Required for April 1. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications and experience, together with the names of two persons to whom reference may be made for testimonials, should be sent to the Medical Superintendent, the Southern Hospital, Dartford, Kent. (9393)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Vacant now. National scales and conditions. Six-monthly appointment, terminable at any time by one month's notice on either side. Forms of application from the Administrative Officer. (7138)

INVERNESS, RAIGMORE HOSPITAL (408 beds)
TWO ORTHOPAEDIC HOUSE SURGEONS
Required for the six months' period commencing April 1, 1952. (Orthopaedic department—140 beds). Apply, with two testimonials or names of two referees, within fourteen days of appearance of this advertisement to Medical Superintendent. (9177)

NEWPORT, MON, ROYAL GWENT HOSPITAL (259 beds)
(Base Hospital for the Newport and East Monmouthshire Group—10 residents)
Applications are invited for the post of
HOUSE OFFICER (Orthopaedics)
vacant April 1. The post is recognized for the Fellowship of the Royal College of Surgeons. The fracture and orthopaedic department is a self-contained unit of 36 beds, and affords a good opportunity for gaining experience in this speciality. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (8695)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE HOUSE SURGEON
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

PEMBURY HOSPITAL
Tunbridge Wells Group Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON to Orthopaedic Unit
Vacant April 1, 1952. Post, for six months in first instance, is recognized for F.R.C.S.(Eng.). Previous experience desirable. Work of unit includes treatment of long and short stay cases and traumatic surgery. Applications, stating, age, qualifications, experience, with three testimonials, to Surgeon Superintendent. (9178)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9598)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Administrative Officer. (9526)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL (718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)
Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6675)

PAEDIATRICS

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of
WHOLE-TIME ASSISTANT PAEDIATRICIAN (S.H.M.O. scale)
to serve the Pontypridd and Rhondda Hospital Management Committee Area. He will be based at East Glamorgan Hospital and will work under the direction of the Consultant in Charge. Possession of higher qualification will be an advantage. Candidates should have had a wide experience in the subject. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (9450)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
REGISTRAR in Paediatrics
for duties at hospitals in the Bradford "A" and "B" Hospital Management Committee Groups. The appointment will be resident, for which the necessary deductions from salary will be made. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 29, 1952. (9394)

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN
United Sheffield Hospitals
Applications are invited from registered medical practitioners for the resident post of
REGISTRAR OR SENIOR HOUSE OFFICER
according to experience, to the Paediatric Department at the above hospital, vacant April 16, 1952. Previous paediatric experience essential. The post is associated with the Department of Child Health in the University of Sheffield. Appointee may be required to attend one out-patient session per week at the Children's Hospital Unit. Applications, stating age, qualifications and experience, together with names of three referees, should be received by the undersigned by March 18, 1952.—Chief Administrative Officer, The United Sheffield Hospitals, The Royal Hospital, Sheffield, 1. (9599)

THE HOSPITAL FOR SICK CHILDREN
Great Ormond Street, London, W.C.1
There will be a vacancy on May 15, 1952, for
HOUSE PHYSICIAN (Senior House Officer)
Further particulars and form of application, which must be returned not later than April 7, 1952, are obtainable from the undersigned.—H. F. Rutherford, House Governor and Secretary. (9137)

QUEEN ELIZABETH HOSPITAL FOR CHILDREN MANAGEMENT COMMITTEE
Hackney Road, E.2, Shadwell, E.1, and Banstead Wood, Surrey
RESIDENT MEDICAL OFFICER
(Male or female)
(Graded Senior House Officer) at Shadwell, E.1
Applications are invited for the above appointment to become vacant on May 1, 1952. Candidates must have had experience in the treatment of sick children. The appointment will be for one year. Salary £670 per annum, subject to a charge of £100 per annum for residential emoluments. Application forms may be obtained from the Secretary at Hackney Road, and should be returned, with not more than three testimonials, not later than March 25, 1952. (9451)

BANGOR, COUNTY HOSPITAL
(Specialist Hospital for Women and Children)
Caernarvon and Anglesey Hospital Management Committee
Applications are invited for the post of
RESIDENT PAEDIATRIC OFFICER
(Senior House Officer grade)
Duties to commence on May 1, 1952. Preference will be given to candidates with previous experience in neonatal and premature infant care. The paediatric unit is recognized for the D.C.H. Salary according to scale. Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should be forwarded within ten days of the appearance of this advertisement, to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, N. Wales. (9518)

BOURNEMOUTH CHILDREN'S UNIT
Bournemouth and East Dorset Hospital Management Committee
Applications are invited for the post of
PAEDIATRIC SENIOR HOUSE OFFICER
to this unit which is situated at Christchurch Hospital. The post is recognized for the D.C.H. and will be vacant on April 16, 1952. Applications, with copies of testimonials, should be sent to Secretary, H.M.C. Office, Royal Victoria Hospital, Shelley Road, Bournemouth, not later than March 19, 1952 (9327)

LIVERPOOL, ROYAL CHILDREN'S HOSPITAL
United Liverpool Hospitals
Applications are invited for a temporary appointment as
SENIOR RESIDENT MEDICAL OFFICER
(Senior House Officer grade) at the Heswall Branch
for the period to September 30, 1952. Applications, on forms from the undersigned, should be returned as soon as possible.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (9556)

NOTTINGHAM CHILDREN'S HOSPITAL
(134 beds)
RESIDENT SENIOR HOUSE OFFICER (Medical)
Applications are invited for the above post, which falls vacant on April 1, 1952. The appointment is tenable for one year in the first instance. Salary £670 per annum, less emoluments. Applications, with copies of two testimonials, should be sent to the Assistant Secretary, Nottingham Children's Hospital, Chestnut Grove, Nottingham. (9452)

BELGRAVE HOSPITAL FOR CHILDREN, S.W.9
King's College Hospital Group
Applications are invited for the appointment of
HOUSE OFFICER
commencing May 1. Appointment is for six months, the last two months as Casualty Officer. Salary and all conditions of service as for National Health Service. Applications, stating age, qualifications, and enclosing copies of two recent testimonials, should reach the undersigned by March 24, 1952.—Secretary, Belgrave Hospital for Children, 1, Clapham Road, London, S.W.9. (9428)

BIRMINGHAM, 16, CHILDREN'S HOSPITAL
Ladywood Road
United Birmingham Hospitals
TWO HOUSE OFFICERS (Surgical)
Required for six months, one to commence duty as soon as possible and one on May 1, 1952. The duties will be mainly general surgery, but the officer will have, in addition, the opportunity of undertaking a certain amount of special surgery. Forms of application may be obtained from the undersigned and should be returned within ten days of the appearance of this advertisement.—N. R. Winwood, House Governor. (9460)

BRADFORD CHILDREN'S HOSPITAL
(102 beds)
HOUSE OFFICER (Female)
Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Hospital recognized for D.C.H. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9557)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE OFFICER (Paediatrics)
Vacant May 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9216)

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke Road
Brighton and Lewes Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
Duties to commence on April 20, 1952, for a period of six months. Post offers wide experience in paediatrics and is recognized for D.C.H. Previous experience in speciality an advantage. Applications, stating age, nationality, qualifications and experience, together with copies of recent testimonials, to be submitted to the Administrative Officer on or before March 21, 1952. (9179)

CHELTENHAM GENERAL EYE AND CHILDREN'S HOSPITAL
(Children's Department)
Applications are invited for the post of
RESIDENT MEDICAL OFFICER
(House Officer grade)
for the Children's Department (50 beds)
The appointment, which is recognized for candidates entering for the D.C.H., offers scope for wide experience in all departments of paediatrics, surgical cases, and attendance at out patient departments at the General Hospital. Previous hospital experience in paediatrics is desirable. Salary and conditions of service in accordance with the National Health Service Regulations. The appointment will be for a period of six months in the first instance. Applications, together with three testimonials, should be addressed immediately to S. T. Davis, Secretary-Superintendent, Cheltenham General, Eye and Children's Hospital, Cheltenham. (9253)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)
West Herts Group Hospital Management Committee
HOUSE PHYSICIAN to Children's Department
(Second or subsequent post)
Applications are invited for the above appointment, which will be for a term of six months from March 26, 1952. The post is recognized for the D.C.H. Salary £400 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications, stating age, qualifications and experience, and accompanied by copies of three testimonials, should be sent to the Administrator at the hospital. (9116)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 21

Paediatrics—contd.

HULL, VICTORIA HOSPITAL FOR SICK CHILDREN, Park Street (143 beds)
Hull (A Group) Hospital Management Committee
Applications are invited for the following posts:
HOUSE SURGEON (Now vacant)
HOUSE PHYSICIAN (Vacant April 22, 1952)
Posts are for a term of six months and count towards qualification D.C.H. Salary in accordance with terms of service issued by the Ministry of Health. Applications, together with testimonials, to be sent to the Administrative Officer at the above address. (9089)

NEWCASTLE GENERAL HOSPITAL
Newcastle-upon-Tyne Hospital Management Committee
HOUSE PHYSICIAN
to the Paediatric Department
Applications are invited from registered medical practitioners, male and female, for the above-named resident post, tenable for six months from May 1, 1952. The department is actively associated with and shares staff with the department of child health of Durham University, and the post offers exceptional opportunities for gaining experience in many aspects of paediatrics. Salary is in accordance with the terms and conditions of the National Health Service. Applications, together with one copy of two testimonials, should be sent to the Secretary, Newcastle General Hospital, Westgate Road, Newcastle-upon Tyne, 4. (9558)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
PAEDIATRICS HOUSE OFFICER
vacant on April 1, 1952. Post recognized for the D.C.H. The person appointed will be required to reside, in conjunction with another Paediatrics House Officer, alternately for three months at the Northampton General and at the Harborough Road Hospitals, Northampton, and whilst at the latter hospital, to be responsible to the Consultants for the supervision of all the beds, allocated as follows: Sub-acute paediatric 16, dermatological 6, general medical 22, infectious diseases 41 (mostly children but including polio). National Health Service salary scale and conditions of service for House Officers. Six months' appointment. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Secretary to the Management Committee. (9355)

PENDLEBURY, ROYAL MANCHESTER CHILDREN'S HOSPITAL
Salford Hospital Management Committee
Applications are invited from medical practitioners, male and female, for the post of
RESIDENT HOUSE SURGEON
(House Officer status)
now vacant. The appointment is for a period of six months Applications, stating age, qualifications (with dates), and nationality, accompanied by copies of three recent testimonials, to be sent to the Superintendent at the hospital to be received not later than seven days after appearance of this advertisement. (9482)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for appointment of
HOUSE PHYSICIAN
to the new Paediatric Department
Vacant immediately. Salary at £450 per annum. Terms and conditions in accordance with the National Health Service terms. The appointment will be for a period of six months. Applications, stating age, nationality, qualifications, and experience, together with the names of three referees, should be sent to the undersigned at once.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9090)

SALISBURY GENERAL HOSPITAL
Children's Department
Salisbury Group Hospital Management Committee
Applications are invited for the post of
PAEDIATRIC HOUSE OFFICER
to the above department, situated at Odstock Hospital and containing 55 medical and surgical beds. Post recognized for D.C.H. Applications, with relevant testimonials, should be submitted to Group Sec., Odstock Hosp., Salisbury, by March 25. (9559)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
PAEDIATRIC HOUSE PHYSICIAN
Resident, at the Middlesbrough General Hospital, Middlesbrough, where there is a unit of 60 beds for acute cases. There are also duties at the Children's Hospital, Stockton, containing 45 beds including a babies unit. Applications, stating age, qualifications, and accompanied by copies of three testimonials, to be sent to the Secretary-Superintendent, General Hospital, Ayresome Green Lane, Middlesbrough. (9490)

PATHOLOGY

BIRKENHEAD AREA
Liverpool Regional Hospital Board
Applications are invited for the post of
WHOLE-TIME CONSULTANT PATHOLOGIST
to hospitals in the Birkenhead Hospital Management Committee Group. Possession of a higher Diploma in Pathology or an M.D. in Pathology is desirable. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than April 5, 1952.—Vincent Collinge, Secretary to the Board. (9600)

BETHLEM ROYAL HOSPITAL AND THE MAUDSLEY HOSPITAL, S.E.5
Applications are invited for the post of
SENIOR HOSPITAL MEDICAL OFFICER IN CLINICAL PATHOLOGY
The vacancy results from the upgrading of a Senior Registrar post, the holder of which will be a candidate for the higher position. Apply to K. L. Johnson, House Governor and Secretary, The Bethlem Royal Hospital and the Maudsley Hospital, Denmark Hill, S.E.5, giving date of birth, qualifications and experience, with names of three referees, not later than March 31, 1952. (9429)

WHIPPS CROSS HOSPITAL
Whipps Cross Road, London, E.11
REGISTRAR IN PATHOLOGY (Non-resident)
The appointment is subject to review after one year. A local charge would be made for any meals or residential amenites provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 29, 1952. (9431)

BEVERLEY, YORKSHIRE, WESTWOOD HOSPITAL
RESIDENT SENIOR HOUSE OFFICER
Assistant Pathologist in the new premises of the area laboratory at the above General Hospital. The position offers experience in all branches of clinical pathology. Application, with the names of two referees, to the Secretary. (9018)

BIRMINGHAM, QUEEN ELIZABETH HOSPITAL
United Birmingham Hospitals
Applications are invited for the post of
RESIDENT CLINICAL PATHOLOGIST
(Senior House Officer)
in the Department of Bacteriology and Clinical Pathology as from June 1, 1952. This officer will act as one of three blood bank officers in addition to routine work in the department. Previous experience in clinical pathology is not essential, but applicants should have had hospital postgraduate experience. The appointment is for twelve months and the salary at the rate of £670 per annum, from which £110 will be deducted for board and lodgings. Further particulars can be obtained from the Director of the Clinical Pathological Services. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him not later than April 19, 1952. (9504)

LANCASTER ROYAL INFIRMARY (250 beds)
RESIDENT SENIOR HOUSE OFFICER
(Pathology)
The post is vacant May 1, 1952, and normally tenable for one year. The successful applicant will work in the Group laboratory. Applications, stating age, qualifications and experience, along with names of two referees, to Secretary. (9601)

NOTTINGHAM CITY HOSPITAL (833 beds)
Applications are invited for the post of
RESIDENT PATHOLOGIST (Senior House Officer)
Previous experience an advantage. Salary at the rate of £670 per annum, less £130 per annum for residential emoluments. The post becomes vacant on May 2, 1952, and is tenable for twelve months. Applications, stating age, nationality, qualifications, and experience, together with copies of not more than three testimonials, to be sent to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (9091)

PRESTON ROYAL INFIRMARY
Group Pathological Laboratory
SENIOR HOUSE OFFICER (Pathological)
Previous experience in Pathology desirable but not essential. Applications, stating experience and qualifications, to be forwarded to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary. (9602)

SOUTHEND-ON-SEA HOSPITAL
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE OFFICER
(Clinical Pathology)
for duties within the units comprising the above hospital. Post vacant immediately and tenable for one year. Previous experience in pathology not essential, but applicants must have good clinical experience Salary £670 per annum, less appropriate deduction for board. Applications, with copies of at least two recent testimonials, should be sent to the undersigned not later than March 21, 1952.— . C Field, Secretary, Management Committee Offices, General Hospital, Rochford, Essex. (9138)

READING AREA HOSPITALS
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Pathology)
vacant near future. Deduction if resident £100. Previous experience in pathology desirable but not essential. Apply, stating age, qualifications (with dates), nationality, present post, together with copies of recent testimonials, to Chief Administrative Officer, 3, Craven Road, Reading, Berks. (8098)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
SENIOR HOUSE OFFICER (Pathologist)
Salary £670 per annum. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (6653)

LEWISHAM GROUP LABORATORY
Lewisham Hospital, London, S.E.13
Applications are invited for the post of
RESIDENT ASSISTANT PATHOLOGIST
(House Officer Grade)
(Second, third or subsequent post)
Vacant immediately. Previous experience in pathology not necessary, but applicants should have some clinical experience. Salary at the rate of £400 or £450 per annum, according to number of posts held, less £100 per annum for residential emoluments. Applications, stating age, qualifications and experience, with names of three referees, should be sent to the Secretary, Group Offices, Lewisham Hosp., London, S.E.13, as soon as possible. (9337)

EDGWARE GENERAL (formerly Redhill County) HOSPITAL, Edgware, Middx
RESIDENT HOUSE PATHOLOGIST
Post vacant May 14, 1952. Salary £350 to £450 per annum according to experience. Deduction of £100 per annum for board, lodging, etc. Six months' appointment. Applications, stating age, qualifications, experience, and enclosing copies of up to three recent testimonials, to Medical Director of Hospital by March 29, 1952. (9430)

PSYCHIATRY

NATIONAL HOSPITALS FOR NERVOUS DISEASES
The Board of Governors invites applications for the appointment of
ASSISTANT in the Department of Psychological Medicine
at the National Hospital, Queen Square. The post carries consultant status and the duties required are those of conducting a psychotherapeutic clinic for out patients and in-patients on two half-day sessions weekly. Applications (35 copies), giving the names of three referees, must be submitted to the undersigned not later than March 28, 1952.—H. Ewart Mitchell, Secretary, The National Hospitals for Nervous Diseases, Queen Square, W.C.1. (9472)

ST MARY'S HOSPITAL, W.2
Applications are invited for the appointment of
ASSISTANT PHYSICIAN
to the Department of Psychiatry
(part-time; Consultant Status)
Candidates should be Fellows or Members of the Royal College of Physicians, and possess a diploma in psychological medicine. The successful candidate will be granted full staff status, and will be required to undertake three or four notional half-days per week. Applications (10 copies), stating the names and addresses of three referees, should reach the undersigned by March 29, 1952.—Alan Powditch Secretary to the Board of Governors. (9218)

MANCHESTER (near), PRESTWICH HOSPITAL
(2,800 beds)
Manchester Regional Hospital Board
Applications are invited for whole-time post of
CONSULTANT PSYCHIATRIST AND DEPUTY MEDICAL SUPERINTENDENT
Wide experience in psychiatry and higher qualifications are essential. A house in the grounds will be available. Further enquiries to the Medical Superintendent. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than April 1. (9117)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the part-time (nine sessions) post of
CONSULTANT PSYCHIATRIST
to Blackburn and Burnley General Hospitals and Whittingham Mental Hospital (3,000 beds) near Preston. Out-patient clinics at Blackburn and Burnley and in-patient treatment at Blackburn, Burnley and Whittingham. Candidates must be of high professional standing and possess higher degrees or diplomas. Successful candidate required to live near Blackburn or Burnley. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than April 8, 1952. (9453)

Psychiatry—contd.

BIRMINGHAM REGIONAL HOSPITAL BOARD

Applications are invited for the following whole-time appointments:

(a) TWO ASSISTANT PSYCHIATRISTS

Mid-Staffs Mental Group. Duties at St. George's Hospital, Stafford (1,334 beds). Single or married accommodation available.

(b) ASSISTANT PSYCHIATRIST

Burton-on-Trent Group. Duties at St. Matthew's Hospital, Burntwood (1,200 beds). Married accommodation available.

Candidates must have wide experience in psychiatry and should possess higher qualification. Salary scale £1,300 to £1,750 per annum. Appointments subject to National Health Service (Superannuation) Regulations. Fifteen copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 31, 1952. Candidates for appointments (a) and (b) should forward twenty-five copies of applications. Candidates may visit the hospitals concerned. (9416)

BRIDGEND—WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the appointment of an

ASSISTANT PSYCHIATRIST (S.H.M.O. scale)
to serve the Morgannwg Hospital, Bridgend

The hospital provides all methods of treatment, has a modern admission unit and active out-patient services. Candidates should preferably hold the D.P.M. and have had a wide experience in psychiatry. The successful applicant will work under the direction of the Consultant Psychiatrist. A house is available for which the necessary deduction from salary will be made. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (9560)

RADCLIFFE-ON-TRENT, NOTTS, SAXONDALE HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners preferably holding a higher qualification in psychiatry for the whole-time post of

ASSISTANT PSYCHIATRIST

A house on the hospital estate is available for the successful candidate. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms should be returned to the Secretary not later than April 12, 1952. (9395)

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners, preferably holding a higher qualification in psychiatry, for the whole-time post of

ASSISTANT PSYCHIATRIST

who will be attached to the Middlewood Hospital, Sheffield (1,788 beds). A house is available for the successful candidate. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, and returned to the Secretary not later than April 12, 1952. (9396)

FRIERN HOSPITAL, New Southgate, N.11
(2,470 beds)
North-West Metropolitan Regional Hospital Board
PSYCHIATRIC REGISTRAR

Required for one year. Candidates should have adequate general medical and psychiatric experience and may be required to be seconded to St. Pancras Hospital for duty in the observation wards. Candidates may visit the hospital by direct arrangement with the Physician Superintendent. Application forms obtainable from, and returnable to, the Secretary, Friern Hospital Management Committee, Friern Hospital, New Southgate, N.11, within ten days of the appearance of this advertisement. (9603)

NATIONAL HOSPITALS FOR NERVOUS DISEASES

Applications are invited for the appointment of

WHOLE-TIME PSYCHOLOGIST
at the National Hospital, Queen Square, W.C.1

A medical qualification would be an advantage. Experience in psychometric methods and research interests will be recommendations. If the successful applicant is medically qualified the post will carry the grade of Registrar. The appointment will be for one year in the first instance. Applications, giving the names of two referees, should be sent to the undersigned not later than March 26, 1952.—H. Ewart Mitchell, Secretary, The National Hospitals for Nervous Diseases, Queen Square, W.C.1. (9454)

BRISTOL, UNITED, HOSPITALS BOARD OF GOVERNORS AND SOUTH-WESTERN REGIONAL HOSPITAL BOARD

Applications are invited by the above Boards from registered medical practitioners for the joint appointments of

REGISTRARS IN PSYCHIATRY
to the South-Western Region

The successful candidates will be based on the Bristol Mental Hospitals Group (Barrow and Fishponds Hospitals, and the Bristol Neurosis Centre). The appointments, which may be resident or non-resident, will be held for one year in the first instance, when the contracts will be reviewed and the Registrars may then be posted to a mental hospital elsewhere in the Region. It is intended that the posts will offer training to enable holders to obtain the Bristol D.P.M. Holders will, therefore, be required to gain experience in child psychiatry, mental deficiency and neurology, as well as the general and special branches of adult psychiatry, and their work will be arranged accordingly. They will also be able to attend the course for Part I and Part II D.P.M. at the University of Bristol. The posts also offer excellent opportunities for special postgraduate experience in psychiatry, and for research work for the preparation of a thesis for higher qualifications. There are well-equipped departments of electroencephalography, experimental and applied psychology, and biochemical and endocrinological research, and an extensive psychiatric library at Barrow Hospital. Twelve copies of applications, stating date of birth, qualifications, and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than March 31, 1952. (9432)

CHERTSEY, SURREY, BOTLEYS PARK HOSPITAL
South-West Metropolitan Regional Hospital Board
REGISTRAR (Psychiatry)

Suitable post for D.P.M. candidate requiring qualification in mental deficiency practice and preparing for the examination. The hospital provides full facilities for 1,600 defectives of all grades and is recognized as a teaching centre for the D.P.M. Accommodation available for single person. National Health Service appointment in accordance with the terms and conditions of service of hospital medical staff. Application forms obtainable from the Secretary of the Hospital Management Committee, which, when completed, should be returned within fourteen days of the appearance of this advertisement. (9328)

CHICHESTER, SUSSEX, GRAYLINGWELL HOSPITAL MANAGEMENT COMMITTEE
South-West Metropolitan Regional Hospital Board

Applications are invited from ladies and gentlemen for the appointment of

TWO WHOLE-TIME REGISTRARS

at the above Psychiatric Hospital, which contains 1,100 beds and admits approximately 900 patients per annum of whom 80 per cent are voluntary. There are three active out-patient clinics. All modern treatments—both physical and psychotherapeutic—are practised. Full facilities are available for psychological and physical investigation. There are departments of neurology and of clinical research. In preparation for the D.P.M., courses of lectures and clinical demonstrations in adult psychiatry are given regularly by the Director of Clinical Research and senior members of the staff. The hospital is approved by the Conjoint Board of Examiners for training in neurology for the D.P.M. The appointments will be subject to the terms and conditions of service for medical and dental staff and also to the National Health Service (Superannuation) Regulations. Canvassing will disqualify, but candidates may visit the hospital by arrangement with the Medical Superintendent. Furnished accommodation is available for a single officer. Application forms, for which a stamped addressed envelope should be supplied, may be obtained from the Group Secretary, Graylingwell Hospital, Chichester, and five copies should be returned to him, duly completed, not later than fourteen days after the appearance of this advertisement. (9604)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the post of

REGISTRAR in Psychiatry

for duties at the Oulton Hall Hospital, near Wakefield, and affiliated Mental Deficiency Colonies. The post is non-resident. It is anticipated that the successful candidate will have the opportunity for training in child psychiatry in association with the department of psychiatry of the University of Leeds, which he will attend on two sessions per week. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate not later than March 29, 1952. (9398)

LEEDS, ST. JAMES'S HOSPITAL
Leeds Regional Hospital Board

Applications are invited for the appointment of

REGISTRAR in Psychiatry

The post will be resident for which the appropriate charges will be made. The psychiatric unit of this general hospital deals with emergency admissions from the City of Leeds and has accommodation for investigation and treatment of patients suffering from neurosis. There is also a large out-patient department. Facilities will be available for study for the D.P.M. in association with the department of psychiatry at Leeds University. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 29, 1952. (9397)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the post of

SENIOR REGISTRAR IN PSYCHIATRY

with main duties at Prestwich Hospital (2,800 beds) near Manchester. The person appointed will also be required to attend psychiatric clinics and take part in the treatment of in-patients at general hospitals in Oldham and Rochdale. Residential accommodation for a single person is available at the hospital. Alternatively, the post may be on a non-resident basis. Previous experience in psychiatry, and a higher qualification, is essential. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names of three referees, to be received by March 31, 1952. (9221)

SOUTH WARWICKSHIRE GROUP
Birmingham Regional Hospital Board

Applications are invited for the appointment of

SENIOR PSYCHIATRIC REGISTRAR

Duties at Central Mental Hospital, near Warwick (1,423 beds) including neurosis unit and clinics for adults and children. Candidates should possess D.P.M. (Postgraduate instruction available). Accommodation available for married or single applicant. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 31, 1952. Candidates may visit the hospital. (9605)

WILLERBY, HULL, DE LA POLE HOSPITAL
Leeds Regional Hospital Board

Applications are invited for the appointment of

SENIOR REGISTRAR in Psychiatry

The appointment will be resident for which the necessary deductions from salary will be made. Candidates must hold the D.P.M. or equivalent qualification. It is anticipated that the successful candidate will undertake two clinical sessions in association with the department of psychiatry of the University of Leeds. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 29, 1952. (9399)

WOODFORD GREEN, ESSEX, CLAYBURY MENTAL HOSPITAL, Woodford Bridge
REGISTRAR IN PSYCHIATRY
(Resident or Non-resident)

The appointment is subject to review after one year. A local charge would be made for any meals or residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place London, W.1, by Saturday, March 29, 1952. (9433)

FOUNTAIN GROUP HOSPITAL MANAGEMENT COMMITTEE
JUNIOR HOSPITAL MEDICAL OFFICER
(National Health Service Salary Scale)

Applications are invited from registered medical practitioners (male or female, resident or non-resident) for the above appointment. The Fountain Group caters for 630 mentally defective children, 80 adult female defectives, and 50 blind children, and provides wide experience in neurology, paediatrics, and child psychology, as well as in mental deficiency. There are clinical and neuropathological research units, and clinical conferences are held weekly. Numerous lectures and demonstrations are given to students and graduates. Applications, giving full particulars and three referees, to Secretary, Fountain Hospital, Tooting Grove, London, S.W.17. (9561)

ABERGAVENNY, PEN-Y-VAL HOSPITAL
Vale of Usk Hospital Management Committee

Applications are invited for the post of

JUNIOR HOSPITAL MEDICAL OFFICER

Salary £700 to £1,000 per annum. Full residential accommodation for single person for which a deduction of £150 per annum will be made. Experience in psychiatry not necessary. Applications, stating age, sex, nationality, qualifications and present appointment, together with names of two referees, to be forwarded to the Medical Superintendent, Pen-y-val Hospital, Abergavenny, Mon., immediately (9606)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 21

Psychiatry—contd.

BURY, FAIRFIELD GENERAL HOSPITAL
(Comprising 175 Mental, 203 Chronic and 133 Obstetric and Gynaecological beds)
Bury and Rossendale Hospital Management Committee

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
at the above hospital. This post is mainly for the mental and chronic sick beds, and the successful applicant will be required to work in the main under the direction of the Consultant Psychiatrist. Salary will be at the rate of £700 per annum, rising by annual increments to £1,000 per annum. Conditions of service in accordance with national recommendations. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (8434)

DERBY, PASTURES HOSPITAL, Mickleover
(Hospital for Mental and Nervous Disorders)
Derby No. 3 Hospital Management Committee
JUNIOR HOSPITAL MEDICAL OFFICER
(Male or female)

Salary £700, rising by £50 per annum to £1,000. Recognized training hospital for D.P.M. All facilities for obtaining higher qualifications and status. Near general hospitals in Derby. Large out-patient system. House available for married person, alternatively residential accommodation at charge of £170 per annum. For further details apply Medical Superintendent. Applications, stating qualifications and experience, and giving the names of two referees, to be sent immediately to the Secretary. (9400)

DEVIZES, WILTS, ROUNDWAY HOSPITAL
(For Nervous and Mental Diseases—1,457 beds)

Applications are invited for the appointment of a resident
JUNIOR HOSPITAL MEDICAL OFFICER (Male)
for duty at the above mental hospital. All forms of modern treatment available, including Insulin Unit, and Out-patient Clinics at four general hospitals. In the case of a married applicant, a furnished house will be available. Applications, stating age, qualifications, and experience, together with the names and addresses of two referees, should be forwarded to the Medical Superintendent, Roundway Hospital, Devizes, Wilts, as soon as possible after the publication of this advert. (9434)

DORCHESTER, DORSET, FERRISON MENTAL HOSPITAL

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
Salary range £700 to £1,000 per annum, according to experience. Accommodation is available for a single man, for which a charge will be made. All forms of modern treatment including leucotomy and insulin. Out-patient clinics are held in three general hospitals. Attractive country with Bournemouth and Weymouth in the hospital area. Applications, with names of two referees, to the Medical Superintendent before March 22. (8697)

PRESTWICH HOSPITAL, Prestwich, Manchester
(Psychiatric, 3,018 beds)

Applications are invited from registered medical practitioners, male or female, for appointment of
JUNIOR HOSPITAL MEDICAL OFFICER
A furnished flat at a reasonable rental is available for a married couple. All modern treatments are practised, and facilities will be given for studies for higher qualifications. Applications, giving full details of age, training, and experience, together with the names and addresses of at least two referees, should be sent to the Medical Superintendent not later than Saturday, March 22. (9567)

STAFFORD, ST. GEORGE'S HOSPITAL
Mid-Staffs (Mental) Hospital Management Committee

Applications are invited for the following resident appointments at the above mental hospital (1,200 beds, with separate unit for private patients):
JUNIOR HOSPITAL MEDICAL OFFICERS
SENIOR HOUSE OFFICERS
Mental hospital experience not essential. Excellent opportunities for studying, and experience of modern methods of psychiatric treatment, including Out-patient Clinics. Applications, stating age, qualifications, and details of appointments, with copies of three testimonials, to be sent to the Medical Superintendent as soon as possible. (9562)

WILLERBY, E. YORKSHIRE, DE LA POLE HOSPITAL (1,174 beds)
WHOLE-TIME JUNIOR HOSPITAL MEDICAL OFFICER

Most modern methods of treatment practised. Residence for single person only. Application forms from Secretary, Hull (B) Group H.M.C., De la Pole Hospital. (9356)

AYR, GLENGALL MENTAL HOSPITAL
Board of Management for Ayrshire Mental Hospitals

Applications are invited from qualified medical practitioners (male or female) for the post of
SENIOR HOUSE OFFICER
Salary £670 per annum in terms and conditions of service under National Health Service. Applications, in writing, stating age and experience, to be submitted to Medical Superintendent, Glengall Mental Hospital, Ayr, accompanied by two copies of testimonials. (9563)

BEVERLEY, YORKS, BROADGATE HOSPITAL
(600 Mental beds)
RESIDENT SENIOR HOUSE PHYSICIAN
Salary £670 per annum.
RESIDENT HOUSE PHYSICIAN
Salary £350 to £450, according to previous posts held.

Applications to Secretary, Westwood Hospital, Beverley, Yorks. (9359)

BRENTWOOD MENTAL HOSPITAL
Brentwood, Essex
SENIOR HOUSE OFFICER

Required at once. The hospital has over 2,000 beds and an annual admission rate of over 600 patients. All modern treatments are carried out and the post affords a means of gaining valuable experience in modern psychiatry. Instruction will be given by Senior Staff. Salary is at the rate of £670 per annum, less £150 for residential amenities. Applications, stating age, experience and qualifications to the Physician Superintendent, with names of two referees, as soon as possible. (9505)

CAMBRIDGE, FULBOURN HOSPITAL

Applications are invited for the appointment of
SENIOR HOUSE OFFICER
at the above hospital. This hospital (which is linked with the University and its teaching hospital) is progressive, and has a large annual admission rate, mainly of voluntary patients. All forms of modern treatment are given. There are four associated out-patient clinics. Facilities exist for D.P.M. Applications, with names of two referees, should be sent to the Medical Superintendent immediately. (9338)

SHEFFIELD NO. 1 HOSPITAL MANAGEMENT COMMITTEE
(Recognized for the D.P.M. examination)

Applications are invited from suitably qualified practitioners for the resident post of
SENIOR HOUSE OFFICER (Psychiatry)
for duties at the City General Hospital and the adjoining Fir Vale Infirmary. Applicants should, preferably, have held general hospital posts, but psychiatric experience is not essential. The successful candidate will form part of a team consisting of a consultant psychiatrist, consultant psychologist, and an assistant psychiatrist within the setting of a large modern general hospital. The duties will form an introduction to the investigation and treatment of the psycho-neuroses, psychosomatic disorders and acute psychoses. Apply, giving full details of age, qualifications, present and previous appointments (with dates) and the names of two persons to whom reference may be made, to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (9057)

WICKFORD (near), ESSEX, RUNWELL MENTAL HOSPITAL

Applications are invited for the appointment of
JUNIOR HOUSE OFFICER (Male or female)
(Third post)
to work in one of the Consultant's Divisions. The person appointed may also be required to assist in out-patient work. There are excellent facilities for postgraduate work for the D.P.M. Salary at the rate of £450 per annum, less £100 for residential emoluments. Applications, stating age, etc., together with copies of testimonials, should be sent to the Secretary as soon as possible.—T. Fitzroy Kelly, Secretary. (9506)

RADIOLOGY

NORTHERN IRELAND HOSPITALS AUTHORITY

The Authority invite applications for three posts as
CONSULTANT RADIOLOGIST
The posts are: (1) The South Down and South Armagh Groups of hospitals, comprising five hospitals with a combined total of 504 beds. (2) The North Antrim and Coleraine and Portrush Groups of hospitals, comprising seven hospitals, with a combined total of 442 beds. (3) Seven hospitals in the area Mid-Ulster, Mid-Antrim and East Antrim, with a combined total of 849 beds. The terms and conditions of the appointment will be in accordance with the Authority's application to Northern Ireland of the Spens Report. Applications should be made on a form which may be obtained, together with further details, from the Secretary, Northern Ireland Hospitals Authority, Friends' Provident Building, 58, Howard Street, Belfast, which must be returned so as to be received by him not later than March 29. (9607)

CAMBRIDGE, ADDENBROOKE'S HOSPITAL
United Cambridge Hospitals

The Board of Governors invite applications for appointment to the post of
NON-RESIDENT REGISTRAR
to the Radiological Department
in the grade of Senior Registrar or Registrar, according to qualifications and experience, vacant on May 18, 1952. The appointment is for one year in the first instance, reviewable annually. Applications, stating age and nationality, qualifications (with dates), and experience, with copies of three recent testimonials, should be sent to the undersigned not later than Saturday, March 29, 1952.—J. A. Beardsall, Secretary. (9401)

BIRMINGHAM, UNITED, HOSPITALS

Applications are invited for the post of
NON-RESIDENT REGISTRAR in Radiodiagnosis
(Registrar Grade)
for duties within the Teaching Group. Possession of the D.M.R. would be an advantage. Post vacant and tenable for one year in the first instance. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him not later than April 5, 1952. (9608)

RADIOTHERAPY

NEWCASTLE REGIONAL HOSPITAL BOARD
ASSISTANT RADIOTHERAPIST

Whole-time or part-time for a minimum of nine notional half-days. Salary scale £1,300 to £1,750 whole-time, pro rata part-time. Applications are invited for the above appointment to the staff of the Newcastle Regional Cancer Organization. Details of appointment may be obtained from the Director, Regional Cancer Bureau, 3, Windsor Crescent, Newcastle-upon-Tyne, 2. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within twenty-eight days. (9357)

UROLOGY

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (Urology)

Vacant May 1, 1952. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary (9224)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Urological)

Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9609)

MEDICINE

BLACKPOOL AND FYLDE GROUP
Manchester Regional Hospital Board

Applications are invited for the part-time consultant post (eight half-days) of
GENERAL PHYSICIAN
at the Victoria Hospital, Blackpool, and other hospitals. Higher qualifications are essential and the person appointed will be required to live in or near Blackpool. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than March 28, 1952. (9121)

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD
RESIDENT MEDICAL REGISTRAR
Tilbury and Riverside General Hospital
Tilbury, Essex
RESIDENT MEDICAL REGISTRAR
German Hospital, Dalston Lane, E.8

Appointments are subject to review after one year. A local charge would be made for residential amenities provided. Separate applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, 11a, Portland Place, W.1, by Saturday, March 29, 1952. (9435)

ST. MARY'S HOSPITAL, W.2

Applications are invited for the post of
GENERAL MEDICAL OUT-PATIENT REGISTRAR (Part-time)
Candidates must be Fellows, Members or Licentiates of the Royal College of Physicians, or graduates in medicine of a University in the British Empire. The successful candidate will be required to undertake four notional half-days weekly, on Tuesday morning, Tuesday afternoon, Thursday afternoon, and Friday morning. The appointment will be for a first period of twelve months. Applications, stating nationality, date of birth, permanent address, qualifications (with dates), and details of previous appointments, together with the names and addresses of three referees, should reach the undersigned by Friday, March 28, 1952.—Alan Powditch, House Governor. (9507)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)

Applications are invited from registered medical practitioners for the appointment of a temporary
WHOLE-TIME REGISTRAR (Medical)
at the above hospital, which includes duties in connexion with an active T.B. Unit. Salary at the rate of £775 to £890 per annum, less £130 per annum for residential emoluments. Appointment for a period up to one year. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent to the Administrative Officer. (8751)

Medicine—contd.

CHERTSEY, SURREY, ST. PETER'S HOSPITAL
(Late Botleys Park War Hospital (430 acute beds)
South-West Metropolitan Regional Hospital Board
Woking and Chertsey Group Hospital Management Committee
WHOLE-TIME MEDICAL REGISTRAR
Required at St. Peter's Hospital (120 medical beds, plus children), within easy reach of London. Application forms to be obtained and submitted to the undersigned within fourteen days of the appearance of this advertisement. Canvassing will disqualify, but candidates may visit the hospital.—J. F. Lomer (Lt.-Col.), Secretary, St. Peter's Hospital, Chertsey, Surrey. (9402)

MANCHESTER, WITHINGTON HOSPITAL
(750 beds)
Manchester Regional Hospital Board
Applications are invited for the post of
SENIOR REGISTRAR in General Medicine
A higher qualification is essential. Arrangements may eventually be made for the person appointed to transfer to the United Manchester Hospitals to complete his training. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with names of three referees, to be received by March 31, 1952. (9455)

NEWCASTLE GENERAL HOSPITAL
Durham Hospital Management Committee Group
Main hospitals: Dryburn 350 beds, Durham County 120 beds, Chester-le-Street 240 beds, etc.
WHOLE-TIME REGISTRAR PHYSICIAN
Required temporarily up to August 31, 1952, in the first instance. The appointment may be renewed for a further year. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (9358)

NORTH GLOUCESTERSHIRE CLINICAL AREA
Board of Governors of the United Bristol Hospitals and South-Western Regional Hospital Board
Applications are invited by the above Boards from registered medical practitioners for the joint appointment of
REGISTRAR in General Medicine
This post becomes vacant on May 2, 1952. The appointment will be held for one year in the first instance, and be renewable for a further year. The successful candidate will be required to work for the first year at the Gloucestershire Royal Hospital, Gloucester. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than March 31, 1952. (9508)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
MEDICAL REGISTRAR
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9058)

SHEFFIELD, UNITED, HOSPITALS
Royal Infirmary Unit
Applications are invited for the non-resident post of
MEDICAL REGISTRAR
at the above hospital. The possession of a higher qualification is essential. Applications, stating age, qualifications and experience, together with the names of three referees, should be forwarded immediately to the Chief Administrative Officer, The United Sheffield Hospitals, West Street, Sheffield, 1. (9610)

SOUTHAMPTON GENERAL HOSPITAL
(456 beds)
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME MEDICAL REGISTRAR
Post will be tenable for one year in the first instance. Candidates may visit the hospital if they so desire. Forms of application, which should be returned to the undersigned not later than March 29, 1952, will be forwarded on receipt of a stamped, addressed envelope.—Frank Jennings, Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (9565)

WEYMOUTH AND DISTRICT AND PORTWEY HOSPITALS, Weymouth
South-West Metropolitan Regional Hospital Board
West Dorset Group Hospital Management Committee
MEDICAL REGISTRAR (Registrar grade)
Resident or non-resident post, but if non-resident must reside in Weymouth area. Application forms, which should be returned, duly completed, by March 29, 1952, may be obtained from Secretary, West Dorset Group Hospital Management Committee, Damers Road, Dorchester, Dorset. (9566)

BIRMINGHAM, 18, DUDLEY ROAD INFIRMARY
JUNIOR HOSPITAL MEDICAL OFFICER
(Non-resident)
The hospital has 1,000 beds for the care of the chronic sick and has an active geriatric unit. Applications, stating age, qualifications and experience, accompanied by copies of three recent testimonials, to the Secretary, H.M.C., Dudley Road Hospital, Birmingham, 18. (9124)

BEVERLEY, YORKS, WESTWOOD HOSPITAL
SENIOR HOUSE PHYSICIAN
Post vacant end of March. Salary £670. Charge of £140 for board and lodging.
JUNIOR HOUSE PHYSICIAN
(First or second post)
With care of orthopaedic beds, required immediately. Salary £350 or £400.
Applications to the Secretary. (9360)

BLACKBURN, QUEEN'S PARK HOSPITAL
(650 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER (General Medicine)
Post tenable for one year. Salary at £670 per annum, less an appropriate deduction in respect of board, lodgings, etc. Applications, with names of two persons for reference, to be sent to the Sec., Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (9329)

BOLTON, ROYAL INFIRMARY (237 beds)
Bolton and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
in Medicine
Post tenable for twelve months. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (9361)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
(140 beds—5 residents)
RESIDENT HOUSE PHYSICIAN
Required from April 1 to take charge of two acute medical wards. Salary £670 per annum, less deduction of £150 for board residence. One year tenure first instance. Busy out-patient department with full Consultant staff. Applications, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (9362)

HULL, KINGSTON GENERAL HOSPITAL
(398 beds)
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE PHYSICIAN
at the above hospital. There are two Junior House Physicians. Resident post. Salary £670 per annum, less £130 for emoluments. Applications, with full particulars to be forwarded to the Administrative Officer, Kingston General Hospital, Hull. (9024)

MACCLESFIELD HOSPITAL
West Park Branch
Macclesfield and District Hospital Management Committee
SENIOR HOUSE OFFICER in Medicine
There are 56 acute medical beds and a number of beds for chronic sick. Applications, stating age, qualifications and experience, and enclosing copies of three recent testimonials, should be forwarded immediately to the undersigned.—G. P. Siggins, Secretary, Willerby House, Cumberland Street, Macclesfield. (9330)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
Applications are invited from registered medical practitioners for the following post, which is vacant on March 31, 1952:
SENIOR HOUSE OFFICER (General Medicine)
The appointment will be for twelve months at a salary of £670 per annum, less £155 per annum for residential accommodation and services. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8472)

MIDDLESBROUGH, HEMLINGTON HOSPITAL
(220 beds)
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for the following appointment:
SENIOR HOUSE OFFICER (Medical)
attached to Medical Clinic No. 2, which has 40 beds at the above hospital. Applications, stating age, qualifications and experience, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (9155)

PURLEY AND DISTRICT WAR MEMORIAL HOSPITAL (55 beds)
Croydon Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT MEDICAL OFFICER
of Senior House Officer status
from May 1, 1952. Charge of £150 per annum for board and lodging, etc. There is no other resident medical officer at the hospital. Experience in obstetrics an advantage. Hospital comprises surgical, medical, obstetric and gynaecological beds, and there is a casualty department. Form of application, obtainable from George A. Paines, Secretary, H.M.C., General Hospital, Croydon, to be returned immediately. (9403)

WEST HARTLEPOOL GENERAL HOSPITAL
Applications are invited for the appointment as
SENIOR HOUSE OFFICER (Medical)
at the above hospital, now vacant. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (8260)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds)
CITY HOSPITAL, York
(General hospital of 265 beds)
YEARSLEY BRIDGE HOSPITAL, York
(Infectious diseases hospital of 86 beds)
SENIOR HOUSE OFFICER IN PAEDIATRICS AND INFECTIOUS DISEASES
Required, to spend approximately half-time on paediatric duties at County Hospital (22 paediatric beds), City Hospital (32 paediatric beds), and other hospitals of the Group, and approximately half-time at Yearsley Bridge Hospital. Candidates should have had previous experience of paediatrics and infectious diseases. Holders of D.C.H. preferred. Post vacant from April 1, 1952, for one year in first instance. Salary £670, less £170 for residence at Yearsley Bridge Hospital. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (9568)

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60, Grove End Road, N.W.8
Applications are invited from registered medical practitioners (male) for the appointment of
HOUSE PHYSICIAN
to become vacant on Monday, April 14, 1952. Appointment will be for a period of six months. Salary is at the rate of £350 per annum. Applications should reach the Secretary on or before Thursday, March 27, 1952, together with copies of three recent testimonials. (9094)

LAMBETH HOSPITAL, Brook Drive, S.E.11
Applications are invited from registered medical practitioners for the posts of
RESIDENT HOUSE PHYSICIAN (Two)
The appointments are for six months commencing respectively on April 15 and 30, 1952. Forms of application may be obtained from the Physician Superintendent at the hospital. (9321)

MILE END HOSPITAL
Bancroft Road, E.1 (475 beds)
HOUSE PHYSICIAN (1, 2 or 3)
Required for six months, to commence duty on April 18, 1952. Application forms, to be returned by March 21, 1952, with copies of not more than three testimonials, may be obtained from the Physician Superintendent. (9095)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT HOUSE PHYSICIAN
Six months' appointment. Vacant May 1. Applications, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Secretary of hospital by March 22. (9186)

ROYAL NORTHERN HOSPITAL
Holloway, London, N.7
Northern Group Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
vacant on April 12, 1952, for a period of six months. Salary £400 to £450 per annum, according to experience, less £100 per annum for board residence. Applications, stating age, qualifications (with dates) and nationality, together with copies of three recent testimonials, to be sent to the Assistant Secretary not later than March 22. (9187)

WHIPPS CROSS HOSPITAL
Whipps Cross Road, E.11
Leytonstone No. 10 Group Hospital Management Committee
Applications are invited for the posts of
HOUSE PHYSICIANS (First, second or third posts)
Application forms are obtainable from the Medical Superintendent, to be returned by March 25. (9456)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Physician and Casualty)
Required to commence duties as soon as possible. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid Cheshire H.M.C., The Hospital, Sinderland Road, Altrincham, Cheshire. (9339)

AYR HEATHFIELD HOSPITAL
Board of Management for Southern Ayrshire Hospitals
Applications are invited for the post of
HOUSE PHYSICIAN
Tenure of post six months, commencing April 12, 1952. Salary £350 to £450 in accordance with experience, less deduction of £100 per annum for residential emoluments. Applications to the Administrative Medical Officer, Ballochmyle Hospital, Mauchline, within fourteen days of the appearance of this advertisement. (9569)

Medicine—contd.

AYLESBURY, BUCKS, STOKE MANDEVILLE HOSPITAL
HOUSE PHYSICIAN for General Medical beds
Also required to attend out-patient clinics (at Royal Buckinghamshire Hospital). First or second post. Vacant now. Applications, with two testimonials, to the Administrative Officer. (9404)

BANGOR, CAERNARVON AND ANGLESEY GENERAL HOSPITAL
Caernarvon and Anglesey Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE PHYSICIAN
at the above hospital. The appointment is for a period of six months. Applications, stating age, experience and qualifications, together with the names and addresses of two referees, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, N. Wales. (9517)

BANSTEAD, SURREY, CUDDINGTON HOSPITAL (126 beds)
(At present 18 to 32 I.D. beds, 25 surgical convalescent beds, and 24 T.B. beds)
Epsom Group Hospital Management Committee
RESIDENT HOUSE OFFICER
Required to work under the various consultants. Cases admitted are mainly acute of the types shown above. Post suitable for anyone reading for a higher qualification. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent as soon as possible to Secretary, Epsom Group H.M.C., Epsom District Hospital, Dorking Road, Epsom, Surrey. (9026)

BARNET GENERAL HOSPITAL, Barnet, Herts
HOUSE PHYSICIAN
Applications, stating qualifications, experience, and names of two referees, to be sent to the Medical Director. (8793)

BARNSTAPLE, NORTH DEVON INFIRMARY (110 beds)
HOUSE PHYSICIAN
Salary £350 to £450 per annum, less £100 per annum board and lodging. Post vacant April 1, 1952. Applications to Secretary and Finance Officer, North Devon H.M.C., 19, Alexandra Road, Barnstaple, North Devon. (9415)

BINGLEY HOSPITAL, Bingley (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton (64 beds) Yorkshire, West Riding
(Full Consultant staffs)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
at each of the above hospitals. First, second or third appointments. Now vacant. Six months' appointments. Salary in accordance with National Health Service terms and conditions. Applications, stating age, qualifications, experience, and nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, as soon as possible. (8705)

BIRKENHEAD, ST. CATHERINE'S HOSPITAL (476 beds)
Birkenhead Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
for six months from April 1, 1952. Salary £350 by £50 to £450, less £100 for full residential emoluments. Apply immediately, stating age, qualifications (with dates), experience, enclosing copies of two recent testimonials, to J. Dawber, Secretary above Committee, St. James' Hospital, Tollemache Road, Birkenhead. (9478)

BIRMINGHAM, 9, LITTLE BROMWICH HOSPITAL
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Medicine)
(Male or female)
Applications, stating experience, with two testimonials, to the Physician Superintendent, Little Bromwich Hospital, Birmingham, 9. (9466)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for the following resident appointment
HOUSE OFFICER (Medical) (Male)
(First or second post held)
Salary £350 to £400 per annum, less £100 per annum for residential emoluments. Appointment to commence April 1, 1952, for period of six months. Applications, stating nationality, age, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent to the Administrative Officer as soon as possible. (8860)

BLACKBURN, QUEEN'S PARK HOSPITAL (650 beds)
HOUSE PHYSICIAN
National Health Service salary and conditions. Applications, accompanied by copies of two testimonials, or names of referees, to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn (9027)

BRADFORD ROYAL INFIRMARY
HOUSE PHYSICIAN
Vacant April 27. Salary £350 to £450 per annum, less £100 per annum residential emoluments.
HOUSE PHYSICIAN
Vacant May 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience with copy testimonials, to Sec. (9229)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
HOUSE PHYSICIAN
to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

DARLINGTON MEMORIAL HOSPITAL (210 beds)
Darlington District Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN (J.H.O.—Resident)
Salary in accordance with national scale. Apply, giving age and references, to the undersigned at once.—G. W. Beckwith, Secretary. (7237)

DARTFORD, SOUTHERN HOSPITAL
HOUSE PHYSICIAN
A six months' appointment to commence April 1, 1952. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications and experience, together with the names of two persons to whom reference may be made, should be sent to the Medical Superintendent, The Southern Hospital, Dartford, Kent. (9406)

DEWSBURY, GENERAL HOSPITAL
Moorlands Road, Dewsbury (119 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
now vacant. This is a modern general hospital with a large out-patient department. Excellent experience available. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (8047)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
HOUSE PHYSICIAN
Salary at the rate of £350, £400 or £450 per annum, according to experience. A deduction at the rate of £100 per annum will be made for board, residence, etc. Post vacant now. Applications, stating age, qualifications (with dates), nationality, and present post, and accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (8981)

DRIFFIELD, YORKS. EAST RIDING GENERAL HOSPITAL
HOUSE PHYSICIAN
Post vacant now. Duties to include medical wards, out-patients and some anaesthetics. Salary £350 to £450 per annum. Applications to Secretary, Westwood Hospital, Beverley, E. Yorks. (9363)

FARNHAM HOSPITAL
Hale Road, Farnham, Surrey
HOUSE PHYSICIAN
Appointment for six months, renewable for further six months if applicant is not liable for service with H.M. Forces. Salary £350 to £450 per annum, according to experience. £100 per annum deducted in respect of board and lodging, etc. Applications by letter, stating age, qualifications and experience, and present appointment, with one to three recent testimonials (copies), to the Medical Superintendent of the hospital. (9625)

GLOUCESTERSHIRE ROYAL HOSPITAL
(Southgate Street Unit) (245 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
HOUSE PHYSICIAN
Salary £350 to £450 per annum, required to commence April 15, 1952. Applications, naming two referees, to the Secretary. (9364)

HARROGATE AND DISTRICT GENERAL HOSPITAL (253 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Vacant early April. Salary, according to experience, on the National Health Service scale. Applications as soon as possible to the Assistant Secretary. (8794)

HASTINGS, ST. HELEN'S HOSPITAL (452 beds)
Hastings Group Hospital Management Committee
HOUSE PHYSICIAN AND PAEDIATRIC HOUSE PHYSICIAN (Combined post)
Post vacant April 16. National scales of salary. Apply to the Administrator at the hospital. (9365)

INVERNESS, CULDUTHEL HOSPITAL
Bed complement 104 (T.B. 74, I.D. 30)
Applications are invited for the post of
HOUSE PHYSICIAN
for the above hospital for six months commencing immediately. Salary £350, £400 or £450 per annum, less £100 for residential emoluments. Previous hospital experience desirable but not essential. Apply, with copies of two testimonials, to Medical Superintendent. (9189)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
Required urgently at the above hospital. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (9028)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL (140 beds)
King's Lynn Area Hospitals Management Committee
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN
at the above hospital. Appointment will be for six months in the first instance. Salary £350 to £450 per annum, less £100 per annum in respect of residential emoluments. The appointment offers valuable experience in acute medical and ophthalmic work. Applications to be forwarded as soon as possible to the Secretary, King's Lynn Area Hospital Management Committee, St. James' Hospital, King's Lynn. (9029)

LEIGH INFIRMARY, Leigh, Lancs
HOUSE PHYSICIAN
Required at the above hospital, resident post. Applications, stating age, qualifications, and details of previous employments, together with the names of two referees, should be forwarded to the Secretary, Wigan and Leigh Hospital Management Committee, Knowsley House, Wigan, as early as possible (9457)

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
commencing April 1, 1952. Applications, stating age, experience and qualifications, with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street Leicester. (8339)

MANSFIELD AND DISTRICT GENERAL HOSPITAL
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
(First, second or third appointment)
Applications, stating age, qualifications, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (9366)

MIDDLESBROUGH, HEMLINGTON HOSPITAL (220 beds)
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
at the above hospital. Salary at the rate of £400 to £500 per annum. Applications, stating age, experience and qualifications, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (9156)

MIDDLESBROUGH, NORTH ORMESBY HOSPITAL (189 beds)
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
to No. 1 Medical Team, which will become vacant on April 8, 1952. Residential accommodation available. Applications, stating qualifications, experience and accompanied by copies of testimonials, should be addressed to the Assistant Secretary as soon as possible. (9489)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)
For the care of both medical and surgical cases. Appointment for six months. Duties to commence immediately. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NEWPORT, MON, ST. WOOLOS HOSPITAL (379 beds)
Applications are invited for the post of
HOUSE OFFICER (Medical)
who will work under the direction of the Consultant Physician (22 beds) and the Paediatrician (24 beds) and will also attend the out-patient department of another hospital with the consultants. Post vacant April 1. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, 17, Cardiff Road, Newport, Mon. (9060)

Medicine—contd.

NORTHALLERTON, FRIARAGE (GENERAL) HOSPITAL (300 beds)
Northallerton Hospital Management Committee
HOUSE PHYSICIAN
Required for April 1, 1952. Conditions of service six months. Salary in accordance with national scale. Applications, together with the names of two referees, to be sent to the Secretary, Friarage Hospital, Northallerton, Yorks. (8474)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No 1 Hospital Management Committee
RESIDENT HOUSE PHYSICIAN (Male or female)
Required for the above hospital. Duties to commence as soon as possible. Salary and conditions of service in accordance with published regulations of the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (9061)

NUNEATON, GEORGE ELIOT HOSPITAL (258 beds)
Applications are invited for the post of
HOUSE PHYSICIAN (46 general medical beds)
Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (9126)

NUNEATON, MANOR HOSPITAL (139 beds)
HOUSE PHYSICIAN
(32 general medical beds)
Applications to the Assistant Secretary. (9479)

PONTYPOOL AND DISTRICT HOSPITAL
Pontypool, Mon (115 beds)
Applications are invited for the post of
HOUSE OFFICER (Medical)
vacant about April 15, who will work under the directions of the Consultant Physician and the Paediatrician. The resident staff consists of a Junior Hospital Medical Officer (surgical), a House Officer (Surgical), and this post. The post carries an increment of £50 per annum above national scale, in view of extra responsibilities. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8707)

REDHILL, SURREY, EAST SURREY HOSPITAL
Shrewsbury Road (139 beds)
Redhill Group Hospital Management Committee
TWO HOUSE OFFICERS
Required for medical, surgical and casualty work. Apply to the Administrative Officer at the above address. (9367)

ROMFORD, ESSEX, VICTORIA HOSPITAL (91 beds)
RESIDENT HOUSE PHYSICIAN
Applications are invited from registered medical practitioners (male) for the above vacant post. The duties will include experience in gynaecology. Six months' appointment. Applications, stating age, nationality, qualifications (with dates), and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (9368)

SOUTH SHIELDS GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
(First or second post) (General Medicine)
Vacant April 1, 1952, in a busy, well-equipped hospital. There are three House Physicians in the Medical Department. Applications, with copies of not more than three recent testimonials, to be addressed to the Medical Superintendent, General Hospital, Harton Lane, South Shields. (8775)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the above hospital. Resident. The appointment will be for six months in the first instance and the post is now vacant. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (7963)

TIVERTON AND DISTRICT HOSPITAL
Exeter and Mid-Devon Hospitals Management Committee
HOUSE MEDICAL OFFICER
The appointment is for six months, is resident, and the salary is £350 per annum for first post held, £400 per annum for the second post and £450 per annum for third and any subsequent post, with in each case, a deduction of £100 per annum in respect of board and lodging, etc. The hospital has 50 beds, of which 11 are maternity, and there is also a busy out-patient department. The officer appointed would have the opportunity of gaining experience in a very wide field. Applications, stating age, qualifications, etc., and enclosing copies of two recent testimonials or names of two referees, should be sent to the Senior Administrative Officer at Belmont Hospital, Tiverton, Devon, as soon as possible. (9611)

WAKEFIELD, CLAYTON HOSPITAL (200 beds)
Hospital Management Committee No. 9, Wakefield
"A" Group
Applications are invited for the post of
RESIDENT HOUSE PHYSICIAN
at the above hospital. Terms and conditions of service in accordance with national recommendations. Application forms may be obtained from the Administrative Officer.—W. Read, Sec. (9331)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey (6770)

WARRINGTON GENERAL HOSPITAL (372 beds)
RESIDENT HOUSE PHYSICIAN
Required at the above hospital. Salary £350 to £450 per annum, less a deduction of £100 for residential emoluments. Applications should be forwarded to H. L. Boot, Secretary, Warrington and District Hospital Management Committee, c/o General Hospital, Warrington. (9140)

WOKING, VICTORIA HOSPITAL (74 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
Salary and conditions of service as published by Ministry of Health. Apply to Assistant Secretary, Victoria Hospital, Woking, Surrey. (6977)

SURGERY

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for an appointment as
PART-TIME CONSULTANT SURGEON
to the Mid-Kent Group of hospitals (three notional half-days a week). Candidates must have had wide experience in general surgery and be Fellows of a Royal College of Surgeons. The appointment will be in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales). Applicants may visit the hospitals concerned. The last day for acceptance of applications will be March 28, 1952, and selected candidates will be interviewed in London on May 8, 1952. Apply, stating nationality, age, sex, qualifications and experience, including details of present appointment and of war service, together with the names and addresses of three referees, to the Secretary, Advisory Appointments Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, W.1. (9369)

CENTRAL MIDDLESEX HOSPITAL
North-West Metropolitan Regional Hospital Board
SURGICAL REGISTRAR (Whole-time)
Required, resident when on duty. Post vacant April 11, 1952. Appointment for one year in first instance, will include Out-patient sessions and teaching. Hospital may be visited by appointment. Application forms obtainable from and returnable to Secretary, Central Middlesex Group H.M.C., Acton Lane, N.W.10, by March 26, 1952. (9570)

NORTH MIDDLESEX HOSPITAL AND ANNEXES, Silver Street, Edmonton, N.18
SURGICAL REGISTRAR (Non-resident)
Duties, which may include teaching, consist mainly of general and traumatic surgery. To sleep in on duty nights. The appointment is subject to review after one year. A local charge would be made for any meals or residential amenities provided. Applications, in duplicate, stating date of birth, full details of qualifications and experience, present appointment, grade and salary, together with two copies of two recent testimonials, should reach C. E. Nicol, Secretary, North-East Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, by Saturday, March 29. (9436)

ST. JAMES' HOSPITAL
Ouseley Road, Balham, S.W.12 (660 beds, General)
South-West Metropolitan Regional Hospital Board
Wandsworth Hospital Group
REGISTRAR (Surgical)
Post vacant in May, 1952. Possession of F.R.C.S. an advantage. Application forms for the above post (send stamped addressed foolscap envelope) obtainable from the Group Secretary, 14, Atkins Road, Balham, S.W.12. Forms to be completed and returned by March 26, 1952. (9612)

WESTMINSTER HOSPITAL
St. John's Gardens, S.W.1
Applications are invited for the post of
TEMPORARY SURGICAL SENIOR REGISTRAR
for six months' duty. Candidates must be Fellows of the Royal College of Surgeons of England. The appointment is being reviewed in the light of proposals of the Ministry of Health for the establishment and may be renewed on a permanent basis. Applications (four copies) with the names of two referees, should be sent to me by March 28, 1952.—Charles M. Power, House Governor and Secretary. (9613)

ARBROATH INFIRMARY
Eastern Regional Hospital Board (Scotland)
Applications are invited for the post of
SENIOR REGISTRAR in General Surgery
at Arbroath Infirmary (105 beds, 40 surgical). Higher qualification and previous general surgical experience essential. The post is on the authorized Registrar establishment and is attached to the Unit of the Professor of Surgery at Dundee Royal Infirmary. Salary and conditions of service in accordance with national agreement. Further particulars and forms of application from the Secretary to the Board, "Braeknowe," 430, Blackness Road, Dundee, with whom applications must be lodged not later than March 24, 1952. (9571)

COVENTRY GROUP
Birmingham Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME SURGICAL REGISTRAR (R.S.O.)
Successful candidate will act as R.S.O. to Manor Hospital, Nuneaton (139 beds), and George Eliot Hospital, Nuneaton (258 beds). Resident appointment. Higher surgical qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before March 31, 1952. Candidates may visit the hospitals concerned. (9417)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
REGISTRAR in General Surgery
for duties mainly at the Bradford Royal Infirmary and as required at other hospitals in the Bradford (A) Group. Residential accommodation is available for which a charge of £150 per annum will be made. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 22, 1952. (8982)

MANSFIELD AND DISTRICT GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
SURGICAL REGISTRAR
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9370)

NEWCASTLE REGIONAL HOSPITAL BOARD
East Cumberland Group of Hospitals
WHOLE-TIME RESIDENT SURGICAL SENIOR REGISTRAR (Locum)
Required for a period of six months. Duties primarily at Cumberland Infirmary, Carlisle, 354 beds; City General Hospital, Carlisle, 146 beds, but to be available for other hospitals in the Group as required. Applications, with names and addresses of one to three referees, should be sent to the Senior Administrative Medical Officer, Newcastle Regional Hospital Board, 1, Lonsdale Street, Carlisle, within fourteen days. (9614)

SOUTHAMPTON GENERAL HOSPITAL (456 beds)
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
WHOLE-TIME SURGICAL REGISTRAR
Post will be tenable for one year in the first instance. Candidates may visit the hospital if they so desire. Forms of application, which should be returned to the undersigned not later than March 29, 1952, will be forwarded on receipt of a stamped, addressed envelope.—Frank Jennings, Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (9572)

CHORLEY AND DISTRICT HOSPITAL, Lancs
Preston and Chorley Hospital Management Committee
RESIDENT SURGICAL OFFICER
(J.H.M.O. Grade)
The establishment of this hospital includes two Junior House Officers. The R.S.O. works under the supervision of the visiting consultants from Preston Royal Infirmary. Applications, including names for reference, to be sent to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary. (9615)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 21

Surgery—contd.

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT SENIOR HOUSE OFFICER (Surgery)
Mostly orthopaedic and fractures, with some general surgery. Salary £670 per annum, less £130 per annum for residence. Vacant May 1. Applications, stating age, qualifications, experience, and nationality, with copies of recent testimonials, to Secretary of hospital by March 22. (9190)

BARNSTAPLE, NORTH DEVON INFIRMARY (110 beds)
SENIOR HOUSE SURGEON
Salary £670 per annum, less deduction if resident. Post vacant now. Applications to Secretary and Finance Officer, North Devon H.M.C., 19, Alexandra Road, Barnstaple, North Devon. (9414)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge. Main Line Railway from Liverpool Street)
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER (Surgical)
Salary £670 per annum, less £130 per annum in respect of residential emoluments. The appointment is due to commence April 1 for a period of one year. Applications, stating nationality, age, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Secretary, Hertford Group H.M.C., Hertford County Hospital, Hertford, Herts. (9573)

BLACKBURN, QUEEN'S PARK HOSPITAL (650 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgery)
Salary £670 per annum, less deduction in respect of board, lodging, etc. Post tenable for one year. Applications, with names of two referees, to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (9371)

BOLTON DISTRICT GENERAL HOSPITAL (521 beds)
Bolton and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
Required for general surgical duties. Post vacant immediately and tenable for twelve months. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (9372)

DURHAM, DRYBURN HOSPITAL (323 beds)
Durham Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for resident post of
SENIOR HOUSE OFFICER
for general surgical duties at the above hospital. Salary in accordance with the approved scale. Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees, and/or copies of three recent testimonials, should be sent to the Secretary, Durham Hospital Management Committee, Dryburn Hospital Durham, as early as possible. (9230)

GATESHEAD, 9, QUEEN ELIZABETH HOSPITAL, Sheriff Hill (192 beds)
Gateshead and District Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the Medical Superintendent at the above hospital. (9467)

HOVE GENERAL HOSPITAL, Sussex (75 beds, 3 Resident Medical Officers)
Brighton and Lewes Hospital Management Committee
Applications are invited for the following resident posts, vacant mid March, 1952:
SENIOR HOUSE SURGEON
(preference will be given to candidates with previous experience). Duties chiefly ward and theatre work.
HOUSE SURGEON
for casualty and with charge of surgical beds.
Salaries and conditions of service in accordance with national scale (£350 to £450, less £100 per annum for residential emoluments). Applications, with full details of experience, etc., and enclosing names and addresses of two referees, should be sent to the Administrative Officer at the hospital within ten days of the appearance of this advertisement. (7782)

ISLE OF MAN, NOBLE'S HOSPITAL (160 beds)
Applications invited for the post of
SENIOR HOUSE SURGEON
at above hospital, an acute general hospital with a busy surgical practice and specialist visiting staff. Salary £670 per annum, with a deduction of £100 per annum for board, lodging, etc., if resident. Suitable post for man preparing for a higher surgical qualification. Applicant should previously have held a house-surgeon appointment, preferably at a teaching hospital. Post vacant at the end of March, 1952. Applications, giving all relevant particulars, with copies of two recent testimonials, or names and addresses of two referees, should be forwarded to the Secretary, Noble's Isle of Man Hospital, Douglas. (9231)

LEIGH INFIRMARY, Leigh, Lancs
Wigan and Leigh Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE SURGEON
at the above hospital, which is a busy general hospital of 102 beds. The person appointed will be attached to the surgical and orthopaedic wards and will be required to undertake some duties in the casualty department along with other members of the resident staff. Applications, stating age, nationality, qualifications, and previous hospital appointments, together with the names of two referees, should reach the undersigned as soon as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (9458)

LLANDUDNO GENERAL HOSPITAL, Llandudno
Caernarvon and Anglesey Hospital Management Committee
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE SURGEON
at the above hospital. Salary £670 per annum. The appointment is for a period of six months. Applications, stating age, experience and qualifications, together with names and addresses of two referees, should be forwarded within ten days of the appearance of this advertisement to Sec., Plas Gwyn, Ffriddoedd Rd., Bangor, N. Wales. (9520)

MUSSELBURGH, MIDLOTHIAN, EDENHALL HOSPITAL
Ministry of Pensions
(A hospital of 260 beds for treatment of general medical, surgical, and tropical cases)
SENIOR HOUSE OFFICER (Surgical)
(Resident or non-resident)
Applicants should have held the usual residential appointments. Salary at an inclusive rate of £670 per annum, with a deduction for emoluments if living in. Applicants should state age, nationality, experience, and qualifications (with dates), and send copies of three recent testimonials to the Director General of Medical Services, Ministry of Pensions (M.S.2), Norcross, Blackpool, Lancs. (9626)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence as soon as possible. Salary £670 per annum and conditions of service in accordance with the conditions published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (6969)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for appointment of
SURGICAL OFFICER (Resident)
(Senior House Officer status)
Post vacant immediately. The appointment will be for a period of twelve months and is renewable. Salary £670 per annum. The hospital is recognized for the Fellowship of the Royal College of Surgeons. Terms and conditions in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9096)

REDRUTH, CAMBORNE-REDRUTH HOSPITAL (159 beds, 4 residents)
West Cornwall Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Post now vacant. Salary £670 per annum, less £100 per annum for residential emoluments. Applications, stating age, experience and nationality, together with names of two persons to whom reference can be made, should be submitted to the Administrative Assistant. (8011)

ROTHERHAM, MOORGATE GENERAL HOSPITAL (368 beds, 38 cots)
SENIOR HOUSE OFFICER (Surgery)
Salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham, Yorks, as soon as possible. (9332)

SALFORD ROYAL HOSPITAL
Salford Hospital Management Committee
Applications are invited for the post of
SENIOR SURGICAL HOUSE OFFICER
The successful applicant wil be attached to a General Surgical Unit and will be the Assistant Resident Surgical Officer. Post vacant in April. Appointment for twelve months. Salary subject to a deduction of £155 per annum board and lodging charge. Applications, with copies of three testimonials, should be sent immediately to the Superintendent, Salford Royal Hospital, Salford, 3. (9437)

SCARBOROUGH HOSPITAL (163 beds)
Scarborough, Bridlington, Malton and Whitby Group Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Terms and conditions of service in accordance with those prescribed for medical and dental staffs. The post, which is recognized by the Royal College of Surgeons for the F.R.C.S., will be for a period of one year. The position will be non-resident and a flat is available near to the hospital if required. Applications, giving age, qualifications, details of present and previous appointments (with dates), and the names of three referees, should be forwarded to the Group Secretary, Scarborough Hospital, Scalby Road, Scarborough. (9509)

SCUNTHORPE, WAR MEMORIAL HOSPITAL (269 beds)
Scunthorpe Hospital Management Committee
Immediate vacancy for
HOUSE SURGEON (S.H.O. grade)
with duties in general surgery, gynaecology and some radiotherapy. Applications, with full details of qualifications, experience and naming two referees, to Secretary, War Memorial Hospital, Scunthorpe, Lincs. (9373)

STOCKTON AND THORNABY HOSPITAL
Stockton-on-Tees
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for either of the following appointments:
SENIOR HOUSE OFFICER (Surgeon)
HOUSE SURGEON
to be attached to Surgical Team No. 3. The Senior House Officer post is recognized for the F.R.C.S. examination. Salary in accordance with national scales. The post offers an excellent experience and is tenable for a period of at least six months. Applications, stating age, qualifications, experience, and accompanied by copies of three testimonials, should be addressed to the Secretary-Superintendent. (9097)

SUNDERLAND, GENERAL HOSPITAL (517 beds)
SENIOR SURGICAL HOUSE OFFICER
(Male or female)
Required, resident at above hospital (69 surgical beds). Post recognized for F.R.C.S. examination. Successful applicant will be expected to rotate duties at six-monthly intervals with Senior Surgical House Officers at other hospitals. Salary £670 per annum, less emolument value. Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (9493)

WOKING, VICTORIA HOSPITAL
Woking, Surrey (74 beds)
SENIOR HOUSE OFFICER
Surgical and Medical duties)
Resident preferred. Non-resident considered. Salary and conditions of service as published by Ministry of Health, viz., £670 per annum, less emoluments. Applications, with testimonials, to Assistant Secretary, Victoria Hospital, Woking, Surrey. (7289)

BATTERSEA GENERAL HOSPITAL
Battersea Park, S.W.11
RESIDENT HOUSE SURGEON/CASUALTY OFFICER (House Officer Grade)
Required immediately for six months. Apply, enclosing copies of two recent testimonials, to Administrative Officer. (9195)

HAMMERSMITH HOSPITAL AND POST-GRADUATE MEDICAL SCHOOL, London, W.12
HOUSE SURGEON (General Surgery)
Required May 1. Age, qualifications, experience, copies of two recent testimonials, to Secretary, Board of Governors, by March 22. (9510)

HAMPSTEAD GENERAL HOSPITAL
The Green, Hampstead, N.W.3
Applications are invited from registered medical practitioners, male and female, for resident post of
HOUSE SURGEON
for a period of six months from April 1, 1952. Salary in accordance with the national scales. Applications on the prescribed form, with copies of three recent testimonials, to be returned immediately to Administrative Officer. (9438)

HIGHLANDS HOSPITAL
Winchmore Hill, London, N.21
HOUSE SURGEON
Application forms obtainable from Hospital Secretary. (9439)

NATIONAL TEMPERANCE HOSPITAL
Hampstead Road, N.W.1
Paddington Group Hospital Management Committee
285, Harrow Road, W.9
Applications are invited for the post of
HOUSE SURGEON (General duties)
Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of two referees, to be forwarded to the Secretary to the Committee immediately. (9511)

ST. ALFEGE'S HOSPITAL
Greenwich, S.E.10 (504 beds)
Applications are invited for the post of
HOUSE SURGEON
(General and Orthopaedic Surgery)
at the above hospital, for a period of six months from an early date. Recognition by Royal College of Surgeons being sought. Salary £350 to £450, according to experience, less £100 per annum for board and lodging. Applications, together with copies of not more than three recent testimonials, should reach the Secretary, Greenwich and Deptford Hospital Management Committee at the above hospital as soon as possible. (9616)

Surgery—contd.

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

WHIPPS CROSS HOSPITAL
Whipps Cross Road, E.11
Leytonstone No. 10 Group Hospital Management Committee
Applications are invited for
HOUSE SURGEONS (First, second or third posts)
Application forms are obtainable from the Medical Superintendent, to be returned by March 25. (9459)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Surgical)
Required to commence duties as soon as possible. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid-Cheshire H.M.C., The Hospital, Sinderland Road, Altrincham, Cheshire. (9340)

AYLESBURY, BUCKS, TINDAL GENERAL HOSPITAL
TWO HOUSE SURGEONS (Male or female)
(First or second posts)
Vacant June 1 and 11. The posts offer wide experience of general surgery with operative practice, and are recognized for F.R.C.S. The acute surgical unit consists of 95 beds. No casualty department. Applications, with two testimonials, to Administrative Officer as soon as possible. (9374)

BARNSLEY, BECKETT HOSPITAL
HOUSE SURGEON
Applications are invited from registered medical practitioners, either sex. National salary scales will apply. Applications, giving full particulars, to Secretary, Hospital Management Committee, 33, Gawber Road, Barnsley. (8983)

BATLEY, GENERAL HOSPITAL (102 beds)
Carlinghow Hill, Batley, Yorks
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This general hospital will shortly provide all the in-patient treatment for the Group in the specialties of orthopaedics, E.N.T., and ophthalmology in addition to some general surgery, together with the usual out-patient clinics. Applications, stating age, qualifications and experience, together with recent testimonials, should be submitted immediately to the Secretary, 20, Oxford Road, Dewsbury. (7971)

BEXHILL HOSPITAL, Bexhill-on-Sea (62 beds)
Hastings Group Hospital Management Committee
HOUSE SURGEON
National scales of salary. Apply to Administrator at the hospital. (9375)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
for the General Surgery and Orthopaedic Departments of the above hospital. These departments of this hospital provide interesting and active traumatic experience. Resident. The post, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex (8341)

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE
Bath Row, Birmingham, 15 (215 beds)
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for the posts of
HOUSE SURGEONS
one of which falls vacant on April 1, 1952, and two further posts which fall vacant on May 1, 1952. The appointments will be for a period of six months, of which two may be spent in the Burns Unit (Medical Research Council). The hospital is the largest traumatic unit in the country, and treats 50,000 new patients each year. The posts offer ample opportunity for practical experience in the management of all types of injury and teaching by the Consultant staff: are recognized for the F.R.C.S. Applications, accompanied by copies of recent testimonials or names of two referees, to be sent to the Administrator. (9143)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON (General)
Vacant May 1. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9234)

BISHOP'S STORTFORD, HERTFORDSHIRE
HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for a
RESIDENT HOUSE OFFICER (Surgical)
(First or second post held)
Salary £350 to £400 per annum, plus special grant of £50 per annum, less £100 per annum for residential emoluments. Appointment to commence immediately. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent as soon as possible to the Administrative Officer. (8862)

BRISTOL, FRENCHAY HOSPITAL
(470 staffed beds, expanding)
Cossham/Frenchay Hospital Management Committee
HOUSE SURGEON (General Surgery Wards)
Two vacancies occur mid-March. Applications, with full particulars, should be addressed to the Secretary, Frenchay Hospital, quoting G.S.F. (8758)

BROMSGROVE, WORCS, ALL SAINTS' HOSPITAL
Mid-Worcestershire Hospital Management Committee
TWO HOUSE SURGEONS
(for acute Surgical Wards and Casualty Department)
Required at this recently opened general hospital which has a bed complement of 468 beds. Posts are resident, and are vacant now. Applications, with the names of three referees, to C. M. Smith, Secretary, Mid-Worcestershire Hospital Management Committee, Birmingham Road, Bromsgrove, Worcs. (9031)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. Applications, with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (8759)

BURY GENERAL HOSPITAL
(With Continuation Hospital, 183 beds)
(Acute general hospital, mainly surgical with beds for orthopaedic, medical, and other specialties)
Bury and Rossendale Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital. This post is recognized for F.R.C.S. examinations. Salary and conditions of service in accordance with the national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9593)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments:
Caernarvon and Anglesey General Hospital
RESIDENT HOUSE SURGEON
RESIDENT HOUSE SURGEON for Casualties and Special Department
Eryri General Hospital, Caernarvon
RESIDENT HOUSE SURGEON
The appointments are for a period of six months. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, experience and qualifications, together with the names and addresses of two referees, to be forwarded within ten days of the appearance of this advertisement to the Sec., Plas Gwyn, Ffriddoedd Rd., Bangor, N. Wales. (9519)

CAMBRIDGE, ADDENBROOKE'S HOSPITAL
United Cambridge Hospitals
Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
vacant on April 17, 1952. Salary, terms and conditions as approved for hospital medical staff. Applications, stating age, qualifications (with dates) and nationality, and accompanied by copies of three recent testimonials, should be sent to the undersigned not later than Friday, March 28, 1952.—J. A. Beardsall, Secretary. (9341)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEONS
Applications are invited from registered medical practitioners for the above posts, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (9165)

CHICHESTER, ROYAL WEST SUSSEX HOSPITAL (202 beds)
RESIDENT HOUSE SURGEON
Required for six months' appointment. National scales for first, second, or third post. Six residents, including R.S.O. and three House Surgeons. Vacancy occurs early April. Applications to Senior Administrative Officer of Hospital as soon as possible. (9440)

CHORLEY AND DISTRICT HOSPITAL, Lancs
RESIDENT HOUSE OFFICER (Surgical)
Post tenable for six months. Applications, with copies of testimonials, to be sent to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary. (9617)

COBHAM, SURREY, SCHIFF HOME OF RECOVERY (80 beds)
RESIDENT HOUSE OFFICER (Surgical)
Required at the above hospital. Post vacant March 21, 1952, considered suitable for anyone reading for a higher examination. Applications, stating age, qualifications, and experience, with copies of three recent testimonials, to be sent immediately to Group Secretary, Epsom District Hospital, Dorking Road, Epsom, Surrey. (9032)

DARTFORD, KENT, WEST HILL HOSPITAL
HOUSE SURGEON (General)
Required at the end of March. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. The hospital is a large general one offering opportunities for wide experience and is within easy reach of London. The appointment is recognized by the Royal College of Surgeons. Applications, stating age, qualifications, experience and the names of two persons to whom reference for testimonials may be made, should be sent to the Surgeon Superintendent of the hospital. (9407)

DERBY CITY HOSPITAL, Derby
Derby Area No. 1 Hospital Management Committee
A recently built acute general hospital. There are seven residents. Applications are invited from registered medical practitioners, male or female, for the appointment of
HOUSE SURGEON
Appointment is vacant in April. Apply to Medical Superintendent as soon as possible. (8995)

DEVONPORT, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
vacant April 1, 1952. Salary and conditions of service in accordance with the National Health Service terms, with residential emoluments. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, to Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9192)

DEWSBURY, GENERAL HOSPITAL (119 beds)
Moorlands Road, Dewsbury
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy modern general hospital, with a large out-patient department and the usual ancillary services. The hospital is recognized for the F.R.C.S. and provides excellent experience. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (7972)

DEWSBURY, YORKS, STAINCLIFFE GENERAL HOSPITAL, Healds Road (316 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy general hospital with the usual out-patient and ancillary services. It is recognized for the F.R.C.S., and provides excellent experience. Salary and conditions of service in accordance with the national scales. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent to the Secretary, 20, Oxford Road, Dewsbury (7973)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
Salary at the rate of £350, £400 or £450 per annum, according to experience, from which a deduction at the rate of £100 per annum will be made for board, residence, etc. Post vacant now. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee. (8985)

EAST GRINSTEAD, QUEEN VICTORIA HOSPITAL
Tunbridge Wells Group Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
(Male or female) to General Hospital
Appointment tenable for six months from May 1, 1952. Post recognized for examination for Fellowship of Royal College of Surgeons. Applications, in writing, with three references, to Senior Administrative Officer. (9193)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 21

Surgery—contd.

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE SURGEON
at the above hospital. The post is recognized by the Royal College of Surgeons, and will become vacant at the end of March. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent H.M.C., Ash Eton, Radnor Park West, Folkestone. (9522)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
JUNIOR HOUSE SURGEON
at the above hospital. The post will become vacant at the end of March. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent H.M.C., Ash Eton, Radnor Park West, Folkestone. (9523)

DURHAM HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners (male or female) for the resident posts of
HOUSE SURGEON
at the undermentioned hospitals. The posts are tenable for six months.
Dryburn Hospital, Durham (327 beds)
General Hospital, Chester-le-Street (227 beds)
County Hospital, Durham (120 beds)
Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees and/or copies of three recent testimonials, should be sent to the Secretary, Durham Hospital Management Committee, Dryburn Hospital, Durham, as early as possible, stating choice of hospitals in order of preference. (9099)

EPSOM DISTRICT HOSPITAL
Dorking Road, Epsom, Surrey (300 beds)
RESIDENT HOUSE OFFICER (Surgical)
Required at above hospital. Full consultant staff. Post recognized by Royal College of Surgeons, vacant April 29, 1952. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent as soon as possible to Group Sec. at above address. (9064)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON (with opportunity for experience in obstetrics and gynaecology)
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, nationality, qualifications and experience, to be addressed to the Administrative Officer. (9527)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant April 1, 1952. Apply to Administrative Officer, Grimsby General Hospital. (9376)

HADDINGTON, ROODLANDS GENERAL HOSPITAL
Applications are invited for the post of
RESIDENT HOUSE SURGEON
(First, second or third appointment)
The appointment is for six months commencing on April 1, 1952. Salary in accordance with the terms and conditions of service for hospital medical staff. Small general hospital, under expansion, with busy out-patient department. Good experience in emergency surgery. Applications, giving full particulars, together with copies of two recent testimonials, should be sent immediately to the Secretary, East Lothian Hospitals Group Board of Management, 15, Court Street, Haddington. (9512)

HALIFAX GENERAL HOSPITAL (425 beds)
Applications are invited for the post of
HOUSE SURGEON (Male or female)
(House Officer Grade)
Salary according to experience. Applications, stating age, nationality, qualifications and experience, with copies of three testimonials, to be addressed to the Secretary at the Royal Halifax Infirmary, Halifax. (8800)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)
Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
for a term of six months. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (9144)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL
(140 beds—5 residents)
Applications are invited for two vacancies as
RESIDENT HOUSE SURGEON
at the above busy acute general hospital. Busy casualty and out-patient departments. Applications, stating age, qualifications and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (9377)

HITCHIN, HERTS, NORTH HERTS AND SOUTH BEDS HOSPITAL
Applications are invited for the post of
RESIDENT HOUSE SURGEON
now vacant. The appointment will be for six months in the first instance. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent immediately to the Medical Director, The Lister Hospital, Hitchin, Herts. (8996)

HOUNSLOW HOSPITAL (General acute, 81 beds)
Staines Road, Hounslow, Middlesex
Staines Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
(with duties in the Casualty Department)
Post vacant March 25, 1952. Salary £350, £400 or £450 per annum, according to experience, less £100 for residence. Six months' appointment. Applications to Assistant Sec. of hospital. (9513)

HULL, KINGSTON GENERAL HOSPITAL
(398 beds, 6 residents)
Hull (A) Group Hospital Management Committee
TWO HOUSE SURGEONS
Required immediately at the above hospital. Duties: one mainly Gynaecological and one General. Salary £350, £400 or £450 per annum, according to experience. The posts are resident and tenable for six months. Applications, with full particulars, to Administrative Officer, Kingston General Hospital, Hull. (9036)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the Sutton Branch Hospital. Now vacant. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Admin. Officer. (5757)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant now. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8754)

HUNTINGDON COUNTY HOSPITAL
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (General Surgery)
to the above hospital. This is a busy hospital staffed by Consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (9574)

IPSWICH, BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)
HOUSE SURGEON
Required for General Surgeon, with casualty duties. Hospital recognized for the F.R.C.S. and D.A. examinations. Post in accordance with National Health Service Regulations. Applications to the Administrative Officer. (9461)

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL (117 beds)
Mid-Worcestershire Hospital Management Committee
TWO HOUSE SURGEONS (Resident)
Required urgently at the above hospital. Applications, giving the names of three referees, should be sent to the Administrative Officer of the hospital. (9034)

KING'S LYNN, WEST NORFOLK AND KING'S LYNN GENERAL HOSPITAL
(140 beds)
King's Lynn Area Hospitals Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
at the above hospital. Appointment will be for six months in the first instance. Salary £350 to £450 per annum less £100 per annum in respect of residential emoluments. Duties of the post offer valuable experience in general surgery and E.N.T. work in a busy acute general hospital. Applications to be forwarded as soon as possible to the Secretary of above Committee, c/o St. James' Hospital, King's Lynn. (9035)

LOUGHBOROUGH GENERAL HOSPITAL
(120 beds)
Applications are invited for the vacancy of
HOUSE SURGEON
commencing April 1, 1952. Applications, stating age, qualifications and experience, together with copies of recent testimonials, to the Secretary, Leicester No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8344)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Applications are invited for the post of
HOUSE SURGEON
now vacant. The appointment will be for six months in the first instance. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (9408)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham, Manchester, 8 (105 beds)
(Non-sectarian)
Applications are invited for the post of
HOUSE SURGEON
(House Officer grade)
now vacant. Applications, together with copies of not less than two recent testimonials or names of two referees, to the Hospital Administrator forthwith. (7363)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy general hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (9038)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds)
(Base hospital for the Newport and East Monmouthshire Group—10 residents)
Applications are invited for the posts of
HOUSE SURGEON
There are two posts vacant, both in mid-March and both recognized for the Fellowship of the Royal College of Surgeons. The first covers 37 surgical beds. The second comprises 33 surgical and 12 gynaecological beds and both offer an excellent opportunity of gaining extensive experience. National salary scales and conditions. Apply, in writing, with the names of two persons for reference, and stating post preferred, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (9322)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for three posts of
HOUSE SURGEON
vacant on April 1, 1952. Recognized for the F.R.C.S. National Health Service salary scale and conditions of service for House Officers. Six months' appointments. Applications, giving particulars, enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Superintendent. (9378)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence immediately. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

NUNEATON, GEORGE ELIOT HOSPITAL
(289 beds)
HOUSE SURGEON
Required for general duties (54 surgical beds). Applications to the Medical Superintendent. (9481)

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (Male or female)
Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6702)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Freedom Fields
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
vacant April 4, 1952. This post is recognized for the Fellowship of the Royal College of Surgeons. Salary and conditions of service in accordance with the National Health Service terms. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9194)

PRESTON ROYAL INFIRMARY (400 beds)
GENERAL HOUSE SURGEON
(House Officer Grade)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9618)

Surgery—contd.

PONTYPOOL AND DISTRICT HOSPITAL
Pontypool, Mon. (115 beds)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant April 1, 1952, who will work under the directions of the Consultant Surgeons. The resident staff consists of a Junior Hospital Medical Officer (Surgical), a House Physician, and this post. Opportunities exist for visiting other hospitals with the Consultants. The post carries an additional increment of £50 above national scale in view of special responsibilities. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8405)

PONTYPRIDD (near), EAST GLAMORGAN HOSPITAL, Church Village
(316 beds—Committee's base hospital serving population of 177,000)
Pontypridd and Rhondda Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (First or second post) (Surgical)
Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary of the Pontypridd and Rhondda H.M.C., Courthouse Street, Pontypridd. (9462)

PORTH AND DISTRICT HOSPITAL
Rhondda (110 beds)
(This hospital is visited regularly by Consultants from the Cardiff Royal Infirmary)
Pontypridd and Rhondda Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (First or second post)
Duties mainly surgical. Applications, stating age, qualifications, experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary, Pontypridd and Rhondda Hospital Management Committee, Courthouse Street, Pontypridd. (9463)

ROCHFORD, GENERAL HOSPITAL (603 beds)
Southend-on-Sea Hospital Management Committee
RESIDENT HOUSE SURGEON
(Recognized for F.R.C.S.)
Applications are invited from registered medical practitioners for the above appointment, which becomes vacant on May 1, 1952, and which is of six months' duration. The duties are predominantly in general surgery, but the successful applicant will also be responsible to the Consultant Orthopaedic Surgeon for all orthopaedic and fracture cases. Salary according to previous appointments held. Applications, with copies of at least two recent testimonials, should be sent to the undersigned at the General Hospital, Rochford, Essex, not later than March 28.—J. C. Field, Secretary. (9162)

RUGBY, HOSPITAL OF ST. CROSS
HOUSE SURGEON
Required for General Surgical Department (including some accidents and orthopaedics). Applications, stating age, qualifications, together with copy testimonials, should be addressed to the Assistant Secretary. (9236)

ST. HELENS HOSPITAL
Marshalls Cross Road, St. Helens (189 beds)
St. Helens and District Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
Six months' appointment. Salary in accordance with the terms and conditions of service for medical staffs. Applications, stating age, qualifications, and experience, and giving two names for reference, should be forwarded to the undersigned as soon as possible.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (9575)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SALISBURY GENERAL HOSPITAL
Salisbury Group Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
for a period of six months. Post vacant at present. Apply immediately, naming two referees, to Secretary, H.M.C., Odstock Hospital, Salisbury. (9514)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general medical practitioners (male or female) for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consultant Surgeon. The post is vacant on March 26, 1952, and tenable for six months. The successful applicant will be responsible for 40 surgical beds, and the appointment is recognized for the F.R.C.S. Applications, stating age, qualifications, nationality, and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (9100)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
HOUSE SURGEON
Required immediately. Post tenable for six months. Applications, with copies of testimonials, to be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8866)

SOUTHEND-ON-SEA, GENERAL HOSPITAL
Applications are invited for the post of
RESIDENT HOUSE SURGEON
(House Officer grade)
vacant April 12, 1952, for six months, for general surgical duties, including certain duties in the Orthopaedic and Fracture Departments. Applications, etc., to reach the undersigned at the hospital by March 25, 1952.—J. C. Field, Sec. (9576)

SOUTH-EAST NORTHUMBERLAND HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners for the posts of
HOUSE SURGEON
at Tynemouth Victoria Jubilee Infirmary and Preston Hospital
Applications, with two testimonials, should be sent to the Secretary, South-East Northumberland H.M.C., Preston Hospital, North Shields, as soon as possible. (9530)

SOUTHPORT, PROMENADE HOSPITAL
Southport and District Hospital Management Committee
RESIDENT HOUSE SURGEON
Required April 1, 1952. Apply immediately, with details of age, nationality and qualifications, together with copies of two testimonials, to T. Crook, Secretary, Promenade Hospital, Southport. (9196)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 32 beds)
Stafford Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
HOUSE SURGEON
now vacant. First, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Secretary to the Committee, 13, Foregate Street, Stafford. (7365)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
at the above hospital. Resident. The appointment will be for six months in the first instance, and the post is now vacant. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (7966)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Surgery)
vacant immediately. Post recognized for F.R.C.S. Applications, with copy testimonials, to be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent. (9412)

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident appointment of
HOUSE SURGEON
Full particulars of age, qualifications and experience, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (9166)

WAKEFIELD, CLAYTON HOSPITAL (200 beds)
Hospital Management Committee No. 9, Wakefield "A" Group
Applications are invited for the post of
RESIDENT HOUSE SURGEON
at the above hospital. Terms and conditions of service in accordance with national recommendations. Application forms may be obtained from the Administrative Officer.—W. Read, Sec. (9334)

WALLASEY, VICTORIA CENTRAL HOSPITAL
(135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointments:
TWO RESIDENT HOUSE SURGEONS
(vacant April 1, 1952)
Post is/are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

WARRINGTON INFIRMARY (172 beds)
Applications are invited for a vacancy at the above hospital for a
RESIDENT HOUSE SURGEON
Salary will be £350 to £450 per annum, less a deduction of £100 for full residential emoluments. Applications should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8584)

WESTON-SUPER-MARE GENERAL HOSPITAL
(110 beds)
Applications are invited from registered medical practitioners for the resident appointments of
TWO HOUSE OFFICERS (House Surgeons)
Duties to commence as soon as possible. Salary at the rate of £350 to £400 per annum, according to previous posts held, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be addressed to the Secretary, Weston-super Mare Hospital Management Committee, c/o The General Hospital, Weston-super-Mare. (8268)

WHISTON, COUNTY HOSPITAL (882 beds)
St. Helens and District Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
Six months' appointment. Salary in accordance with the terms and conditions of service for medical staffs. Applications, stating age, qualifications, and experience, and giving two names for reference, should be forwarded to the undersigned as soon as possible.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (9577)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 21

Chairman: James Fenton, CBE, MD.

MEDICAL INSURANCE AGENCY

Hon. Secretary: Henry Robinson, MD, DL, JP.

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BIRMINGHAM: 154 Great Charles Street.

CHIEF OFFICE: B.M.A. House, Tavistock Sq., London, W.C.1.
Telephone: Euston 5561-2-3.
EDINBURGH: 6 Drumsheugh Gardens.
NEWCASTLE-UPON TYNE: 16 Saville Row.

GLASGOW: 234 St. Vincent Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.

Surgery—contd.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY
TWO HOUSE SURGEONS (Male or female)
Required at the above hospital. Posts, which are House Officer grade, and are recognized for F.R.C.S. examinations, fall vacant on March 21, 1952. Applications, stating age, qualifications, etc., together with the names of two referees, should be received by the undersigned as early as possible.—T. W. Hurst, Secretary, Wigan and Leigh H.M.C., Knowsley House, Wigan. (9464)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
HOUSE SURGEON to the Senior Surgeon
Applications, with copies of two testimonials, should be sent to the Secretary. (9101)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications invited for the following appointments:
HOUSE SURGEON
(General Surgery/Gynaecology) Now vacant
HOUSE SURGEON
(General Surgery/Orthopaedics) Vacant March 24
In both appointments the division of duties between specialties is approximately equal; each is tenable for six months and is subject to the terms and conditions of service of hospital medical staff. Applications, with copies of testimonials, should be sent as soon as possible to the Sec., from whom further particulars can be obtained. (8760)

YORK, CITY HOSPITAL
(Modern general hospital of 265 beds, with full Consultant. staff)
TWO RESIDENT HOUSE SURGEONS
Salary £350, £400 or £450, less £100 for residence. Both posts recognized under F.R.C.S. regulations and vacant from April 17, 1952. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to the Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (9578)

CASUALTY

BARNSLEY, BECKETT HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
CASUALTY REGISTRAR
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 24, 1952. (9065)

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the non-resident appointment of
CASUALTY OFFICER
of Junior Hospital Medical Officer Grade
to the above hospital. Full particulars of age, qualifications and experience, should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe Hospital Management Committee, St. Helen's Road, Swansea. (9167)

WARRINGTON INFIRMARY (172 beds)
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident Casualty Officer)
The commencing salary is in accordance with the scale £700 by £50 to £1,000, less a deduction of £130 for residential emoluments. Applications, stating age, experience and qualifications, should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8585)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
JUNIOR HOSPITAL MEDICAL OFFICER
Required for the Casualty Orthopaedic Department of the above hospital. Post vacant now. Salary £700 by £50 to £1,000 per annum (for an officer appointed not less than two years after registration). Application forms may be obtained from the undersigned and should be returned as soon as possible to William Jones, Secretary, Wrexham, Powys and Mawddach H.M.C., Maelor General Hospital, Wrexham. (9379)

ST. ALFEGE'S HOSPITAL, Greenwich, S.E.10 (504 general beds)
Applications are invited for the post of
RECEIVING ROOM OFFICER (Non-resident)
(9 a.m. to 5 p.m. Monday to Friday; 9 a.m. to 1 p.m. Saturday), hospital admissions and casualties, for a period of six months (renewable for a further similar period) from early April. Candidates should have held House Officer appointments. Salary £670 per annum. Applications, with copies of testimonials, to Secretary, Greenwich and Deptford Hospital Management Committee, at the above hospital. (9579)

BECKENHAM HOSPITAL
Croydon Road, Beckenham, Kent
CASUALTY OFFICER
Required immediately for the Casualty Department of this general hospital of 100 beds, with duties in the orthopaedic and fracture departments. Salary £670 a year, less £150 a year for residential services. The appointment is tenable for one year in the first instance. Applications, stating age, qualifications and experience, together with names and addresses of three referees, should be sent to the Administrative Officer. (9528)

BLACKPOOL, VICTORIA HOSPITAL
ASSISTANT RESIDENT SURGICAL OFFICER
Required with responsibility for casualty department. Senior House Officer grade. Post recognized for F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (8986)

CHERTSEY, SURREY, ST. PETER'S HOSPITAL (Late Botleys Park War Hospital) (430 beds)
CASUALTY OFFICER (Senior House Officer)
(Resident or non-resident)
The appointment is mainly that of out-patient sorting officer, and gives excellent time and opportunity for reaching a higher qualification. Salary in accordance with terms and conditions of National Health Service. Applications, together with names and addresses of referees, should be sent to the Physician Supt. as soon as possible. (9335)

CHESTERFIELD ROYAL HOSPITAL
(322 beds)
Chesterfield Hospital Management Committee
CASUALTY OFFICER (Senior House Officer)
Apply M. H. Boone, Secretary. (9380)

CROYDON GENERAL HOSPITAL (200 beds)
Croydon Group Hospital Management Committee
Applications are invited for the appointment of
CASUALTY OFFICER (Either Sex)
for period of six months in first instance. Salary £670 per annum, less £100 for residential emoluments. Form of application, obtainable from George A. Paines, Secretary, H.M.C., General Hospital, Croydon, to be returned immediately. (9409)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (9163)

HITCHIN, HERTS, LISTER HOSPITAL
Applications are invited for the combined post of
CASUALTY HOUSE/SURGEON AND SPECIALTY HOUSE OFFICER
(Senior House Officer grade)
The appointment will be for one year and is vacant now. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent immediately to the Medical Director, The Lister Hospital, Hitchin, Herts. (8997)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary. (5418)

LLANELLY HOSPITAL (164 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident post of
SENIOR HOUSE OFFICER
for work in the Casualty Department of the above hospital. Full particulars, stating age, qualifications, and experience, should be addressed to the undersigned.—O. C. Howells, Secretary, Glantawe Hospital Management Committee, St. Helen's Road, Swansea. (9580)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of either
RECEIVING ROOM OFFICER
Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or
CASUALTY OFFICER
Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant.
Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

MIDDLESBROUGH GENERAL HOSPITAL
(350 beds)
Tees-side Hospital Management Committee
SENIOR HOUSE OFFICER (Casualty)
Applications are invited for the above appointment. Salary and conditions in accordance with national scales. Applications, stating age, qualifications and experience, together with names for reference, should be forwarded to the Secretary-Superintendent, Middlesbrough General Hospital, Middlesbrough. (9583)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
CASUALTY SENIOR HOUSE OFFICER
vacant on April 1, 1952. National Health Service salary scale and conditions of service for Senior House Officers, with a deduction at the rate of £100 a year for residential emoluments. Six months' appointment in the first instance. Applications, giving particulars and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Supt. (9381)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
Medway and Gravesend Hospital Management Committee
CASUALTY OFFICER
Applications are invited from registered medical practitioners for above post, vacant now. Post offers good experience with fractures and emergency surgery, and is tenable for twelve months. Salary £670 per annum. Applications, stating age, nationality, qualifications, and experience, together with recent testimonials, to be addressed to the Administrative Officer. (9525)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
SENIOR HOUSE OFFICER
(Casualty Officer/House Surgeon)
Required immediately. Applications, with copies of testimonials, to be submitted as soon as possible to the Secy., Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8879)

SOUTHEND-ON-SEA, GENERAL HOSPITAL
RESIDENT CASUALTY OFFICER
(Senior House Officer Grade)
Post vacant April 28, 1952. Applications, etc., should reach the undersigned, at the hospital, not later than March 28.—J. C. Field, Secretary. (9584)

WALSALL GENERAL HOSPITAL (181 beds)
Walsall Hospital Management Committee
CASUALTY OFFICER (S.H.O. grade)
Required immediately. Apply Secretary. (7527)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the post of
CASUALTY OFFICER
The post is of Senior House Officer status, becomes vacant on May 23, and is tenable for one year. Conditions are in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of three testimonials, to be sent, as soon as possible, to the Secretary, from whom further particulars can be obtained. (9585)

PRINCE OF WALES'S GENERAL HOSPITAL N.15 (218 beds)
Tottenham Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT CASUALTY OFFICER
(House Officer grade)
for a period of six months. Application form from the Secretary. (9483)

PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN, St. Quintin Avenue, W.10
St. Mary's Hospital, Children's Department
Applications are invited from registered medical practitioners for the appointment of
RESIDENT CASUALTY OFFICER
(Second or third post)
vacant on April 1, 1952, for six months. Salary and conditions of service in accordance with National Health Service scales. Recognized for the D.C.H. Applications, stating age, nationality, qualifications, together with three recent testimonials, should reach the undersigned not later than Friday, March 21, 1952.—A. C. Young, Secretary. (9581)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE OFFICER
Casualty and Orthopaedic Department
Post recognized for F.R.C.S. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (8987)

Casualty—contd.

CHESTERFIELD ROYAL HOSPITAL (322 beds)
Chesterfield Hospital Management Committee
CASUALTY OFFICER (House Officer)
Required immediately. National salary and conditions. Apply M H Boone, Secretary. (8649)

HASTINGS, ROYAL EAST SUSSEX HOSPITAL (150 beds)
Hastings Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Post vacant March 24. National scales of salary. Apply to the Administrator at the hospital. (9382)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and bus services)
Applications are invited for the appointment of
CASUALTY OFFICER AND SECOND HOUSE PHYSICIAN (Male) (Joint post)
(First or second post held)
Six months' appointment. Salary at the rate of £350 to £400 per annum, less £100 per annum for residential emoluments. Duties to commence March 15 1952. Applications to the Secretary, Mr. P G. Brooks, Hertford Group Hospital Management Committee, Hertford County Hospital, Hertford. (9239)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for residential emoluments. The post will be tenable for six months and terminable by one month's notice either side. Forms of application from the Administrative Officer. (6325)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Casualty and Orthopaedic)
Applications are invited from registered medical practitioners for the above post, which is vacant now. The post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another specialty at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary. Park Hospital, Davyhulme, Manchester. (8076)

NEWPORT, I.W., ST. MARY'S HOSPITAL
Isle of Wight Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Required for new department in recently completed premises, with charge of some beds in special departments. Applications, with names and addresses of three referees, to be sent to the Chief Administrative Officer. (9240)

PRESTON ROYAL INFIRMARY (400 beds)
CASUALTY OFFICER (House Officer grade)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9619)

STOURBRIDGE, CORBETT HOSPITAL (106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Casualty)
Post now vacant and will be tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (5384)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL, Watford, Herts (189 beds)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
The Traumatic and Orthopaedic Department consists of 24 beds, and is integrated with the Royal National Orthopaedic Hospital. Salary according to N.H.S. scale. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent to undersigned.—Cyril Hopkinson, Administrator (7573)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 21

PUBLIC HEALTH

(See Important Notice page 23)

BIRMINGHAM, CITY OF, EDUCATION COMMITTEE
School Health Service
Applications are invited for the appointment of
ASSISTANT SCHOOL MEDICAL OFFICER
in the School Health Service. Candidates must have had at least three years' experience in the practice of their profession subsequent to obtaining a registrable qualification. Salary £850 by annual increments of £50 to £1,150 per annum. Previous experience in Local Government Service may be taken into account. Travelling expenses allowed. Forms of application (to be returned not later than Monday, March 31), together with further information, obtainable from the undersigned on receipt of a stamped, addressed foolscap envelope. Communications should be endorsed "Assistant School Medical Officer." Canvassing will disqualify.—E. L. Russell, Chief Education Officer, Education Office, 74-75, Broad Street, Birmingham, 15. (9102)

BIRMINGHAM, CITY OF
Health Department
ASSISTANT ADMINISTRATIVE MEDICAL OFFICER (M. and C.W.)
Duties include work in connexion with Children's Department. Experience essential with mothers and children, including six months' resident post in maternity and children's hospitals. D.P.H. or D.C.H. and any administrative experience additional qualification. Salary £1,050 by £50 to £1,250, according to qualifications and experience. Pension scheme (including widows and orphans); medical examination. Form obtainable from undersigned. Applications, with three testimonials, to be returned by March 31, 1952.—Medical Officer of Health, Council House, Birmingham, 3. (9620)

BURTON-UPON-TRENT, COUNTY BOROUGH OF
Applications are invited from registered medical practitioners for the post of
ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER
Preference will be given to candidates possessing the D.P.H. or D.C.H. The duties will consist of work mainly in connexion with maternity and child welfare and school medical inspection, but will also include such other public health work (e.g., health education) as the Medical Officer of Health may direct. Salary will be within the scale £850 per annum, rising by £50 annually to a maximum of £1,150 per annum, the point of entry to be fixed in accordance with the candidate's experience and qualifications. The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, to three months' notice on either side at any time and to the successful candidate passing a medical examination by the Medical Officer of Health. Forms of application may be obtained from the Medical Officer of Health, Town Hall, Burton-upon-Trent, and should be returned to me, with copies of not more than three recent testimonials, not later than March 31, 1952.—H. Bailey Chapman, Town Clerk, Town Hall, Burton-upon-Trent. (9383)

LANCASHIRE COUNTY COUNCIL
ASSISTANT DIVISIONAL MEDICAL OFFICERS
Applications are invited from registered medical practitioners for above appointments. Possession of D.P.H. desirable. Salary £850 by £50 to £1,150 per annum. Travelling and subsistence allowances where applicable. Posts superannuable and subject to medical examination. Application forms and further particulars obtainable from County Medical Officer of Health, East Cliff County Offices, Preston, to whom they must be returned not later than Saturday, April 12, 1952. (9485)

LEICESTER, CITY OF
Education Committee
SENIOR ASSISTANT SCHOOL MEDICAL OFFICER AND ASSISTANT MEDICAL OFFICER OF HEALTH
Applications are invited for the above post from registered medical practitioners holding recognized qualifications in Public Health or State Medicine. The appointment is primarily that of Senior Assistant to the Senior Medical Officer (Education), but the duties, in addition to work in connection with the School Health Service, will include those of Assistant Medical Officer of Health. The officer appointed will work under the general control of the Medical Officer of Health, who is also School Medical Officer, and will be expected to carry out the above duties and such other duties as are assigned to him. Salary scale: £950 by £50 to £1,250 per annum. The commencing salary will be determined by reference to the applicant's previous experience. The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, is terminable by three months' notice on either side, and the successful candidate will be required to pass a medical examination. Further details of the appointment may be obtained by reference to the undersigned, and applications, together with copies of three testimonials, should be returned to this office within fourteen days of the appearance of this advertisement.—Elfed Thomas, Director of Education, Newarke Street, Leicester. (9384)

LANCASHIRE COUNTY COUNCIL
DIVISIONAL MEDICAL OFFICER
Health Division 2 (Lancaster)
Applicants must be medical practitioners holding the D.P.H. or equivalent qualification and with administrative experience. The Divisional Medical Officer will be required to act as Medical Officer of Health to the County Districts within the Division, where they so desire. Basic salary as Divisional Medical Officer is £1,300 by £50 to £1,700. This scale will be substantially increased if Divisional Medical Officer is appointed Medical Officer of Health to one or more County Districts. The appointment is superannuable and subject to passing a medical examination. Full particulars and application forms obtainable from the County Medical Officer, East Cliff County Offices, Preston, to be returned by March 24. (9486)

LINDSEY COUNTY COUNCIL
Public Health Department
Applications are invited from registered medical practitioners with mental health qualifications and experience for the post of
SENIOR MEDICAL OFFICER
in the Mental Health Services
Salary scale £1,250 per annum, rising by annual increments of £50 to £1,650 per annum. The person appointed will be required to provide a car for the use of which an allowance on the County Council's scale will be paid. Forms of application can be obtained from the undersigned, to whom they should be returned not later than March 29, 1952.—W. S. H. Campbell, County Medical Officer of Health, County Offices, Lincoln. (9484)

MIDDLESEX COUNTY COUNCIL
County Health Department
DEPUTY AREA MEDICAL OFFICER
Required initially in Area 2 (Friern Barnet, Potters Bar Southgate and Wood Green) for administrative and clinical duties mainly in connexion with National Health Service and Education Acts. Must be prepared, if required, to undertake also duties of Medical Officer of Health or Deputy of one or more of County Districts in area, in which case, salary would be amended in accordance with appropriate nationally negotiated scale. Degree or Diploma in State Medicine or Public Health and practical experience in public health administration essential. Whole-time, established. Subject to medical assessment and prescribed conditions. Salary £1,200 by £50 to £1,500 per annum inclusive. Applications, stating age, qualifications, experience, two referees, to Joint Area Medical Officer, Town Hall, Palmers Green, London, N.13, by April 5 (quoting K.548 B.M.J.). Canvassing disqualifies.—C. W. Radcliffe, Clerk of the County Council. (9487)

MONMOUTHSHIRE COUNTY COUNCIL
SENIOR MEDICAL OFFICER
for Maternity and Child Welfare
The Council invite applications from duly qualified medical practitioners for the above-named appointment. Applicants must hold the Diploma in Child Health or an equivalent higher medical qualification. The duties will consist of the supervision of the antenatal and child welfare clinics, together with the undertaking of clinical work under the direction of the County Medical Officer. Salary £1,250 per annum to £1,650 by increments of £50 per annum. The successful candidate will be required to act under the direct supervision of the County Medical Officer, to devote whole time to the work of the County Council, and to reside in such place as the County Council may determine. The post will be subject to the provision of the National Health Service (Superannuation) Regulations and to a satisfactory medical examination. Conditions of appointment and a form of application can be obtained from the County Medical Officer, to whom applications, accompanied by copies of not more than three recent testimonials, are to be sent by March 23, 1952.—Vernon Lawrence, Clerk of the Council, The County Hall, Newport, Mon. (9515)

NOTTINGHAM, CITY OF
Health Department
Applications are invited from qualified medical practitioners for the post of
ASSISTANT MEDICAL OFFICER OF HEALTH
The duties will be chiefly in connexion with maternity and child welfare, together with any other duties allocated by the Medical Officer of Health. Preference will be given to candidates possessing higher qualifications, and the salary attached to the appointment will be £850 by £50 to £1,150 per annum. The post will be subject to three months' notice on either side at any time. The successful candidate will be required to pass a medical examination under the provisions of the National Health Service (Superannuation) Regulations or the Local Government Superannuation Act, 1937. Conditions of appointment and forms of application may be obtained from the undersigned, to whom they must be returned, together with the names of two persons to whom reference may be made, not later than April 4, 1952.—T. J. Owen, Town Clerk, The Guildhall, Nottingham. (9342)

Public Health—contd.

NORWICH, CITY AND COUNTY OF MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER

Applications are invited for the above whole-time appointment from medical practitioners possessing the appropriate qualifications and experience. The salary, calculated in accordance with Award 2285 of the Industrial Court, will be at the rate of £1,900 per annum, rising by annual increments of £50 to a maximum of £2,150 per annum, and, in addition, a car allowance will be paid. The appointment will be subject to three months' notice on either side and superannuable. The successful candidate will be required to pass a medical examination and to take up duty on or about October 21, 1952. Applications, stating age, full particulars of qualifications and experience, and accompanied by the names and addresses of three referees, should reach the undersigned not later than March 31, 1952.—Bernard D. Storey, Town Clerk, City Hall, Norwich. (8989)

STAFFORDSHIRE COUNTY COUNCIL ASSISTANT MEDICAL OFFICERS

Applications are invited from fully qualified medical practitioners for the above-mentioned appointments, and those holding the Diploma of Public Health will be given preference. The candidates appointed will undertake clinical work in the School Health and Child Welfare Services under the direction of the County Medical Officer of Health, and will be required to perform such other duties as may from time to time be prescribed. The salary scale is £850 per annum rising by annual increments of £50 to a maximum of £1,150 per annum, and previous similar service may be taken into consideration when deciding the commencing rate. Each selected candidate *may* be required to provide a motor car, for which allowances will be paid in accordance with the County Council scale. A lodging allowance of 25s. per week, and return railway fare home every two months, will be paid for a maximum period of six months where the successful candidate is married and has to continue to maintain a home outside the geographical county while seeking housing accommodation. Each appointment will be terminable by one month's notice in writing on either side, and subject to the provisions of the appropriate Superannuation Acts and Regulations, in which connexion the selected candidates must pass a medical examination, and submit their birth certificates. Forms of application may be obtained from the undersigned, and should be returned to the County Medical Officer of Health, County Buildings, Stafford, not later than March 29, 1952, together with copies of not more than three recent testimonials.—T. H. Evans, Clerk of the County Council, County Buildings, Stafford (9244)

WARRINGTON, COUNTY BOROUGH OF ASSISTANT MEDICAL OFFICER OF HEALTH

Applications are invited for the above appointment from registered medical practitioners. The duties will be directed by the Medical Officer of Health and will be mainly clinical, but will afford experience in the work of a Health Department of a Local Health Authority and in infectious diseases. The possession of a Diploma in Public Health would be an advantage. Salary £850 by £50 to £1,150. A car allowance is payable. The post is subject to the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. Applications should be submitted to the undersigned by March 31, 1952.—Eric H. Moore, Medical Officer of Health, Health Department, Sankey Street, Warrington. (9621)

GOVERNMENTAL

CIVILIAN SPECIALISTS FOR THE ARMY OVERSEAS

Immediate applications are invited for a limited number of appointments as

CIVILIAN SPECIALISTS IN SURGERY

for service with the R.A.M.C. overseas, in Hong Kong, Singapore, Malaya, Egypt, North, East, and West Africa, and garrisons in Europe. There are vacancies for men and women. Full particulars and application forms can be obtained from the Under-Secretary of State, The War Office (AMD.1), Lansdowne House, Berkeley Square, London W.1 (telephone inquiries GROsvenor 8040 Ext. 548). Salary will be at the rate of £1,800 or £2,200 per annum. To qualify for the salary of £2,200 per annum an applicant must be experienced in the practice of his specialty, and must be a Fellow of one of the Royal Colleges of Surgeons. In addition, except in Germany and Austria, where different arrangements apply, a tax-free foreign service allowance will be paid to meet the extra cost of living at the duty station. Foreign-service allowance varies, according to the station at which employed and the status of the applicant, between £20 and £225 for single men and women and £90 and £390 for married men. An initial outfit allowance of up to £30 will also be paid, except for stations in Western Europe. Leave of 36 days a year may be granted subject to the exigencies of the service. Engagements will be for eighteen months, the whole of which time will be spent overseas. An extension of a further six months is possible. Superannuation payments under the National Health Service can be continued, if so desired, with the War Department paying employer's contributions. Pension rights under the National Health Service would thus be retained. Service with the War Department will also count for incremental purposes on re-employment under the National Health Service. Free accommodation, and, in some areas, free rations, will be provided for single individuals, but official accommodation will not be available for the families of married individuals. Rent of private family accommodation, and payment of passages for families, are the responsibility of the employee. (9630)

INDUSTRIAL APPOINTMENTS

FACTORY DOCTORS
FACTORIES ACTS, 1937 and 1948

The following appointments as Appointed Factory Doctor under the Factories Acts, 1937 and 1948, are vacant: Lochwinnoch, in the County of Renfrew; Nairn, in the County of Nairn. Applications, to be received not later than March 29, 1952, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

RAILWAY EXECUTIVE: SCOTTISH REGION.—Applications are invited from registered medical practitioners (male), preferably aged 28 to 35, for appointment as **Assistant Medical Officer (Full-time)** in the Scottish Region, British Railways. Candidates should have a good clinical background, and an interest in industrial medicine. Experience in general practice is desirable. Commencing salary on appointment £1,000 per annum. Membership of the superannuation fund, subject to medical examination, obligatory. Applications, giving full particulars of age, qualifications, experience, etc., should be sent to the Regional Medical Officer, Scottish Region, 302, Buchanan Street, Glasgow, not later than March 28, 1952. (9587)

EIRE

DR. STEEVENS' HOSPITAL, Dublin

The Board of Governors invite applications from medical practitioners for the position of

HONORARY ASSISTANT GYNAECOLOGIST

Applicants should possess the M.R.C.O.G., and a higher diploma in medicine or surgery would be considered an advantage. Applications to be sent to the Honorary Secretary of the Medical Committee on or before May 1, 1952. (9622)

ST. LAURENCE'S HOSPITAL (Richmond), Dublin

A vacancy exists for the post of

VISITING ANAESTHETIST

Salary £450 per annum. Applicants, who should hold a Diploma in Anaesthetics, may obtain further particulars from the undersigned. Applications, addressed to Secretary, Board of Governors, should reach the hospital immediately.—A. W. MacDermott, Secretary. (9586)

OVERSEAS

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

TOWNSVILLE GENERAL HOSPITAL

Applications are invited for the position of

PART-TIME EAR, NOSE AND THROAT SPECIALIST

Appointee will be required to conduct three sessions of three hours each per week. Salary at the rate of £270 per annum per session of three hours. Private practice is allowed. Applications should be addressed to the Secretary, Townsville Hospitals Board, Townsville, North Queensland, Australia. Applicants should state age, whether married or single, and set out full details of qualifications and experience. The Board will not undertake to incur any expense in bringing any appointees to North Queensland, Australia. (9263)

TOWNSVILLE GENERAL HOSPITAL

Applications are invited for the position of

PART-TIME PHYSICIAN

Appointee will be required to conduct four sessions of three hours each week, which includes one session during which the applicant is required to act as Supervising Officer of tuberculosis cases. Salary at the rate of £270 per annum per session of three hours. Private practice is allowed. Applications should be addressed to the Secretary, Townsville Hospitals Board, Townsville, North Queensland, Australia. Applicants should state age, whether married or single, and set out full details of qualifications and experience. The Board will not undertake to incur any expense in bringing any appointees to North Queensland, Australia. (9264)

SOUTH INDIA

A British Medical Officer is required for a group of tea estates in South India under British management. Age 30 to 40 years. Single or married. Tropical clinical and hygiene experience an advantage. Basic salary Rupee equivalent of £1,080 per annum rising to £1,350. Cost-of-living allowance and car allowance additional. Bonus dependent on profits. Rent-free house. Applications, with copies of three testimonials and the names of three other persons for reference purposes, to Messrs. Wallace Brothers & Co., Ltd., 4, Crosby Square, London E.C.3.

TORONTO HOSPITAL FOR TUBERCULOSIS, Weston
DIRECTOR OF LABORATORY

English-speaking physician, preferably with interest or experience in bacteriology and pathology. Duties include technical and administrative supervision of ten laboratory staff, gross and microscopic pathology of post-mortem and surgical specimens, also conduct clinicopathological conferences. Starting salary $4,500 to $5,500, depending upon experience and qualifications. Congenial working conditions. Proximity to University of Toronto. Living accommodation for single man. Pension, sick leave, four weeks' annual vacation. Address applications, with full particulars, to Medical Superintendent, Toronto Hospital for Tuberculosis, Weston, Ontario, Canada. (9623)

HER MAJESTY'S COLONIAL SERVICE, Malaya.

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom with one or more years' experience after qualification are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH
for General Medical and Health duties

Appointment is available (a) on probation for permanent establishment; (b) on employment from the National Health Service; and (c) on short-term contract with gratuity. (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts, specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to a maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in Her Majesty's Forces) enter the salary scale at point above the minimum according to their experience and four increments of salary are also given to holders of approved higher qualifications (e.g. F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malaya salary on leaving Malaya at the end of their engagements. Emoluments as under (a), including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payments by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a), including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e., those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malaya rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/242/51). (5187)

Overseas—contd.

UNIVERSITY OF MALAYA, Singapore

Applications are invited for three posts in the Faculty of Medicine.

SENIOR LECTURESHIP AND LECTURESHIP IN PHYSIOLOGY

LECTURESHIP IN SOCIAL MEDICINE

Salaries as follows: Senior Lecturer £1,330 by £70 to £1,610 per annum; Lecturers £875 by £42 to £1,400 per annum. Expatriation allowance £210 to £280 per annum according to salary. Cost-of-living allowance £294 to £637 per annum according to personal circumstances. Temporary allowance payable to members of staff with medical qualifications £210 per annum. Salaries paid in Malayan currency. Free passages for appointee, wife, and children under 10 years of age. Part-furnished quarters at rent not exceeding 10 per cent of salary, or housing allowance in lieu. Provident-fund scheme on 10 per cent contributory basis. Applications (six copies) with the names of three referees and full details of qualifications and experience, should be sent to the Secretary, Inter-university Council for Higher Education in the Colonies, 1, Gordon Square, London, W.C.1, from whom further particulars may be obtained. Closing date March 30, 1952. (9629)

UNIVERSITY COLLEGE, Ibadan, Nigeria

Applications are invited for a

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Salary on scale £1,500 by £100 to £2,000 per annum. F.S.S.U. Child allowance £50 per annum per child (maximum £50 per annum). Passages paid for member of staff and wife on appointment, annual leave and normal retirement. Part furnished quarters at rent of 7.7 per cent of salary. Applications (six copies), giving full particulars of qualifications and experience and the names of three referees, should be sent to the Secretary, Inter-University Council for Higher Education in the Colonies, 1, Gordon Square, W.C.1, from whom further information may be obtained. Closing date April 19. (9628)

GOVERNMENT OF IRAQ

Expert in sera and vaccines to take charge of Veterinary Laboratory under the Directorate of Veterinary Services. Duties will be preparation of sera and vaccines, and the carrying out of research for rinderpest, haemorrhagic septicaemia, anthrax, black quarter, sheep pox, poultry diseases, and African horse sickness in addition to other animal diseases and epidemics. Qualifications required: degree, with previous experience in scientific research institutes or bacteriological laboratories for not less than five years. Contract will be for twelve months, subject to renewal. Salary up to I.D 250 per month, according to qualifications and experience. (1 Iraqi dinar equals £1 sterling.) Forms of application may be obtained from Ministry of Labour and National Service, Almack House, 26-28, King St., S.W.1, quoting A.12/ME/421/51. (9627)

UNIVERSITY APPOINTMENTS

EXETER COLLEGE, UNIVERSITY OF OXFORD

STAINES MEDICAL RESEARCH FELLOWSHIP

The Governing Body of Exeter College proposes to elect to a Staines Medical Fellowship in the course of Trinity Term, 1952, to be held from October 1, 1952. The Fellowship is offered for research in Oxford in one of the medical sciences, such as anatomy, biochemistry, clinical science, pathology, pharmacology, physiology. The Fellowship is tenable for a maximum period of five years, and is not renewable. The annual stipend will be £450, together with dining allowance, and, if the Fellow is unmarried, with rooms in college. A housing allowance, at the rate of £50 per annum, is payable to a Fellow, who, being married, resides out of college. If the Fellow has a child or children dependent upon him, he will receive an allowance for every such child who is below the age of 16, or who, being above that age, is receiving full-time education of a course of professional training. This allowance will normally be at the rate of £50 per annum in respect of each child satisfying the conditions of eligibility, but it will be decreased by the amount of any allowance payable in respect of the child from other sources, e.g. the Government and the University. The Fellow will be required to join the Federated Superannuation Scheme for Universities. The Fellow will be allowed to undertake a limited amount of teaching, subject to the approval of the Governing Body. A candidate for the Fellowship must not have exceeded 35 years of age, must be of British birth, and should preferably hold a registrable medical qualification. He should send his application, together with birth certificate, a statement of his career, two sets of copies of his published work, and copies, in triplicate, of three testimonials, to the Rector, Exeter College, on or before March 31, 1952. (9624)

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(University of London)

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ANAESTHETICS (D.A. PART I). WEDNESday, April 16, to Tuesday, April 29. Two lectures daily every afternoon, Monday to Friday. Royal Cancer Hospital Lecture Room. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

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North Devon Hospital Management Committee.—Pathological Laboratory, Boutport Street, Barnstaple.—Applications are invited for the post of **Technician** or **Junior Technician** in a new laboratory serving the North Devon District. Considerable experience in haematology is essential. Salary and conditions in accordance with Whitley Council scales. Applications, stating age, qualifications and experience, together with the names of two referees, to the Pathologist at the above address (8108)

EMPIRE RHEUMATISM COUNCIL

The Spring week-end course will be held at THE ARTHUR STANLEY INSTITUTE, Middlesex Hospital, Peto Place, Marylebone Road, N.W.1 (Great Portland Street and Regents Park Underground Stations), on FRIDAY and SATURDAY, APRIL 25 and 26, 1952.

LECTURE-DEMONSTRATIONS

FRIDAY, APRIL 25		
4.30 p.m.	Recent Advances in the Rheumatic Diseases	W. S. C. COPEMAN, O.B.E., F.R.C.P. (London)
5.30 ,,	Rheumatoid Arthritis	OSWALD SAVAGE, O.B.E., M.R.C.P. (London)
SATURDAY, APRIL 26		
10.15 a.m	Gout	G. R. FEARNLEY, M.R.C.P. (London)
11.30	Orthopaedic Aspects of the Rheumatic Diseases	NORMAN CAPENER, F.R.C.S. (Exeter)
2.0 p.m.	Pathology of the Rheumatic Diseases	H. J. GIBSON, M.D. (Bath)
3.0 ,,	One Aspect of Non-articular Rheumatism	DORIS BAKER, M.R.C.P. (London)
4.0 ,,	Tea	
4.15 ,,	Ankylosing Spondylitis	H. F. WEST, M.R.C.P. (Sheffield)

The fee for the course will be two guineas, limited to 60 entries, to be received with remittance, at least one week before by: The General Secretary, Empire Rheumatism Council, Tavistock House (N), Tavistock Square, W.C.1 (9148)

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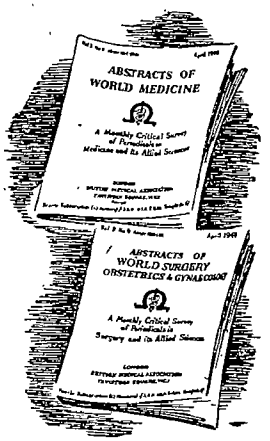

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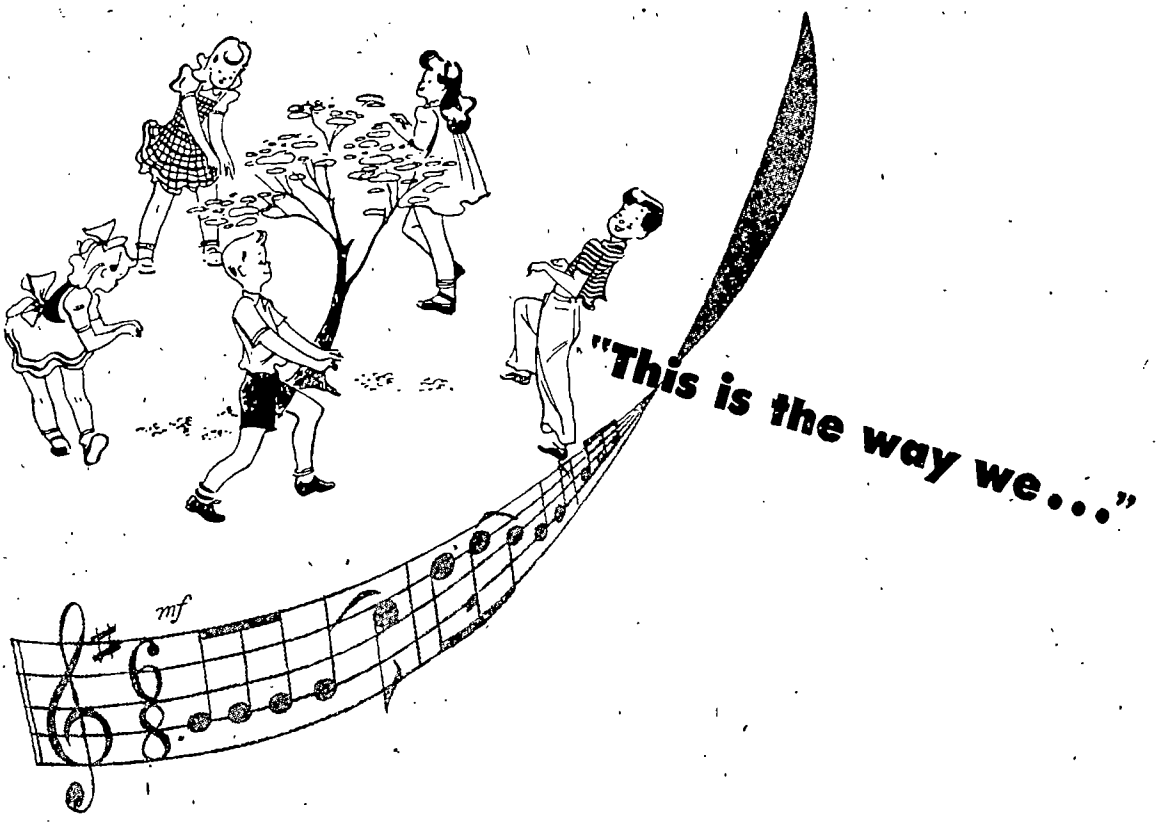

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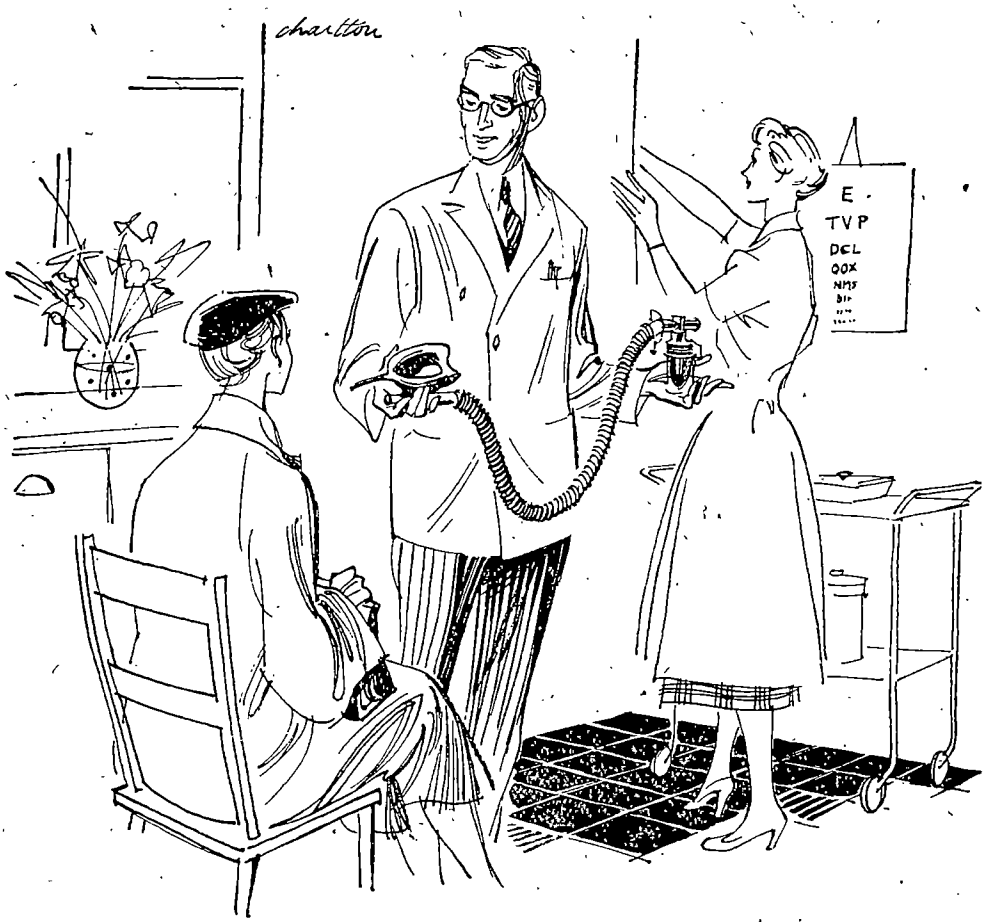

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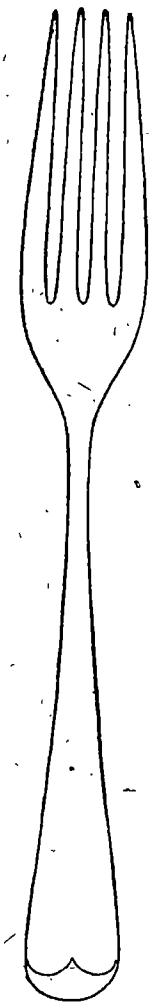

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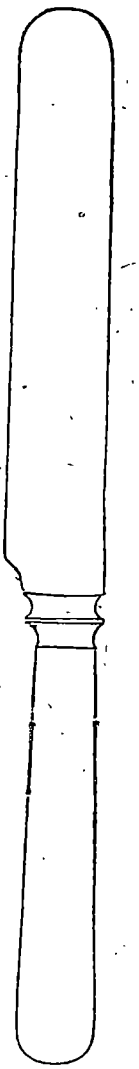

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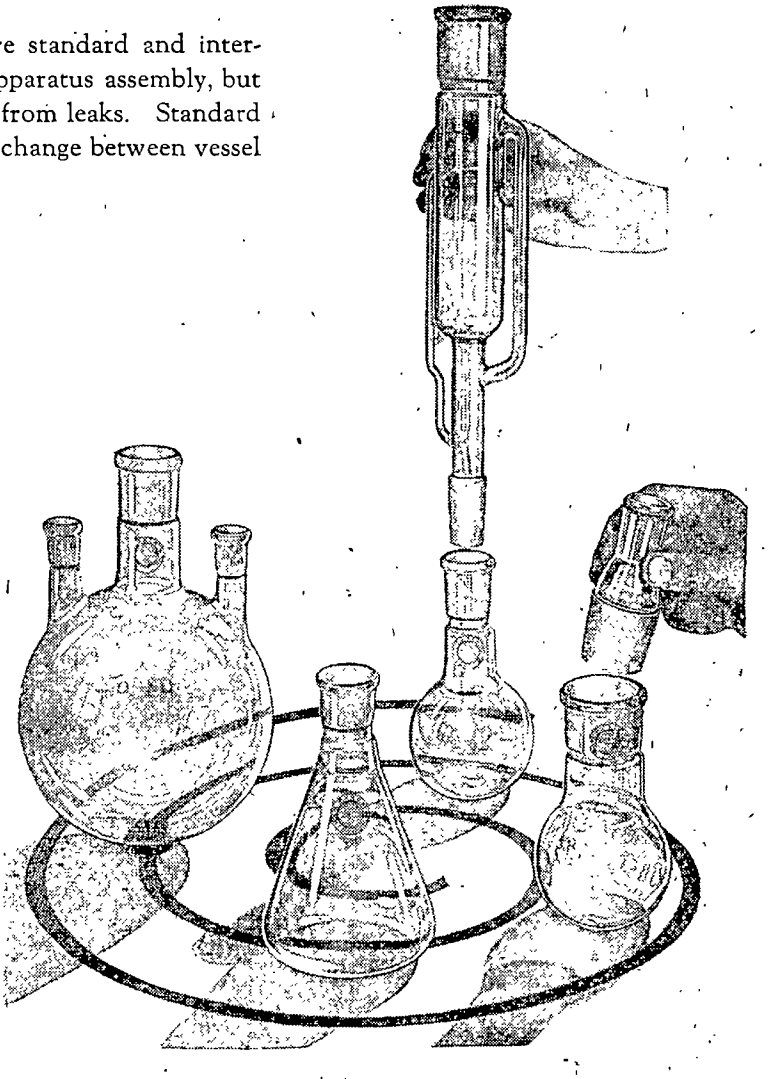

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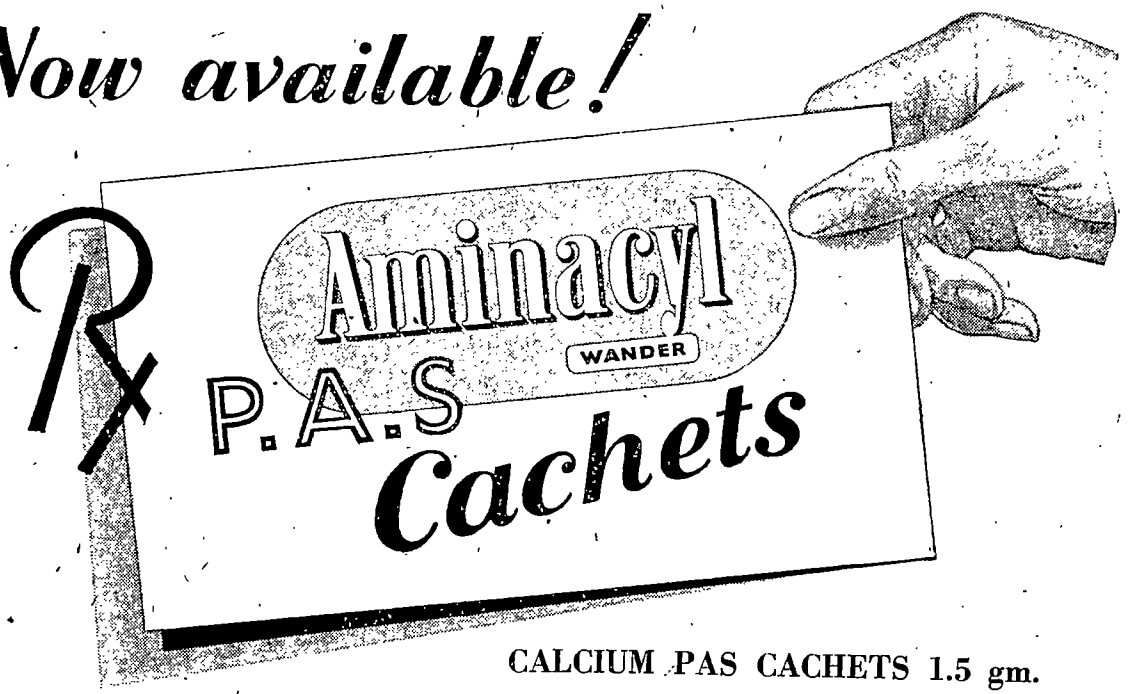

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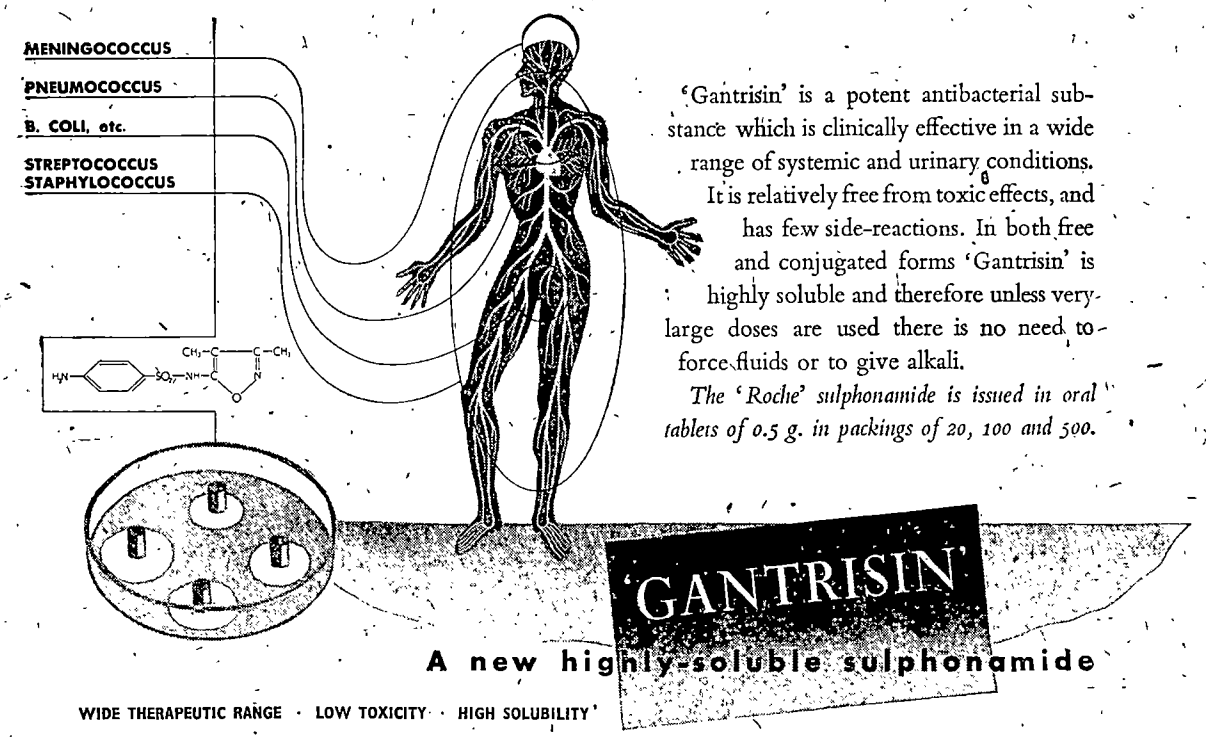

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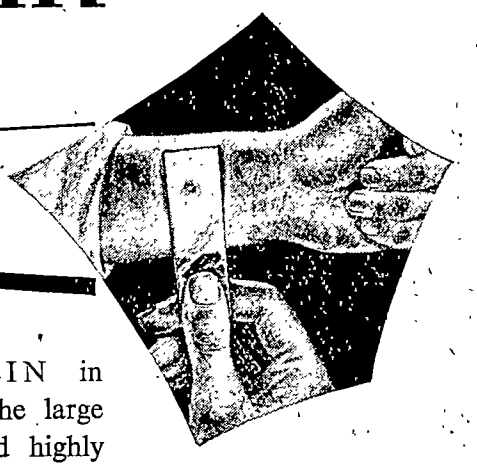

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BRITISH MEDICAL JOURNAL

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PROFESSIONAL PROSPECTS*

A COMPARISON OF THE POSITION OF DOCTORS WITH THAT OF OTHER PROFESSIONAL PEOPLE

BY

ROY LEWIS

Struggling with the problems precipitated by the National Health Scheme, the doctor may often be tempted to think that his difficulties are unique. Lawyers, architects, engineers, accountants, schoolmasters, and artists, he may concede, all have their troubles—but, whatever they are, they are not likely to have much bearing on medical professional problems, whose solution can be sought only by doctors wrestling alone with their professional consciences or collectively with the Ministry of Health. But though it is no doubt true that only doctors can solve the problems and resolve the dilemmas which face their profession, a study of the contemporary difficulties of all the professions suggests that doctors share many of their perplexities with lawyers, accountants, engineers, and so on; and that in shaping their course for the future all the professions can gain greatly from a common awareness of each other's position. For the same social tendencies which have made a national health service inevitable have been changing the status and prospects of the other professions. The basic objectives of nearly all professions are the same. May they not have a good deal that is useful, when planning action, to learn from each other? May they not have, even, interests that they should defend together rather than separately?

Industrial Revolution in Medicine

The National Health Service is the latest development in the long social history of medicine. In the past hundred years medicine has undergone an industrial revolution analogous to that undergone by other techniques and callings. The general practitioner has survived, as the hand-loom weaver has not (except in Harris), but a large part of the functions he discharged a century ago have been taken over by the organized medical factory—that is, the hospital and clinic—where specialists of many sorts, not all of them doctors, cooperate to bring any part of the whole range of medical science to bear on every single patient, which would now be impossible for one practitioner alone. In these circumstances the G.P. tends to become a sort of preliminary first-aid casualty-clearing station, plus an organizing and educational centre; anything "big" goes to the "health factory." The G.P.'s function, however, remains a key one—but it has demonstrably changed. That is, broadly, the picture of a hundred years of medical organization, brought about by profound changes in technique and a galactic expansion of scientific knowledge. But one important factor is left out of this equation—and that is the growth of the idea that every citizen in a modern scientific welfare state has a *right* to enjoy the very *best* service that the current state of medical science makes possible.

The idea of the right to health is part and parcel of the idea of equality of opportunity, equal shares (or fair shares), full participation in the material benefits of a scientific civilization. The Labour Party manifesto in the 1950 election stated explicitly: "Labour has set out to convert into practical reality the Socialist ideal that the best shall be available to all." The illogicality of the statement is significant, but it is sufficient to note here that any such idea would have seemed nonsense in fact as well as in wording a hundred years ago. Then, it was thought reasonable that you could have as much medical attention as you could pay for—that you could have just as much of *any* professional service as you could pay for. Almost all professional men worked, like doctors, as individual practitioners and fee-takers. The State hardly even "laid on" defence—even Army officers purchased their commissions under an archaic conception that the Army should somehow pay for itself. Community doctoring—"public health"—was in its veriest infancy: something Edwin Chadwick was still fighting to make effective.

Expansion of State Services

What has happened since to medicine has happened, to a greater or less degree, to every other profession as the result of these two forces—namely, scientific advances and the idea that every citizen ought to have the benefit of them. The obvious case is teaching; the Education Acts of 1870 to 1902 began the process of providing everybody first with a minimum education and then working towards the idea of giving everybody a maximum education—a full training for his or her trade and profession—laid on free. But every profession has been affected. State health and State education have between them swept many other professions into State service, and even created several new ones—the obvious cases are the dentists, pharmacists, opticians, nurses, medical auxiliaries of all kinds, and the social workers. Something similar is happening to

*This paper, which was read before the Hertford Hospital Medical Society, is based on material for a forthcoming book, *Professional People*, by Roy Lewis and Angus Maude, M.P., to be published by Phoenix House, Ltd., next autumn.

the scientists, whether industrial chemists, physicists, botanists, or biologists. In the mid-nineteenth century, scientists either taught in universities or worked in their own laboratories in moneyed seclusion. For the public to get the advantages of their services they had to be pulled into the light of day and organized—first, of course, by industrial firms who put money into research, but increasingly by the State, which is to-day probably by far the largest buyer of scientific talent. The State "lays on" science—whether in defence, in food production, in hygiene, in agriculture (home and colonial), or in State industry. The Government operates about 600 research establishments, and in 1945 formally created the "Scientific Civil Service": science as a public service, in short, like medicine or education.

In law we find the same process at work. The first attempt to give "fair shares" in law, as in medicine, finds its expression in the legal aid scheme. The idea of a State legal service is being applied cautiously; it was because every man paid for his own law that an independent judiciary arose in Britain. The dangers of free State professional services reveal themselves most nakedly in law. None the less, the present half-way house is not in line with the spirit of the age—there is a means test, for example. The pressure for more free legal aid, and certainly free legal advice, is increasing.

Rise in Cost of Professional Services

The reciprocal of State-paid professional services is that the cost of professional services has steadily risen, and continues to rise. This is not a matter of fees (most legal fees have not risen since the 'eighties) but of the cost of organized professional services, and the greater scope of them: innumerable regulations compel the citizen to call in, or make use of, the services of medical officers of health, borough surveyors, accountants, and engineers and scientists of every kind. The fact that the salaries of these experts are paid from rates and taxes does not make them less expensive or less active; and, indeed, their education and training, also increasingly paid from taxes, gets steadily more expensive. This is an important contributory cause to high taxation, which has wiped out the upper classes and is eating into the status and the slender but widely distributed capital reserves of the middle classes. The consequence is that not only has the cost of professional services risen above the ability of the average citizen to buy them, but even the better-to-do can no longer find the money for professional fees. At one time both lawyers and doctors could aid the poor freely or cheaply because they could charge the rich or middle-class client "what the traffic would bear." To-day the voluntary hospital system would have broken down in any case, because the public has no longer a sufficient margin of income for "voluntary contributions."

The result is a steady growth in the proportion of professional people in direct State employ, in local government employ, or in the service of indirect State organizations such as the Health Service; the corollary is the ever-smaller proportion of each profession in private practice as it is traditionally understood. Before the war, 40% of the average income of a general practitioner came from panel patients; to-day the average proportion of medical income from purely private patients is tiny—there are some 600 private practices outside the Service, and an unspecified number of private patients going to doctors in the Service. If the income of medical men from outside the Service were 10% of the total it would surprise most of us. But to-day only 52% of registered architects are in private practice; and over a third of the membership of the Society of Incorporated Accountants and Auditors are in public service, a proportion which may not be untypical of the other accounting institutions. Moreover, the dependence of private practitioners (lawyers, architects, consulting engineers, and consultants of all kinds) everywhere on Government or local government work is well known. How can it be otherwise when the State spends nearly half the national income? In professions where the State does not, in fact, buy much of the professional services offered, a very difficult position exists: only a handful of writers and authors can make a living by their literary work, and hardly a painter or sculptor can live by his art alone; the great majority must find subsidiary incomes, by teaching, by commercial work, and so on. The death of artistic patronage is only one symptom of the general condition which is driving the professions slowly into State employment.

What, then, does State employment imply, and by what means can it be made tolerable to professional ideals? We may examine three important ways in which State employment—and strengthened State control—affects the professions: first, freedom and ethics; secondly, administration and organization; thirdly, remuneration. All professions are affected to a greater or less degree.

State Employment: Freedom and Ethics

The basic professional relationship is between practitioner and client: it is ethical and fiduciary.* It emerges most clearly in the medical profession, because the most precious thing a man has—his life and health—is commonly the subject of the contract between him and his medical adviser. Hence the professional ethic is most highly developed in medicine, and with it is achieved a degree of altruism (however far short of the ideal some, or even many, doctors may fall) not approached in any other profession. Perhaps for this reason the medical code has profoundly influenced the professional conduct of other professions which developed later. The legal ethic is most nearly comparable to that of the medical. The interest of the client comes first; indeed, as Anthony Trollope remarked in *Orley Farm*: "No amount of eloquence will make an English lawyer think that loyalty to truth should come before loyalty to his client." Among barristers there exists the obligation to serve; in the Law Society and the Bar Council there exist well-developed disciplinary bodies to deal with any practitioner offending against the code, and for maintaining the profession's standards.

It may be argued that the altruism of doctors is not found among lawyers; but in fact the history of law is that of the upholding of individual rights and the maintenance of the independence of the judiciary; the benefits conferred by the English legal profession upon the community have been immense. In other professions the ethical relationship narrows in content, but it is preserved in the relations between client and practitioner. The most important element in the codes of other professions is the guardianship of the client's financial and material interests—for example, the architect, because he must supervise his client's outlays upon building, has a circumspect attitude to observe in his behaviour towards the contractor. An architect working for a contractor may no longer describe himself as an architect. Like a consulting engineer, chemist, accountant, or chartered estate agent, he can be remunerated only by his fees, accepting no commissions, indulging in no advertising.

Many professional people, however, have no individual clients—they are in salaried employment. Their clients are a firm or a Government department. Does this not change the ethical basis of professional service? The question becomes of importance when doctors or lawyers are employed by the State, for a clash of interest may occur—and in fact sometimes does occur—between the employer and the

*There are some possible exceptions to this rule, though the Royal Commission on the Press, for example, considered it held good even for journalists; in the case of the artist, too, the professional services given are such that "the professional must be trusted to give what he cannot be compelled or contractually bound to give" (T. H. Marshall, *Citizenship and Social Class*, p. 135).

individual for whom the employer is laying on the service. Ultimately the patient or client is the employer—through the part he plays in representative Government—but in fact Departmental policy and the machinery of administration put a huge barrier between the citizen as consumer of some social service and the citizen as employer of the man who dispenses it to him. Some people have taken the view that the old ethic which existed between client and practitioner is in some way "sublimated" by professional people in Government employ to a general obligation of self-abnegating service to the community at large. It was Lord Dawson of Penn who remarked: "A doctor's vision, hitherto focused on the individual, will extend its range so as to embrace the community. Professions, like individuals, have their phases of development. In the medical profession to-day we see the dawn of the civic conscience."*

The Professional Conscience

All professions should have a civic conscience—in proportion as they receive, by Act of Parliament or Royal Charter, special privileges and protection; they are under the obligation to maintain the standard of their service and to advance in the public interest their science or their art. Obviously true of medicine, this is no less true of engineering, law, applied science, or even architecture and art. Professional institutions and individual professional men must play an ever-increasing part in shaping social policy—through representative organs of Government. But this is far from superseding the basic ethic—which is the fiduciary and confidential relationship towards the client, whose true interests are paramount. From this it should follow that, whatever the duties of medical officers of health, or medical advisers in Government departments, what really matters to the doctor—G.P. or specialist—is the patient, not the paymaster. The lawyers have taken care that payment under the legal aid scheme shall be disbursed by the Law Society, though it comes from the Treasury; this arrangement emphasizes the fact that the practitioner must not be influenced by any loyalties other than those to the client. It should certainly not be assumed that "among reasonable men," such as Civil Servants and other professional people account themselves, no clash of loyalties may be anticipated. Anyone with experience of working with large organizations knows they do take place; all professions find it so. And what starts with small matters goes on to major points of principle. An interesting but by no means isolated example is that of the probation officer, a servant of the Court, who comes to think of himself inevitably as "treating" the offender in a confidential capacity, and often finds a conflict between his instructions from the Court and what he sincerely considers are his "client's" best interests.†

Professional people in salaried positions should feel that they belong not to their immediate paymaster in matters of conduct but to their profession, but what makes this profession, and its code, is the tradition of private practice. The danger is that, if private practice should dwindle below a certain critical point, that tradition may lose its power over new generations of students and graduates. The tendency to think more of the employer's interests and less of the client's may be speeded up as the "expert" finds himself in charge of an ever more complex machine for doing good generally, instead of looking after Mr. Brown and Mrs. Smith and Master Robinson in particular. For this reason the present position of the general medical practitioner is of special importance. In the Health Service the doctor–patient relationship will remain, while some private practice in the old tradition will survive outside it and in competition with it; and in medicine, therefore, the true professional conscience can be kept alive, and can set the tone, not only for the rest of the medical profession, but for all the professions which try to take their tone from the medical ideal. The general practitioner who insists on acting as the patient's servant first and foremost is performing a first-class service not only to the medical profession but to all the others in which the State is gaining power at the expense of the private practitioner.

Organization

The second effect of growing State power is upon organization. Professions should be self-governing, whatever stipulations the State may make regarding the nature of qualifications or of conduct: this follows from the practitioner–client relationship, for only the profession knows how best to preserve trust in itself. It demands independence. Where there is no independence there is trouble. Teachers suffer from a lack of true professional organization: bossed by the Ministry of Education and local authorities to an unreasonable degree, humiliated in pay and status—even inspected to make sure they are not scamping their professional duties—they have taken refuge in trade unionism. That is the danger which faces all professions to-day, and many are alive to it. It is interesting to note that the nationalization of mines has been followed by the development, on the part of mining engineers, of the Institution of Mining Engineers as a fully examining and qualifying body. Now that the State controls the mines, besides setting the standard of the certificate for colliery managers, the profession instinctively feels it must develop its independence through a body free from the State and capable of maintaining higher standards. The gas engineers have reacted to gas nationalization from similar professional instincts. When there were 1,000 gasworks as separate employers, the Institution of Gas Engineers accepted a subsidy from the gas companies to act as an examining and professional body. To-day that subsidy comes entirely from one source—the State—and the gas engineers have reacted by handing the control of examinations and qualifications over to the completely independent Institution of Civil Engineers.

The State has an inveterate tendency to do things on the cheap; to do things on the cheap it is necessary to lower standards. The proposals to introduce a new series of qualifications for engineering, technology, and commerce, based not on the training and examinations of the existing senior engineering, scientific, and accountancy institutions but upon an entirely new system of State technological education, is being strenuously opposed by the older professional bodies, who see in it a threat both to their independence and to the educational standards in their professions. They anticipate that it would not be long before State-certificated engineers, accountants, and technologists would be employed in Whitehall departments, in local government, and in nationalized industries in preference to properly qualified men and women; cheap engineers, in fact, to match cheap teachers. There may appear at present to be little danger of State production of cheap doctors—but this tendency should be watched and fought.

The Threat of Administration

The other threat from the State to the independence and integrity of the professions comes from the growing importance of administration. When all professions consisted of private practitioners there was no administration. The only administered professions were the Army and Navy, where an interesting mixture of anarchy and red tape was the rule. The introduction of social services, the socialization of professional work, bigness, centralization on Whitehall, technical advances, have completely changed the picture. Doctors found themselves faced with the choice either of getting their hospitals managed by laymen, and devoting themselves to their patients, or of reducing their professional work in order to find time for administrative duties. The engineer has to decide, likewise, at what stage to cease designing machines and become a manager or an administrative officer; the scientist must also forsake research in response to the same call, or acquiesce in the "co-ordina-

*Francis Watson, *Dawson of Penn*, 1950, p. 171.

†Cf. *Social Case Work*, edited by Cherry Morris, 1950, pp. 127 *et seq.*

tion" of his and his colleagues' work by a layman and perhaps even an accountant. Administration is gobbling up professional talent at a phenomenal speed.

There are two schools of thought about this. One school holds that an entirely distinct profession of administrators should be created to enable the technical people—doctors, nurses, medical auxiliaries, engineers, teachers, scientists—to get on with their "real job": selected, trained, and examined for management, these administrators should "run" the technicians efficiently and expertly. The second school holds, on the contrary, that professional people must themselves do the administration of their professional services to the community; whatever the cost in personal frustration, they must never relinquish control, for they alone can understand or discover how to organize themselves. This school avers that the conception of a distinct profession of managers and administrators is vague and illogical. The universities have firmly kept out the professional manager; the scholars run themselves—and thereby preserve a large measure of independence despite State finance of university teaching and research.* In medicine, while there is still much administration by doctors, and always will be, a new administrative profession is being allowed to grow up. In big business, it is still being argued whether managers should be trained to administration and then be put in authority over scientists and engineers, or whether the technicians should be advanced to top management if they reveal flair for organization and leadership.† Government and business experience strongly suggests that where you have administrators organizing the work and conditions of service of professional people you have among the professional people a strong sense of frustration, and a conviction that the administrators are inefficient, fussily tyrannical, and grossly overpaid in relation to professional earnings. The administrators in these circumstances are often defensive and irritable, or intolerably cocky.

There can be little dispute that one race of trained administrators we must have—the administrative grade of the Civil Service to enforce the laws and regulations with justice and efficiency; although, as the State increasingly enters the field of social services and production, "professional Civil Servants"—doctors, lawyers, accountants, and technologists—must increasingly be advanced to administrative posts otherwise held by departmentally trained administrators. But in local government there is no "heaven-born" administrative grade; and it has not been proved that such a grade or specialist is required anywhere else. On the contrary, there is every evidence that a sound professional training, whether medical, legal, or technological, supplies the best foundation for the development of the personalities and powers of those with gifts for organization and leadership. Only a limited proportion of people with professional or any other training show such a flair for organization and leadership; too few, indeed, to fill the many posts of supermen which the welfare state and the Socialist cult of bigness in organization create. This is the inherent weakness of bigness, however, and the training of administrators will not mend it. On the other hand, it is vital that the professions should retain their own government in their own hands, even if, in the case of medicine, this means losing hundreds of first-class doctors to desk work.

Professional Remuneration

In Mr. Attlee's phrase, we are trying to do too much too soon: that is the reason why almost every profession, except the stage and letters, complains of being undermanned. Our aim is apparently to give the country a higher, more expensive standard of life and welfare, equally shared, than our supply of brains, administrative and professional, will run to. It is important to note that, politically, what matters now is to give everybody *some* sort of service, even if this involves a drop in the standard. Politicians want to be able to *say* they have done this and that—that it is on paper, written in the Statute Book. Generally, their attitude to standards is that the masses probably don't know any better, and will take what they are given provided they do not see others getting more. This attitude has important consequences for the remuneration of professional people. What the State wants is enough doctors to run some sort of free health service, enough teachers to run some sort of universal free education, enough lawyers to run some sort of free legal aid scheme, and so forth. There is just so much money for all these welfare services, and to the State quantity matters more than quality. The result is that the State looks with a jealous eye on professional salaries. The traditional desire to save public money is now reinforced by new pressures to lower professional remuneration—one of them being the expense of complex administration, and another being the egalitarian spirit of the times. Moreover, if standards are lowered, it follows, to the official way of thinking, that a cheaper type of "expert" can be employed to supply the service in question.

So long as private practice and forms of alternative professional employment exist, it is possible to resist this tendency. The State is getting inferior scientific and technological talent because it offers salaries inferior to those obtainable in large firms and conditions infinitely irksome when compared with those prevailing either in industry or in the universities. With growing State control of secondary education, we see a narrowing of the wages differential between schoolmasters with university degrees and those with teachers' certificates only. It is rumoured that in gas and electricity, as senior posts become vacant, less well qualified engineers at lower grades of salary are put in charge. When this process reaches the coal mines (and those who have seen the material now being trained as colliery managers for the future are not reassured) and the nationalized steel industry (if it remains nationalized) the nation will feel the effects. Many of the best technologists have deserted coal, and some are thinking of deserting steel; there are, of course, many posts in private industry at home or overseas for them to fill. So long as alternatives exist there will be a limit to what the State can do to earnings in any one profession. If it lowers standards and remuneration too fast, moreover, it is likely in some cases to increase outside competition. The first effect of the 1944 Education Act, which foreshadowed a reduction in the quality of grammar-school education, was to lengthen the waiting-lists for private schools; while the queues for hospital attention in the Health Service seem to be significantly reviving medical private practice outside the Service. This competition, of course, is something the State will smash if it can: it is necessary only to refer to the behaviour of the Road Haulage Executive towards private hauliers, or the State airlines' attitude to charter companies.

Conclusion

It was Babeuf, the French revolutionary, who cried: "If it destroy civilization itself, we must have absolute equality." Absolute equality in professional services might well destroy their humanity with their progressiveness. To retain their humanity, to maintain their progress, each profession must keep its independence so far as it can; and when it is necessary to make difficult choices—the problem of old people, the problem of the school dental service, and so on—it is the profession, not Civil Servants or professional managers, who generally should make them. What money the nation can afford for health services should be spent by doctors, in the way they think best, in the terms of their own professional ideals. That such a decision shall be wise, and be made from good motives, our need of an independent medical profession is second only to our need of an independent judiciary. It is therefore vital, not only in their own but in other professions' interests, that doctors

*D. Veale, "University Administration," *Fortnightly Review*, November, 1951.

†Peter F. Drucker, *The New Society*, 1951, pp. 194 *et seq.*

should not allow Health Service conditions to undermine their independence or their essential relation to patients.

If my analysis of the professional situation to-day is reasonably accurate, a number of things will be necessary; important among these are :

(*a*) Medical organizations should spend the money allocated by the State to the National Health Service; doctors should be employed by doctor-administered organizations.

(*b*) Standards of qualification and performance must be defended.

(*c*) A stand must be made against the lowering of rewards, but public sympathy for such a stand must be developed by sound public relations.

(*d*) A realization by specialists and hospital doctors of the true importance to the profession of the general practitioner inside the Service: if the G.P. loses caste the public will tend to think of all medical men as mere purveyors of wrapped-up scientific cures, payable at shop clerks' rates.

(*e*) A realization by all doctors in the Service of the great benefits to be gained by the whole profession from the survival of private practice outside the scheme. It is a sound insurance policy; the profession should do all it can to extend every possible aid to the private practitioner, and fight the State's attempt to penalize him.

(*f*) The reconciliation of differences between doctors and medical auxiliaries. The medical auxiliaries' status and standards should be raised; and the State given no chance to drive any wedges between the "health professions."

(*g*) A new approach to administration. Every profession faces here a problem of unexampled urgency. It is foolish to leave the field to lay administrators. There is certainly need for a staff college for the scientific and technical professions; and probably one for the medical profession and all its auxiliaries as well.* How many hospitals have sent doctors to the administrative staff college at Henley meanwhile ?

(*h*) And, finally, the maintenance by every means, personal and propagandist, of the basic ethical relationship between doctor and patient. People basically do not want official doctors, and they might well learn to prefer a less generous Health Service to losing the sort of doctor they traditionally know, like, and trust.

Let us make no mistake, when all professional people are officials there will be no doctors, no lawyers, no artists, and probably no scientists either. There will be no professions; and no life worth living. George Orwell in his *Nineteen Eighty-Four* depicted the sort of life there will be.

One other thing is needful: greater understanding by the professions of each other's problems, and the making of a common stand when this proves practicable. The leadership of this country is now largely professional. The aristocracy is gone; the propertied classes are dying; business is half-professionalized. The bureaucracy is calling in the professions more and more. Should not, then, professional leadership be consciously professional ? Professional training and practice gives a man or woman a maturer outlook on affairs than is possessed by any other section of the community; in understanding the professional ideal (largely shaped by generations of doctors) and in seeking to pass it on to the rest of the community—to the business men, to the traders, to the farmers, to the technicians, to the trade union executives, and so to the operatives, supervisory, skilled, and semi-skilled—we have our best chance of restoring balance and vision to our community, which, packed fifty million on this small island, is so sorely beset.

*Cf. *The Times*, November 7, 1951.

HORMONE ASSAYS IN NORMAL AND ABNORMAL PREGNANCIES*

BY

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The accompanying list (see Table) of hormones of actual or potential interest in pregnancy is a formidable one, and is not necessarily complete. Assay methods for several of them are still imperfectly developed, so that it will not be possible (or necessary) to devote equal attention to each of them. A word of explanation, though scarcely of apology, is perhaps necessary in the case of the last two items, the enzymes histaminase and pitocinase, included within parentheses. Hormones and enzymes have a good deal in common, so that their presence in the list is perhaps not so surprising, and their presence in blood only during pregnancy entitles them to some consideration in this paper. The plan to be followed will consist of a description of the findings in normal pregnancy first, followed by a survey of what is known of the hormonal findings in abnormal pregnancies.

Table of Hormones in Pregnancy

- Oestrogens:
  - Oestradiol
  - Oestrone
  - Oestriol
- Progesterone—Pregnanediol
- Chorionic gonadotrophin
- Pituitary hormones:
  - Anterior-lobe hormones:
    - Prolactin
    - Growth hormone
    - Adrenocorticotrophic hormone
    - Thyrotrophic hormone
  - Posterior-lobe hormones
- Adrenocortical hormones:
  - "Corticoids"
  - 17-ketosteroids
  - Other cortical metabolites
- Thyroid hormone (serum precipitable iodine)
- (Serum histaminase)
- (Serum pitocinase)

Oestrogens

Although wholly satisfactory methods for the assay of oestrogens in body fluids still await development, and estimates of their levels in conditions other than pregnancy must be accepted with great caution, there is no doubt that such a plethora exists in pregnancy that even crude methods have yielded highly significant information. The general pattern of oestrogen excretion in the urine during normal pregnancy is now generally well known and needs little comment. As can be seen in Fig. 1, during the first trimester the levels are low, scarcely differing from those of the menstrual cycle, but thereafter a tremendous increase occurs in the oestriol fraction, and a very much smaller increase in the oestrone and oestradiol fractions. During the last two weeks the oestriol fraction decreases rapidly, reaching early pregnancy values by the onset of labour. The oestrogens are excreted almost exclusively in the combined form, as sulphates or glucuronidates, and as such are biologically relatively inactive.

* Paper read at the International Congress of Clinical Pathology, London, July 16–20, 1951.

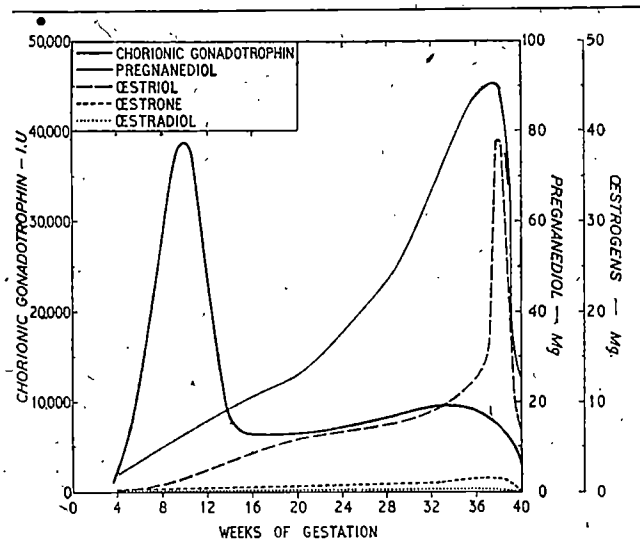


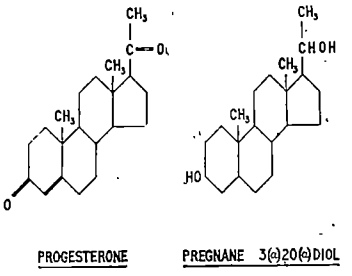
FIG. 1.—The average urinary excretion throughout normal pregnancy of chorionic gonadotrophin, pregnanediol, oestriol, oestrone, and oestradiol.

Since the work of Cohen, Marrian, and Watson (1935) it has generally been accepted that at the onset of labour, when the level of combined oestrogens has fallen markedly, free oestrogens suddenly appear in great excess. It has been thought that a causal connexion between the onset of labour and this change in the chemical state of the oestrogens might well exist. On the other hand, not all authors have invariably found such a rise in the free oestrogen at the onset of labour, and some doubt has therefore arisen whether or no such a rise was indeed significant. The recent investigations of Clayton and Marrian (1950) have shown that the explanation of the observed appearance of large amounts of free oestrogen at the onset of labour is contamination of the urine with blood or amniotic fluid. These substances contain large amounts of enzymes—notably glucuronidase—which are able to hydrolyse the conjugated oestrogens. So passes another plausible, but unfortunately incorrect, hypothesis seeking to account for the onset of labour.

The oestrogen content of the blood during pregnancy has been less studied than that of the urine, because it is much more difficult to obtain even remotely plausible results. It seems probable, however, that the blood levels vary similarly to the urinary levels. It is pertinent to point out that most of this work has been done with the use of biological assays; if these are not preceded by fractionation into the three oestrogens, interpretation of the oestrogenic potency of the mixture in terms of a single oestrogen (usually oestrone) is very difficult, since the potencies of the separate oestrogens are different, vary according to the method of assay used, and are not additive. Moreover, there may be present augmenting and inhibiting substances, about which knowledge is meagre. In most published studies little or no attention has been paid to these aspects.

Progesterone and Pregnanediol

If we take into consideration the difficulties of assaying progesterone—which still await adequate solution—it is surprising how much we know, or think we know, of the role of progesterone during pregnancy (see Kaufmann, Westphal, and Zander, 1951, for a recent review). Virtually none is present in the urine—and there does not seem to be much in the blood either. The corpus luteum during the first trimester, and the placenta in increasing amounts thereafter, do contain it. Most of our information is derived from studies on the urinary excretion of pregnanediol—a dihydric alcohol first isolated from pregnancy urine in 1929 by Marrian, and, since Venning (1937, 1938) described her gravimetric method for its estimation, the subject of numerous investigations. It has been assumed, more or less tacitly, that the pregnanediol excretion in the urine reflects the metabolism of progesterone (see formulae for the close chemical relationship between the two steroids). Very probably this is in general true, but the complete proof is still lacking, and it is conceivable that, in some circumstances at least, the parallelism is far from close.



Pregnanediol is excreted in the form of sodium pregnanediol glucuronidate, and in the original Venning method is measured as such. Most of the more recent assay methods have combined hydrolysis with extraction and thus determine free and combined pregnanediol together. This is advantageous, since partial hydrolysis may take place in the voided urine, thus causing variable losses of pregnanediol glucuronidate. It would be out of place to discuss in detail the various assay methods which have been developed in recent years, but, disregarding the older techniques, it may be said that they fall into two main groups—"rapid" methods, intended for clinical application, and quite unsuitable for dealing with the small amounts of pregnanediol found during the luteal phase of the menstrual cycle; and longer methods, intended for careful research and applicable to small amounts. In the first group comes the Guterman method (1944) and, distinctly preferable, the method of Sommerville, Marrian, and Kellar (1948). In the second group come the method of Sommerville, Gough, and Marrian (1948) and the ingenious technique of Huber (1947) and de Watteville *et al.* (1948), which employs adsorption chromatography with alumina for purifying the pregnanediol.

As can be seen in Fig. 1, the pregnanediol excretion in normal pregnancies shows a slow rise during the first 20 weeks, reaching a level of 20–30 mg. per 24 hours. Thereafter the rise is increasingly rapid, a peak, in the region of 90 mg. being attained about the 37th–38th week. The excretion then drops rapidly, disappearing altogether a few days after delivery. It must be emphasized that variations from this mean curve are considerable even in apparently normal pregnancies, so that the interpretation of isolated determinations may be difficult or impossible.

A number of attempts have been made to use pregnanediol assay as a method of pregnancy diagnosis, since it is obvious that an accurate and relatively simple chemical method would have distinct advantages over biological procedures (Guterman, 1944, 1945; McCormack, 1946; Reinhart and Barnes, 1946; Merivale, 1948; Henderson *et al.*, 1949; Swyer, 1949; de Watteville, 1951; etc.). The reliability of the results has varied markedly in different reports, and a considerable literature has developed, arguing the case for and against. It is unnecessary to enter into the controversy here, but one conclusion is inescapable: the amounts of pregnanediol excreted during the first few weeks of pregnancy—that is, after the period has been missed—may be no different from those during the luteal phase of the normal cycle, so that on these grounds alone the theoretical basis for the test becomes invalid. The exclusion of all cases in which bleeding has occurred after the suspected onset of pregnancy, as Guterman (1945) considers essential, clearly limits the value of the test considerably. It seems fair to state that, although some authors have found the test as reliable as the Friedman test, since many others—for example, Reinhart and Barnes (1946), Merivale (1948), and

Swyer (1949)—have reported very different findings, pregnanediol assay is not to be recommended as a worth-while substitute for the established biological methods of pregnancy diagnosis.

Chorionic Gonadotrophin

The "pregnancy hormone" *par excellence* of the human (though apparently not necessarily of most other species) is chorionic gonadotrophin (C.G.) (also known as "anterior-pituitary-like hormone" and prolan) since it occurs only during pregnancy—if we except certain relatively rare teratoid tumours of so-called chorion epitheliomatous type. Curiously enough, it cannot be said that we are at all certain of its function during pregnancy; and there is no doubt that its peculiar curve of production (Fig. 1) remains unexplained. It is the substance responsible for the reactions which provide the basis of biological pregnancy diagnosis tests, causing ovulation in immature mice (Aschheim-Zondek test), in mature rabbits (Friedman test), and in the South African clawed toad (*Xenopus laevis*); and causing the appearance of spermatozoa in the cloacal urine of the male South American toad (*Bufo arenarum* Hensel) and in the North American leopard frog (*Rana pipiens*). Probably the most satisfactory quantitative method for its assay is that developed by Loraine (1950) employing the weight of the immature rat's prostate.

C.G. first appears as soon as the fertilized ovum has become embedded, and is believed to be formed by the trophoblast. It has been detected as early as the 25th day after the beginning of the previous period (based on a 28-day cycle) and therefore before the next period has been "missed." Its excretion in the urine rises rapidly, reaching values between 20,000 and 40,000 i.u./24 hours between the 40th and 80th days of pregnancy. By the 100th day the peak period is over and a relatively steady level is maintained until the end of pregnancy. Loraine regards the normal range for this level as between 4,000 and 11,000 i.u./24 hours. A slight but apparently significant rise occurs about the 37th week of pregnancy, and after parturition the hormone rapidly disappears from the urine, none usually being detectable by the fourth day after delivery.

Some simple arithmetic applied to these values gives interesting results. It is probable that 15 i.u. or more of C.G. is required to produce ovulation in the rabbit—that is, to give a positive Friedman test—and, since 10 ml. of urine is usually injected, it follows that not less than 1.5 i.u./ml. must be present. Assuming the first morning specimen to have twice the concentration of the total 24-hour specimen, and assuming a 24-hour volume of 1,500 ml., this implies that, in general, the 24-hour excretion must exceed 1,125 i.u. in order that a positive Friedman test may be obtained —and, clearly, this value will usually be greatly exceeded. But it is easy to see how this lower limit may occasionally have to be raised three to four times in order that a positive result may be obtained, thus accounting for the occasional false negative tests early in pregnancy—especially before the sixth week—and later on after the peak has been passed. Similar calculations applied to the peak period show that a positive result at 1:10 dilution—that is, with 1 ml. of urine—will generally be obtained, and occasionally the result may be positive at 1:100 dilution—that is, with 0.1 ml. of urine. Between the 40th and 80th days, therefore, a positive Friedman test at 1:100 dilution may be physiological and not indicative of hydatidiform mole.

The distribution of C.G. in mother and foetus has been studied by Bruner (1951), who found the concentration always to be highest in the chorionic placenta, thus supporting the view that the hormone originates in the trophoblast. In the mother, the highest concentration was found in the blood, the endometrium coming next and being richer in the hormone than any other tissue. The concentration in the foetus is very low, being about 1/10 to 1/20 that in maternal muscle; nevertheless it was thought that the total amount of C.G. reaching the foetus might be of physiological significance. Evidently, therefore, the hormone is released by the chorion into the maternal blood stream, from which a small amount passes the "placental barrier" to enter the foetal blood stream.

Anterior-pituitary Hormones

The substances of potential interest under this heading are prolactin, growth hormone, adrenocorticotrophic hormone and thyrotrophic hormone. No simple methods for the assay of any of these are available and knowledge of their behaviour during pregnancy is slight. The fact that the pituitary enlarges during pregnancy has led many to suppose that it becomes more active at that time. Direct evidence supporting this view is very scanty. Prolactin is probably produced in small amounts during pregnancy, but apparently (Lyons and Page, 1935; Meites and Turner, 1941) in considerably larger amounts *post partum* (not altogether confirmed by Coppedge and Segaloff, 1951). The possibility of increased growth hormone production during pregnancy, particularly in the diabetic and pre-diabetic woman, and of its implication in the foetal complications in those conditions (Barns and Morgans, 1948; Gilbert, 1949; Barns *et al.*, 1950), is an interesting speculation not yet susceptible of proof. Recent investigations seem to indicate an increased production of A.C.T.H. during pregnancy (Parrott, unpublished); the increased secretion of some adrenocortical steroids (see below) certainly suggests the probability of such an augmentation. Swelling and hyperplasia are often observed in the thyroid gland during pregnancy and suggest increased thyrotrophic hormone production, but no accurate studies have lent support to this view.

Thyroid Hormone

It is now usual to regard the serum precipitable (or protein-bound) iodine (S.P.I.) as giving a measure of the amount of thyroid hormone present in the blood. In normal non-pregnant women this value varies between 4 and 8 μg. per 100 ml. of serum. Peters *et al.* (1948) found that from the second month the level rose to a mean of 8.3 μg., the range being 6.2 to 11.2 μg. They observed that this rise in S.P.I. occurred much earlier in pregnancy than that in the B.M.R., which begins only after the fourth month.

Adrenocortical Hormones

Venning (1946) has studied the output of adrenal steroids during pregnancy and has shown that the glycogenic corticoids—that is, those able to cause deposition of glycogen in the livers of adrenalectomized mice—increase in a complex fashion (Fig. 2). There is a rise to about twice the normal value, coinciding with the gonadotrophin peak, followed by a fall, with a subsequent rise to about four times the normal value during the third trimester. Using chemical methods, other workers (Heard *et al.*, 1946; Tobian 1949) have shown similar rises in the neutral lipoid-soluble reducing fractions of the urine during pregnancy, though the increases are less than those found by the biological method. There is as yet no means of separately estimating the so-called glucocorticoids and the mineralocorticoids; indeed, the validity of such a differentiation is doubted by some. It should also be remembered that there is an increasing awareness of the defects and limitations of all hitherto proposed methods for determining the excretion of adrenocortical metabolites (cf. Marrian, 1951).

By contrast, the 17-ketosteroids (representing roughly the "androgenic" activity of the adrenal cortex), when measured by the Pincus reaction (which uses antimony trichloride), shows practically no change throughout pregnancy. On the other hand, with the Zimmerman reaction (using *m*-dinitrobenzene in alcoholic potassium hydroxide), a progressive rise is found during the second half of pregnancy. Now the Zimmerman reaction is also given by 20-ketosteroids (such as pregnanolones), so that

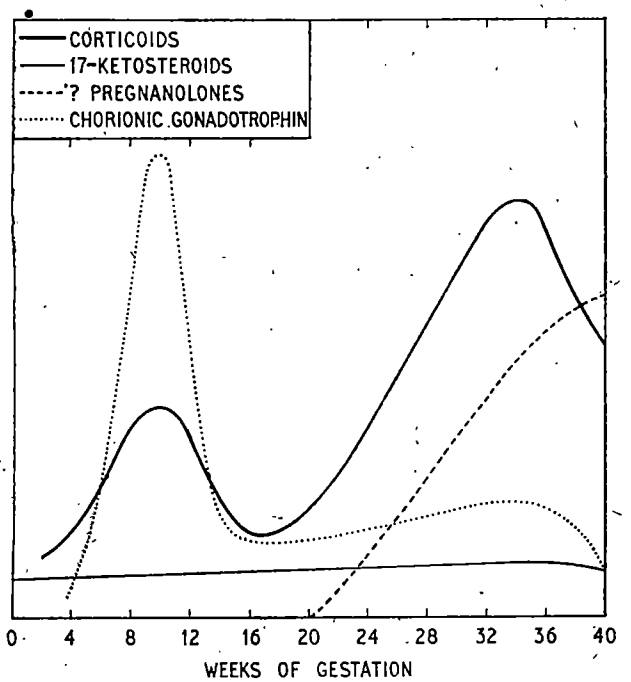


FIG. 2.—The urinary excretion throughout normal pregnancy of "corticoids," 17-ketosteroids, and the suggested excretion of pregnanolones

Venning (1946) has suggested that this discrepancy between the two methods might be due to the excretion of increasing amounts of pregnanolones, and, since these give only about one-eighth the colour of 17-ketosteroids in the test, it would follow that their excretion would apparently rise to something like 80 mg. per 24 hours at full term (Fig. 2).

If the increased secretion of corticoids—that is, compounds related to corticosterone—during pregnancy is due to increased stimulation by A.C.T.H., it must be concluded that the activity of the adrenal cortex is modified during pregnancy, since in the non-pregnant state the typical response of the adrenal to A.C.T.H. involves the 17-ketosteroids as well as the corticoids (the latter, however, to the greater extent).

Posterior Pituitary Hormones—Pitocinase

There have been no convincing studies of the production of posterior-lobe principles during pregnancy. Page (1947), however, has shown that there is a remarkable increase in the pitocinase activity of plasma during pregnancy, the level near term being several thousand times that at conception. Indeed, during the first 16 weeks of pregnancy the increase in activity follows a linear function and can be made the basis of a test for determining the duration of pregnancy. Though the significance of this enzyme is still far from clear, it would seem that its increased production serves to prevent the stimulating action of "pitocin" on the uterus, and its sudden disappearance at term would have an obvious association with the onset of labour.

Serum Histaminase.—Another enzyme characteristic of pregnancy is histaminase, which arises in the placenta and appears in the plasma only during gestation. Numerous methods for its assay, some chemical, some biological, have been proposed from time to time, but hitherto all have had their drawbacks. A very recent method described by Kapeller-Adler (1951) seems much more promising and has the great advantage of simplicity. It depends upon the fact that during the action of histaminase on histamine in the presence of indigo carmine one molecule of H_2O_2 is formed for each molecule of histamine oxidized, so that the amount of unoxidized indigo can be estimated by titration with $KMnO_4$, thereby giving a measure of the histaminase activity.

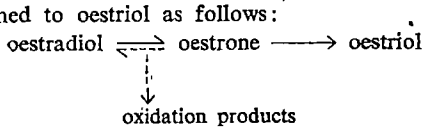
The histaminase content of the plasma bears a close relationship to the functional capacity of the placenta and shows a sharp rise from about the 14th week of pregnancy, reaching a peak value near the 26th week which is about eight times that found before the 14th week. Thereafter it falls slowly until term, disappearing altogether within four to five days of parturition.

Hormonal Findings in Abnormal Pregnancies

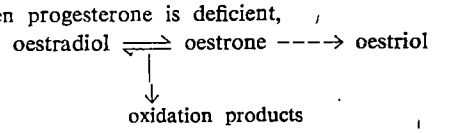
Toxaemia of Pregnancy

Since this condition (the "disease of theories") is one of the two outstanding unsolved problems of obstetrics (the other being uterine inertia), it deserves consideration first. A very able review of the subject has been given by Smith and Smith (1948), who summarize the findings as follows: in eclamptogenic toxaemia there appears to be (1) excessive antidiuretic substance in the urine and placenta; (2) a melanophore-expanding principle (perhaps from the intermediate lobe of the pituitary gland) in the blood and placenta; (3) a hypersensitivity to the injection of posterior pituitary secretions (this probably indicates deficient production of pitocinase); (4) high titres of C.G. in a large percentage of cases; (5) decreased excretion of oestrogens and pregnanediol; and (6) histological and histochemical changes in the placenta similar to but more marked than those of the normal placenta at term and primarily involving degeneration of the syncytial cells which probably secrete the steroid hormones.

Some further comment in relation to the oestrogens in toxaemia is pertinent. The Smiths, impressed by the apparent reciprocal relationships of oestrogens and C.G., believe that the latter is utilized by the placenta for the production of oestrogen and progesterone. In many cases of toxaemia they observed a rise in C.G. coinciding with a fall in oestrogen and pregnanediol excretion. This they have interpreted as being due to failing utilization of C.G. because of degeneration of the syncytial cells. In those cases of toxaemia in which C.G. was found to be present in normal amounts they further postulate decreased production of C.G. as a secondary result of placental damage. Their studies of the excreted oestrogen fractions and oxidation products have led to the formulation of a scheme of oestrogen metabolism in which progesterone facilitates the conversion of oestradiol to oestrone, which is then further transformed to oestriol as follows:



but when progesterone is deficient,



They believe that the oxidation products stimulate the production of oestrogen and progesterone through the increased utilization of C.G.; and, further, that stilboestrol behaves in this respect like the oxidation products in causing a fall in serum C.G. and an increase in pregnanediol excretion in pregnant women. The fall in serum C.G. has been confirmed by Loraine (1949), who has shown, however, that it is transient, the C.G. level rising again even though stilboestrol administration be continued. The increased excretion of pregnanediol has not been confirmed. Indeed, Sommerville, Marrian, and Clayton (1949) have found that stilboestrol regularly *decreases* the excretion of pregnanediol, which rises to the normal level again on stopping the stilboestrol. These authors suggest that the Smiths' findings on pregnanediol excretion might be explained by the fact that, having used the Venning method which determines sodium pregnanediol glucuronidate, they would probably also be measuring at the same time some conjugated excretory product of stilboestrol. The Smiths are not satisfied with this explanation, and the controversy still is unsettled.

Some older observations—for example, those of Fauvet and Münzner (1937)—seemed to indicate decreased adrenocortical activity in toxaemia of pregnancy, but more recent studies point in the direction of increased activity, particularly with respect to the corticoids. Thus Tobian (1949) found that whereas during the last trimester in normal pregnancies twice as much corticoid is excreted as by non-pregnant women, a still higher corticoid excretion was seen in women with excessive oedema (46% more, which is statistically significant). Twin pregnancies were also associated with increased corticoids. There was no correlation between the elevation of the blood pressure in toxaemia and the corticoid excretion, but in essential hypertension in pregnancy no abnormal changes in the corticoids were seen. In addition to the rise in corticoid excretion, Devis and Eeckhoudt (1949) claim to have found abnormally low 17-ketosteroid outputs and seek to ascribe to this alleged hormonal imbalance an aetiological role in toxaemia of pregnancy. It seems fair, however, to point out that the hormonal findings might just as well represent the reaction of the adrenal cortex to the stress imposed by the disease. There is general agreement that the histaminase content of the plasma is significantly reduced in toxaemia of pregnancy, the degree of reduction being related to the disturbance in functional capacity of the placenta. The new simple method of Kapeller-Adler already mentioned may prove to be of real clinical value in helping the obstetrician to decide when, because of the failing placenta, the pregnancy should be terminated to avoid intrauterine death of the foetus.

In *hyperemesis gravidarum* there is reason to believe that C.G. levels are sometimes abnormally high. A plausible explanation of the condition is that it represents a hypersensitivity response to what is essentially a foreign protein. Clearly, therefore, excess of C.G. is not indispensable for the production of the condition, and such an excess is not always found.

Hydatidiform mole, on the other hand, is almost invariably accompanied by a greatly increased output of C.G., so that usually as little as 0.1 ml. of urine will give a positive Friedman test—that is, 1:100 dilution. A similar positive response (though usually in a lower dilution) can be obtained with cerebrospinal fluid. It has already been pointed out that, at the peak of C.G. excretion—that is, about the 60th–70th day of pregnancy—positive Friedman tests are sometimes obtained at similar dilutions in normal pregnancies, and particularly in multiple pregnancies. It is therefore easy to be misled by such a finding, at about the 10th week, if there is some vaginal bleeding together with a twin pregnancy—so that the uterus would seem larger than the expected size. The fact that pregnanediol excretion has been reported as zero in hydatidiform mole (Guterman, 1945; McCormack, 1946; Swyer, 1949) engendered the hope that its measurement might help to disentangle such a problem, but there is now no doubt that the absence of pregnanediol in cases of hydatidiform mole is not invariable, and its assay will not therefore serve as a differential test in these cases (Bender, quoted by Swyer, 1949; de Watteville, 1951).

In *chorion epithelioma* the output of C.G. increases to still higher levels, the daily excretion reaching the order of millions of international units.

Abortion

It was claimed by Guterman (1946) that by the use of his semiquantitative test for pregnanediol the fate of cases of threatened abortion was correctly predicted in 93% of 73 cases, a "positive" test being correlated with continuation of the pregnancy. Other workers have not found so close a correlation, though there is no doubt that the mean excretion for those cases in which the pregnancy continues is significantly higher than in those in which abortion occurs (Swyer, 1949; de Watteville, 1951). It is, of course, clear that some patients will abort even though the pregnanediol excretion is normal, because some cause other than progesterone deficiency is operating. Bender (1948) has produced evidence that, by using the Guterman test to differentiate cases of threatened abortion with high pregnanediol excretion from those with low outputs, and reserving treatment with progesterone for the latter only, a statistically significant increase in the salvage rate can be obtained; on the other hand, progesterone given to patients with threatened abortion but with positive Guterman tests increased the likelihood of abortion.

The pregnanediol excretion in the early months of pregnancy in patients who have had two or more consecutive early abortions does not differ significantly from randomly selected antenatal patients at comparable stages of pregnancy (Swyer, unpublished observations). This evidence therefore does not lend support to the view that deficiency of progesterone may be a cause of so-called habitual abortion. Further discussion of this problem would be out of place here.

The serum histaminase level is usually low in threatened abortion (Kapeller-Adler, 1951). It seems that the serum precipitable iodine may also be low in threatened abortion; thus Peters, Man, and Heinemann (1948) found that in 8 of 12 S.P.I. determinations in such cases the value was less than 6.2 μg., the lowest amount found in normal pregnancy. None of these patients, it should be noted, showed any stigmata of hypothyroidism.

In *incomplete abortion* it is not uncommon to find fluctuating pregnanediol levels in serial determinations, while pregnancy diagnosis tests depending upon the detection of C.G., such as the Friedman test, may give irregularly positive and negative results. This is due to the survival of portions of placenta. In *missed abortion*, however, where placental separation is usually complete, consistently negative results are the rule.

In *multiple pregnancy* the excretion of C.G. and the serum histaminase levels are usually high, but these estimations are not of diagnostic value.

The diagnosis of *ectopic pregnancy* is often difficult, and assistance is usually sought from a pregnancy diagnosis test. The value of a rapid test, especially in cases of suspected ruptured ectopic pregnancy, needs no comment. In practice, however, all tests may prove misleading because the abnormal implantation usually results in a deficient production both of C.G. and of progesterone. Consequently, the Friedman and Aschheim–Zondek tests may be negative and the pregnanediol excretion too low to allow of the confident diagnosis of pregnancy.

So far as other commonly encountered complications of pregnancy are concerned, studies of the hormone levels have not been sufficient to permit any generalizations. It is obvious, therefore, that much work on this subject remains to be done, and the time is still a long way off when the clinical pathologist, working in a routine laboratory, can hope to be able to give the perplexed obstetrician much assistance by means of hormone assays.

Summary

The list of hormones of actual or potential interest in pregnancy is a formidable one, and assay methods for several of them are still imperfect. In normal pregnancies the oestriol fraction and, to a lesser extent, the oestrone and oestradiol fractions show marked increases during the last two trimesters, but fall rapidly during the last fortnight; progesterone production, as judged by pregnanediol excretion, follows a somewhat similar pattern; chorionic gonadotrophin secretion begins as soon as implantation of the ovum has been established, rises to a striking peak between the 60th and 80th days, and then falls to a more or less steady level; complex changes occur in the adrenocortical metabolites, the precise nature and significance of which are but little understood; ill-defined and uncertain changes occur in the

various pituitary hormones; and the histaminase and pitocinase contents of the plasma rise in characteristic fashions.

In abnormal pregnancies comparatively few hormone studies have been made except in toxaemia and abortion. In the former it seems that most, but not all, cases show an increase in chorionic gonadotrophin and a decrease in oestrogens and pregnanediol; probably the adrenal corticoids are also increased, though the 17-ketosteroids are decreased. In threatened abortion there is usually, but certainly not always, a low pregnanediol excretion and a low serum precipitable iodine (representing circulating thyroid hormone) and histaminase content. The chorionic gonadotrophin is greatly increased in hydatidiform mole and in chorion epithelioma. Less well-defined hormone changes may be found in various other abnormalities of pregnancy.

REFERENCES

Barns, H. H. F., Lindan, O., Morgans, M. E., Reid, E., and Swyer, G. I. M. (1950). *Lancet*, 2, 841.
—— and Morgans, M. E. (1948). *J. Obstet. Gynaec. Brit. Emp.*, 55, 449.
Bender, S. (1948). *British Medical Journal*, 1, 683.
Bruner, J. A. (1951). *J. clin. Endocrinol.*, 11, 360.
Clayton, B. E., and Marrian, G. F. (1950). *J. Endocrinol.*, 6, 332.
Cohen, S. L., Marrian, G. F., and Watson, M. C. (1935). *Lancet*, 1, 674.
Coppedge, R. L., and Segaloff, A. (1951). *J. clin. Endocrinol.*, 11, 465.
Devis, R., and Eeckhoudt, M. D. (1949). Ibid., 9, 1436.
Fauvet, E., and Münzner, L. (1937). *Klin. Wschr.*, 16, 675.
Gilbert, J. A. L. (1949). *British Medical Journal*, 1, 702.
Guterman, H. S. (1944). *J. clin. Endocrinol.*, 4, 262
—— (1945). Ibid., 5, 407.
—— (1946). *J. Amer. med. Ass.*, 131, 378.
Heard, R. D. H., Sobel, H., and Venning, E. H. (1946). *J. biol. Chem.*, 165, 699.
Henderson, J., Maclagan, N. F., Wheatley, V. R., and Wilkinson, J. H. (1949). *J. Endocrinol.*, 6, 41.
Huber, D. (1947). *Biochem. J.*, 41, 609.
Kapeller-Adler, R. (1951). Ibid., 48, 99.
Kaufmann, C., Westphal, U., and Zander, J. (1951). *Arch. Gynäk.*, 179, 247.
Loraine, J. A. (1949). *British Medical Journal*, 2, 1496.
—— (1950). *J. Endocrinol.*, 6, 319.
Lyons, W. R., and Page, E. (1935). *Proc. Soc. exp. Biol., N.Y.*, 32, 1049.
McCormack, G. (1946). *Amer. J. Obstet. Gynec.*, 51, 722.
Marrian, G. F. (1929). *Biochem. J.*, 23, 1090.
—— (1951). *J. Endocrinol.*, 7, lxix.
Meites, J., and Turner, C. W. (1941). *J. clin. Endocrinol.*, 1, 918.
Merivale, W. H. H. (1948). *British Medical Journal*, 1, 685.
Page, E. W. (1947). *Science*, 105, 292.
Peters, J. P., Man, E. B., and Heinemann, M. (1948). *Yale J. Biol. Med.*, 20, 449.
Reinhart, H. L., and Barnes, A. C. (1946). *J. clin. Endocrinol.*, 6, 664.
Smith, G. Van S., and Smith, O. W. (1948). *Physiol. Rev.*, 28, 1.
Sommerville, I. F., Gough, N., and Marrian, G. F. (1948). *J. Endocrinol.*, 5, 247.
—— Marrian, G. F., and Clayton, B. E. (1949). *Lancet*, 1, 680.
—— —— and Kellar, R. J. (1948). Ibid., 2, 89.
Swyer, G. I. M. (1949). *British Medical Journal*, 2, 830.
Tobian, L. (1949). *J. clin. Endocrinol.*, 9, 319.
Venning, E. H. (1937). *J. biol. Chem.*, 119, 473.
—— (1938). Ibid., 126, 595.
—— (1946). *Endocrinology*, 39, 203.
de Watteville, H. (1951). *J. clin. Endocrinol.*, 11, 251.
—— Borth, R., and Gsell, M. (1948). Ibid., 8, 982.

The international conference on blood transfusion, recently held at the British Standards Institution in London, reached agreement on several fundamental proposals, the objectives of which are to get standardization and interchangeability of the equipment involved both in obtaining blood from donors and in giving transfusion to patients. Among the proposals agreed, and which it is expected will be the subject of International Organization for Standardization recommendations for national standards, are such important items as: overall sizes of glass containers, including sizes of the necks of the bottles; properties to be possessed by the stoppers of the bottles; the dimensions of the mounts for flexible tubing and piercing-needles; identification of the piercing positions in the stoppers separately for collecting and for transfusion of blood; minimum rate of filter and drip chamber flow. Items for future study include: standard sizes of the most used bottle; type of mount for hypodermic needle; simple label identification of the blood group of the contents of the bottle; and performance standards for the glass bottles.

CHANGES IN BASAL METABOLISM, SERUM-PROTEIN-BOUND IODINE, AND CHOLESTEROL DURING TREATMENT OF HYPOTHYROIDISM WITH ORAL THYROID AND L-THYROXINE SODIUM

BY

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It has been generally established that in patients with untreated hypothyroidism the serum-protein-bound iodine (P.B.I.) is consistently below the normal range of 4 to 8 μg. per 100 ml., and the literature has been reviewed by Rapport and Curtis (1950). Further, Winkler, Riggs, and Man (1945) claimed that serum iodine is not only a valuable aid in the diagnosis of hypothyroidism but a useful criterion of the adequacy of treatment with thyroid substance, for its return to within the normal range with adequate treatment is a better indication of the thyroid status of the patient than the basal metabolic rate (B.M.R.), the latter becoming stabilized at a slower rate than the serum iodine.

In support of this statement Winkler *et al.* described their findings, first, in a case of post-operative hypothyroidism, after thyroidectomy for thyrotoxicosis: "Forty days after operation the serum iodine had already fallen to 1 μg. per 100 ml., yet the metabolic rate was still + 13%; and, secondly, their observations in controlled hypothyroidism after withholding thyroid: "Indeed, in the entire series of patients at the time of the initial iodine determination, metabolic rates as low as −30% or less need not appear unless the patient had remained untreated for several years." They also quoted the case of a patient with hypothyroidism whose initial (untreated) B.M.R. was −34, and who after more than a year of adequate thyroid therapy maintained a normal B.M.R. of −6, despite a period of over eight months without thyroid, and a serum iodine of 2.6 μg. per 100 ml. It has also been stated that the latter is less subject than the B.M.R. to fluctuations in serial determination (Riggs, 1947). Hypercholesterolaemia is usually another characteristic feature of hypothyroidism, but it is not apparently an obligatory accompaniment (Winkler, Riggs, and Man, 1945).

The treatment of hypothyroidism with synthetic thyroxine has been described by Hart and Maclagan (1950), who conclude that L-thyroxine sodium is as satisfactory for the purpose as thyroid extract, and suggest that it has an advantage in reliability in that it is a synthetic substance and requires no biological or chemical standardization.

In order to compare the results of treatment of hypothyroidism with L-thyroxine sodium and with whole dried thyroid we have made serial examinations of five established cases. The patients voluntarily agreed to stop treatment for a period of some two months, after

which time the B.M.R., P.B.I., and serum cholesterol were determined while these substances were given for alternating periods.

Methods

The B.M.R. was measured by the closed-circuit method, evidence of the accuracy of which was given by Robertson (1937). The apparatus used was the Benedict–Roth with recording kymograph. All machines were alcohol-checked (Barrett and Robertson, 1937) and found to be accurate; in addition each was checked once a week by a model whose B.M.R. was in the region of 54 calories an hour. The standard technique used in measuring the B.M.R. has been described by Robertson (1944). The subjects attended on at least two successive mornings, and were seen personally by one of us. If on the second day the duplicates agreed within 5% (and were not higher than the first-day readings) the lower reading was taken as the B.M.R. On the other hand, if the duplicate readings were not within 5%, or the second-day readings were higher than those on the first day, then readings were taken on subsequent days until a constant reading was obtained.

In the present series, excluding the initial readings, basal rates were obtained in two days. As the technique for measuring the basal metabolism varies in different laboratories (DuBois, 1936), it is important, particularly when comparing the B.M.R. with the serum iodine, to describe precisely the technique employed and the chemical procedure adopted in estimating the blood iodine. The P.B.I. was determined by the method of Barker (1948) as modified by Barker and Lipner (1949), with some modifications which will be discussed elsewhere (Kirkpatrick—unpublished).

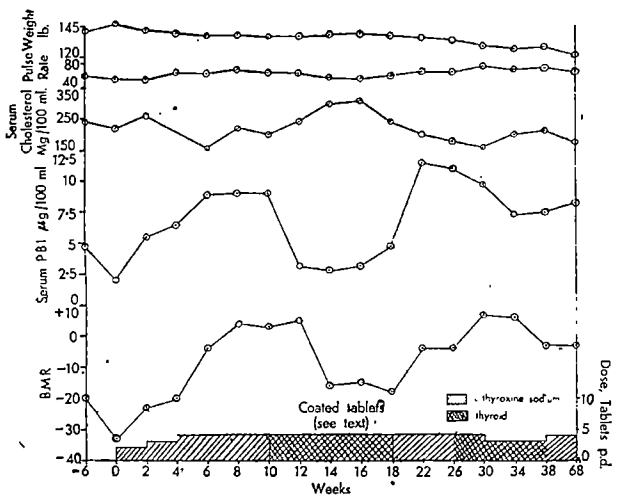

FIG. 1.—Observations on Case 1.

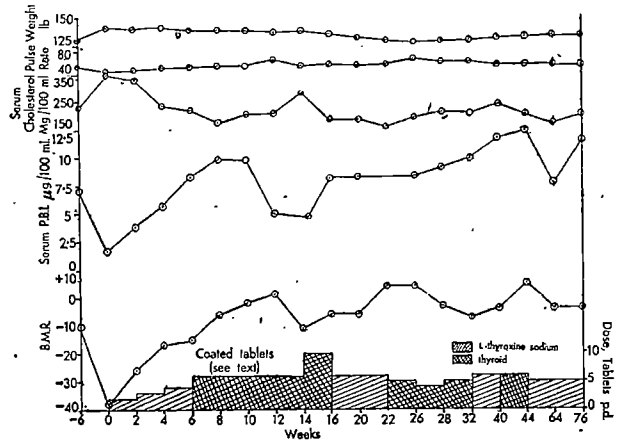

FIG. 2.—Observations on Case 2.

Cholesterol was estimated by the method of Sackett (1925). Medication was given orally in the form of tablets—L-thyroxine sodium (Glaxo), 0.1 mg., or thyroid *B.P.*, 1 gr. (65 mg.) (Armour)—also gelatin-coated tablets of a thyroid preparation stated to be of *B.P.* specification.

Results

The detailed results of our investigations are conveniently shown in Figs. 1–5. In each case, after a period on L-thyroxine sodium with increasing dosage, thyroid was substituted in the form of gelatin-coated tablets. The net result was a general return to a near myxoedematous condition regardless of dose. Upon investigating the disintegration characteristics of these tablets it was found that only a small indefinite proportion disintegrated at all under physiological conditions, and the results have been disregarded except in the qualitative sense of confirming a lag in the response of the B.M.R. to a change of thyroid status, and in disclosing the hazard of using tablets not of *B.P.* specification.

The following changes have been noted from a study of the charts.

P.B.I.—A rapid rise occurs at the initiation of treatment, and the level rises or falls with variations in dosage, being stabilized within two weeks on a fixed dose irrespective of whether thyroxine or thyroid is being administered. Cessation of treatment in each case reduced the level of the P.B.I. to well below the range of our normal controls—namely, 3.6 to 8.6 µg. per 100 ml.

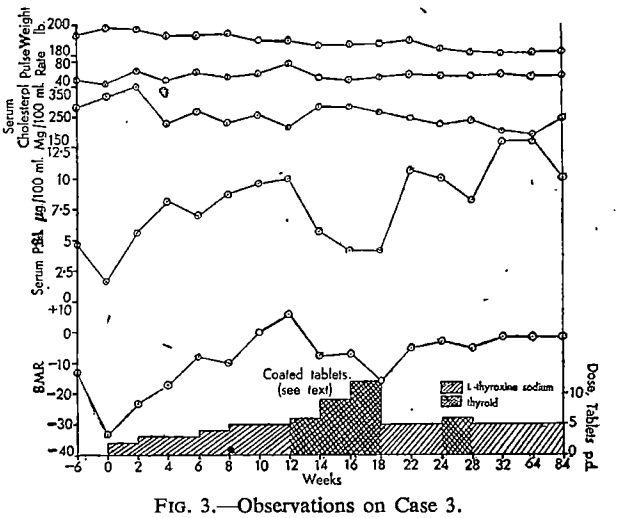

FIG. 3.—Observations on Case 3.

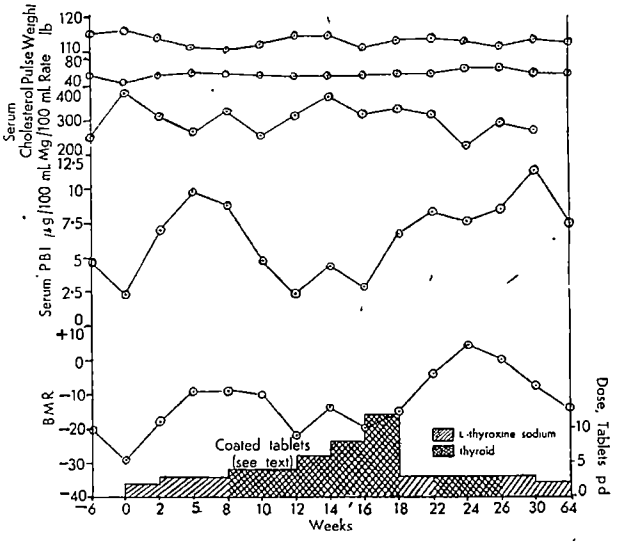

FIG. 4.—Observations on Case 4.

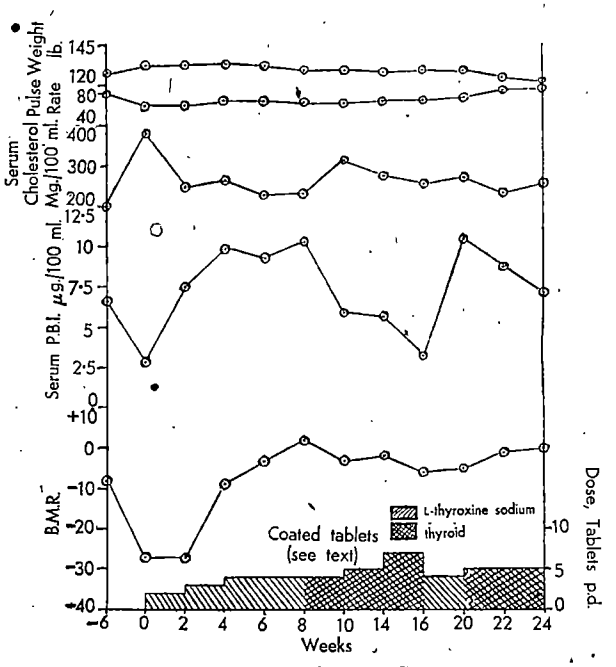

FIG. 5.—Observations on Case 5.

B.M.R.—There is a distinct lag in the response of the B.M.R. both to initiation of treatment and to changes in the latter which involve a significant change in the P.B.I. This lag may take the form of a steady decrease or increase until stabilization occurs, or it may even result in no change in the B.M.R. during the first two weeks. Stabilization of the B.M.R. is not complete until four weeks have elapsed on a fixed dosage.

Cholesterol.—In each of our five cases hypercholesterolaemia was present coincident with myxoedema. During treatment the cholesterol level gave a fair indication of the thyroid status, though the changes incline to sluggishness compared with the P.B.I., and some rather inexplicable changes seem liable to occur.

Calculations from our results have been made of the direct relationships between the P.B.I., B.M.R., and doses of thyroxine or thyroid, and the findings are summarized below.

Relation Between the P.B.I. and Dose of Thyroxine or Thyroid (Tables I and II).—The calculation has been made by dividing the observed rise in P.B.I. in µg. per 100 ml. from the basic untreated level by the dose.

Relation Between the B.M.R. and Dose of Thyroxine or Thyroid (Tables III and IV).—In correlating the B.M.R. with the dose of medicant, it is obviously necessary to allow enough time for stabilization of the former. We have accordingly employed only those figures that were obtained after four weeks at the set dosage. Calculation was made by dividing the rise from the basic untreated level by the dose.

Relation Between the P.B.I. and B.M.R. (Table V).—This relationship was calculated by dividing the rise in B.M.R. from the untreated basic level to a stabilized value by the corresponding rise in P.B.I. from the untreated basic level.

TABLE I.—*Rise in P.B.I. (µg. per 100 ml.) per 0.1 mg. L-thyroxine Sodium*

Patient	1	2	3	4	5
Individual mean	1·7	1·4	2·1	2·4	2·2

Mean of all results = 1·9. Standard deviation, ±0·30.

TABLE II.—*Rise in P.B.I. (µg. per 100 ml.) per 1 gr. (65 mg.) Thyroid*

Patient	1	2	3	4	5
Individual mean	2·1	1·7	1·1	1·6	1·3

Mean of all results = 1·7. Standard deviation, ±0·58.

TABLE III.—*Rise in B.M.R. (%) per 0.1 mg. L-thyroxine Sodium*

Patient	1	2	3	4	5
Individual mean	9	7	7	6	7

Mean of all results = 7. Standard deviation, ±1·2.

TABLE IV.—*Rise in B.M.R. (%) per 1 gr. (65 mg.) Thyroid*

Patient	1	2	3	4	5
Individual mean	13	8	5	9	6

Mean of all results = 9. Standard deviation, ±3·2.

TABLE V.—*Rise in B.M.R. % per 1 µg. % Rise in P.B.I.*

(a) Treatment with L-thyroxine Sodium

Patient	1	2	3	4	5
Individual mean	5·0	4·7	4·2	3·5	3·9

Mean of all results = 4·4. Standard deviation, ±0·55.

(b) Treatment with Thyroid

Patient	1	2	3	4	5
Individual mean	5·4	4·3	4·8	5·2	4·5

Mean of all results = 5·0. Standard deviation, ±0·77.

Table VI shows the decline in the B.M.R. after treatment with thyroid was discontinued. Symptoms of hypothyroidism were complained of after three weeks and signs were apparent by the fifth week. By five to eight weeks after thyroid had been discontinued the B.M.R. had practically fallen to the initial level when the patient was first seen and before any treatment had been instituted. The serum iodine also decreased after thyroid had been stopped.

TABLE VI.—*Fall in B.M.R. and P.B.I. After Omitting Thyroid for Five to Eight Weeks in Established and Treated Cases of Myxoedema. Basal Metabolism: Normal Range 0 to −20 (Standards of Aub and DuBois)*

Patient	Untreated Initial Observations			Present Investigations: Adequately Treated with Thyroid					Present Investigations: After Thyroid Omitted				Present Maintenance Dosage of Thyroid and Thyroxine					
	Date	B.M.R.	Cholesterol mg./100 ml.	Thyroid gr. per Day	Years on Thyroid	B.M.R.	P.B.I. µg./100 ml.	Cholesterol mg./100 ml.	Days off Thyroid	B.M.R.	P.B.I. µg./100 ml.	Cholesterol mg./100 ml.	Thyroid gr. per Day	Thyroxine mg. per Day	B.M.R.	P.B.I. µg./100 ml.	Cholesterol mg./100 ml.	Age
1	1941	−29	325	2	9	−16	4·8	246	21 33	−25 −33	2·0	220	3	0·3	−3	8·3	165	62
2	1942	−40	265	4	9	−10	7·1	230	41	−38	1·7	350	5	0·5	−4	11·5	170	49
3	1942	−37	535	6	8	−13	4·5	286	36	−33	1·6	318	6	0·5	−2	10·0	180	51
4	1936	−28	330	1	14	−20	4·7	240	42 58	−24 −29	3·6 2·3	255 382	2	0·2	−12	7·4	220	63
5	1942	−30	415	3	8	−9	6·6	196	21 35	−24 −27	2·8	380	5	0·4	−1	6·4	232	66
Mean		−33	374			−18	5·5	239		−32	2·1	330			−4	8·3	193	

Discussion

When thyroid was withheld from cases of hypothyroidism the B.M.R. fell and in five to eight weeks reached the low level found before treatment. There was a parallel fall in the serum iodine over the same period. These observations do not agree with those reported by Winkler, Riggs, and Man (1945), who stated that the decrease in serum iodine "may take place weeks or months before there is any marked change in the basal metabolism." The decline in the B.M.R. to an athyreotic level, as we have reported after withholding thyroid for five to eight weeks in cases of treated hypothyroidism, would be expected from the work of Boothby and his co-workers (1924, 1925) on the calorigenic properties of a single injection of thyroxine in cases of hypothyroidism, when they found that the thyroxine was destroyed or eliminated in about fifty days.

Some confusion may be caused by the following statement in Winkler, Riggs, and Man's paper (1945): "In the entire series of patients at the time of the initial iodine determinations metabolic rates of −30 or lower need not appear for several years." By analogy this might be understood to imply that these authors regarded a B.M.R. of at least −30 as a prerequisite for the diagnosis of untreated hypothyroidism. In thyrotoxicosis there is no absolute basal rate figure for confirming the diagnosis because, although the B.M.R. may be well above +50 in severe cases, in mild cases it may lie within the normal range (Robertson, 1934), and such findings in reverse could equally well apply to cases of hypothyroidism. Means (1948) has stated that in complete athyreosis the B.M.R. runs very constantly in most cases between −35 and −45, and here the clear-cut picture of myxoedema is present; but in lesser degrees of hypothyroidism correspondingly higher basal rates will be obtained, and these may even border on the lower limits of the normal range.

The specific action of iodine on the B.M.R. in thyrotoxicosis has been employed as a delicate and exact diagnostic aid in that condition when the degree of toxicity is mild and clinically the picture is difficult to assess (Means, 1933; Robertson, 1934); and Robertson (1949) has suggested that the effect of thyroid, 2 gr. (130 mg.) daily, on the B.M.R. was of equal use in diagnosing mild hypothyroidism. To fix a B.M.R. of −35 with an average of about −40 (Means, 1948) as an arbitrary limit above which clear-cut myxoedema or complete athyreosis can be ruled out is now generally accepted, but rates higher than this need not exclude milder degrees of hypothyroidism. In addition to this being a personal experience, a study of Winkler, Riggs, and Man's cases (1945) shows that 13 out of 18 untreated cases of hypothyroidism had an initial B.M.R. higher than −35, and three were as high as −18 to −19. It is difficult to explain, as described by the above authors, a B.M.R. of −6 after stopping thyroid, 1½ gr. (100 mg.), for over eight months in a case with an initial B.M.R. of −34. No such phenomenon has been noted in a series of 16 cases of established myxoedema with a mean initial B.M.R. of −40 (range −34 to −47). In all cases the B.M.R. fell from normal to the initial level within two months of stopping thyroid (Robertson, unpublished results).

Our general observations on the changes in the B.M.R. and P.B.I. during treatment of hypothyroidism are in substantial agreement with those of Winkler, Riggs, and Man (1945), in that there is a rapid stabilization of the P.B.I. during treatment compared with a lag in the response of the B.M.R. Our calculations correlating the changes in the B.M.R. with those in the P.B.I., and the changes in the P.B.I. and B.M.R. with the dose of thyroxine or thyroid, have been confined to the simplest terms, but the inferences to be drawn from the results appear to us to be quite clear-cut. Tables I and II indicate that the variation in the response of the P.B.I. to thyroid is twice as great as that to L-thyroxine sodium. Tables III and IV show the response of the B.M.R. to thyroid to be about two and a half times as variable as that to L-thyroxine sodium. In contrast to these observations Table V shows that correlation of the B.M.R. with P.B.I. is of the same order irrespective of whether thyroid or L-thyroxine is administered. It therefore seems obvious that a large part of the variation encountered in the use of thyroid for the control of hypothyroidism can be attributed to deviations in the biological potency of the thyroid, and that this particular variation can be avoided by administration of L-thyroxine sodium.

The lag in the B.M.R. behind the P.B.I. led Winkler, Riggs, and Man (1945) to state that fluctuation in P.B.I. in hypothyroidism was a more useful criterion than the B.M.R. of the adequacy of treatment with thyroid. Our results do not support this view. Next to the clinical picture we feel that the B.M.R. gives a better index of the patient's thyroid requirements than the P.B.I., for on several occasions during thyroid and thyroxine medication the P.B.I. reached levels commonly found in thyrotoxicosis (above 8 μg. per 100 ml.) when in fact clinically there was no evidence of overdosage and the B.M.R. was within the normal range.

Summary and Conclusions

Five cases of hypothyroidism have been treated orally with L-thyroxine sodium and two brands of thyroid over periods of six to eighteen months.

Clinically, L-thyroxine sodium is as satisfactory as thyroid gland in the treatment of hypothyroidism.

Relationships between the B.M.R., serum iodine, and doses of thyroid and L-thyroxine sodium observed during treatment of five cases of hypothyroidism indicate a less variable response to thyroxine than to thyroid. Treatment with L-thyroxine sodium results in an average rise of 1.9 μg. per 100 ml. in the protein-bound iodine (P.B.I.) and 7% in the B.M.R. per 0.1-mg. dose.

Stabilization of the P.B.I. occurs more rapidly than that of the B.M.R. during treatment with either L-thyroxine sodium or thyroid. Next to the clinical picture the B.M.R. gives a better index of the patient's thyroid or thyroxine requirements than the P.B.I., for on several occasions during therapy the P.B.I. reached levels commonly found in thyrotoxicosis (above 8 μg. per 100 ml.) when clinically there was no evidence of overdosage and the B.M.R. was within the normal range. The P.B.I. tended to reach higher values with thyroxine than with equivalent doses of thyroid.

Our results, although on a small series of patients, do not support the statement of Means (1948) that the maintenance ration of thyroid is remarkably similar from patient to patient. In our series, dosages of from 0.2 to 0.5 mg. of thyroxine daily, or approximately 2 to 5 gr. (130 to 325 mg.) of thyroid daily, were required to keep the patients symptom-free.

Winkler, Riggs, and Man's statement (1945) that patients are unable to tolerate more than 3 gr. (200 mg.) of thyroid daily without developing symptoms of overdosage is also not supported. The restoration of a P.B.I. to a normal level of 6 μg. per 100 ml. as suggested by these authors was found to be no guide to assessing the maintenance dose of thyroid; for, in our series, patients were symptom-free and without any evidence of thyroid excess at P.B.I. levels all in excess of 6 μg. per 100 ml.

Some disparity in the results can no doubt be attributed to the different methods of standardizing thyroid *B.P.* and thyroid *U.S.P.* The former is assayed for thyroxine iodine and the latter for total iodine, the standards being 0.1% and 0.2% respectively, so that unless the ratio of thyroxine iodine to total iodine has a constant value of 1:2, there must obviously be a difference in biological activity.

• The serum cholesterol affords an approximate indication of thyroid status, but seems liable to unaccountable fluctuations.

It is a pleasure to thank Mr. A. V. Bridgland, Chairman of the Trustees of the London Clinic, for granting facilities for this investigation. The thyroxine derivative used was generously supplied by Glaxo Laboratories Ltd.

ADDENDUM.—Subsequent to the completion and submission for publication of this paper, further proof of one of our conclusions has been rather strikingly afforded. One of the patients (No. 3) was referred to us for re-examination by her local doctor one year after stabilization on L-thyroxine sodium, 0.5 mg. daily, with the opinion that, clinically, she appeared in need of a higher dosage of thyroxine. Our examination showed her B.M.R. to be well within the normal range (−3), whereas her serum P.B.I. was 13.5 μg.%, a distinctly thyrotoxic level. It seems obvious, therefore, that during treatment of hypothyroidism with thyroxine the serum P.B.I. may reach a high level indicative of thyrotoxicosis when no such condition is present clinically, and that a more accurate indication of clinical status is provided by the B.M.R.

REFERENCES

Barker, S. B. (1948). *J. biol. Chem.*, 173, 715.
—— and Lipner, H. J. (1949). *Science*, 108, 539.
Barrett, J. F., and Robertson, J. D. (1937). *J. Path. Bact.*, 45, 555.
Boothby, W. M., and Sandiford, I. (1924). *Physiol. Rev.*, 4, 69.
—— —— Sandiford, K., and Slosse, J. (1925). *Trans. Ass. Amer. Phys.*, 40, 195.
DuBois, E. F. (1936). *Basal Metabolism in Health and Disease.* 3rd ed. Baillière, Tindall and Cox, London.
Hart, F. D., and Maclagan, N. F. (1950). *British Medical Journal*, 1, 512.
Means, J. H. (1933). *Ann. Intern. Med.*, 7, 439.
——, (1948). *Thyroid and its Diseases.* 2nd ed. Lippincott, Philadelphia.
Rapport, R. L. and Curtis, G. M. (1950). *J. clin. Endocrinol.*, 10, 735.
Riggs, D. S. (1947). *Trans. Amer. Ass. Study Goiter*, 137.
Robertson, J. D. (1934). *Lancet*, 2, 1076.
—— (1937). Ibid., 2, 815.
—— (1944). *British Medical Journal*, 1, 617.
—— (1949). *Ann. roy. Coll. Surg. Engl.*, 4, 3.
Sackett, G. E. (1925). *J. biol. Chem.*, 64, 203.
Winkler, A. W., Riggs, D. S., and Man, E. B. (1945). *J. clin. Invest.*, 24, 732.

A PERSISTENT URINARY SALMONELLA DUBLIN CARRIER WITH BILHARZIASIS

BY

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Attention has recently been drawn to the prevalence in Egypt of urinary typhoid and paratyphoid carriers (Morton, 1949; Neva, 1949; Walton, 1949; Archer *et al.*, 1950). Their importance to the public health is attested by the fact that at least one large outbreak of typhoid among British Service men in the Suez Canal zone has been attributed to an Egyptian urinary excreter of typhoid bacilli (Anderson and Richards, 1948).

In a collaborative study with Dr. J. Weir, representative in Egypt of the Rockefeller Foundation, 53 native urinary salmonella carriers have been followed up for over a year. The distribution of these carriers by salmonella types, when they were originally detected, was as follows: 28 *Salm. typhi*, 13 *Salm. paratyphi A*, 2 *Salm. paratyphi B*, 9 *Salm. paratyphi C* (or group C), and 1 *Salm. dublin*. Some of the temporary carriers later acquired a urinary or faecal species of salmonellosis different from the original infection.

That the series should contain a carrier who has continued to excrete *Salm. dublin* in his urine for over a year seems worthy of record, because this organism is a common cause of disease in man and animals in many parts of the world, but does not appear to have been isolated in Egypt before. Cattle are apparently the main reservoir of infection and the usual source of the human disease, but the present case indicates that the human carrier may play a more important part in the dissemination of *Salm. dublin* infection than has hitherto been thought.

Case Report

This man, an agricultural labourer aged about 35, was found in a bacteriological survey of the general population of a Nile Delta village, where the urinary enteric carrier rate among men, women, and children was 3% (Miller, 1949). He is physically fit, and his only admitted incapacitating illness was one month's "fever" about 10 years previously. He had been passing blood in his urine for 15 to 20 years, but this did not trouble him and he had never sought treatment for schistosomiasis. His youngest child died of "enteritis" at the age of 1 year, but there was no other history of serious family illness. All of 18 specimens of urine examined at more or less regular intervals from November, 1949, until March, 1951, produced a heavy growth of a non-lactose fermenting organism when plated directly on Difco SS agar.

The Organism.—All isolates were actively motile Gram-negative bacilli which fermented glucose, mannite, and dulcite with the production of gas, and caused no change in lactose, sucrose, or salicin. They produced abundant hydrogen sulphide but were indole- and urea-negative and did not liquefy gelatin. They agglutinated strongly in salmonella O serum of group A, to a lesser extent in sera of groups B and D, and not at all in serum of group C; but formalinized broth cultures failed to agglutinate in any of the enteric group diagnostic H sera available in this laboratory. A culture was sent to Commander L. A. Barnes, of the Naval Medical Research Institute, Bethesda, Maryland, U.S.A., who identified the organism as *Salm. dublin*.

Eggs of *Schistosoma haematobium* were found in 16 of the 18 urine specimens, blood in 15, and macroscopic pus in every one. No salmonella or shigella organisms were cultured from 13 stool specimens examined at approximately monthly intervals.

Ten specimens of the carrier's blood were collected during the course of a year. The clots were cultured by a technique known to give a very high proportion of positive results in cases of enteric fever, but all were sterile. The serum specimens were used for agglutination tests. No H agglutinins for typhoid or paratyphoid A were detected; but low-titre (1:5–1:20) H-specific agglutinins for paratyphoid B and C were present in some of the specimens. The typhoid O titre fluctuated between 1:40 and 1:320, and the Vi titre from traces of agglutination at 1:5 or 1:10 dilutions to full standard agglutination at 1:20. The patient's serum invariably agglutinated formalinized broth cultures of his own organism at dilutions varying from 1:640 to 1:2,560.

Comment

The geographical and zoological distribution of the different salmonella species is of considerable interest and practical importance, because all seem to be potentially pathogenic for man. Although *Salm. dublin* has been isolated from many different animals, it appears to be particularly common in cattle and foxes, being at times the cause of epizootics in their young, with a high mortality leading to serious economic loss. It has been reported as a predominant salmonella type of cattle in Britain, Holland, Finland, Sweden, Australia, South Africa, and South

America; and of foxes in Denmark, Finland, Norway, Holland, and the far west of the United States of America (for references to the literature, see Wilson and Miles, 1946). The apparent absence of this particular salmonella from the extensive eastern and mid-western parts of the United States is quite remarkable (Edwards *et al.*, 1948).

Raw milk from an infected cow is the usual vehicle for human *Salm. dublin* infections, and large outbreaks of food-poisoning from this source have often been reported. Symptoms of the infection vary from a mild gastro-enteritis to a fulminating septicaemia, with a special predilection for fatal meningeal involvement in young children. In Britain *Salm. dublin* has been found more invasive for humans than the other food-poisoning salmonellae (Report of Ministry of Health, 1950). The present carrier had no access to cow's milk, but at the time when he had his bout of fever he was part owner of a water buffalo and customarily drank its milk raw. Since *Salm. enteritidis* (Gaertner) infection of water buffaloes had been described (Wolff, 1930) before this closely related organism was generally differentiated from *Salm. dublin*, they may well be natural hosts, as cattle are, and the patient's febrile episode was perhaps a *Salm. dublin* infection resembling enteric fever, conveyed by buffalo milk, followed by the chronic carrier state. This man's unhygienic family environment emphasizes the possibility that his infant's death at weaning age was due to a *Salm. dublin* infection conveyed from the father.

Chronic human carriers of salmonellae other than typhoid and paratyphoid are relatively uncommon, and those that have been reported were almost invariably faecal. I have failed to find any other chronic human carrier of *Salm. dublin* described in the literature. Ledingham and Arkwright (1912), however, mention two cases of chronic urinary infection with *B. enteritidis* Gaertner, which at that time was indistinguishable from *Salm. dublin*.

ADDENDUM (January 15, 1952).—This man continued to be a profuse urinary excreter of *Salm. dublin* until September, 1951, when he was given 30 g. of chloramphenicol in the course of 10 days. In 100 post-treatment days all of 31 urine and 14 stool specimens have been negative for salmonella organisms, despite uncured urinary bilharziasis.

Grateful acknowledgment is made to Dr. I. Messak, of the Egyptian Public Health Service and Rockefeller Foundation, for invaluable assistance in the collection of specimens and in language interpretation; to J. D. Gilmore, J. E. Samsell, and J. R. Baranski for technical assistance; to Captain J. J. Sapero, U.S.N., Commanding Officer of this Unit, for helpful advice; and to the Medical Director-General of the Navy for permission to publish.

REFERENCES

Anderson, E. S. and Richards, H. G. H. (1948). *J. Hyg., Camb.*, 46, 164.
Archer, G. T. L., Bangham, A. D., Dunbar, J. M., and Ritchie, A. (1950). *J. roy. Army med. Cps*, 94, 302.
Edwards, P. R., Bruner, D. W., and Moran, A. B. (1948). *J. infect. Dis.*, 83, 220.
Ledingham, J. C. G., and Arkwright, J. A. (1912). *The Carrier Problem in Infectious Diseases*. Arnold, London.
Miller, W. S. (1949). Paper read at Second Health Congress of the Egyptian Public Health Association, Cairo, December, 1949.
Morton, T. C. St. C. (1949). *Lancet*, 2, 72.
Neva, F. A. (1949). *Amer. J. trop. Med.*, 29, 909.
Report (1950). Food Poisoning in England and Wales, 1949. *Mon. Bull. Minist. Hlth, Lond.*, 9, 254.
Walton, H. C. M. (1949). *J. roy. Army med. Cps*, 93, 298.
Wilson, G. S., and Miles, A. A. (1946). *Topley and Wilson's Principles of Bacteriology and Immunology*. Arnold, London.
Wolff, J. W. (1930). *Geneesk. Tijdschr. Ned.-Ind.*, 70, 668.

The Archbishop of Canterbury said at a meeting of the Society for the Promotion of Christian Knowledge in London recently that the rising costs of printing meant that very soon we should become a nation of illiterate people (*Manchester Guardian*, March 7). This was not because we could not read intelligently—though he added that there were not so many who could—but because there would no longer be money left to print anything for people to read. This mounting cost was a real threat to our cultural life.

BALANTIDIASIS IN SOUTH PERSIA*

BY

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Balantidiasis is a rare disease in man, and it is therefore considered that the following 87 cases found in South Persia between April 1 and December 31, 1948, are worth placing on record. The only previous records of balantidiasis in Persia are by Stshensnovitsh (1943) and Selimkhanov (1947).

Local Conditions

The cases occurred among the population of Abadan, an oil refinery town on the island of Abadan, South Persia. This island is situated in the estuary of the Shatt-el-Arab river, at the head of the Persian Gulf, and is some 30 miles (48 km.) long and 5 miles (8 km.) wide at its broadest part. It is a flat desert, with small areas under cultivation. The temperature in winter seldom falls below freezing-point, and the summer shade temperature averages 110–118° F. (43.3–47.8° C.), with usually low humidity. The winter rainfall is about 15 in. (38 cm.). Rain does not fall during the summer.

The population of the town at the time consisted of about 200,000 Persians, 2,000 Indians and Pakistanis, and 5,000 British. About 100,000 of the Persians were either employed in the refinery operated by the Anglo-Iranian Oil Company or were dependants of employees. Much was done by the oil company to control and prevent the spread of disease by providing public lavatories and baths, clean piped water supply, an efficient sewerage system, and collection and disposal of refuse. It was sometimes difficult, however, to persuade the uneducated section of the populace to use these facilities, or to make them realize the value of simple hygiene.

In an effort to reduce the incidence of the dysenteries in Abadan a scheme was instituted on April 1, 1947, by which all artisan employees reporting sick and regarded as cases of dysentery on clinical grounds or from stool examination were admitted to the company's isolation hospital. Any employee found to be a carrier of dysentery was also admitted. This scheme was described by Stewart (1949), and led to the collection of this series.

An excellent account of the pathology, with necropsy reports, and a review of the literature on balantidiasis, is given by Koppisch and Wilking (1947).

Mode of Infection

All patients in this series were Mohammedans. In accordance with their religion they had no contact with pigs, nor did they eat pork. The pig can be excluded as the source of infection. This is in accordance with the conclusion reached by Ostroumov (1947) following examination of pigs and slaughterhouse workers in Soviet Central Asia.

No cysts were found in the stools in the Abadan series, and no source of infection, apart from the human cases, was discovered. Intestinal contents of sheep and cattle killed in the town slaughterhouse were examined, but no balantidia were found. The excreta of goats and samples of river water revealed no balantidia. After this investigation, which ended on December 31, 1948, cases occurred with much less frequency, but all continued to be admitted to hospital for treatment. Dr. I. S. Stewart later informed me in a personal communication that balantidiasis is now rare. A man-to-man transmission of the infection therefore seems to be strongly suggested.

*This paper is condensed from a thesis presented for the M.D. degree of the University of Glasgow, 1950.

Method of Investigation

The geographical location of the patient and any contact with animals over the two years prior to admission to hospital were investigated. Neither of these factors was found to be significant. A history of previous attacks of diarrhoea and of the present attack was taken. A history of previous diarrhoea was found in 65% of cases.

A routine physical examination, inspection of the lower 7 in. (17.8 cm.) of bowel by sigmoidoscopy, macroscopic and microscopical stool examinations, and stool culture were made. Each case was re-examined after six months, and if the stool was positive had further treatment and was followed up.

Clinical Features

Common complaints were diarrhoea, abdominal pain, tenesmus, and the passage of blood and mucus. In uncomplicated cases the symptoms in general were mild, though 22% had severe pain and diarrhoea with much blood and mucus. Seven cases which had concomitant bacillary dysentery and one with concomitant amoebic dysentery had severe symptoms.

Small discrete ulcers were found in the lower bowel in 11 cases. Scrapings of these ulcers invariably revealed the presence of numerous balantidia. These ulcers healed in each case after successful treatment of the infection. Physical examination commonly revealed tenderness and patchy thickening of the colon. No death occurred in the series.

Treatment

Until it became evident that acetarsol ("stovarsol") was a specific treatment, other drugs were given a trial. Two cases were admitted to hospital with positive stool reports, but no balantidia were found after admission, and no treatment was given.

Sulphaguanidine.—A daily dose of 20 g. was given to seven cases of uncomplicated balantidiasis. Three cases received a total of 20 g. each, one case 40 g., one 60 g., one 80 g., and one 100 g.

Mepacrine.—As mepacrine had proved successful in the treatment of giardiasis, it was given a trial. Five cases were each given 0.1 g. thrice daily. One case in this group had previously received sulphaguanidine, 80 g.

Mercury Biniodide.—In view of Shun-Shin's (1947) success with mercury biniodide, five cases were given two intramuscular injections of ½ gr. (32 mg.) with an interval of two days between injections.

Acetarsol.—Eleven cases were given 4 gr. (0.26 g.) thrice daily for five days, a total of 60 gr. (4 g.). Fifty cases were given 4 gr. (0.26 g.) thrice daily, until the stools became negative, when treatment was stopped. Of these 50 cases, 3 had one day's treatment—12 gr. (0.8 g.), 11 had two days' treatment—24 gr. (1.6 g.), 27 had three days' treatment—36 gr. (2.4 g), and 9 had four days' treatment—48 gr. (3.2 g.). Twenty cases which were positive at the follow-up or had relapsed within six months were also treated with acetarsol until the stools became negative. Six cases had two days' treatment—24 gr. (1.6 g.), 11 had three days' treatment—36 gr. (2.4 g.), and 3 had four days' treatment—48 gr. (3.2 g.) (see Table II).

TABLE I

No. of Cases Treated	Drug Used	Daily Dose	Days of Treatment	Method of Administration
7*	Sulphaguanidine	20 g.	1–5	Oral
5*	Mepacrine	0·3 g.	5	,,
5*	Mercury biniodide	½ gr. (32 mg.)	2	I.M. injection
11	Acetarsol	12 gr. (0·8 g.)	5	Oral
50 plus 20 followed up	,,	12 gr. (0·8 g.)	1–4	,,

Two cases had no treatment.
* Some of these cases were treated with two different drugs.

Thirteen further cases were treated with acetarsol, but as these men left the employ of the company, or were non-employees and could not be traced, they are excluded from further mention in this series. The treatment is summarized in Table I.

Table II summarizes the number of days of treatment and the quantity of acetarsol administered before the stools became negative in the last 50 cases of the series and in those cases which were positive at the follow-up or which relapsed.

TABLE II

No. of Cases	Days of Treatment	Amount of Acetarsol	
		gr.	g.
3	1	12	0·8
17	2	24	1·6
38	3	36	2·4
12	4	48	3·2

Average no. of days of treatment = 2·84.
Average quantity of acetarsol given = 34·1 gr. (2·3 g.).

Immediate Response to Treatment

Of the seven cases treated with sulphaguanidine, the stools became negative in four, and remained positive in three. In no case treated with mepacrine or with mercury biniodide did the stools become negative. One case with concomitant amoebic dysentery received 10 intramuscular injections of emetine hydrochloride, 1 gr. (0.65 mg.), but *Balantidium coli* persisted in the stools.

Acetarsol was given to the 61 original cases, to the two that relapsed within six months, and to the 18 that were positive at the follow-up. No case failed to respond to this treatment, the stools becoming negative in every case. In two untreated cases the stools spontaneously became negative.

Result of Follow-up

One of the two untreated cases had a positive stool at the follow-up six months later. Acetarsol was given until the stools became negative, and six months later they were still negative. Sulphaguanidine, mepacrine, or mercury biniodide, or a combination of these drugs, was used in the treatment of 17 cases. All these had a positive stool at the follow-up after six months, and all were negative six months later, after treatment with acetarsol.

Of the 61 cases treated with acetarsol at the outset, two relapsed, one in a month and the other in two months, four had a positive stool on follow-up, and 55 a negative stool. The two relapses and the four which were positive at the follow-up were treated again with acetarsol, and all had a negative stool six months later.

All cases in the series were permanently cured by acetarsol, although two treatments were required in six cases. Table III summarizes the immediate response to treatment and the result of the follow-up.

TABLE III

No. of Cases	Treatment Given	Immediate Result of Treatment		Relapses	Follow-up	
		Stool Pos.	Stool Neg.		Stool Pos.	Stool Neg.
2	None	—	2	?1	1	1
7	Sulphaguanidine	3	4	—	7	—
5	Mepacrine	5	—	—	5	—
5	Mercury biniodide	5	—	—	5	—
61	Acetarsol	—	61	2	4	55

Discussion

The pathology of balantidiasis has been thoroughly investigated by several workers (Walker, 1913; Strong, 1942; Koppisch and Wilking, 1947). There is no divergence of opinion on the type of lesion produced or the

degree of severity these lesions may attain. The two main problems of balantidiasis remain to be solved: first, its mode of spread, and, secondly, its treatment.

Opinion is divided on whether or not the pig plays any part in the spread of human balantidiasis. Walker (1913) is of opinion that pigs serve as a reservoir for human infection, and Craig and Faust (1940) state that 25% of cases give a history of contact with pigs. Neither, however, produces evidence of the transfer of the infection from a pig to man. The evidence to support the theory of infection being contracted from pigs is therefore only presumptive. Ostroumov (1947), after studies of abattoir workers, states that he is convinced that the pig plays no part in the epidemiology of human balantidiasis. Ferri (1943), from observations on a group of children in a mental hospital in Tomsk, concluded that the infection was passed from child to child. In my series of cases it is certain that pigs played no part in the transmission of the disease. It may therefore be concluded that balantidiasis may be contracted from pigs, but it is certain that the disease can be transmitted without the pig acting as an intermediate host.

In the group of children studied by Ferri no cysts were seen. Neither in my series were any cysts seen in numerous stool examinations in each of 87 cases. It therefore seems a logical conclusion that transmission can occur in the active ciliate state, although the generally accepted theory is that infection occurs by swallowing cysts.

The first experiment to produce human balantidiasis was carried out in 1896. Andrews (1930) cites Cassagrandi and Barnagallo as having in that year fed balantidia from man and pigs to human volunteers, but they failed to infect them. Ziemann, in 1925, again cited by Andrews, fed balantidia from chimpanzees to men, but also failed to infect them. In view of the number of different species of *Balantidium* described since these early experiments, however, we cannot be sure that it was *Balantidium coli* which was actually used. Knowles and Das Gupta (1934) fed trophozoites and cysts of balantidia from the monkey *Macacus rhesus* to two men. Neither developed balantidiasis. However, it is now known that the rhesus monkey is infected by *Balantidium simile*, which is not pathogenic to man, and balantidiasis would not therefore develop. Young (1950) fed cysts and vegetative *Balantidium coli* in gelatin capsules to two volunteers. Over a period of 10 years neither developed diarrhoea or passed cysts or trophozoites in the stools. The ciliates given were obtained from a human case of balantidiasis. No intermediate host was found in my series, and the mode of transmission of balantidiasis must remain open to debate.

Sweeney (1929) carried out experiments on guinea-pigs with balantidiasis in an endeavour to find a suitable drug for treatment. Of many substances tried, she found the arsenicals gave the best results, and more particularly acetarsol, tryparsamide, and "parosan." These drugs do not seem to have been used much in the treatment of human balantidiasis. Only one reference to the use of acetarsol was found (Atiles, 1943). Results in my series would indicate acetarsol to be of definite value. No success was obtained with mercury biniodide, as used by Shun-Shin (1947) and Pramanik (1947).

Summary and Conclusions

A series of 87 cases of balantidiasis among the workers of a large industrial concern in South Persia is described. The mode of infection is assessed, the method of the investigation outlined, and the result of treatment stated.

It is stated that pigs played no part in transmission of the disease, that man-to-man transmission is strongly suggested, and that acetarsol is an effective drug in the treatment of balantidiasis.

I should like to thank Dr. S. D. McClean, chief medical officer, Anglo-Iranian Oil Company, for permission to publish this paper, and Dr. I. S. Stewart, pathologist, Anglo-Iranian Oil Company, for much helpful criticism in its preparation.

BIBLIOGRAPHY

Andrews, J. (1930). *Trans. 8th Cong. Far East Ass. trop. Med.*, 2, 194.
Atiles, A. D. (1943). *Puerto Rico J. publ. Hlth*, 18, 287.
Craig, C. F., and Faust, E. C. (1940). *Clinical Parasitology*, p. 217. Philadelphia.
Ferri, L. V. (1943). *Trop. Dis. Bull.*, 40, 459.
Knowles, R., and Das Gupta, B. M. (1934). *Indian med. Gaz.*, 69, 390.
Koppisch, E., and Wilking, V. N. (1947). *Puerto Rico J. publ. Hlth.* 23, 185.
Ostroumov, V. G. (1947). *Trop. Dis. Bull.*, 44, 904.
Pramanik, A. (1947). *British Medical Journal*, 2, 794.
Selimkhanov, K. A. (1947). *Trop. Dis. Bull.*, 44, 91.
Sewart, I. S. (1949). *British Medical Journal*, 1, 662.
Shun-Shin, M. (1947). Ibid., 2, 417.
Strong, R. P. (1942). In Stitt's *Diagnosis, Prevention and Treatment of Tropical Diseases*, 6th ed., vol. 1, p. 445. Philadelphia.
Stshensnovitsh, V. (1943). *Trop. Dis. Bull.*, 40, 313
Sweeney, M. A. (1929). *Amer. J. Hyg.*, 9, 544.
Walker, E. L. (1913). *Philipp. J. Sci.*, *B*, 30, 333.
Young, M. D. (1950). *Amer. J. trop. Med.*, 30, 71.

EXCHANGE TRANSFUSION IN SEVERE ANAEMIA

BY

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The object of this paper is to describe a technique for exchange transfusion in patients with severe anaemia. The technique has not, to my knowledge, been reported previously.

In exchange transfusion the patient's blood is exchanged for similar volumes of whole blood or packed cells. In the present method packed cells are used, and the general principle of combined exsanguination and transfusion is the same as that employed in the treatment of erythroblastosis and chronic leukaemia.

In severe prolonged anaemia, however, there is little cardiac reserve, and some cases exhibit cardiac failure with congestion. For such cases Victor Riddell (1939) suggested preliminary venesection before transfusion, but with the technique here described exsanguination and transfusion are done simultaneously.

Technique

The components of the transfusion apparatus are: (1) Packed cells; (2) giving set; (3) funnel calibrated in ml. for measuring volume of transfusion blood; (4) two lengths of 2-mm. bore polythene tubing; (5) cannula to unite giving set and polythene tubing; (6) cutting-down set; (7) measuring cylinder (1,000 ml.) calibrated in ml.; (8) heparin (5,000 units per ml.); (9) 50-ml. syringe with 3.8% sodium citrate or heparinized saline (5,000 units per litre normal saline); (10) sterile needle (for use in removing clots from tip of venous escape); (11) acriflavine-cetrimide skin preparation; (12) tourniquet. (Sterilization of polythene tubing: Farquhar and Lewis, *Lancet*, 1948, 2, 244.)

The apparatus for the transfusion is set up as shown in Fig. 1. Packed cells are run into the measuring funnel, and a little is allowed to run through the apparatus to clear it of air bubbles.

Cut-down.—A vein in the antecubital fossa is incised immediately distal to a venous valve. A transverse skin incision is made across the vein, the vein is mobilized, ligatures are passed beneath the vein, and the ends are brought out through the skin. A longitudinal incision is made into the vein. When the lumen is opened the haemorrhage is stopped by passing a haemostat beneath the vein. (The tension in the vein causes the walls to come together.)

FIG. 1.—Simple exchange transfusion.

The "polythene" tubing (2-mm. bore) is then inserted into the vein and pushed proximally for several inches. The transfusion is started at a rate of 10–15 drops a minute. The proximal ligature is tied.

Venous Escape.—A second polythene tube is washed through with 1 ml. of heparin (5,000 units) and inserted into the vein through the same incision in its wall. It is pressed distally down the vein for a few inches. Should a venous valve be encountered, it is better to withdraw the tubing a short distance, as a freer flow of blood results. The venous-escape tubing is secured with the distal ligature. Skin sutures are inserted and tied. The length of venous-escape tubing left outside the vein should be cut to about 6 or 8 in. (15 or 20 cm.). If it is longer, clotting within the tube is troublesome. The venous-escape tube is led into a measuring cylinder.

Control of Transfusion

The rate of transfusion depends on the rate of venous escape, both being measured volumetrically. The two rates should in most cases be equal. In the few cases of congestive failure needing venesection the venous escape may be allowed to exceed the volume transfused.

Venous escape should be rapid. Any tendency to slowing can be obviated by the use of a tourniquet to increase the venous pressure; palpation of the radial pulse will ensure that the tourniquet does not increase the systolic pressure. Once the rate of venous escape has been restored, the tourniquet should be released, as its prolonged application is painful.

Transfusion through polythene tubing is rarely troublesome, but clotting in the venous escape may occur. Clots form at the free end, and can be removed with a needle. A tourniquet applied distal to the proximal end of the transfusion tubing (in the vein) will increase the venous pressure and may expel such a clot. Otherwise, moving the tubing in the vein or syringing with heparinized saline (5,000 units per litre) may succeed. It is considered inadvisable to give systemic heparin, as the tendency to haemorrhage (already great in such patients) may be increased. Dicoumarol is, of course, contraindicated.

The physician in charge of the transfusion must remain at the bedside or within calling distance of the patient throughout the transfusion. A special nurse is needed for whole-time duty with the patient.

During transfusion the following are observed: (1) filling of neck veins; (2) half-hourly pulse; (3) blood pressure—hourly readings suffice; (4) drip rate and venous escape (drops/minute), half-hourly (used only as a rough check on exchange rates); (5) drip volume/unit time (half-hourly); (6) venous-escape volume/unit time (half-hourly); and (7) clinical observations.

The value of direct measurements of venous pressure during exchange transfusion has yet to be ascertained.

The following are illustrative cases. Case 1 particularly shows the need for simultaneous exsanguination.

Case 1

A man aged 59 suffering from pernicious anaemia came under our care on May 4, 1949. On admission he was very pale and very weak; he was unwilling to move, and was too ill to give a history. A blood count showed: haemoglobin, 3.4 g./100 ml. (23%); red cells, 970,000; colour index, 1.18; reticulocytes, 0.8.

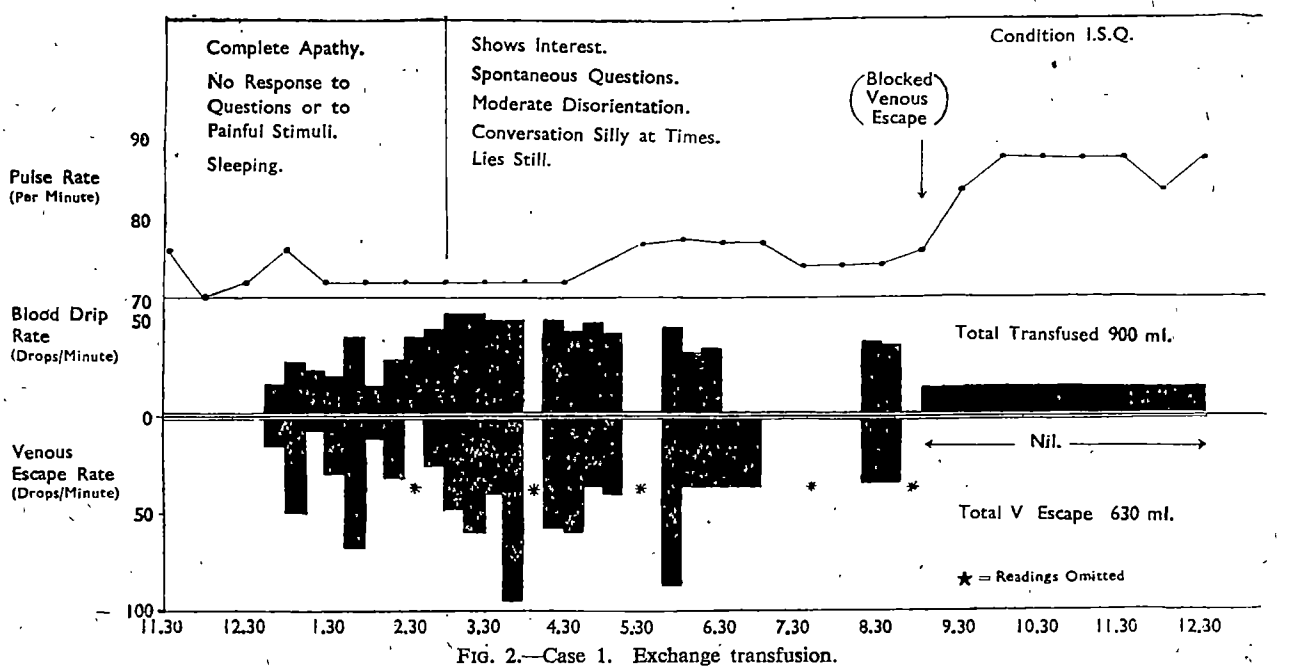

FIG. 2.—Case 1. Exchange transfusion.

Replacement transfusion was started at 11.30 a.m. on May 5, using 1 mm. polythene tubing. The venous escape was troublesome. Fig. 2 shows the wide fluctuations in venous-escape rate. Nevertheless, after each reading the venous-escape rate and transfusion rates (in drops a minute) were made equal.

From the start of the transfusion until about 9 p.m. there was a progressive improvement. He lost his complete apathy, took an interest in things about him, and began to ask questions spontaneously and even to smile at times.

At 9 p.m. the venous escape blocked completely, and a slow direct transfusion was allowed to continue. There was no further improvement in his condition. Instead there was a statistically significant rise in pulse rate coincident with the blocking of the venous escape. The mean pulse rate before 9 p.m. was 74 (standard deviation 2.03); after 9 p.m. it was 86 (standard deviation 4.25). On May 6 the Hb was 6.8 g./100 ml. (46%) and red blood cells 2,480,000. Next day the Hb was 5.3 g./100 ml. (36%) and red blood cells 1,850,000. The total volume transfused was 900 ml.; the total venous escape was 630 ml.; and the duration of transfusion was 13 hours.

Case 2

A man aged 70 had suffered from symptoms of idiopathic steatorrhoea for three years, when in 1947 he developed a reticulum-cell sarcoma of the palate. Repeated recurrences of metastases in mediastinum and skin were treated successfully by radiotherapy. In July, 1949, he was admitted once more. He was very pale and weak, and had purpuric spots on his arms and legs. There was an apical systolic murmur; the pulse was feeble at 90; and the B.P. was 90/80. On July 6 a blood count showed: Hb, 3.99 g./100 ml. (27%); red cells, 1,430,000; colour index 0.91; platelets 20,000 per c.mm.

An exchange transfusion was carried out on July 7. This was the last of the present series of replacement transfusions, and is the most complete in data. Fig. 3 demonstrates the progress in the transfusion.

The blood pressure rose very gradually from 110/60 to 140/85 during the transfusion. The pulse pressure increased only by 5 mm. Hg. This is not a significant change. The pulse remained at 110 until 8.15, when the venous escape blocked. Thereafter it rose slightly to 120, reaching this rate at 9.15 p.m., when the transfusion was stopped. This rise is probably significant, but not certainly so.

The cumulative blood-drip volume and the cumulative venous escape show a marked discrepancy. (It will be noted that there were half-hourly readings of blood drip volume, but only two readings of venous-escape volume were taken.) This discrepancy was noted when the first cumulative venous escape reading was taken. The blood-drip rates and venous-escape rates in drops a minute before the first cumulative venous-escape reading had not given any indication of an inequality.

At the outset the patient was very pale and his respirations were quick and sighing. He preferred to be supported on a back rest. He was very weak. His colour improved quite soon after the transfusion was begun. His breathing became easy and unhurried by 4.45 p.m., but he remained very weak. There was never any congestion of the neck veins. The total volume transfused was 1,020 ml., the total venous escape was 1,080 ml.; and the duration was seven hours. On July 8 a blood count showed: Hb, 5 g./100 ml. (34%); red cells, 1,880,000; colour index, 0.9. In a few days he became weaker and was given a direct transfusion. His progress was relentlessly downhill. He was constipated until July 11, when melaena occurred, so it is possible that he was bleeding into the bowel at the time of his transfusion. Death occurred on July 14. At the post-mortem examination the clinical diagnoses were confirmed. There was, in addition, oedema of the left lower lobe, but no dilatation of the atria or ventricles. A recent subdural haemorrhage and gastro-intestinal haemorrhages were present.

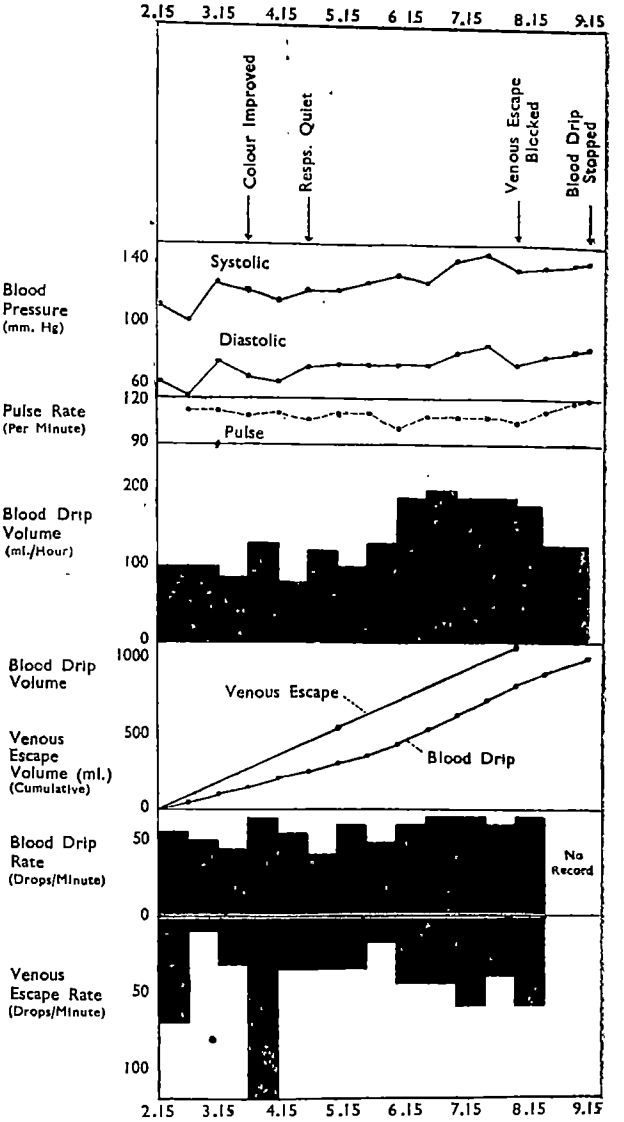

FIG. 3.—Case 2. Exchange transfusion.

Case 3

A frail old lady was admitted with profound pernicious anaemia. Her feet had been swollen in the evenings throughout the previous two months, though this had gone since she had been confined to bed. There was no evidence of congestive heart failure.

It was decided to carry out an exchange transfusion; 2-mm.-bore polythene tubing was used. The transfusion lasted six and a half hours, and in that time 2,300 ml. was transfused, and 2,900 ml. removed (to the nearest 100 ml.).

The pulse remained between 80 and 90 throughout the transfusion. The total amounts exchanged were large in comparison with previous cases. Throughout the transfusion, however, the patient gradually improved; she became warmer and her colour returned. She was cheerful while awake and untroubled in her sleep. She was never distressed in any way, and never showed filling of the neck veins.

Slight puffiness of the eyelids was noted in the early hours of the morning when the transfusion was stopped.

At that time the pulse rose to 88. With the exception of one reading (at 9.30 p.m.) the pulse had not exceeded 84 prior to this last reading.

She was well next day. The change was very gratifying. The blood counts before and after transfusion were:

	Hb g./100 ml.	Hb %	R.B.C.	Retic.	C.I.
July 17	3·3	22	1·12	14·8	0·99
,, 18	3·4	23	1·07	15·2	1·08
Transfusion					
July 19	10·1	68	4·02	2·2	0·84
,, 24	8·4	60	3·444	1·0	0·87

The following night she developed dyspnoea, due to pulmonary oedema, which by 9 a.m. next day was severe. It responded to oxygen and rest, and by the afternoon she was perfectly well. No further complications occurred. She was resistant to treatment with liver extracts, and underwent a further transfusion at a later date. The transfusion was a slow direct transfusion without any venous escape and was well tolerated. Her haemoglobin when this transfusion was carried out was 32% (4.7 g./100 ml.).

Comment

It is suggested that exchange transfusion by the method described is indicated in (1) cases of severe anaemia with congestive heart failure, and (2) cases of severe anaemia (Hb 25% or lower) of many weeks' duration but not associated with venous congestion.

The advantages of the method are: (1) There is a greatly reduced risk of circulatory overloading, since the blood volume is controlled; and (2) the transfusion is more quickly done than with the usual practice of giving several small slow transfusions over the course of a few days.

Summary

A technique for exchange transfusion, in which exsanguination and transfusion are simultaneous, is described.

Three cases of severe anaemia are reported in which exchange transfusions were performed.

Indications for, and advantages of, exchange transfusion are mentioned.

My thanks are due to Dr. C. C. Ungley without whose help this paper would not have been written. They are due also to Mr. H. Campbell for the statistical interpretation of results, to Professor Duguid for the pathological data given, and to the medical and nursing staff of wards 10 and 12, Royal Victoria Infirmary, Newcastle-upon-Tyne, for their help and encouragement.

BIBLIOGRAPHY

Altschule, M. D., and Gilligan, D. R. (1938). *J. clin. Invest.*, 17, 401.
Caughey, J. L., jun. (1935). *Proc. Soc. exp. Biol., N.Y.*, 32, 973.
Drummond, R. (1943). *British Medical Journal*, 2, 319.
Marriott, H. L., and Kekwick, A. (1940). Ibid., 1, 1043.
Riddell, V. H. (1939). *Blood Transfusion*. London.
Sharpey-Schafer, E. P., and Wallace, J. (1942). *British Medical Journal*, 2, 304.
Watson, L. (1943). *Lancet*, 1, 107.

On March 19 the first party of 25 British children left for Vordinborg, in Denmark, under the Anglo-Danish Society's scheme for their treatment at a Danish sanatorium. The children were chosen by the medical committee of N.A.P.T., and the British Red Cross helped to make the travel and welfare arrangements. Funds to meet the cost of transport and maintenance of this and subsequent parties of British children suffering from tuberculosis will come from the special fund created for the purpose by the Anglo-Danish Society. The ages of the children range from 8 to 15; there are 14 boys and 11 girls, mainly from London and the Birmingham and Oxford regions. It is expected that treatment in most cases will last about six months. The scheme will do something to reduce the waiting-list for beds in this country.

HOMOLATERAL PYRAMIDAL SIGNS WITH TUMOURS OF THE POSTERIOR FOSSA

BY

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It is well known that tumours and other displacement lesions of the cerebral hemispheres sometimes give rise to *homolateral* pyramidal signs. Kernohan and Woltman (1929) made a careful study of this phenomenon. The expanding lesion causes displacement of the brain stem, so that indentation of the *opposite* cerebral peduncle is produced by the edge of the tentorium; the affected pyramidal fibres cross below, in the decussation of the pyramids, to the same side as the lesion. The following case is cited as an example.

Illustrative Case

Case 1. Subdural haematoma of the right hemisphere: weakness of the right hand and arm, and equivocal right plantar response.—A man aged 47, who suffered from sleepiness for three months and headache and irritability for one month, became suddenly unconscious on June 22, 1946. There was no history of a head injury. On admission to hospital the same day he was conscious but very drowsy. There was no papilloedema and there were no localizing signs. The cerebrospinal fluid contained 80 mg. of protein per 100 ml., and it was yellow after treatment in the centrifuge. During the next few days the drowsiness fluctuated. Two weeks after admission the patient was referred to us. At that time there was *weakness of the right hand and arm* and the *right plantar response was equivocal*. Ventriculography, performed on July 6, showed displacement of the anterior part of the ventricular pattern to the left. A right frontal burr-hole revealed a subdural haematoma, which was solid and adherent to the membranes. A bone-flap was turned down and the haematoma exposed after wide reflection of the dura mater. The whole of the superolateral surface of the hemisphere was involved. There was no haematoma on the opposite side.

Comment.—It is not so well known that a closely similar phenomenon may occur with tumours in the posterior fossa, though Kernohan and Woltman found records of five examples in the series of intracranial tumours which they investigated, and Gould (1928) stressed the occurrence of *homolateral* hyperreflexia with some tumours of the posterior fossa. Tumours of the frontal region may produce "cerebellar" signs, and, conversely, slowly growing tumours in the posterior fossa may cause little or no disturbance of cerebellar function. Therefore the possible occurrence of pyramidal signs on the same side as a posterior fossa tumour may cause further difficulty in diagnosis.

In the following five cases various homolateral pyramidal signs were observed.

Case Reports

Case 2. Cyst of the left cerebellar hemisphere: paresis of the lower half of the face and weakness of the upper extremity on the same side.—A woman aged 46 was admitted to hospital in April, 1949, with a six-weeks history of intermittent headaches, giddiness, and vomiting. She showed a

mild degree of neck stiffness, moderate hypotonia of all the limbs, brisk knee-jerks, and considerable apathy. The patient refused ventriculography and left the hospital. She was readmitted six weeks later with bilateral frontal headache and insomnia. Diplopia had been noticed for two weeks. She was doubly incontinent, and neck rigidity, bilateral papilloedema, *marked left lower facial paresis*, and *weakness of the left arm* were present. All the limbs were hypotonic, especially on the left side. The left ankle-jerk was diminished and the plantar reflexes could not be elicited. The patient was given a general anaesthetic, as she refused local infiltration; while the towels were being arranged preparatory to needling of the frontal lobes she suddenly died. At necropsy a large cyst was found in the left cerebellar hemisphere. Microscopical examination of a nodule in the wall of the cyst failed to show any tumour cells.

Case 3. Astrocytoma of the left cerebellar hemisphere: paresis of the lower half of the left side of the face.—A man aged 43 had been perfectly well until three weeks before admission to hospital on October 17, 1949. During this period he had developed headache, vomiting, and severe lassitude; he had also had a cough for the same time. Drowsiness and slight neck stiffness were present, but no other physical signs. Several relations had succumbed to tuberculosis of the lungs; tuberculous meningitis was therefore suspected. The cerebrospinal fluid was slightly turbid; it contained 200 mg. of protein per 100 ml., 500 cells (all polymorphs) per ml., increased globulin, and 80 mg. of sugar per 100 ml. The patient's temperature ranged between 97.8 and 101.4° F. (36.6 and 38° C.). During the next two days deterioration occurred and on October 19 he was transferred to the neurosurgical department in a stuporous condition. There was no papilloedema. *There was a marked left lower facial paresis*, but no other physical signs. Ventriculography showed enlargement of the lateral ventricles and the third ventricle. A large tumour was partially removed from the left cerebellar hemisphere; histological examination showed it to be an astrocytoma.

Case 4. Astrocytoma of the left cerebellar hemisphere: paresis of the lower half of the left side of the face.—A youth aged 17 gave a history of frontal and suboccipital headache, vomiting, and loss of appetite for 14 weeks. On admission to hospital on October 12, 1949, moderate bilateral papilloedema and a slight *left lower facial paresis* were present, but there were no other physical signs. Radiography showed several Wormian bones at the pterion on both sides. Ventriculography on October 18 showed great enlargement of the lateral ventricles and the third ventricle. The posterior fossa was explored through a horseshoe incision. Reflection of the dura mater showed the left cerebellar hemisphere to be more prominent than the right, and there was considerable herniation of the tonsils, the left descending lower than the right. A brain cannula passed into the left cerebellar hemisphere entered a cyst containing 25 ml. of yellow fluid (7 g. of protein per 100 ml.). The cyst and its associated tumour were removed on another occasion (histology: astrocytoma).

Case 5. Solitary secondary carcinoma in left cerebellar hemisphere: paresis lower half of the left side of the face, and positive Babinski sign on the same side.—A man aged 55 was admitted to hospital in coma on February 15, 1950. His wife reported that for two months he had suffered from severe recurrent frontal and vertical headache, recently accompanied by vomiting. For three weeks there had been a cough and thick yellow sputum. He did not respond to pressure on the supraorbital nerves. Marked neck stiffness and advanced bilateral papilloedema were present. Radiography of the chest showed a large shadow on the right side; its appearance was that of a carcinoma of the bronchus. The patient recovered consciousness and was able to cooperate. There was a slight *left lower facial paresis*, a *left Babinski response*, and hypotonia of both legs. There were no other physical signs. The right frontal lobe was needled, but no evidence of a tumour was found. Ventriculography showed enlargement of the lateral ventricles and the third ventricle. Burr-holes were made over the cerebellar hemispheres and a cannula was passed into the left lobe: 6 ml. of thin pus was withdrawn; the fluid contained pus cells, but no tumour cells. Penicillin was instilled into the cavity and the patient's condition improved. Needling was repeated the next day and tissue containing tumour cells was obtained. The patient died on March 4, and at necropsy a large solitary tumour was found in the left cerebellar hemisphere, secondary to a bronchial carcinoma.

Case 6. Meningioma of the right side of the posterior fossa: positive Babinski sign on the right, and later paresis of the lower half of the right side of the face.—A man aged 48 complained of occipital headaches for six months. At first they occurred only in the morning, but later they persisted throughout the day. For about two months there had been vomiting, loss of weight, and defective memory. He was admitted to hospital on February 8, 1950, with very severe headache, which made him somewhat uncooperative. There were moderate bilateral papilloedema and nystagmoid movements on fixation to either side. There was a *positive Babinski sign on the right side*. Five days later he developed a *right lower facial paresis*, but on this occasion both plantar responses were normal. Needling of the left frontal lobe was negative. Later, ventriculography showed enlargement of the lateral ventricles and the third ventricle. Exploration of the posterior fossa on March 14 revealed on the right side a large extracerebellar tumour, which was removed; it was later shown to be a meningioma.

Comment

The pyramidal signs observed in these cases were all on the same side as the tumour, and included the central type of facial paresis, weakness of the upper limb, and a positive Babinski sign—in variable combinations. It is noteworthy that in none of the cases was any weakness of the lower limb found. The lower limb has never been paretic in our cases of supratentorial tumour with homolateral pyramidal signs. Ectors (1945), however, states that the leg is always affected first, and to a greater extent than the arm, and he attributes this effect to the distribution of the pyramidal fibres in the cerebral peduncles as demonstrated in monkeys: the leg fibres are placed laterally, the arm fibres in the middle, and the face fibres medially (Simpson and Jolly, 1907).

Our own observations are supported by the work of Walker (1949) and of Guiot and Pecker (1949), who have divided the lateral part of the opposite cerebral peduncle for the relief of unilateral involuntary movements. Their case records show that after the immediate post-operative hemiplegia the paralysis recovers rapidly, leaving some residual weakness of the face and arm, with no detectable weakness of the leg.

It therefore appears that, whatever the arrangement of the pyramidal fibres in the peduncles may be, the more important factor is the degree of bilateral cortical representation of the parts concerned. Bucy and Fulton (1933) have obtained ipsilateral motor responses in monkeys by electrical stimulation of the motor and premotor cortex, and their work has been confirmed by Wyss (1938). In classical cerebral apoplexy the arm is more paralysed than the leg; and, after hemispherectomy for infantile hemiplegia, recovery of motor function is more marked in the leg than in the arm (Krynauw, 1950).

Summary and Conclusion

Some intracranial tumours displace the brain stem enough to cause indentation of the *opposite* cerebral peduncle; and thus both supratentorial and infratentorial tumours sometimes give rise to pyramidal signs on the same side as the tumour, and cause difficulty in localization.

The literature on this subject is largely concerned with supratentorial tumours; this communication aims at redressing the balance by the presentation of cases of

infratentorial tumours in which homolateral pyramidal signs occurred and definite cerebellar signs were lacking. The practical implications of the syndrome are indicated.

The association of increased intracranial pressure with mild pyramidal signs, without other localizing evidence, should lead to ventriculography rather than to angiography, unless electroencephalography shows a definite focus of delta activity in one cerebral hemisphere.

REFERENCES

Bucy, P. C., and Fulton, J. F. (1933). *Brain*, 56, 318.
Ectors, L. (1945). *Les Méningiomes de la Troisième Frontal.* Masson, Paris.
Gould, E. M. (1928). *Arch. Neurol. Psychiat., Chicago*, 19, 509.
Guiot, G., and Pecker, J. (1949). *Sem. Hôp. Paris*, 25, 2620.
Kernohan, J. W., and Woltman, H. W. (1929). *Arch. Neurol. Psychiat., Chicago*, 21, 274.
Krynauw, R. A. (1950). *J. Neurol. Neurosurg. Psychiat.*, 13, 243.
Simpson, S., and Jolly, W. A. (1907). *Proc. roy. Soc. Edinb.*, 27, 281.
Walker, A. E. (1949). *Acta psychiat., Kbh.*, 24, 723.
Wyss, O. A. M. (1938). *J. Neurophysiol.*, 1, 125.

Medical Memoranda

Emergency Operation on Patient under A.C.T.H. and Cortisone Therapy

The decision to carry out an emergency operation should not be delayed for fear of a breakdown of the wound and of poor healing due to the effect of the new antirheumatic agents on tissue repair. The following case of a strangulated femoral hernia in which sound healing occurred within the normal time limits shows how wrong it would have been to procrastinate.

CASE REPORT

A spinster chiropodist aged 52 had been treated for rheumatoid arthritis in both hands, elbows, shoulders, ankles, and knees by several courses of gold injections, later with progesterone, and during the past seven months with A.C.T.H. and cortisone. A.C.T.H. was given in doses up to 200 mg. in 24 hours, the cortisone in daily doses of 100 mg., until the day of the operation.

A right femoral hernia, which the patient had first noticed two and a half years previously, was painful for four days and then became tender, firm, and tense. The skin in the groin was found to be red and oedematous. There was a pyrexia up to 100.5° F. (38.1° C.). Lower abdominal pain and sickness followed. An enema gave a good faecal result, with flatus. The pyriform hernia, extending into the femoral triangle, was thought to contain strangulated omentum and it was decided to operate immediately.

Under general anaesthesia an incision was made, starting over the neck of the hernia and extending vertically downwards for 3 in. (7.5 cm.) into the femoral triangle. The tense sac, the size and shape of an outdoor cucumber, contained blood-stained fluid and necrotic omentum, as confirmed on section. This was resected. For the herniotomy and closure of the femoral canal linen thread was used. A corrugated rubber drain was inserted for four days, and the considerable subcutaneous fat layers were closed by interrupted catgut stitches.

Systemic soluble penicillin was given, 250,000 units six-hourly for five days, and ascorbic acid for three weeks post-operatively in doses of up to 100 mg. three times a day by mouth. Cortisone, which was the only antirheumatic agent administered at the time, was reduced from the daily dose of 100 mg. to 75 mg. All sutures were removed on the fourteenth post-operative day. The abdominal symptoms had subsided on the morning after the operation and the wound healed soundly. When examined six weeks later the scar was firm and no cough impulse was felt.

COMMENT

In accordance with the widespread belief in the depressive effect of adrenocortical steroids on wound-healing, through their influence on connective tissue (Plotz *et al.*, 1950), operations are rarely performed on patients thus treated. Repair is said to be decreased and scar formation largely inhibited if these substances are given in large doses. No reports are available in the British literature on the subject. Hume and Moore (1950), however, report on the use of these substances to improve the general condition in surgical patients. The wound in my patient healed in spite of the presence of inflammatory changes in the skin and omentum, and in spite of strangulation. Cessation of cortisone treatment may have led to a sudden loss of stimulation of the suprarenals and to a rebound exacerbation of rheumatoid and mental symptoms.

Some precautions to safeguard wound-healing could, however, be accepted as rational. General anaesthesia was used in preference to local analgesia, which may temporarily lower the vitality of the tissues; chemotherapy was indicated, even if sepsis would not have threatened; and ascorbic acid was tried empirically to block the effect of cortisone on mesenchymal tissues. Non-absorbable suture material is preferable, as it maintains in apposition tissues the wound-healing of which is potentially impaired. The lower approach to the femoral hernia was chosen in preference to Lotheissen's because the content of the sac was thought to be omentum, and because the apex of the elongated sac extended direct into the femoral triangle. The possibility of the breakdown of the wound was a contributory indication for the lower approach, where the structures in the inguinal region were not endangered. The fact that the patient's wound had healed after a dental extraction in the third month of A.C.T.H. therapy was an encouragement for immediate operation. It was also remarkable how indefinite and masked the clinical symptoms were and that even the rise of temperature was delayed in the presence of sepsis and of strangulation. This was probably due to the lowered vitality of mesenchymal tissue. The administration of the new antirheumatic substances should, however, not deter the surgeon from an emergency operation, which should, if required, be performed without delay.

I am indebted to Mr. J. M. Milloy, Dr. B. Gottlieb, Dr. A. Poteliakhoff, Dr. O. Savage, and Dr. I. M. Tweed for their kind interest in this case and for their advice.

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BIBLIOGRAPHY

Baker, B. L., and Whittaker, W. L. (1950). *Endocrinology*, 46, 544.
Creditor, M. C., Bevans, M., Mundy, W. L., and Ragan, C. (1950). *Proc. Soc. exp. Biol., N.Y.*, 74, 245.
Forsham, P. H. (1951). *Med. clin. N. Amer.*, 35, 1233.
Hume, D. M., and Moore, F. D. (1950). *The Use of A.C.T.H., Cortisone, and Adrenal Cortical Extracts in Surgical Patients.* Brigham Hospital and Harvard Medical School.
Plotz, C. M., Howes, E. L., Meyer, K., Blunt, J. W., Lattes, R., and Regan, C. (1950). *Amer. J. Path.*, 26, 709; *Bull. N.Y. Acad. Med.*, 1950, 26, 251; *Arch. Derm. Syph., Chicago*, 1950, 61, 919.
Selye, H. (1947). *Textbook of Endocrinology*, 1st ed., p. 232. Montreal.

Glandular Fever

The five cases of glandular fever reported below all occurred in one district within eight months; no connexion, however, has been traced between any two of them. Chloramphenicol was given early in two cases and later in two others without affecting the course of the disease. This would tend to refute the conclusions drawn by Kane (1951). Three cases were similar and typical, and two had unusual courses. A sign which may be helpful in diagnosing the atypical case, and which was present in all cases, is described.

CASE REPORTS

Case 1.—A male clerk aged 26 felt ill on November 7, 1950, but ascribed it to the shock of the death of his mother, whom he had been visiting in a regional hospital (in which he may have been infected). On November 14 he went to bed with fever and sore throat, and was found to have an adenitis out of proportion to the existing tonsillitis. The glands involved were those under the upper parts of the sterno-mastoids and also in the axillae. On

November 16 exudate was present in a membranous plaque over both tonsils, and there was complete nasal obstruction. On this day the total white-cell count was 26,500, of which 89% were mononuclear. The Paul–Bunnell reaction was positive in a dilution of 1 in 28. He began taking chloramphenicol on November 17 in divided doses totalling 3.25 g. daily. On November 21 the exudate had cleared and there was general improvement in fever and in the degree of adenitis. The nasal passage was clear. On the 23rd the total white-cell count was 7,500, but mononuclears formed 76%. The mouth and tongue were sore, but chloramphenicol was continued until November 26. Repeated white-cell counts showed a normal total, with the mononuclears falling slowly from 73% on December 4 to 53% on January 6, 1951, when he returned to work. The proportion was still 52% when he was last seen on March 6. The prodromal stage and the acute stage each lasted about a week, and the patient was off work for two months.

Case 2.—A bright young female hairdresser aged 18 was seen on January 6, 1951, with a small indefinite urticarial rash about the neck and shoulders, which cleared in a week. At this time a menstrual period, abnormally delayed for a fortnight, appeared. On January 17 she went to bed with fever, sore throat, and adenitis. On the 20th an exudate was present over both tonsils, the nose was blocked from behind, and the total white-cell count was 14,200, of which 75% were small lymphocytes. Chloramphenicol was given on January 21 in a total daily dose of 3 g. and continued for eight days, during which time the membrane separated, the fever and adenitis subsided, and the nose cleared. The Paul–Bunnell reaction was positive in a dilution of 1 in 3,584. The total white count was normal on January 29, but mononucleated cells formed from 60 to 70% until she was last seen on June 16. The prodromal stage lasted 10 days, the acute stage lasted about 10 days, and she was off work for nearly three months.

Case 3.—A girl aged 8 had not been well for a fortnight before she was first seen on July 14, 1951, when she complained of a sore throat. There was no exudate, and it was noted that the bilateral glandular enlargement seemed excessive and was situated chiefly under the upper part of each sterno-mastoid. The temperature was 101° F. (38.3° C.), and she was given "sulphatriad" suspension. On July 16 there was still fever, with a follicular exudate on both tonsils and complete nasal obstruction. A few slightly enlarged glands were present in the axillae and groins. The girl had not been immunized, so 20,000 units of diphtheria antitoxin was given. The white count was 13,200 (polymorphs 47%, lymphocytes 48%, monocytes 5%). The fever and the pharyngeal condition remained the same until July 19, when the fever ceased and the glands decreased in size. Next day the exudate had gone. On the 23rd the nose became clear, coinciding with great reduction in the glandular enlargement. On July 26 the Paul–Bunnell reaction was positive in a dilution of 1 in 448, the total white count was normal, but 87% were lymphocytes and mononuclear cells. On July 30 the child was up and playing about.

Case 4.—The young wife of a professional man had an illness the onset of which was insidious but probably occurred late in September, 1950. She felt tired and had a frontal headache which was severe, especially in the mornings, and which persisted for about a month. For the last three weeks in October there was a low evening fever. She had some halitosis, one small epistaxis, a blockage of the right eustachian tube, and a markedly nasal voice. In spite of the absence of any nasal catarrh the sinuses were examined radiographically and a condition of mucosal thickening was reported in both frontal and both maxillary sinuses. A blood count on November 9 showed: Hb, 62% (8.7 g.%); white cells, 5,400 (lymphocytes 60%, monocytes 26%). The Paul–Bunnell reaction was positive in a dilution of 1 in 448. Chloramphenicol was started on November 14 in total daily doses of 2.5 g., and continued for six days. On the 16th the spleen was just felt and a few small glands were found in the posterior triangles of the neck. The fever had settled. She had been in bed about nine weeks. Convalescence was extremely slow, with physical weakness and mental depression lasting until early in the new year. The blood count was normal in February, 1951, though the haemoglobin was still low (75%).

Case 5.—A male weaver aged 29 attended on January 8, 1951, for a fever with slight cough and some backache which settled in three days. On January 17 he developed jaundice, having had nausea, anorexia, and upper abdominal discomfort for a few days previously. The jaundice lasted a week and was clearing when, on January 20, he developed fever, a tonsillitis with membranous exudate, nasal obstruction, and many small palpable glands all over the neck. The Paul–Bunnell reaction was positive in a dilution of 1 in 896. Chloramphenicol was started, and was continued for six days in a total daily dose of 3 g. The total white-cell count was 24,000, of which mononucleated cells formed 89%. The acute stage lasted until January 27. On February 9 the total leucocyte count was normal, but mononuclear cells still formed 71%; on June 16 the mononuclears totalled 69%. He was off work for over three months.

COMMENT

Four of the cases were of the anginose type, though three were in young adults. The clinical picture was practically identical in the first three cases. In two of these chloramphenicol was given reasonably early, in adequate doses, and continued for about a week. In the third it was deliberately withheld. The course in all three diseases was identical. The two other cases had chloramphenicol at a later stage without any effect that could be attributed to its use. Prodromata were generally vague, but Case 2 had a rash and amenorrhoea. This symptom has not been found to be recorded before. Case 5 was remarkable. Mild upper respiratory infection was followed by hepatitis with jaundice, and finally by typical monocytic angina. It is not possible to say whether this was a single infection or a succession of two or three separate infections. The latter seems unlikely.

All the patients showed evidence of enlargement of the adenoids, with nasal obstruction in four. Eustachian obstruction occurred in one (Case 4): it was for a fortnight the only evidence of enlargement of lymphatic tissue in this difficult case, and was therefore a very significant sign. Nasal obstruction was not unimportant in the others, for its presence contributed materially to their discomfort during the day and their restlessness at night.

Although Custer and Smith (1948) report nasopharyngeal lymphoid hyperplasia as a constant finding in nine necropsies, no mention is made of nasal obstruction as a symptom or sign of the disease, nor has it been found mentioned in any other articles. It is interesting that lymphatic communications exist between the upper nasopharynx and the subarachnoid space, in view of the association of a lymphocytic meningitis with glandular fever. Glandular fever is not uncommon. Ten cases have been diagnosed in the last five years, while no case of diphtheria has been seen.

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REFERENCES

Custer, R. P., and Smith, E. B. (1948). *Blood*, 3, 830.
Kane, P. (1951). *British Medical Journal*, 1, 1303.

Speaking at the Royal Institution on March 14 Professor J. Read said there was little realization to-day of the extent to which alchemical conceptions and imagery permeated the thought and art of the Middle Ages. Most of the early alchemical engravings delineated apparatus and practical operations. Early in the seventeenth century, when alchemy had already begun to wane, some of the most interesting and artistic engravings were produced. This period coincided with the development of copper engraving. Alchemical engravings of this period often called up visions of surrealist paintings. Indeed, surrealists had much to learn from the disturbing and incongruous juxtapositions of alchemical art.

Reviews

TUMOURS OF THE EYE

Tumors of the Eye. By Algernon B. Reese, M.D., D.Sc. (Hon.), F.A.C.S. (Pp. 574; 511 illustrations, 122 in full colour. £7 7s.) London: Cassell and Co. 1951.

Occasionally, but only occasionally, a really good book appears in medicine: this is one. Those of us who have visited Algernon Reese in his laboratory at the Presbyterian Medical Centre, New York, would expect a book of his on the tumours of the eye—a field which he has made his own specialty for many years—to be original, reflecting his own views and personality. Those of us who have seen the impressive amount of pathological material which passes through his hands and the elaborate care with which it is studied and filed, so that it is available for constant reference, would expect it to be accurate, well presented, and comprehensive; and those of us who have seen him in the clinic would expect the pathology to be integrated with careful and illuminating clinical data and sound therapeutic recommendations. In none of these will the reader be disappointed.

It is astonishing how many types of new growth may be met with in the eye and its adnexa, some rarely, some commonly, so that a study of ocular tumours must needs be almost a complete treatise on neoplastic growths. Dr. Reese's long association with the Memorial Centre for Cancer and Allied Diseases in New York, in addition to his ophthalmological activities, has made him eminently fitted to correlate the characteristics and evolution of ocular tumours with those of tumours found elsewhere in the body, so that his book has an integrative philosophy rarely met with in ophthalmological publications, and it must be of interest to the general pathologist as well as the eye specialist. All these qualities—in addition to the fact that it is the first textbook dealing exclusively and extensively with this subject since Lagrange's classical publication in 1901—makes it an indispensable reference book. It is true that it is superbly published on art paper, beautifully printed, and replete with illustrations, many of them in colour; but in view of the value of its contents it is perhaps a pity that its cost puts its possession outside the scope of the student. In this respect the rising cost of books of this type has indeed become a problem, and it may be that a more "popular" edition might replace in ultimate value what would be lost in luxury.

STEWART DUKE-ELDER.

THE ELDERLY

Trends in Gerontology. By Nathan W. Shock. (Pp. 153. £1.) Stanford, California: Stanford University Press. London: Geoffrey Cumberlege. 1951.

The Social and Biological Challenge of our Ageing Population. Proceedings of the Eastern States Health Education Conference, March 31–April 1, 1949. (Pp. 184. 18s.) New York: Columbia University Press. London: Geoffrey Cumberlege. 1950.

The problems and burdens of an ageing population are one of the main anxieties of civilized peoples. A falling birth rate in many countries has been accompanied by an increase in the number of people reaching the higher age groups. This does not mean that there has been any increase in the ultimate expectation of life: that has not changed much. But a greater number of people than 50 years ago are now reaching normal old age. This is due in part to improvements in environmental hygiene, in part to the use of various new drugs, of which the antibiotics are the most obvious, and in part to causes we do not know. But the effect has been that there are fewer working people available to support an increasing unproductive section of the population, for it must not be forgotten that what used to be called "useless mouths" are increasing at both ends of the scale. But, worse than this, a policy of "full employment" and a worsening economic state of society have removed many people who would formerly have looked after their aged relatives into a more materially profitable sphere of work. Rowntree and Lavers, in their latest report, have shown that it is the old and the infirm who have not profited from the benefits of the Welfare State. It is interesting, therefore, to read in these two books from the U.S.A. of the problems that are facing administrators in that country and to find how similar these are to those that are found here.

In both books the discussion centres round the two main sides of the problem—the socio-medical one: What are we to do now, and in the immediate future, to ensure that old age shall be as pleasant and agreeable a time as were earlier years? The other (and much long-term work is needed here) is, What are the causes of ageing, and how can they be either mitigated or checked altogether? For such a plan both books ask for an increase in the facilities for biological research. Dr. Shock puts forward a well-argued plea for an institute of gerontology where the treatment of aged patients shall be carried on in association with research into the cause of their particular reaction to various illnesses and with a study of the socio-economic problems of old age. In addition, steps would be taken to encourage education of workers towards their retirement, so that they may be prepared, willingly, to accept new, perhaps less responsible, employment as a natural consequence of their growing older. There is something to be said in support of this plea, provided it is not forgotten that preventive measures can reduce the numbers requiring admission to hospital and that the elderly are best treated in wards that are an integral part of a general hospital. It is dangerous to push the specialty of geriatrics, if indeed it is a specialty, too far into isolation.

It is interesting to note how the proportion of elderly workers remaining in employment has steadily fallen since the beginning of the century in the U.S.A. as well as in this country. Yet the health of the elderly worker has, so far as can be made out, improved during the last 50 years. A good deal of work needs to be done to determine whether the added years that have been given to so many are really being used to their best advantage. The incentives to continue at work are not high, yet any physician can testify to the value of suitable employment in maintaining a healthy mind and body.

Dr. Shock's thoughtful and accurate little book is an interesting addition to the small collection of books on old age, while the collected papers from the New York conference contain a lot of useful information and, even more, of stimulating and provocative ideas.

AMULREE.

GYNAECOLOGY FOR STUDENTS

Handbook of Gynaecology. By Trevor L. S. Baynes, M.D., F.R.C.S., M.R.C.O.G. (Pp. 164. 15s.). London: Sylviro Publications. 1951.

This small book is a most interesting publication. It is well known among clinical teachers that there is a demand by senior undergraduates and postgraduate students for concise summaries to integrate all that they have read. In this volume the author has been at pains to avoid giving an exhaustive account of gynaecology and has written short essays on topics which are in the forefront of gynaecological thought. The essays combine theoretical considerations and descriptions of clinical investigations and operative technique. They are very well written, concisely arranged, and the reader has no difficulty in grasping quite easily the basic problems of the topic under discussion. Although the book is expensive, it may be confidently recommended to senior students and postgraduates.

Printing mistakes are numerous, and the spelling of such words as colporrhaphy should be accurate in a gynaecological textbook, nor should the names of Schröder and Sims be spelled wrongly.

WILFRED SHAW.

THE NEWBORN

Foetal and Neonatal Pathology. By J. Edgar Morison, M.D., B.Sc. (Pp. 366; 59 figures. £2 10s.) London: Butterworth and Co. 1952.

Dr. J. E. Morison has produced in *Foetal and Neonatal Pathology* an interesting and informative book, although the title is misleading. It is, of course, difficult to separate entirely some of the physiology of neonatal life from some of the disturbances which occur in the newborn period. A study of respiratory failure must take account on the one hand of the normal mechanism for the initiation of respiration after birth and on the other of the morbid changes found in babies who do not breathe properly. Whether or not these two aspects, the former to some extent wrapped up with clinical considerations, can strictly be treated together as pathology is open to doubt. To this extent Dr. Morison is sometimes rather muddling. When writing of strictly pathological changes he gives the impression of being very much on his home ground, where he has made valuable contributions to the subject. But in the section on prenatal disturbances, discussions on foetal nutrition and growth, for example, are less well done, and the chapter on prematurity might have been better balanced if a clinician with extensive experience of care of these infants had collaborated. (Incidentally, the Royal College of Physicians, not the Royal College of Obstetricians and Gynaecologists, was the body which took the lead in Great Britain in securing a definition of prematurity.) The third part of the book is on infections and is an interesting account of this most important and somewhat neglected field. Dr. Morison's own work on thrombosis in sepsis of the newborn is well summarized. The whole book is ambitious, well illustrated, and beautifully produced. It might be improved by limiting its scope to what has been observed in the study of disease.

ALAN MONCRIEFF.

DISEASES IN THE NERVOUS SYSTEM

Medical Neuropathology. By I. Mark Scheinker, M.D. Preface by Marion A. Blankenhorn, M.D. (Pp. 372; 186 figures. £3 15s.) Springfield, Illinois: Charles C. Thomas. Oxford: Blackwell Scientific Publications. 1951.

The title of this book does not quite explain its scope: it is essentially an account of the pathological changes in the nervous system which occur in diseases primarily involving other systems of the body, and it does not include all the non-surgical diseases of the nervous system. It is a companion volume to the author's two previous books on *Neurosurgical Pathology* and *Neuropathology: Its Clinicopathologic Aspects.* About half of the book is concerned with changes in the central nervous system in cardiovascular disease, and Scheinker develops the theory (on which he has published a number of papers) of vasoporosis, vasoparalysis, and vasothrombosis as the basis of reversible vascular disturbance in the brain. The last term implies thrombosis of "tremendously" dilated small cerebral venules and capillaries, and he reiterates his view that the majority of intracerebral haemorrhages in hypertension are of venous rather than arterial origin.

In other sections of the book he describes the cerebral manifestations of lung diseases and includes an excellent account of tuberculosis of the nervous system, neurological disturbances in the blood dyscrasias, and cerebral reactions to chemotherapy and various exogenous poisons. The short section on cerebral manifestations in liver diseases is disappointing; there is no account of recent biochemical findings in the discussion on the pathogenesis of hepato-lenticular degeneration, and, more surprisingly, Rh incompatibility is not even mentioned in the corresponding section on kernicterus. The chapter on the pathology of polyneuritis includes a description of considerable swelling of the nerve fibres of the spinal-cord roots and tracts and of the cranial and peripheral nerves in acute infective polyneuritis, and attributes the neurological disturbance in "jake" paralysis to muscle ischaemia resulting from changes in the peripheral arteries.

If this book is regarded as the author's somewhat individual outlook on certain aspects of neuropathology, it provides interesting and provocative reading, but it could not be recommended as an orthodox account of the subject. It is profusely and excellently illustrated.

J. W. ALDREN TURNER.

OESOPHAGEAL ACTION

The Esophagus and Pharynx in Action. A Study of Structure in Relation to Function. By William Lerche, M.D. (Pp. 222; 93 figures. £2.) Springfield, Illinois: Charles C. Thomas Oxford: Blackwell Scientific Publications. 1950.

On the cover of this book the claim is made that it will be accepted as a great classic and the most authoritative source of information on the subject in the world. It is difficult for your reviewer to decide if this is so. The book records a painstaking and earnest attempt to analyse and present the problem, based partly on a review of the literature and partly on personal observations and anatomical dissections of 100 specimens. In the embalmed material specimens were found which suggested that agonal regurgitation had occurred, and from these the author gives an interpretation of the mechanism of closure and action of the lower end of the oesophagus. The description of the muscular sphincteric mechanism is interesting. The conclusions are reinforced by deductions from various clinical observations, which are, however, often less convincing; they are usually unsupported by more than a personal statement of opinion. The detail of many of the photographs could be improved, and there is a startling absence of modern radiographs. It is also somewhat disconcerting to find no mention at all of Allison's observations and work on the cardiac mechanism.

It is certain that all interested in the oesophagus and pharynx should read this book, and most will wish to possess it.

R. C. BROCK.

FOR THE YOUNG SURGEON

Anatomy in Surgery. By Philip Thorek, M.D., F.A.C.S., F.I.C.S. (Pp. 970; 720 illustrations, 211 in colour; drawn by Carl T. Linden. £9.) Philadelphia and London: J. B. Lippincott Company.

There is a stage in the training of every surgeon when, having acquired a solid knowledge of human anatomy, he wishes to learn how this can be applied to the technical procedures of surgery. It is for the embryo surgeon at this stage that this volume is intended, and in spite of its cost he will find it a valuable investment. It is neither a textbook of anatomy nor of operative surgery, but it provides a bridge over the difficult region between the two.

As it covers the whole field of surgery it naturally cannot give all the technical details required for the actual performance of any operation, but it does give a very fair idea of even the most advanced surgical procedures and those of the most recent date, such as retropubic prostatectomy and excision of the oesophagus, showing clearly the anatomical problems involved and giving all the information that the student need require at this stage. Of some regions, however, a much fuller account is given, and the chapter on the surgery of the hand reaches a high level; it may well be instructive to the most expert surgeon.

The whole volume is finely produced, and profusely illustrated by one of the leading surgical artists in America. The drawings are devised and produced with equal skill and are a superb example of collaboration between surgeon and artist. To the teacher who wishes to present to his students modern surgical technique in a clear and accurate manner the volume will be invaluable. To the advanced student it should prove a sound introduction to the whole field of modern surgery.

HENRY SOUTTAR.

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GROWTH PROMOTERS

The existence of vitamin B_{12}, which is the name now given to a red-coloured cobalt compound present in animal protein and certain micro-organisms, appears to have been first realized in 1931 by Castle.[1] As the "extrinsic" factor necessary for the cure of pernicious anaemia it had to be provided in the diet and supplemented by supplies of the "intrinsic" factor, which the diseased stomach walls were unable to elaborate. Shortly afterwards Mapson[2] showed that liver, the outstanding source of the "extrinsic" factor, was also potent in promoting growth in rats. The substance responsible was different from all the vitamins then known, and was effective whether given directly to the young animals or to their mothers during lactation. It appeared to induce growth above the normal level and was given the name "physin."

These pioneer observations stimulated little progress for the next 15 years. During the past five years, however, rapid advances have led not only to the recognition that the anti-anaemic and growth-promoting principles are the same remarkable substance, but to the extension of the field of interest to microbiology and the antibiotics. Thus Rickes[3] in America and Lester Smith[4] in London have isolated Castle's "extrinsic factor" in the form of pure vitamin B_{12}, and clinicians have since shown that it is effective in the treatment of pernicious anaemia in very minute doses.[5] Mapson's physin has been rediscovered as the "animal protein factor" by American workers interested in rearing pigs and poultry on cheap vegetable diets. The study of its distribution, however, has been extended beyond liver, and fish meal and other animal foods have been found to promote growth. Of great significance was Bird's[6] observation that cows' dung may act as a source of the animal protein factor to chicks, since this finding was an important clue pointing to micro-organisms as the ultimate source of the factor. Eventually it was recognized that vitamin B_{12} prepared from liver could promote growth in animals receiving a vegetable diet, while conversely vitamin B_{12} isolated from materials previously studied as sources of the animal protein factor could cure pernicious anaemia. Culture media obtained as a by-product to the production of antibiotics replaced liver as the main commercial source of the vitamin, and the stage was set for another interesting advance.

In experiments with the crude fermentation products of *Streptomyces aureofaciens* Jukes and his colleagues[7] observed a higher growth-promoting power than could be explained by the concentration of vitamin B_{12}. Later he succeeded in isolating "aureomycin," and found that the growth-promoting activity of the crude product could be reproduced by the joint administration of this substance with vitamin B_{12}. In both pigs and poultry aureomycin substantially increased the growth rate, thus giving the antibiotics a new and unexpected part in aiding the efficient and cheap production of food. Penicillin and terramycin were also effective, and there have even been reports that under suitable circumstances sulphonamides may increase growth. It has been reported that in the U.S.A. the sale of antibiotics in food for farm animals is greater in quantity than the amount used in clinical medicine.

Cuthbertson[8] has recently commented on this important development and has suggested that growth stimulation in poultry by antibiotics may depend on both the basal diet and the microbial environment. The divergent reports from different workers suggest that antibiotics will be most effective in improving growth when the diet is deficient in animal protein or when the bacterial environment is unsuitable. That at least some types of bacteria are beneficial may be inferred from the success of the "deep litter" method, in which the birds' faeces are allowed to accumulate for prolonged periods in a thick layer of peat, or some similar material, and are kept at a temperature suitable for bacterial growth. Indirect effects—such as the accumulation of vitamin B_{12} in the flooring and the preventive effect of the heat and dryness caused by fermentation on the growth of parasites—may at least partially explain the success of this remarkable procedure.

The history of vitamin B_{12}, it will have been noticed, has gained interest from an exchange of clues between the medical specialist, interested in the cure of pernicious anaemia, and the agriculturist, interested in the cheap production of ham and eggs. The extension of interest to aureomycin has shown the same tendency, with the agriculturist both receiv-

1 Castle, W. B., Heath, C. W., and Strauss, M. B., *Amer. J. med. Sci.*, 1931, **182**, 741.
2 *Biochem. J.*, 1932, **26**, 970.
3 Rickes, E. L., *et al.*, *Science*, 1948, **107**, 396.
4 Lester Smith, E., and Parker, L. F. J., *Biochem. J.*, 1948, **43**, viii.
5 Ungley, C. C., *British Medical Journal*, 1949, **2**, 1370.
6 *J. biol. Chem.*, 1946, **163**, 387.
7 Ibid., 1949, **180**, 647.
8 Conference of Nutrition Society. See *British Medical Journal*, 1952, **1**, 161.
9 *Lancet*, 1952, **1**, 52.
10 Coates, M. E., *et al.*, *Biochem. J.*, 1951, **49**, lxvii.

ing information and repaying. If the antibiotic aureomycin is effective in increasing growth in animals, may it not have the same effect in humans? Controlled trials to answer this question have recently been reported by Robinson[9] from Israel. Studies were made of the progress of 11 sets of premature twins and two sets of premature triplets: 13 of the infants were given aureomycin by mouth for periods up to four weeks, and 15 were left undosed. The results appeared to be encouraging. All the treated infants survived, but five of the controls died: the average weight gain per day was 29 and 18 grammes respectively. Robinson has emphasized that these results may have been due to the antibacterial action of aureomycin rather than to a direct growth-promoting activity. The same question obviously remains to be answered about the stimulation of growth in farm animals. Antibiotics which are elaborated by organisms which also produce vitamin B_{12} will perhaps tend, when taken orally, to encourage the growth in the intestinal tract of organisms having metabolic habits similar to those from which they were derived. The administration of one metabolite, aureomycin, might therefore stimulate the production of another metabolite, in the form of vitamin B_{12}. Experiments by Coates[10] on calf dung, however, have shown that there are substances which have the potency of vitamin B_{12} when tested upon micro-organisms, but which are ineffective in promoting growth in chicks. Further research, therefore, is obviously necessary before the exact relationships between vitamin B_{12} and the antibiotics can be explained with reasonable confidence.

MEDICAL CERTIFICATION OF CAUSE OF DEATH

Despite the growing interest now being taken in statistics of non-fatal as well as fatal disease, the mortality statistics of this country have long been and will long continue to be an essential index of the health of the people. Mortality statistics provided incentives for the sanitary reforms of the nineteenth and early twentieth centuries and demonstrated the dramatic results of these reforms. More recently they have measured the results of spectacular advances in preventive and curative medicine, surgery, and obstetrics. They also indicate directions where progress has been disappointing, fields where more research or the fuller application of available knowledge is urgently needed, and on occasion draw attention to ominous trends of mortality requiring investigation and explanation.

The essential foundations of mortality statistics are the medical certificates of cause of death which practitioners are statutorily required to provide when their patients die. Half a million of these certificates are issued in this country every year, and upon them has been established the national system of mortality statistics that for over a century has served as an example to the rest of the world, bearing testimony to a long and fruitful collaboration between the Registrars-General and the medical profession.

The quality of mortality statistics can be no better than the quality of the death certificates on which they are based, and the completion of these certificates is sometimes a difficult task. The certifier has to make up his mind what was the cause of death—and this, particularly with the newborn and with the elderly, is often a complex diagnostic problem. He has also to decide whether to mention one or several causes on the certificate, and how best to present these causes and indicate their relative importance. In the London area in 1945 some two-thirds of a sample of death certificates were found to have mention of more than one cause of death, and on a sixth of the certificates at least three definite causes were stated.[1]

Since the beginning of 1950 the prescribed form of death certificate in England and Wales and Northern Ireland has been the international death certificate recommended by the World Health Organization for use by all countries where mortality statistics are compiled. To guide and instruct practitioners in the use of the international form of certificate (which, it should be noted, is not yet in use in Scotland) W.H.O. has published a small booklet[2] that describes the structure of the death certificate; explains the importance of recording the causes of death lucidly, concisely, and in correct order if the certifier's meaning is to be properly understood; and illustrates what is meant by direct, antecedent, underlying, and contributory causes of death and how they should be distinguished and recorded. The underlying cause of death, which is the one selected for statistical assignment, is the condition which initiated the train of events leading to death; in a properly completed certificate it would be the last or the only cause to be mentioned in part I of the form. The booklet also explains why certain terms are considered indefinite or inadequate and lists many of the descriptions that are found unsatisfactory and that lead to requests for clarification or for additional details.

[1] *The Registrar-General's Statistical Review of England and Wales for the Six Years* 1940–1945 Text. Vol 1, Medical, 1949, H.M.S O . London.
[2] "Medical Certification of Cause of Death." *Bull. World Hlth Org.*, 1952, suppl 3
[3] Reprinted from *The Registrar-General's Statistical Review of England and Wales for the Six Years* 1940–1945. Text, Vol. 1, Medical, 1949, pp. 81–3, H.M.S.O . London.
[4] *The Registrar-General's Statistical Review of England and Wales for the Two Years* 1946–1947. Text, Vol. 1, Medical, 1951, H.M.S.O., London.

The introduction of the international form of death certificate has caused little change in existing practice in England and Wales, where an almost identical certificate had already been in use since 1927, the only addition required in 1950 being the panel for the statement of duration of each of the conditions mentioned. Some remarks on defective death certification were sent to practitioners at the beginning of 1950,[3] and of course there are explanatory notes at the beginning of each book of certificates. Nevertheless the Registrar-General apparently finds it necessary to send out some 10,000 requests to doctors for supplementary information each year[4] in order that causes of death can be classified with sufficient precision to meet the increasingly detailed statistical needs of clinical, public health, and research workers. Many of these inquiries may be unnecessary if the information and suggestions contained in the W.H.O. booklet become better known and applied by certifying practitioners and are used in the training of medical students and newly qualified doctors. To furnish careful and accurate certificates of cause of death is an important responsibility of the medical profession, and it is the medical profession that is the principal user of the statistics derived from analysis of the certificates.

ECONOMICS AND DOCTORS

Before the end of the month the estimates of the cost of the Health Service in the coming year will be made known. This week a book[1] has been published which is an illuminating commentary on the cost of the Service, purporting to show why it has so grossly exceeded the original estimates. The book is by Dr. Frangcon Roberts, and it is written for laymen. Readers of this *Journal* will, in fact, be familiar with his views, some of which were expressed in an article as recently as February 9 (p. 324). But all doctors ought to read his stimulating and provocative book. They will be entertained and instructed.

Most doctors will agree with his diagnosis. The application of science to medicine has made investigations infinitely more elaborate and treatment more refined than 50 years ago. Pathological and *x*-ray examinations multiply; some of the new drugs have to be accompanied by complicated tests for weeks and months. This growing elaborateness of medicine is not, of course, confined to this country: in the United States it has gone even further. The Health Service cannot be blamed—and Dr. Roberts does not blame it—for this trend in medicine, which is the main reason why the estimates of the Service's cost were so wide of the mark. But he does blame the administrators who drew up the plans and estimated the cost for not having foreseen how the science of medicine would expand. And he is surely right in holding that now that the Health Service is well established we should take stock and reflect where the indefinite expansion of medicine will lead us.

We should be quite clear about how this trend in medicine has been affected by a health service paid for out of taxes. It may be argued that because the United States, for instance, devotes at least the same proportion of its national resources to the prevention and treatment of sickness as Great Britain, the fact that the country has a national health service is beside the point. The comparison, however, is invalid. The United States has a virile expanding economy and can afford to spend a larger proportion of its national income on health. Further, if Americans wish or have to spend a certain amount out of their personal incomes on treatment, they have that amount less to spend on other things. In Britain conditions are different. First, far too small a proportion of our resources is being saved and invested for the national economy to be able to expand progressively. Secondly, because people do not have to pay out of their own pockets when they use the Health Service they are not compelled to reduce their consumption of other things. The expanding trend of medicine is not checked by limits of personal finance. If it is contended that people's consumption is reduced by the taxation that pays for the Health Service the answer is to be found in the estimates of national income and expenditure in 1951 published last week. Even if allowance is made for higher prices the fact remains that last year the British people, by obtaining higher wages and salaries, increased their consumption more than they increased their production. The result has been the alarming deficit in the balance of payments and the threat to the pound. The place of the Health Service in the fight for national solvency is, therefore, plain. Dr. Roberts put it succinctly in his recent article: "If we want cortisone we must sell more coal."

Whatever they may have thought in 1946 when the Health Service Bill was introduced, few people to-day would disagree with his thesis that the proportion of the national resources allocated to the Health Service must be limited. But Dr. Roberts maintains that we must go further. The resources thus allocated, he argues, should be spent on a system of priorities, and the order of priority should be determined, not by direct individual happiness, but by the economic welfare of the community through which

[1] Ffrangcon Roberts, *The Cost of Health*, 1952, Turnstile Press, London.
[2] Winslow, C. E. A., *The Cost of Sickness and the Price of Health*, 1952, Geneva.

the happiness of the individual is indirectly affected. Thus he divides diseases into three groups: those which are not disabling, though perhaps causing individual distress; the disabling; and those in which treatment is humanitarian, prolonging life without effecting a cure and without enabling the patient to work. Dr. Roberts thinks that the resources of the Health Service may have to be concentrated on the second and third groups and treatment of the first group paid for privately. He realizes that his distinctions are not absolute, and he emphasizes that doctors have no concern with the economic value of their patients. Further, the logic of his argument can be seen more clearly if we consider an underdeveloped country with virtually no public health service. As the author of a recent monograph[2] from the World Health Organization points out, the authorities of such countries have a duty to spend their limited resources on preventive measures, on eradicating the mosquito and the tsetse fly, rather than on building hospitals for the immediate relief of suffering.

No one could accuse Dr. Roberts of hardness of heart, yet some readers of his book may feel that if his views were carried through to their logical conclusion doctors would be in danger of becoming merely the agents of a State medical service, whose main object was to get people back to work rather than to relieve suffering. Hard decisions about the allocation of resources would be left to the economic planners, and doctors would treat all their patients as best they could with the resources that were allowed them. As things are the profession has, of course, a duty to assist the Government in reducing unnecessary expenditure; but the first duty of the practising doctor must always be to the patient who seeks his advice.

PANTOTHENIC ACID

Pantothenic acid is one of the B vitamins that so far has found little clinical application. There is no convincing evidence that it is essential for human nutrition, although this has been assumed, since it is required by a number of species. It is widely distributed in foods; yeast, liver, kidney, wheat bran, and peas being the best sources. Most of it is bound with proteins or amino-acids through an amide linkage (–CO.NH–), which must be broken before the pantothenic acid can be utilized. Pantothenic acid is the prosthetic group or active part of a coenzyme concerned in acetylation known as coenzyme A, which is derived from pantothenic acid, adenosine, and phosphoric acid. It plays a part in the breakdown of fats and carbohydrates and the synthesis of fat from carbohydrate and protein.

Pantothenic acid is absorbed, stored, and excreted by man, and this is sometimes taken as evidence for its necessity in human nutrition. It may be, however, like some of the non-essential amino-acids, absorbed and excreted but not essential. Human excretion figures suggest that the daily requirement for man, if indeed it is required, is of the order of 10 mg.

The production in animals of nutritional achromotrichia, or greying of hair, by feeding on deficient diets, and its restoration to normal colour by administering pantothenic acid, led to the hope that the vitamin might be of value in the treatment of grey hair in man. There are two common fallacies here; one is that similar symptoms do not necessarily have a common cause; the other, that the findings from animal experimentation cannot necessarily be transferred to human conditions. It has never been shown that dietary deficiency is a factor in the production of grey hair in the ageing human, and reinvestigation of the earlier claims of some enthusiasts that pantothenic acid cures grey hair in man showed that they were completely unfounded. Nicholls[1] and Hughes,[2] however, believe that greying of hair can occur in malnourished children in the Tropics. Hughes found achromotrichia widespread among the poorly nourished children of Lagos, and he believes that a deficiency of pantothenic acid might be the cause, as the administration of the vitamin seemed to restore the normal colour.

The "burning feet" syndrome, although previously described in the literature on deficiency diseases, was recently seen among prisoners-of-war, particularly in Japanese camps. According to Gopalan[3] the injection of calcium pantothenate produced spectacular improvement in these cases. It is not clear whether a deficiency was being remedied or whether the vitamin was producing a pharmacodynamic effect.

As pantothenic acid is a component of the coenzyme for acetylation, it is therefore concerned in the formation of acetylcholine. One would therefore expect that a deficiency of pantothenic acid might result in a loss of parasympathetic tone. In the deficient rat atony and distension of the gastro-intestinal tract occur, the bowel becoming enormously distended, with loss of all peristaltic movements, effects which can be reversed by giving pantothenic acid.[4] Deficiency of pantothenic acid in the dog is characterized by increased gastric emptying time, pylorospasm, and intestinal hypomotility.[5] As the bowel changes in rats deficient in pantothenic acid bear a superficial resemblance to those seen in paralytic ileus in man, Jacques[6] treated 16 cases of ileus with pantothenic acid and claimed that from one to three injections of 50 mg. calcium pantothenate gave dramatic results within two to three hours. It would be of considerable interest if this work were to be confirmed. If it is, obviously the pantothenic acid is acting as a pharmacological agent. There is no reason to believe that human paralytic ileus is a result of pantothenic acid deficiency. The rationale for using pantothenic acid rests on the same fallacy as its use in the treatment of

1 *Lancet*, 1946, **2**, 201.
2 *British Medical Journal*, 1946, **2**, 85.
3 *Indian med. Gaz.*, 1946, **81**, 22.
4 Jürgens, R., and Pfaltz, H., *Z. Vitaminforsch.*, 1944, **3**, 243.
5 Martin, G. J., *et al.*, *Amer. J. digest. Dis.*, 1941, **8**, 290.
6 *Lancet*, 1951, **2**, 861.
7 *British Medical Journal*, 1951, **2**, 1224.

human grey hair—namely, that similar lesions in different species are due to the same cause.

Another effect that might have some clinical application has been reported by Munan and Einheber,[7] who state that calcium pantothenate in doses of 100 mg./kg. increases the survival rate of burned rats. This dose is one to two thousand times that normally needed by the rat. One possible explanation of the effect is that in the extensive metabolic changes of burn shock the concentration of coenzyme A in certain tissues becomes critical, thus increasing the requirement of pantothenic acid as an acetylating agent. It would be of interest to study the effect of pantothenic acid or calcium pantothenate on badly burned patients. Up to the present, however, it must be admitted that the vitamin has proved clinically to be something of a disappointment.

ON GIVING EVIDENCE

More often perhaps than most professional men, doctors find themselves in the witness-box in both civil and criminal courts giving evidence both of facts they have observed and of the conclusions to be drawn from those facts: they are usually at the same time witnesses of fact and expert witnesses. The court, not being expert in this sphere, cannot draw unaided conclusions on its own. To give expert evidence is a difficult thing: failure to give it well may have serious effects upon the administration of justice. Mr. A. C. C. Willway, the deputy chairman of Surrey Quarter Sessions, has recently described[1] what can happen, at any rate in prosecutions for being in charge of motor-cars while under the influence of drink, if the medical witness allows himself to be inarticulate or the victim of cross-examination. "By now," Mr. Willway writes, "the jury is completely bewildered and the average juryman probably says: 'Well, I don't think much of the doctor; I'd have been able to tell whether the accused had had too much to drink without all that rigmarole.' The result is acquittal irrespective of the weight of evidence."

Not alone among the arts, medicine speaks a technical language of its own which, unless translated, is largely unintelligible to most laymen and to most courts. The problem for the doctor is to express in terms understandable to the layman what he has found upon his clinical examination, and to explain in similar terms his reasons for his diagnosis and prognosis. The problem for the cross-examiner is to show that the evidence is not to be relied on either because the examination was inadequate or because the conclusions from it do not make sense. If the examination has been thoroughly made and explained in language the court can understand, and if in diagnosis art and common sense have gone hand in hand, the cross-examiner's task is thankless indeed.

It is often said that there are three kinds of liar: the plain liar, the damned liar, and the expert witness. The grain of truth embedded in this slander is that to give expert evidence well requires the exercise of one of the fundamental skills of the advocate. He has always to remember that the problem which is so familiar to him is quite new and unfamiliar to his audience. He should therefore explain it as he would explain it to a child. To reduce what is often a complex and difficult question to such simplicity calls for skill, patience, and clarity of thought as well as clarity of expression.

[1] *The Times*, February 11.

THE PETROL TAX

The general reaction to the Budget seems to have been a faint sigh of relief: the diagnosis was not quite so grave as had been feared and the treatment not quite so drastic. But once again doctors are faced with a rise in their expenses by the additional petrol tax of 7½d. a gallon. This means that a doctor doing 15,000 miles a year with a car that goes 25 miles to the gallon will have to find about another £20, though income-tax relief can be claimed for part of this. Trade and professional users of motor vehicles will no doubt pass this expense on to their clients, and Government-owned transport services will probably do the same. But doctors are not in this happy position, and the great majority of general practitioners especially will have a substantial addition to their expenses.

The B.M.A. has at various times tried, but without avail, to obtain direct relief for doctors from what has now become an exceedingly heavy tax. The previous Ministers of Health conceded that the effect of the petrol tax was bound to be reflected in higher practice expenses. Though the tax has been high for some time, the reason why no financial compensation for former increases was granted is that the Ministers insisted on awaiting the outcome of the dispute on remuneration generally, which is only now to be resolved by arbitration. But before agreeing to arbitration the profession obtained this assurance from the Ministry: "Following an award . . . practice expenses might thereafter be the subject of regular periodical review so that the allowance in respect of them can be adjusted in either direction as may be found appropriate." On the face of it this is an equitable assurance, but it will be useful only in so far as practical effect is given to it by adjusting the remuneration, though any adjustment made is unlikely to be retrospective to cover expenses already suffered. Even so, the agreement is an important one, and no doubt the General Medical Services Committee will soon be taking the matter up with the Ministry. In any case it is likely to be raised some time during the adjudication, which began on March 18. Other branches of the profession are also affected by the tax, and their representatives are considering how this burden may be mitigated. In particular many consultants are dissatisfied with their mileage rates, which will become even more inadequate in view of the additional tax.

A petrol tax is one that falls with peculiar severity on a small part of the nation—the medical profession. In that respect the tax is distinct, for doctors are singled out to pay it whatever their incomes and whatever their desires to buy this or that commodity: the illnesses of their patients dictate the expenditure, while the Government controls the doctors' ability to pay. It is therefore the Government's duty to see that they are not unjustly penalized.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

TENOSYNOVITIS AND TENDOVAGINITIS

BY

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Apart from suppurative inflammations of the sheaths of tendons, with which this paper does not deal, there are a variety of painful conditions which custom has loosely grouped together under the term "tenosynovitis." So vaguely is the word used that it has come to mean little more than a painful disability arising in or around a tendon or a group of tendons. The conditions giving rise to it are of uncertain pathology, and therefore more accurate terminology is hardly possible. The commonest, variously known as "non-suppurative tenosynovitis," "crepitant peritendinitis," or "non-specific tenosynovitis," can be quite disabling. It occurs most often in the region of the wrist, usually affecting the long extensor and abductor tendons of the thumb.

Tenosynovitis at the Wrist

In most cases such a tenosynovitis at the wrist starts fairly suddenly and often for no very obvious reason. The symptoms and signs are usually most marked over the radial side of the forearm just above the joint, where the tendons of the long extensor and of the abductor of the thumb come to lie on the radial side of the lower end of the forearm. All tendons which move either around corners or under ligaments are particularly susceptible to tenosynovitis, and on the radial side of the wrist the long thumb tendons cross over each other, and also move through a considerable range round a corner, in tough and unyielding sheaths. The occurrence of disorders caused or aggravated by friction is therefore very likely there.

Other tendons are not immune. The long flat tendons on the back of the hand move through loose areolar tissue (the paratenon), but they, too, have a considerable excursion and are liable to frictional troubles. In front of the wrist the flexor tendons are closely packed under the tight angular ligament, and move round a corner whenever the wrist is flexed or extended, so that they, too, are vulnerable.

It is hardly surprising that the commonest provoking cause of tenosynovitis is repeated unaccustomed movement, either an action the patient has never undertaken before or a familiar movement resumed after an interval. The type of action most likely to produce trouble at the wrist is a combination of gripping and of a twist of the forearm into pronation or supination, due as often to the use of scissors or shears as to the use of complicated hand-controls in machinery. The thumb tendons are especially affected by repeated full movements of the thumb and of the wrist together, as in picking up and laying bricks. The importance of newness of the action is seen in the fact that many patients start to have symptoms on the second day of taking up a new job or of resuming an old one after a holiday or an illness.

Occasionally the condition seems to be due to persistent repetition of some standardized movement which is neither new nor recently resumed, but which has been continued beyond the point of fatigue, especially after one particular strain which was of no great moment in itself. Tenosynovitis may occur in this way in the wrist of a golfer who has checked his stroke and gone on playing despite pain, or in the forearm of someone who has wrenched his flexor muscles in gripping the rail of a bus which has started suddenly. An isolated injury or strain alone, however, is not a sufficient cause, and many of these patients can give no history of anything likely even to have contributed to the cause of their trouble.

Tenosynovitis Elsewhere

After the wrist, the ankle region is the commonest site for the occurrence of tenosynovitis. Newcomers to treadle work develop it around the tendons of the tibialis anterior or tibialis posterior, in front of or behind the medial malleolus. Recruits to marching get a similar "peritendinitis" higher up the leg. The Achilles tendon is sometimes affected, though less often, but with this tendon great care is necessary. One must beware of the diagnosis of Achilles "tenosynovitis" if symptoms start after a single strain such as a badly taken jump, for such "strains" are often incomplete ruptures of the tendon itself, which, if neglected, become complete all too easily. The Achilles tendon is, however, almost the only one in which such gradual rupture can mimic tenosynovitis, except that tenosynovitis in the region of the shoulder is often associated with complete or incomplete rupture of the tendon concerned, but the syndromes produced around that joint are very different from those of the lesions under discussion here.

Symptoms and Signs

The clinical features of tenosynovitis such as we are now considering are pain, swelling, and crepitus. The condition occurs only in adults.

Pain is the earliest symptom. At first it is produced only by movement of the affected tendon or tendons, but later it can become almost continuous, very tiresome in bed, and so greatly aggravated by movement that reflex muscle spasm is produced and a subacute arthritis simulated. *Swelling* remains localized if the condition is affecting tendons with a definite sheath, such as those immediately in front of or behind the wrist and the ankle. Where it affects the peritendinous tissue of tendons which have no sheath, the swelling is diffuse. Higher up the forearm, on the back of the hand, and in front of the leg above the ankle one does not, therefore, expect localized swelling. *Crepitus* always occurs after the swelling, and is often best felt proximally to the true tendon sheath, rather above the swelling. This is to be expected, for the swelling is due to fluid, and where an appreciable amount of fluid has accumulated there is not much friction and therefore little crepitus. At the wrist the crepitus is described as "leathery," and over the Achilles tendon as "silky."

Prognosis

The course of tenosynovitis is a little unpredictable. In cases involving the long tendons of the thumb symptoms may last for weeks. In any case and at any site treatment is imperative, as there is a strong tendency for untreated or badly treated cases to become chronic, with acute exacerbations every time the patients resume work. Correct treatment can certainly prevent this.

Treatment

At the wrist, whichever tendons are affected, the aim of treatment is *restriction* of movement. *Abolition* of movement (absolute rest) is harmful, for muscle wasting and

weakness result from this and make relapse more likely when work is resumed. Moreover, complete immobilization of the wrist, the thumb, and the fingers all at the same time does more harm than is often realized, for the stiffness may persist many weeks after the splint has been removed, and the treatment thus becomes more crippling than the disease.

The degree of immobilization required can be obtained by the use of strapping, or, better still, of a detachable splint which is removed once a day for full active movements without strain. The splint must, of course, be a well-fitting one, preferably made of a light waterproof plastic material. It must be made specially for the particular patient under treatment. Alternatively, a removable plaster cast will do, or even a complete plaster if it does not include the digits. The wrist may be fixed, but the fingers must not be immobilized. Strapping, if used instead of a splint, is satisfactory if it is generously applied. A whole roll of 3-in. (7.6-cm.) elastic adhesive strapping is needed for each case. It should be applied from the knuckles up to a short way below the elbow, leaving the digits quite uncovered. At least six thicknesses should be applied over the area of the swelling, and the strapping should be changed as soon as it becomes loose. Generous firm bandaging over wool is also satisfactory.

It is as well for a sling to be worn for the first two or three days only. Then it must be discarded, and the hand should be used as much as possible, with the splint on, of course.

Massage plays no part in the treatment of this condition. Neither heat nor cold applied to the surface helps at all. Counter-irritants are equally useless, but there is perhaps something to be gained from the use of short-wave diathermy as well as splintage.

In patients whose tenosynovitis dates from taking up a new job, the importance of training is to be stressed. This is particularly true in young soldiers with peritendinitis in the anterior compartment of the leg, for the very fact that they complain at all indicates that their morale is low and that their need is training, not treatment. Most people regard such symptoms as a trivial and transient penalty for unwonted exercise in boots, a penalty paid, indeed, by most inferiorly trained amateur footballers after the first game of any season. The only persons who complain much are those who are using such symptoms to express their dissatisfaction with their conditions of life.

Chronic Tenosynovitis

A properly treated tenosynovitis should be cured in three weeks. If symptoms persist despite correct treatment, investigation is necessary. Chronic tenosynovitis may have a serious significance, though this is not usual. The swollen tendon sheaths in serious diseases such as rheumatoid arthritis and the tuberculous "compound palmar ganglion" are not likely to present as a simple tenosynovitis in the first instance, and confusion with serious disease very seldom arises. The association with rheumatic disease is, however, close enough for one to recommend the use of salicylates in any case of tenosynovitis which has no very obvious cause and which is resisting treatment. Authors of textbooks made much of the associations between tenosynovitis and allergy or gonorrhoea. These impress us less than they did our fathers, but the association with gout is more important and may call for consideration. Oxaluria also may be a factor maintaining chronicity in some cases. Syphilis as a cause of chronic tenosynovitis is certainly uncommon and is probably usually missed.

Most chronic cases start quite differently from the usual non-specific tenosynovitis, and they tend to produce a different end-result. In time they develop either a persistent distension of the tendon sheaths with fluid or a nodular or fibro-fatty enlargement of the sheaths. The first type of chronic disorder often gives the patient surprisingly little trouble.

Tuberculous Tenosynovitis.—The suspicion of tuberculosis can arise in any chronic case. Tuberculous tenosynovitis is, however, insidious and relatively painless in its onset. In contrast with the non-specific type we have been considering it favours flexors rather than extensors at the wrist, and, though extensors are not immune, the characteristic lesion of this disease is the compound palmar ganglion. At the ankle, tuberculosis favours the peroneals and the extensors of the toes rather than the tendons on the medial side of the joint. Tuberculosis of tendon sheaths is, of course, always blood-spread and an active focus is present and can often be found elsewhere in the body. The tendon-sheath disease usually produces enlargement of the regional lymph nodes by the time the patient seeks advice. Tuberculosis is, however, always a deceptive disease, and if real doubt exists it would be wise to make a biopsy of the lymph nodes or of the tendon sheath itself.

Tenosynovitis and Rheumatism.—Chronic tenosynovitis of the Achilles tendon, with swelling extending often visibly some distance up the tendon, is to be watched carefully. It is often an early indication of an otherwise unsuspected rheumatoid arthritis. Any nodular thickening beneath the tendon, in the region of the Achilles bursa, is especially suspect. The patient must be carefully questioned about swelling or pain in any other joint. Simple, non-rheumatic cases of tenosynovitis in this region respond well to elevation of the heel by ½ or ¾ in. (1.3 to 1.9 cm.), firm strapping of the affected area, and the removal of the stiffener from the back of the shoe, but, if the swelling persists despite this, a rheumatic background must be suspected.

Tendovaginitis : De Quervain's Disease

Tendovaginitis, in which the trouble lies in part at least in the fibrous tendon sheath and not in the inner synovial lining, is usually seen in one of two forms—as stenosing tendovaginitis or as trigger-finger or trigger-thumb. The first of these, stenosing tendovaginitis at the radial styloid (De Quervain's disease), is much commoner than is often thought. On the radial side of the wrist-joint, over the styloid process of the radius, two tendons lie in a shallow groove lateral to all the extensor tendons of the wrist and fingers. They are the tendons of abductor pollicis longus (extensor ossis metacarpi pollicis) and extensor pollicis brevis (extensor primi internodii pollicis). For 1¼ in. (3.1 cm.) over the lower end of the radius they are covered with a tough unyielding ligamentous sheath, from which they emerge at the level of the wrist-joint. The complicated movements which can be carried out simultaneously by the thumb and the wrist bend these tendons about to an unusual degree; it would appear that friction can produce at the same time a thickening of the tendon in the sheath, a reaction in the synovial lining, and a variable degree of thickening of the tough fibrous sheath itself, which becomes thickened as much internally as externally. A thick tendon in a thick sheath moves even less freely than ever, and pain is produced.

This condition, described by De Quervain, a pupil of the great Theodor Kocher, occurs only in adults. It is much commoner in women than in men. The pain may radiate widely, down the hand and up the arm, even to the shoulder. It is made worse by "straightening the thumb" (abducting the thumb) against any resistance, and especially by pulling the hand over to the ulnar side or by twisting the wrist so that the affected tendons are pulled at an angle to the sheath.

The one outstanding physical sign is localized tenderness just over the radial side of the lower end of the radius about ½ in. (1.3 cm.) above the tip of the styloid process. This tenderness is usually pathognomonic, for the only condition which could produce similar localized tenderness would be a fracture of the base of the radial styloid, when there would be a completely different history. Diagnosis is therefore easy, and it is usually made even easier by the presence of a palpable and often visible swelling due to thickening of the sheath (Fig. 1).

Treatment is as easy as diagnosis. If the tendon sheath is opened at the point of tenderness and slit open over its full length of about ½ or 1 in. (1.3 or 2.5 cm.), cure is certain. The amount of thickening in the sheath often surprises the operator, but once the sheath has been completely divided it opens enough to allow the tendons free movement and

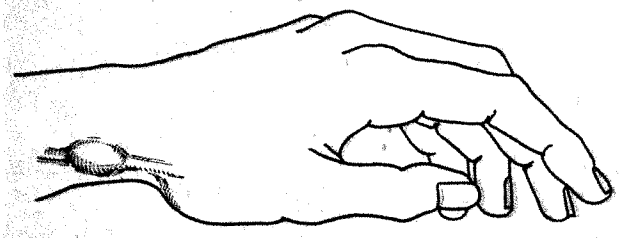

FIG. 1.—Stenosing tendovaginitis at the radial styloid (De Quervain). The drawing shows the position and the size of the swelling in a rather severe case.

plenty of room. The only things which can lead to a poor result are bad surgery or abnormal anatomy. The operation must be done under a general anaesthetic so that a pneumatic tourniquet may be used to give a bloodless field, for the surgeon can then make a precise job of what he is doing. He can certainly avoid the terminal branches of the radial nerve, which lie in the field and which can cause great pain if they are included in a stitch.

There is no reliable conservative treatment. Those who refuse operation can be cured by time, but it takes a long time. They are usually subjected to many weeks or months of plaster-of-Paris splintage or strapping, or both, but the credit for cure should be given to time. Operation, on the other hand, gives cure which is both immediate and certain.

Trigger-finger

Tendovaginitis over the palmar aspects of the metacarpal heads can produce a rather similar but much more dramatic syndrome—a "trigger-finger" or "trigger-thumb." This disability is due to a thickening of the tendon rather than of the sheath; the title "tendovaginitis" is really quite incorrect. Some swelling of the affected tendons is usual in the disorder at the radial styloid already described, but in the lesion found over the metacarpal heads the thickening is localized as a well-marked nodule which is big enough to get trapped in a practically normal tendon sheath. The nodule develops in one or both flexor tendons just where these tendons enter the finger. The powerful flexor muscles can usually pull it through the sheath quite easily, but when they relax it is found that the extensor mechanism is not strong enough to pull the nodule through the sheath in the reverse direction. This means that the finger stays flexed (Fig. 2) until considerable force is applied, usually with the other hand or by another person. A determined passive pull will be found to overcome resistance with a considerable snap, after which the finger extends fully and easily. The snap or click and the sudden free movement which follows it have earned the name "trigger-finger." In really severe cases flexion may be blocked in addition to extension, the finger being locked in a semiflexed position from which it can be moved only by passive force strong enough to produce the characteristic click.

FIG. 2.—Trigger-finger. The position in which the finger is locked.

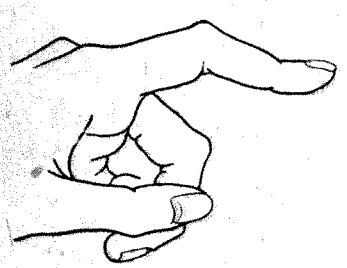

FIG. 3.—Trigger-finger due to rupture of the extensor expansion. Note the very different position of locking from that in Fig. 2.

The only diagnostic difficulty lies in recognizing that the obstruction lies on the *palmar* side of the finger, anterior to the metacarpal head. The patient often insists that the click is on the back of the finger, and, as extension is the movement usually blocked, the doctor sometimes seeks for an explanation on the extensor side of the affected finger. This difficulty should not arise, for the nodular thickening of the flexor tendon produces a lump which can be felt very easily in the palm just proximal to the base of the finger.

There is one type of trigger-finger in which the lesion does lie on the back of the digit. This consists in an avulsion of the middle slip of the extensor expansion from the back of the base of the middle phalanx. This is much less common than the flexor tendon variety, it never affects the thumb, it follows a well-remembered injury, and it produces a completely different disability (Fig. 3). The sufferer from this lesion has difficulty in keeping the finger fully extended at the proximal interphalangeal joint, and when he flexes the finger (not when he extends it) there is a snap as the two lateral slips of the extensor expansion jerk sideways over the head of the proximal phalanx. There is, of course, no lump.

Trigger-thumb

Trigger-thumb is much commoner in infants than in adults. It is the only one of all these disabilities which ever occurs in children. The mother notices that the baby's thumb or thumbs cannot be extended beyond about 150 degrees without a pull, a jerk, and a click. Often the thumb cannot be flexed without a similar jerk. The thumb is held flexed into the palm, sometimes apparently completely locked, and the mother fears that the use of the thumb will be impaired for ever. The pathology is the same as in trigger-finger, and a considerable lump is always palpable in the flexor tendon of the thumb just in front of the first metacarpal head.

Treatment of Trigger-finger and Trigger-thumb

Again, the only reliable treatment is by a small operation which gives an immediate, certain, and permanent cure. The tendon sheath is exposed through a transverse skin incision (Fig. 4) in the line of the appropriate skin crease in the palm or at the base of the thumb. The exposed sheath is then slit longitudinally (preferably to one side of its midline), the nodule exposed (Fig. 5), the finger moved, and freedom of movement demonstrated. Only the skin should be sutured. This operation is better done under a local analgesic so that the patient can move the finger actively while the wound is open, thus demonstrating the completeness of cure or the need for further slitting of the sheath. In very small babies the operation may safely be postponed, but there is no reason why it should not be done before the second birthday. A local analgesic is hardly suitable for such patients, however.

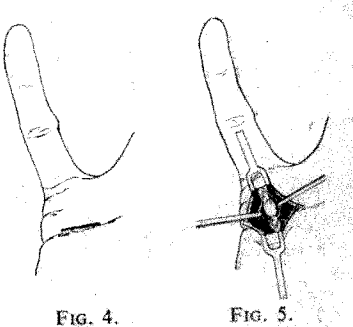

FIG. 4. FIG. 5.

FIG. 4.—Trigger-finger. The position of the skin incision for operative cure of a case involving the fifth finger. FIG. 5.—Findings at operation. Note the thickened nodule in the flexor tendon just anterior to the metacarpal head.

My thanks are due to Miss J. Perry for the diagrams.

Next Refresher Course Article.—"Empyema," by Mr. T. Holmes Sellors.

METABOLIC AND RADIO-ISOTOPE WORK AT UNIVERSITY COLLEGE HOSPITAL

The old children's ward at University College Hospital, London, W.C.1, has just been converted into a special ward for the study of metabolic disorders and the use of radio-isotopes in treatment. It includes in compact design two three-bedded rooms and two singles, a special diet kitchen, chemical laboratories for balance studies and for research, and a neatly planned isotope laboratory, with a "cellar" and observation-room, chiefly used for the treatment of histologically differentiated thyroid carcinoma, especially after thyroidectomy. Some views of this are shown below. The conversion has cost about £12,000, which the hospital has found from its special funds, with the help of a legacy of £5,000 from a former student, John Stothert.

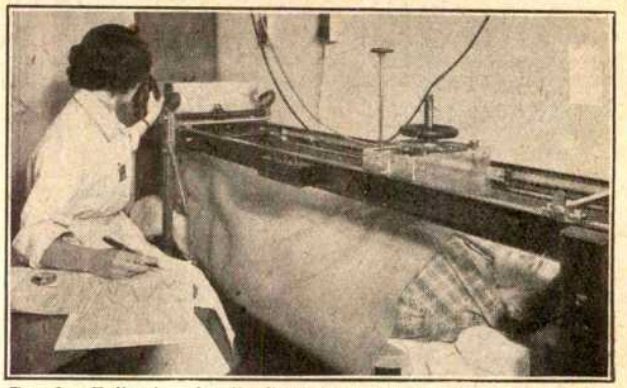

FIG. 3.—Following the distribution of radio-iodine in the patient, while a Geiger counter is moved slowly over her on the rails, either by hand, or by a motor at a steady 10 cm. a minute.

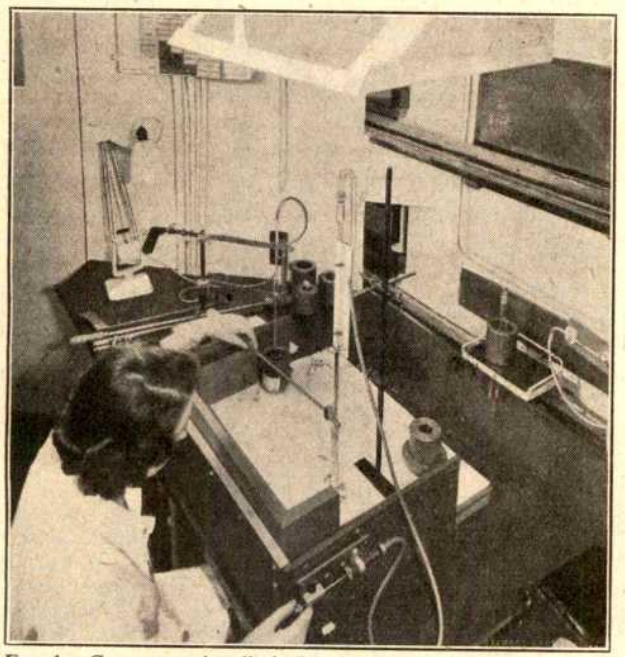

FIG. 1.—Concentrated radio-iodide from Harwell, inside the lead cylinder by the operator's left hand, is diluted for the patient's dose by remotely controlled pipette (*left*) and burette (*right*), the operator wearing rubber gloves, and working at a distance of one foot behind lead bricks. Note the ventilation hood above, and the trolley on the railway at the back of the bench.

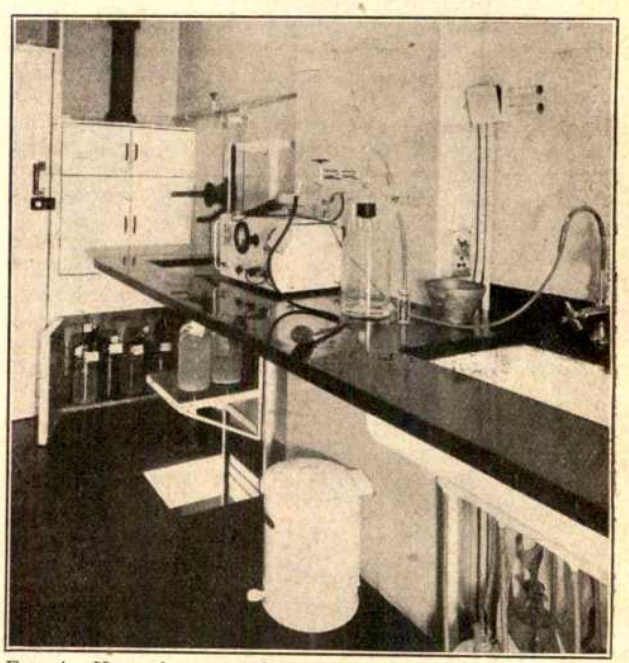

FIG. 4.—Her urine, strongly radioactive for about a week, is collected in her own Winchester kept in a lead-lined cupboard (*left*) with doors both into the laboratory and into the ward corridor. Filled bottles are moved with tongs to the lift, which takes them to the "cellar" below. Safe urine is poured down the funnel *left* of the sink, and runs into the tank in the cellar.

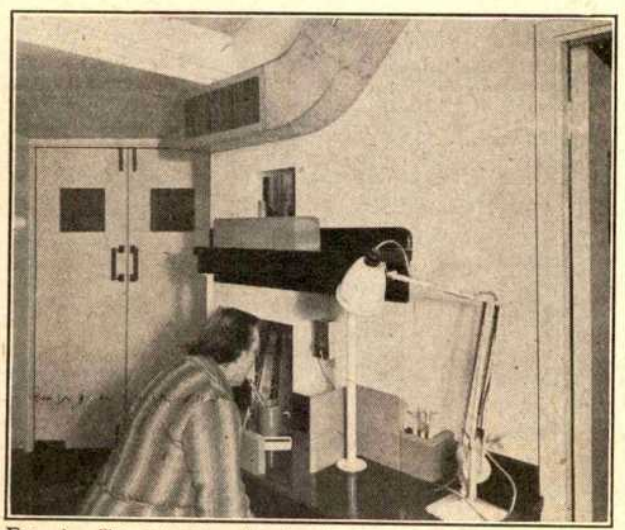

FIG. 2.—The patient sucks the dose of isotope from a flask inside a thick lead cylinder carried on the trolley of the remotely controlled railway. Note the protective lead bricks (some have been removed for the photograph) and the ventilation grille and shaft above the patient near the ceiling.

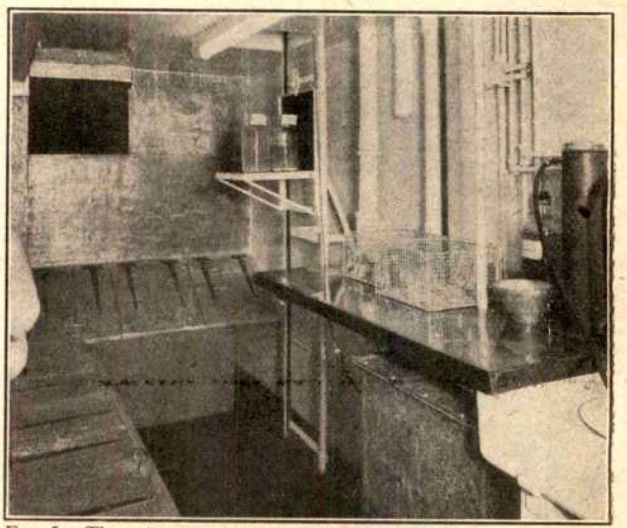

FIG. 5.—The cellar lined with lead bins in which some Winchesters of urine must be stored for two months, until their radioactivity has decayed to a safe level. They are then poured down the funnel let into the bench to the tank underneath, emptying slowly into the hospital sewage, with monitoring of the daily discharge.

EARLY TREATMENT OF POLIOMYELITIS

BY

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(From the Nuffield Orthopaedic Centre, Oxford)

Poliomyelitis in this country did not assume epidemic proportions until 1947. Experience since then seems to indicate a greater endemicity than in the past, with a greater liability to seasonal epidemics in various areas.

To ensure good treatment and to obtain accurate information from a relatively small number of cases, it is essential that the care of the patients be delegated to a team composed of members from all branches of the profession interested in the condition. Such a team ensures an organization capable of expansion in the event of a large epidemic.

It is usually the custom in this country for acute poliomyelitis cases to be admitted initially to isolation hospitals and subsequently transferred to orthopaedic hospitals for treatment of the convalescent and chronic stages. Co-operation between the staffs of these hospitals is essential to a comprehensive plan of treatment.

Since 1947, in the Oxford area, the treatment of poliomyelitis has been so arranged that continuity is obtained from the onset of the disease through the isolation and orthopaedic hospital stage to the final assessment and treatment of the residual paralysis. It is the purpose of this paper to describe the present organization, and to emphasize several important points of treatment in the early stage.

Organization in the Oxford Area

In Oxford the aim is to bring together the staff of the fever hospitals and the Wingfield-Morris Orthopaedic Hospital, and at the same time enrol those from other branches of the profession with special experience or interest in the disease. The poliomyelitis team includes the M.O.H., the medical staff of the fever hospitals, a neurologist, and a specialist in virus diseases. The patients are admitted to the fever hospital. A member of the staff of the orthopaedic hospital is notified, and he visits the patient in consultation with the staff of the isolation hospital. After three weeks patients with severe residual paralysis are transferred to the orthopaedic hospital, while those with a minor degree of paralysis are discharged and arrangements made for their follow-up at orthopaedic clinics in the area.

A member of the staff of the orthopaedic hospital is responsible for the orthopaedic treatment from the onset, and he works in close co-operation with the medical and nursing staff, who actually carry out the treatment. In addition to arranging admission of paralytic cases to the long-stay hospital, the orthopaedic surgeon helps in the diagnosis of cases suffering from other complaints which are sent in as poliomyelitis during an epidemic; we have come across tuberculosis, osteomyelitis, "observation hips," and other orthopaedic conditions. The orthopaedic surgeon visiting the fever hospitals is responsible for ensuring that early deformities are mitigated, and he has recourse to other members of the team for advice when required. At the end of the poliomyelitis season he reports to the team on any problems encountered and brings forward suggestions for future epidemics.

Every year a demonstration of the respirator is arranged for nurses and housemen, and there are informal talks and discussions to which all members of the team are invited.

Treatment in the Fever Hospital

Apart from consideration of the infectious period, the three weeks' stay in the fever hospital which is customary at present is of the greatest value and should not be reduced. The patient has time to get over the painful irritable stage and can begin to adjust his mind to the future before being transferred to another hospital.

The psychological aspect of the disease is given special consideration by the fever hospital staff, medical and nursing, and even the orthopaedic surgeon can help by assuring the patient that an interest will be taken in resettling him when finally discharged. It is of the utmost importance that from the very onset of the disease the patient should be as relaxed and confident as possible in the circumstances. Patients obtain comfort in the knowledge that they are already being supervised by a member of the staff of the hospital in which they may spend a considerable time when the acute stage is past. This appreciation has often been expressed.

Such continuity is important with respirator patients, who are naturally disturbed by a change of hospital, and extra visits to such patients are well worth while, as the greater their confidence the easier it is to overcome the psychological difficulties associated with removing them from the respirator.

General Nursing Care

The patient in the acute stage is admitted to the fever hospital under the physician in charge, who carries out an approximate estimation of what muscles are affected. Extensive muscle-testing should not be done in the first few days. Problems of respiration, bulbar paralysis, urine retention, and general nursing are dealt with. Urine retention not responding to simple measures is treated by intermittent catheterization. In our patients no difficulty has been experienced in restoring bladder function in a few days, but in some cases bladder function may be abnormal for weeks or months.

The patient is nursed in a quiet cubicle, sedation by phenobarbitone is instituted, and codeine is given for pain. In the first few days the patient is often restless, and tends to change position frequently in order to gain relief from lumbar pain. In patients who cannot move, lumbar pain can sometimes be eased by placing a soft pillow under the lumbar spine for an hour at a time—if left longer the pain is apt to return. No elaborate positioning of affected limbs is attempted at this stage, apart from a foot-board and soft pillows supporting knees and arms. It is our aim to disturb the patient as little as possible.

Examination and Assessment

The orthopaedic surgeon is notified by telephone of the case and its approximate severity, and problems such as a tendency to overaction of a muscle group are reported. If there is any serious problem he visits the patient immediately, otherwise he waits until the fever has subsided and the patient is more co-operative. Young children should be visited early in the day, as they are unresponsive and difficult to assess when they are tired.

The patient is examined as fully as is necessary to obtain a reasonably comprehensive muscle chart, note being taken of any limitation of joint movement, neck stiffness, limitation of straight leg raising, and especially any tendency for a muscle to overact. On no account should a complete examination be made: minor errors in charting are preferable to the exhausting of muscles and patient. Muscle charts can be completed at subsequent examinations. After assessment, treatment is ordered.

Positioning and Passive Movement of Limbs

Limbs and spine are so positioned as to relax paralysed muscles and prevent the development of any overacting tendency in active muscles.

Spine.—If the bed and mattress are in good condition no fracture boards are used, as in some cases they aggravate the lumbar ache. The patient is allowed to roll on the side: frequent changes of position, and periods in the prone position, tend to ease back stiffness and pain in the early stage.

Lower Limbs.—The knees are supported by one pillow and the feet by a foot-board. When indicated, plaster back-

FIG. 1.—Method of suspension by felt sling from overhead beam. Use of bandage roll in maintaining thumb opposition is shown.

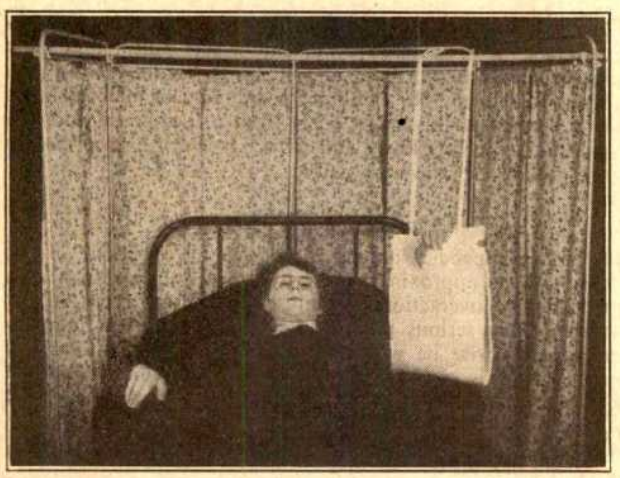


FIG. 2.—Improvisation of overhead beam using bed screen and cross-bar.

splints are used to control rotation or inequality of the leg muscles. The ankle is positioned according to the power of the muscles, but usually at a few degrees below the right angle, or more where there is gross weakness of the calf muscles.

Upper Limbs.—With paralysis above the elbow, the position is maintained by a broad felt sling under the elbow suspended from an overhead beam (Figs. 1 and 2). The shoulders are maintained at 75 degrees of abduction and the elbow at 90 degrees of flexion; the wrist and hand are placed in the position of rest at the outlet of the felt. The thumb is maintained in opposition either by a suitably placed opening in the felt or by a roll of bandage in the palm. This method is comfortable for the patient, maintains accurately any position required, and is easily altered when it is desired to change position. Passive movements can be carried out with the minimal disturbance. The slight flexion of the hand at the outlet of the felt prevents hyperextension deformity at the metacarpo-phalangeal joints and usually removes the need for additional splintage in the early stage.

Passive Joint Movement.—After the fever has subsided all joints are moved through a passive range twice daily, but the range must not be sufficient to cause pain or muscle resistance. Daily joint movement also ensures that early muscle resistance and tendency to deformity are reported to the orthopaedic surgeon at their onset.

Hot Packs

The over-zealous application of hot packs is exhausting to the patient mentally as well as physically. They are used only if there is persistent muscular tenderness or pain, and are applied to the painful areas and not to all the paralysed parts. Packs are renewed during a 20-minute period; this period is repeated according to the benefit obtained. Their use for a period just before sleep ensures a restful night. After the febrile stage children derive great comfort from immersion in an ordinary hot bath.

Summary and Conclusions

The organization which exists in Oxford for the treatment of poliomyelitis in the early stage is described. Co-operation between the staff of the fever hospitals and the orthopaedic centre ensures continual supervision of the patient through all stages of the disease.

Important aspects of treatment in the fever hospital are: general nursing care and sedation; examination and assessment; positioning and passive movement of limbs; hot packs.

The scheme of treatment described is designed to rest paralysed muscles and to prevent and overcome any tendency to early deformity likely to interfere with the patient's future activities.

This regime, when applied in the early stage of the disease, will usually overcome "muscle spasm" and consequent deforming tendencies by the time the patient leaves the fever hospital. When necessary the positioning should be continued after admission to the orthopaedic hospital.

Some patients have had little or no treatment in the early months of the disease, and in a proportion of these deformities due to abnormal overaction of muscle groups have been established. Deforming tendencies appearing in the early weeks of the disease must therefore be recognized and treated, and an attempt made to understand them.

At the Devon and Exeter Medico-Chirurgical Society on March 6 Dr. M. C. Binnie spoke of geriatrics, its scope and problems. He said that geriatrics should be regarded more as an outlook than as a specialty. Its outstanding contribution so far was its insistence on early activity. Contractures, bed-sores, incontinence, pulmonary emboli, and aspiration pneumonia were some of the sequelae of too prolonged a rest in bed. Cases of coronary thrombosis or congestive failure in the aged should be confined to bed for about half the time required by a younger person. Even before he got up much could be done for the elderly patient by simple physiotherapy. All who dealt with him should be encouraged to keep this principle of mobility constantly in mind. Next in importance came rehabilitation of body and mind. Occupational therapy, especially of a diversional type, could do much towards this end.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Anoxia in Sleep

SIR,—The anoxia found in deep sleep is not its cause, but the result of immobility, which slackens the circulation by removing the pumping action of the muscles which in activity reinforce the action of the heart.—I am, etc.,

Lowestoft. LEONARD HILL.

Coronary Disease in Doctors

SIR,—Lest the medical profession might be somewhat depressed by your leading article of March 8 (p. 535) showing the increasing incidence of early deaths in the profession from coronary thrombosis, we have analysed the ages at death of the 30 doctors in your obituary column (p. 557) of the same date. Of the 13 doctors whose ages are given, the average age at death was 76.7 years. Of the remaining 17, taking the date of qualification from the *Medical Register* and assuming that the average age to qualify was 22, the average age at death was 69.2 years, giving an overall average of 72.43 years, which goes to show that the doctor is still attaining his allotted span.—We are, etc.,

D. C. PIM.
Leeds. J. E. OUTHWAITE.

SIR,—In your leading article on coronary disease in doctors (March 8, p. 535) you draw attention to the apparent absence of any increased incidence of this complaint during the war years 1940–6, but that there *was* such an increase in 1947–50.

This seems to puzzle the investigators—but why should it? In a complaint of this nature there must be a considerable time-lag between the beginning of the disease and any manifestations.

I would say that the increase in 1947–50 is exactly what one would expect, the disease having originated during the war, with its abnormal stress and strain, three to five years previously to causing symptoms.—I am, etc.,

Bedford. F. K. HAYMAN.

SIR,—The figures and facts given by Dr. J. N. Morris and his colleagues (March 8, p. 503) confirm everyday medical experience that patients with coronary atheroma are liable to die suddenly, but one was not prepared to find that "60% of the total coronary mortality represented deaths occurring very quickly in the first few days *of the first clinical attack*." In my private practice, sudden death—i.e., death within 24 hours of a heart attack—occurred in 19 patients, and death within one week in another seven. The previous history was unknown in 4 of these 26 cases (five of them female); 12 had previous cardiac infarction, seven had angina with an abnormal cardiogram which, in most, showed cardiac infarction, and one had aortic stenosis. Sudden death without previous symptoms or signs of heart disease occurred in only two cases, and one of these had an abnormal cardiogram before onset of the fatal illness. These figures suggest that sudden death "in the first clinical attack" is exceptional. Cardiac infarction may come on slowly, and may take place with no more symptoms than mild indigestion, so that the diagnosis is made some time after infarction has occurred and no treatment is given. For this reason, eight of my patients were never off work for heart disease before they died. In actuarial records they died in the first clinical attack, in medical records they were known as patients with heart disease.—I am, etc.,

London, W.1. PETER MEYER.

Herpes Zoster and Varicella

SIR,—With regard to the concise study of herpes zoster varicellosus by Dr. D. I. McCallum (March 8, p. 520) I feel sure that the author had no doubt that a single virus accounted for the spectacular group of cases which followed Case 6.

Surely by now there is enough evidence for us to accept the view that zoster and varicella are due to a single virus which shows dermotropic and neurotropic modifications. In 1933 some of my cross-complement fixation reactions were so sharp and specific, while the controls were negative, that I had no doubt that the viruses were identical or very closely related. Many workers have confirmed these observations, and it is easy to explain the smaller group of negative findings by the variability in the amount of antigen present in the vesicles. Rake *et al.* (*J. Bact.*, 1948, **56**, 293) found that the elementary bodies of zoster were most plentiful in vesicles 12 hours after their eruption, while in 24 hours or later the elementary bodies were scanty. This fact, and the variability of dilution of the antigen which depends upon the amount of exudation, probably accounts for a good deal of the variability in the antigen content of the vesicles. Again, specific antibodies do not appear until about two weeks after the eruption, so that specimens of serum obtained earlier than this may give no reaction with the antigen. Amias and others have demonstrated the agglutination of virus particles from zoster vesicles with convalescent zoster or varicella sera. Rake *et al.* described an epidemic of varicella apparently initiated by a case of zoster, and stated the well-known fact that a vast number of similar cases have now been reported in the literature. These authors were able to demonstrate that typical and similar elementary bodies were found in the vesicles of the original case of zoster and in the secondary cases of varicella, and they conclude that one can hardly doubt that, in this instance, both diseases were produced by the same virus.

Is it surprising that occasionally the neurotropic modification of the common virus may be more stable and give rise to a small epidemic of zoster cases in contacts, when we remember the extremely stable modification of variola virus which we know as vaccinia? In my opinion the neurotropic and dermotropic modifications of the common virus of zoster and varicella account satisfactorily for all the known clinical phenomena, and I believe the acceptance of this established fact is overdue.—I am, etc.,

London, W.1. R. T. BRAIN.

Effect of Reading on Cataract

SIR,—Mr. Victor Purvis's letter (March 1, p. 490) raises an important question whether reading has any influence on the progress of cataract.

Doctors have an unenviable reputation for curtailing the activities of those who seek their aid. Restriction of close work, and, the mainstay of the optician, the frequent correction of refractive errors, have for long been held important in cataract and myopia: it is doubtful whether either has the slightest influence. To forbid reading in early cataract may well deny the only solace of the aged, and there is much to be said for the view that clerical work is the most suitable for the myope. One should be on sure ground before interfering with these occupations. It is surprising, therefore, to find (February 9, p. 318) one of Mr. John Foster's enlightened outlook maintaining this tradition, and it is a matter of concern that it should be in so widely read an article unless there is good evidence to support it. If so, let it at last be put before us.—I am, etc.,

Redruth. CHRISTOPHER HEATH.

The Anatomy Act

SIR,—It is pleasing to read the letter from the President of the Royal College of Surgeons of England (March 8, p. 544) commending the proposal to alter the law to authorize the establishment and maintenance of eye banks for corneal graft surgery.

For some time now we have been aware of the legal difficulties confronting ophthalmic surgeons wishing to collect and store donated material, and their dependence on the use of pathological eyes taken from living subjects. The provisions of the Anatomy Act place serious obstacles in the way of collecting material from persons who have just died, and I understand that unless the material is collected within a short time of the death of a patient it is valueless for use in ophthalmic surgery.

There are maintained in this country other banks of which the legality is seriously in doubt because of the restrictions imposed by the old Anatomy Act on the collection and storage of material for ready use in the treatment of bone and other conditions. From information I hold it is not unlikely that there will soon be a demand for the collection and storage of soft tissues—e.g., fascia, arteries, and veins.

The Anatomy Act was originally designed to meet a special set of circumstances arising from the activities of the "Resurrectionists." Their re-emergence is highly improbable, and the law should be suitably amended to permit surgeons and pathologists to collect material for treatment, for research, and for tuition in medical and postgraduate schools. The time appears to be appropriate not only for a minor change in the law but for a review of the Anatomy Act as a whole to eliminate its restrictions on treatment and pathological investigation, and to amend the provisions which may hinder surgical progress promised now or in the future.—I am, etc.,

London, W.C.1. ROBERT FORBES.

Bacteriological Warfare in Korea

SIR,—Many medical men and women must feel grave disquiet at the allegations by the Chinese Government that the U.S. armed forces have sent missiles containing disease-contaminated insects into the North Korean lines and into Chinese Manchuria; it is claimed that the diseases spread thereby include plague and that specimens of the containers can be produced. The accusations have been firmly denied, and it is natural for us in the West (though perhaps less easy for people in Asia) to accept this assurance and to assume that the allegations are a cover for spontaneous epidemics, etc. It is, however, freely admitted that research in biological warfare is proceeding (*Peace or Pestilence*, by T. Rosebury (New York, 1949)), and it is not impossible that the present situation might be regarded by some extremists as suitable for testing its potentialities. In the International Code of Medical Ethics adopted in 1949 by the Third General Assembly of the World Medical Association (of which the B.M.A. is a member), it is laid down that "under no circumstances is a doctor permitted to do anything that would weaken the physical or mental resistance of a human being, except from strictly therapeutic or prophylactic indications imposed in the interest of the patient." If such a pledge is to be more than a pious platitude we cannot be satisfied with denials, however much confidence we place in them, of accusations that medical research has been applied for grossly unethical purposes; the present grave allegations should be directly investigated on the spot by a neutral commission of inquiry. This is all the more vital because, in the broader aspect, this pattern of accusation, denial, and counter-accusation could be a dangerous precedent for the first use by any nation of any new weapon repulsive to public opinion. The situation also makes consideration urgently necessary of the plea of the Medical Association for the Prevention of War for international agreement on repudiation of the use of biological warfare as an offensive weapon, coupled with effective methods of control (*Lancet*, February 2, p. 258).—I am, etc.,

London, N.W.3. P. D'ARCY HART.

*** The International Red Cross offered on March 13 to send a neutral commission to Korea to investigate allegations of bacteriological warfare.—ED., *B.M.J.*

Experiment in Peacemaking

SIR,—I was much interested in the letter of Dr. R. L. Kitching (March 8, p. 548) in regard to the role that the medical profession can play in the maintenance of peace.

Throughout the Western and particularly in the Eastern worlds there are millions of people receptive to Stalinistic propaganda. These peoples are primarily receptive because of their living conditions.

Even allowing for every death, there will be 25 million more people by this time next year. Although 75% will die at an average age of 30, they will make the world population amount to 3 thousand million. With the assistance of chemotherapy, vaccines, and public health units, doctors are invading war-ravished and poorly developed countries, and producing unfortunate results. In Japan the death rate was cut by half, and then the birth rate jumped from 23 to 34 per thousand. In 20 years Japan's population will be over a hundred million. Similar figures can be cited for many other countries, such as India, Egypt, and certain islands, such as Puerto Rico. Instead of improving conditions, by increasing the birth rate and reducing the death rate they are continually deteriorating.

Some method of achieving control of the world population must be worked out soon. Recent experiments show that medical science will be able to produce some form of tablet contraceptive that can be used by the simplest people. It must be admitted the situation is complex, with many ethical and religious facets, but I feel it must be tackled if world peace is to have any permanency.

—I am, etc.,

Birmingham. R. SOMERVILLE LAMBIE.

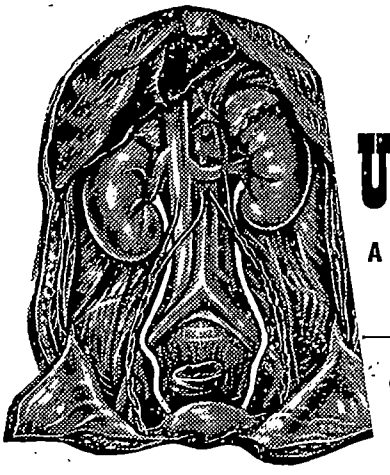
SIR,—May I congratulate Dr. R. L. Kitching on his brilliant letters (December 1, 1951, p. 1337, and March 8, p. 548) concerning his suggested experiment in peacemaking and you for publishing them. What he has said is, I am convinced, what has been felt by the inarticulate millions who despair of the news in the daily papers. We are told that air raid sirens are to be provided in every town (but no shelters), so that presumably we are to be given a few moments in which to say our prayers before being blown into oblivion. It is insisted that war is not inevitable, yet our standard of living is being crippled to provide for it. Exhortations are made that we should join in civil defence "in case war comes," yet most of us have read John Hersey's book and know how futile the whole ghastly business will be. The statesmen on both sides argue and argue and never make any progress, whereas the people of every nation crave for peace and dread the shadow which creeps forward imperceptibly to darken their lives.

Surely it is time we recognized that there are national diseases as well as individual ones. Wars are national psychoses due to fear, and once the fear has reached sufficient pitch reason departs and delusional processes control all thinking. Part of this has already occurred, so that the word "peace" itself is suspect and anyone who belongs to an organization urging peace is already in danger of being put under surveillance. No doubt Dr. Kitching himself would find it difficult to gain entry into some countries because he has urged the need for peace.

Yet it is imperative, as Dr. Kitching states, that the people themselves should try to make contact with each other and dispel the fear of war which the politicians seem to breed and broadcast. It is this fear of war which makes such a large element in Italy and France become communistic. Surely we have sufficient to do to control disease without fighting each other. Let us therefore take up Dr. Kitching's suggestion to invite doctors of opposing nations to visit us, and raise a storm of protest if anyone dares to forbid their entry. If they will come, let us entertain them and discuss medical matters. Then they can go home and tell their nations that the people they met are human like themselves and not blood-stained monsters as they have been told. We may not have much success at first, but at least we shall have made a start. We shall not be like Anatole France's physician, who never interfered with the progress of a disease but found it of great interest to watch its progress until the patient died. In war we are the patient, but we may not find our own destruction so interesting.

—I am, etc.,

London, W.1. CLIFFORD ALLEN.



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References: Amer. Heart J., 1949, 37, 531
Brit. Heart J., 1950, 12, 54

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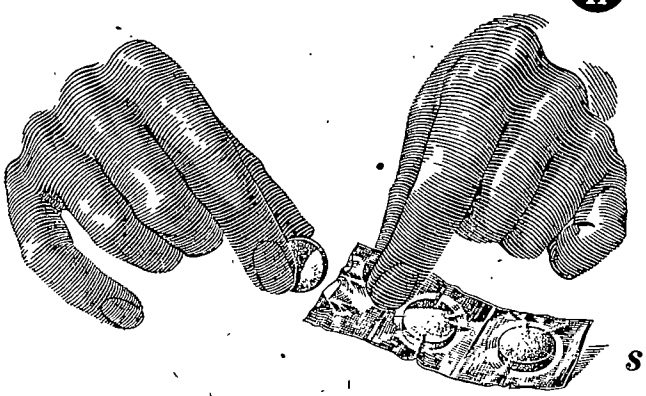

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The Cleft in Man

SIR,—It is not often that the *British Medical Journal* bestows the hospitality of a full page of its valuable space on the review of a book (December 15, 1951, p. 1445). Impressed by this fact and by Professor Lancelot Hogben's interesting critique, in common no doubt with many others I have read the book, Dr. J. Bronowski's *The Common Sense of Science,* and would be glad to be allowed to comment on it.

In the last chapter Dr. Bronowski takes up the question of science the destroyer, and the indictments which have been brought against scientists for their alleged unthinking and amoral attitude as they go on inventing more and more destructive weapons. He remarks upon the fear of war that has developed, the war of nerves, and the important fact that there seems to be no generally accepted code of values capable of helping to deal with this situation. He offers a solution, however. He believes science can create these values, and states: "The first thing to do, it seems to me, is to treat this as a scientific question; by which I mean as a practical and sensible question, which deserves a factual approach and reasoned answer."

At this point his scientific training appears to desert him completely. He speaks of the cleft in man which two wars have uncovered—between the endeavour to be man and the relish in being brute—and, curiously to my mind, refers to it as a spiritual problem and not a psychological one. Later he asks: "Can science heal that neurotic [*sic*] flaw in us?" and adds that, if science cannot, then nothing can. And how will these very significant values be discovered and the cleft healed? The answer is: "Precisely as literature does, by looking into the human personality, by discovering what divides it and what cements it." That is how, he says, great writers have explored man in the past and that is how Dr. Bronowski believes this scientific problem, so important to us all, should be dealt with in the future. There is no suggestion that the problem may be a psychological one, and apparently a complete absence of awareness that a solution may be found through a scientific psychology or psychiatry. One is left pondering, after this incredible anticlimax with which the book ends, whether it is meant as an example of the common sense Dr. Bronowski is so interested in. As a psychiatrist, and after due consideration, I feel bound to say that it can be described more accurately in another way.—I am, etc.,

London, W.1. FREDERICK DILLON.

Laryngeal Epilepsy

SIR,—Dr. W. Raymond Parkes (September 15, 1951, p. 672) and Dr. Douglas K. Adams (December 1, 1951, p. 1340) suggest that this condition is more likely to be seen or heard of by the doctor than by the specialist. In more than 20 years of general practice I have not actually seen one attack, though I have been credibly informed of some twoscore or so. The name is unfortunate. I have not recognized the condition in an epileptic, though even if it occurred it would be mistaken by the patient for his usual fit. I prefer the name "laryngeal vertigo," or even "cough swoon."

We had a small epidemic of this condition in Bradford in the spring of 1940 or 1941. Those who suffered from it at that time have not shown any tendency to recurrence or indeed to any unfortunate sequel. Most winters bring a case or two. The typical case usually presents a rigid thoracic cage, good muscular development, an irritating cough, tenacious sticky sputum, and some degree of impatience. The sequence of events as I see it is that in the first place some respiratory discomfort sets off a cough reflex, which does not relieve the tickle. Now follows a series of rather futile expiratory efforts through a closed glottis, until the position of full expiration is reached. If a sudden inspiratory movement is now attempted while the glottis is tightly closed and possibly stuck together with gummy sputum the pulmonary circulation is bound to retain all the venous blood reaching it, until some sort of equilibrium is reached. The next stage is syncope, which almost at once causes relaxation of the laryngeal and inspiratory muscles, and the patient gets up from the floor or pavement convinced that his heart is bad. He is usually reassured when it is pointed out to him that a heart which will stand all this abuse and start working again must be a very good one to have.

It is interesting to notice that the swoon only happens when the patient is erect—probably because in that position the weight of the abdominal organs assists the sudden and violent inspiratory effort.

These attacks are rather rare and evanescent. It is most unlikely that any doctor will see many attacks, but I agree that students should be taught to recognize the condition from a description given by the patient.

At present I cannot find it mentioned in any of my books on medicine. Possibly the indexes are incomplete. My experience suggests that a cough swoon is more alarming than dangerous, unless of course it happens when the cougher is crossing a busy road. However, a patient of mine did even this with impunity once, but does not intend to tempt Providence again if he can help it.—I am, etc.,

Wrose, Shipley. HENRY STEWART RUSSELL.

Unsuspected Gangrenous Appendix

SIR,—I consider that the following case history is worth publishing because certain features are evident which give invaluable help not only to the average general practitioner but more especially to the newly qualified house-surgeon, who because of lack of experience may be apt to be unenlightened on the possibilities of some of these features.

The mother of a young girl aged 7 was worried about her child because she frequently became listless and ill-looking but without any other signs or symptoms except for a daily rise in temperature varying between 99° F. and 100° F. (37.2° C. and 37.8° C.).

This state of affairs continued for many weeks, during which time the patient was subjected to various tests. The Paul–Bunnell test was negative. The agglutination tests of the typhoid and paratyphoid group were negative. Lung fields were clear. The urine contained only a faint trace of protein as a possible abnormality. Blood count: W.B.C.s 11,000 per c.mm. (48% polymorphs, 47% lymphocytes, and 2% monocytes). The E.N.T. specialist could find no upper respiratory infection.

The child continued to be "off form" for some more weeks until I was called to see her because she had been vomiting and had a higher temperature. On examination she did not appear unduly ill. There was no localized area of tenderness or pain in the abdomen, which was doughy all over on palpation. Since a certain amount of influenzal gastritis was prevalent at the time this was considered a possibility and she was treated accordingly.

At the next visit 48 hours later she complained of more vomiting in the interval, with pain in the abdomen only with movement. Palpation gave some increased discomfort in the right inguinal fossa. The urine was pink in colour and very opaque. The temperature was 98° F. (36.7° C.) and the pulse 100 per minute. Her mother said that the temperature had been 101° F (38.3° C.) in the morning.

She was transferred to hospital and later operated upon, and was found to have had a perforated gangrenous appendix with generalized peritonitis.

The points to be appreciated in this case are: (1) The signs and symptoms being negligible in comparison to the true state of affairs. (2) The possibility of a normal temperature and pulse co-existing with a gangrenous appendix. (3) The possibility of the red herring of the urinary system being thought culpable.

The patient at the moment is doing well. It will be most interesting to see if her previous spell of many months of pyrexia of unknown origin has at last ended.—I am, etc.,

Whalley, Lancs. C. E. BROWN.

Nature Cure

SIR,—An "Afternoon Argument" on Nature Cure between the Honorary Secretary of the British Naturopathic Association and a Fellow of the Royal College of Physicians was broadcast in "Woman's Hour" on January 31. I feel

rather alarmed about the affair and would like to suggest a different approach to the problem by our profession.

The F.R.C.P. representing our case did not understand his opponent. He found him living in a different world of ideas, and what he said sounded to him "too complicated, and at the same time too simple." When the naturopath emphasized that he treated the whole person—e.g., not pneumonia, but a person with pneumonia—that disease was a healing process, an effort of the vital force; that to assist this all-important intrinsic factor he used diet, fasting, cold water, and "osteopathy," but no drugs, the F.R.C.P. did not reply, but came straight back to pneumonia, stating that in this disease he treated only the extrinsic cause, the bacteria, stopping their growth with antibiotics.

The result was a draw. The listener was left with the impression that the B.N.A. had as good a case as the B.M.A., if not a better one, since it appeared that the scientifically trained mind was not able to penetrate into the metaphysical depths of naturopathic thought.

This is regrettable, because it is not true. Naturopathy, as a doctrine apart from, and opposed to, orthodox medicine, has no case at all. It has neither a theory nor a practice it can claim its own. Everything these lay healers have got they have borrowed from orthodox medicine 200 years ago. They are old-fashioned, while we are modern. That is the root of the matter. Because they are old-fashioned they appear, to a modern mind, to live in a different world; because they are old-fashioned they appeal to the public imbued with folklore. Medical folklore, too, goes back to ideas and methods taught by the medical schools 200–300 years ago. That accounts for the element of truth in them.

The concept of disease as a natural healing process, and of a vital principle governing the functions of the body, was introduced by the medical schools of the eighteenth century. This vitalistic trend of thought reigned over 100 years in orthodox medicine, long before the B.N.A. was born. Among its representatives were the great masters of our art, the men who laid the foundations of modern medicine. I am referring to the galaxy of Scottish thinkers, Robert Whytt, William Cullen, John Hunter, George Fordyce, Sir Gilbert Blane (*Elements of Medical Logick*, London, 1819), Sir Charles Bell, William Goodsir; the French vitalists, Sabatier, Bordeu, Barthez, Dumas, Bichat; and the German vitalists, Stahl, Gaub, Haller, Blumenbach, Reil, Hufeland, Joh. Mueller, Rud. Virchow. These men, in their lectures and writings, were full of praise for the *vis medicatrix naturae* which preserved the body from putrefaction, and they made wise use of its powers in their practice. They all were convinced "naturopaths," whether they prescribed diet, water, wine, laudanum, mercury, or bleeding. The saying, Feed a cold and starve a fever, goes back to Cullen, the most influential of these orthodox naturopaths.

Nowadays we do not talk openly about the good old *vis medicatrix naturae*, we take it for granted, which seems rather ungrateful. Every day the G.P., the surgeon, the obstetrician has reason to praise a power on which he relies so much. Nor do we talk any more of vital force or vital principle. We are afraid to do so because some of our professors have told us that vitalism is dead. But is it? As a matter of fact, we are quite unable to "explain" or express the true phenomena of life in physical or chemical terms. (Just try "Organization" or "Reorganization" for a start.) It seems that for this purpose the use of vitalistic notions of some sort is still unavoidable, as it was in Hunter's time when he demonstrated, by his famous experiment, the difference between a live egg and a dead egg. Why not admit it? We cannot define "inflammation" or "immunity" without reference to "defence" or "resistance" of the body; we cannot define malignant growth without referring to the "forces which control" normal growth. When a practitioner speaks of stimulation and sedation, does he not omit to add, "Of vital processes"?

In any case my colleagues will agree with me that so far as the cure of diseases is concerned we entirely depend on Nature. The labels "Nature-Cure" and "Naturopathy," therefore, are apt to mislead the public. We do not know of any other cures than cures performed with the help of the natural healing tendency or "power" of the organism. *Natura sanat, medicus curat*—with methods old and new. The question, Drugs or no drugs? does not arise at all. Drugs are always liberated and involved in the natural healing process, because every item of our diet and every part of our body is full of substances which, in their isolated state, are called "drugs."

We know of many different ways to treat a carbuncle—e.g., with diet or fast, with cold compresses or hot poultices, with cream cheese, mag. sulph. paste, or mercury ointment, with intramuscular injections of milk, or blood, or penicillin, with short waves or *x* rays. Whatever we do—so long as we refrain from "osteopathic" measures—we are assisting Nature's cure. How exactly our unspecific therapy and our specific therapy promote the natural defence process we do not know (though it would not be too difficult for our experimental pathologists to find out if their bacteriological preoccupation would permit such inquiries). But we know it is always Nature which initiates the inflammatory process we call carbuncle and brings about its resolution, including the destruction of the invading bacteria, in its own inimitable way. We doctors are Nature's humble servants, whatever we think or believe we are doing. The choice of remedies is mainly a matter of taste and fashion.

To sum up this argument in B.B.C. language: The "Naturopaths" have not got anything we have not got (and much improved) in orthodox medicine. Everything they can do, we can do better, safe, and quicker.—I am, etc.,

London, N.8. F. M. LEHMANN.

Cost of Anaesthetic Techniques

SIR,—Dr. C. P. Brown (March 8, p. 546) takes the flow rates suggested by me (February 16, p. 384) and postulates a patient with a minute volume of 5 l. and an oxygen consumption of 200 ml./min. and shows my oxygen flow to be inadequate. Both these figures might be high for a woman who had received "omnopon and scopolamine" and a total of 0.75–1 g. thiopentone as suggested by Dr. John Bullough in his original article (January 5, p. 28). In cases where Dr. Brown's figures do apply an increase of the oxygen and/or a decrease of nitrous oxide would meet the case. Minimal flow rates are not dangerous if the oxygen is adequate and the carbon-dioxide absorption is efficient. Dr. Bullough mentioned a technique for anaesthesia for a mastectomy involving a total flow of 8 l./min. I merely suggested equivalent figures on absorber technique, which were not intended as a guide to the beginner. I do not wish to draw a red herring across the path by suggesting the best anaesthesia for mastectomies, nor would I deny the very real value of T-piece technique in certain cases.

The only point of my letter was to discourage the development of techniques which involve blowing off large quantities of expensive gases into the atmosphere, and to that I could add the routine administration of costly antidotes to costly drugs. The hospitals have been run by the State for nearly four years now and no attempt has been made by the Ministry of Health to interfere with our clinical judgment in giving drugs. That trust should be respected by exercise of any reasonable economy which will not affect the welfare of our patients. We all pay in the end.—I am, etc.,

Northampton. F. F. WADDY.

Extensive Resection of the Small Intestine

SIR,—It is gratifying to see two further reports of successful massive resections of the small intestine with good nutritional follow-up results, and I should like to congratulate Mr. H. J. Croot (January 26, p. 195) on reporting them. It is a pity, however, that his review covers only cases reported before 1945, with one exception. There have been increasing numbers of reports of removal of massive amounts of small intestine within the last few years. Professor Linder and I have reported detailed metabolic studies in one case in particular (*S. Afr. J. clin. Sci.*, 1951, **2**, 71), with survival for over three years with only 6 in. (15 cm.) of small intestine remaining. Dr. W. Wilkie reported the surgical aspect of the case in 1950 (*S. Afr. med. J.*, **24**, 516). Another case of resection of over two-thirds of the small gut has also been reported by us (*S. Afr. J. clin. Sci.*, 1951, **2**, 205). These reports contained some of the more important recent references, and the record for small intestinal removal seems to be held by Shonyo and Jackson (*Arch. Surg., Chicago*, 1950, **61**, 123), whose patient was left with 4½ in. (11.3 cm.) of jejunum and ileum, but who died a year after operation. —I am, etc.,

Capetown. W. P. U. JACKSON.

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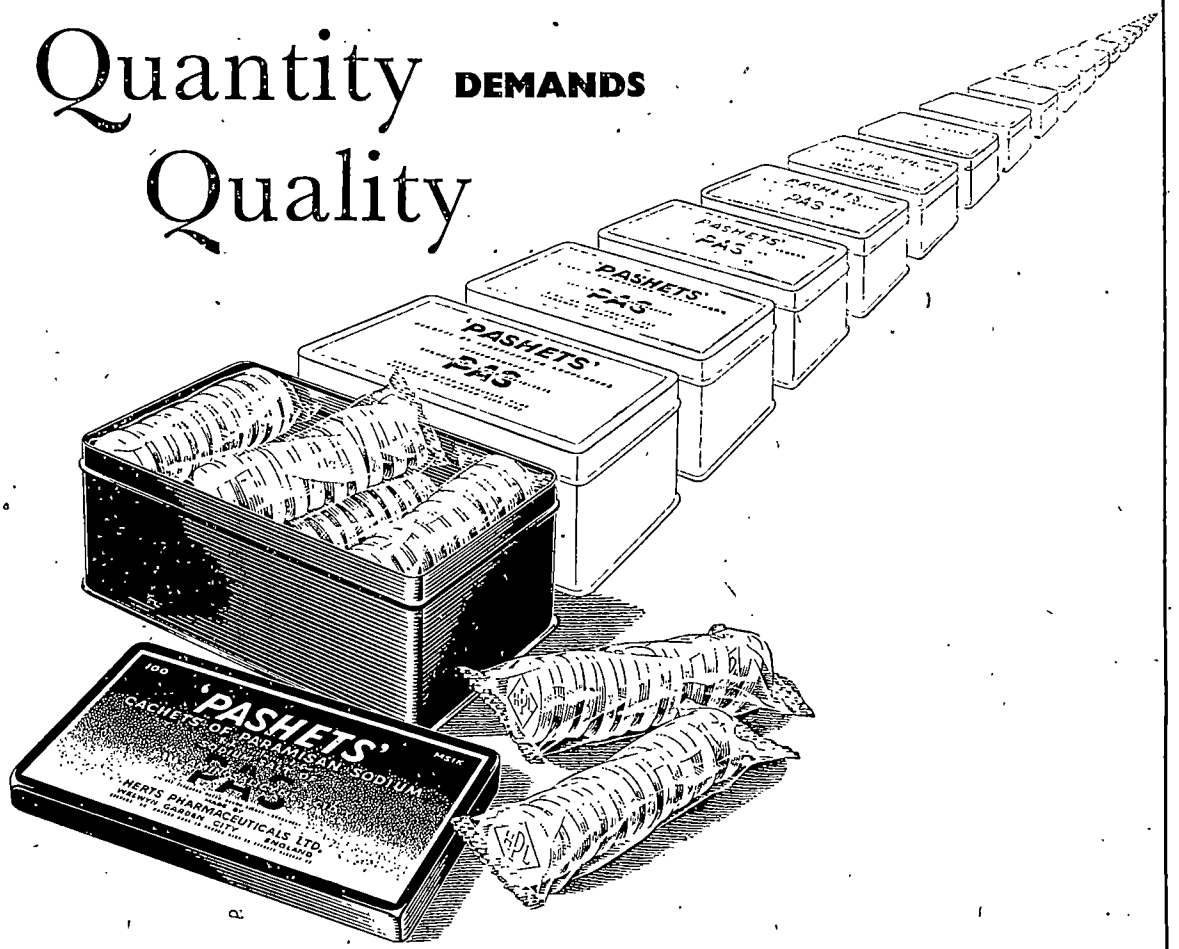

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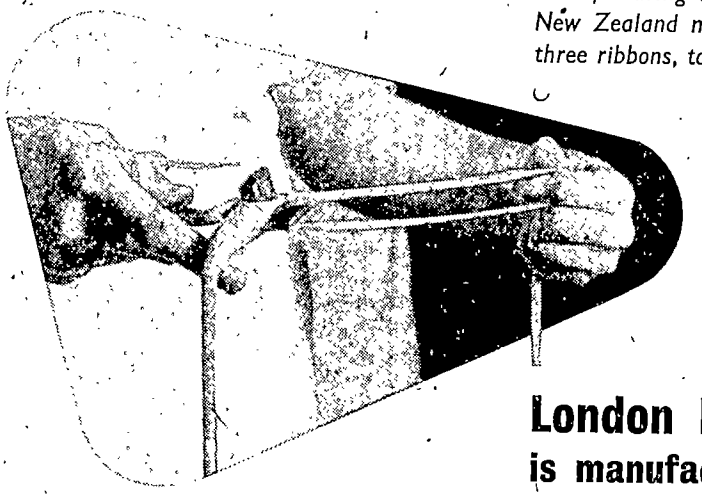

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Archetype and Schema

SIR,—Many people must have been grateful for both the fairness and the clarity of the leading article on Professor C. G. Jung's work (February 9, p. 314). Especially your remarks on the archetypes were helpful. They should greatly help the non-specialist to appreciate the depth and the empirical nature of Jung's work. As you stress, he is not systematic—i.e., not committed to dogma. Jung again and again stresses these points that should be obvious to anyone reading his works without bias.

In one of his latest books (*Aion*, Rascher, Zurich, 1951, p. 9) he says: "May the reader never forget that I make no confessions of creed or compose tendentious works, but consider how certain matters can be understood from the point of view of modern consciousness" (my translation). Jung is not a metaphysician, he is a physician predominantly interested in the psyche. He says elsewhere that the archetypes may have a cerebral basis. There are signs that we may learn more about that in the future. Sir W. Russell Brain has pointed out recently ("The Concept of the Schema in Neurology and Psychiatry," in *Perspectives in Neuropsychiatry*, H. K. Lewis, London, 1950, p. 139) that the "schema . . . is describable at the same time in both neurological and psychological terms. . . . The schema is a neurophysiological disposition which may or may not enter consciousness and which plays an essential part in perception and action, speech and thought. It is both physical and mental and . . . may prove to be the bridge between body and mind." I think Jung would have little objection if archetypes were regarded as the psychological side of such a neurophysiological disposition. Brain's and Jung's standpoints differ perhaps only by their emphasis.—I am, etc.,

Sedgefield. D. J. SALFIELD.

Epigastric Hernia and Dyspepsia

SIR,—I agree with Dr. Roy Houghton (January 26, p. 220) that epigastric hernia is a cause of dyspepsia far more common than one would suppose from the casual and inadequate description given in most textbooks, but I doubt whether his explanation of the apparent connexion between this condition and emphysema is the true one.

Some years ago in an ordinary industrial practice I collected notes of 12 cases of epigastric hernia I saw in as many months, and since then, always on the lookout for them, have seen probably four or five a year. Of the 12 the youngest was a boy of 4, the oldest a woman of 80, with males predominating in the intervening ages. The herniae varied in size from as large as half a walnut to as small as an orange pip, most being small.

I believe that in most cases the prime cause is a tiny congenital defect in the interlacing fibres of the linea alba, perhaps at a point where a blood vessel traverses the layer. This defect, yielding before intra-abdominal pressure, enlarges until a sac of peritoneum herniates through; thereafter the opening gradually becomes circular and its edges fibrose, thus limiting further enlargement, the sac meanwhile having become occupied by a small tag of omentum or, more rarely, a small knuckle of intestine. In some patients the hernia will appear spontaneously, in others only when assisted by acute or chronic muscle strains—e.g., coughing.

Not all herniae produce trouble—I have a boy of 7 under my care who has two with no symptoms. When they do occur, symptoms follow a fairly constant pattern and are easily mistaken for those of gastric ulcer—I have seen two patients so misdiagnosed by well-known consultants. The patient complains of sharp epigastric pain during or immediately after a meal, fullness, nausea, and sometimes vomiting, which relieves the pain.

On examination, unless these lesions are specially looked for, they may be missed, particularly in fat patients. Some herniae are very small, may be invisible with the patient lying down (probably seen, however, with the patient standing and coughing), and are not always felt by flat-hand palpation. If the pulp of the middle finger is drawn with gentle pressure along the line between xiphisternum and navel the unseen hernia will be encountered as a hard pea-like nodule, almost certainly tender, which will usually disappear on firm pressure with a characteristic palpable gurgle, leaving the finger holed and resting on the ring-like edges of the hernial opening. The patient in pain is immediately and dramatically relieved by this reduction. If the sac is not protruding at the time of examination the finger method will usually detect the hole—and a cough impulse may then be elicited.

Radical cure is by operation. The fibrotic rim of the opening in the aponeurosis is elliptically excised, the sac is transfixed, and if large enough excised, the edges of the ellipse sutured with good overlap. A belt with a pad to fit over the hernia will usually give satisfactory relief to those unfit for or refusing operation.—I am, etc.,

Horsham. F. TAYLOR.

Hazards of Manipulation

SIR,—Mr. Robert Hafner is to be congratulated on his clear and precise account of the dangers of manipulation of protruded lumbo-sacral intervertebral disks (February 16, p. 361). In a recent series of 150 cases of disk syndrome I had three who had an exacerbation of pain following manipulation under anaesthetic. In each case the pain was of great severity and lasted 24–72 hours before gradual amelioration occurred with absolute rest.

What Mr. Hafner does not make clear, and it is an important omission, is that he refers to the usual indiscriminate manipulation under an anaesthetic. His patient was partially anaesthetized, and his accurate description of the onset of pain shows that it was spinal *flexion* which did the eventual damage. This movement is never used in the recognized technique of lumbar manipulation without anaesthetic (Cyriax, J., *Textbook of Orthopaedic Medicine*, vol. 2, 1950), and as a consequence the complication of severe exacerbation is unknown with this form of treatment. It is therefore most important to distinguish between the two methods.—I am, etc.,

London, S.W.3. JOHN EBBETTS.

Referred Backache

SIR,—It was a great pleasure to me to read Professor Hugh C. McLaren's paper (February 16, p. 347), in particular to see it authoritatively stated that post-natal cervical erosion does not cause backache. For decades women with backache, largely because they complain that the lumbar pain is more severe at period times, have been thought to harbour a pelvic cause for their symptom. In fact, during menstruation, pain referred to the back from the uterus is superimposed on the backache arising from the back. These two pains, felt in the same place, summate. One has only to remember how often men suffer from backache to realize that backache in women, no less than in men, usually originates from the moving parts of the back.

I should like to commend a simple preliminary test to be performed whenever the question arises of the provenance of a woman's backache. She stands, and bends her trunk forwards, backwards, sideways each way, and twists each way as far as she can. If one or more of these movements hurt at the extreme or there is a painful arc, a lesion exists of the moving parts of the back. If no movement hurts, pain referred to the back from elsewhere is present.—I am, etc.,

London, W.1. JAMES CYRIAX.

Carcinoma of Adrenal Cortex

SIR,—The article by Drs. R. J. Harrison and Denis Abelson (February 9, p. 303) has prompted my memory of a case seen at Western District Hospital, Glasgow, while resident physician.

An elderly man, of very dark complexion, cachectic to some degree, with slight buccal pigmentation, normal blood pressure of about 140/90, and marked asthenia, did not give a good history, but was suspected of having a high gastric carcinoma.

He died following haematemesis, and at necropsy was found to have what appeared to be a carcinoma of the lower oeso-

phagus, the source of haemorrhage. He also had bilateral enlargement and caseation of the adrenal glands. Histology, however, suggested carcinoma of the suprarenal cortex, with lymphatic spread to the oesophagus. The patient also had bilateral silicosis and caseating tuberculosis.

Except for the normal blood pressure the patient had an Addisonian-like appearance, and this is of interest, considering the involvement of the adrenal cortex.—I am, etc.,

Glasgow. GILMOUR HARRIS.

Educating the Public about Cancer

SIR,—I have read with great interest Dr. N. E. McKinnon's pessimistic letter (March 8, p. 544) and his article in *Surgery, Gynecology and Obstetrics*, February, 1952 (p. 173).

Nearly everybody realizes that prognosis in cancer depends very largely on the degree of differentiation and power of the tumour to metastasize. I say nearly everybody, because some people still seem surprised to find that patients with a well-differentiated tumour can be "cured" in spite of delay in diagnosis and seem to forget that those which are undifferentiated may become inoperable in the same space of time. Dr. McKinnon, however, seems to assume that tumours can be classified into:

(*a*) those that are so undifferentiated and metastasize so soon that early diagnosis is impossible, or

(*b*) those that are so well differentiated that early diagnosis is unnecessary.

The evidence for such an assumption which he gives in his article quoted is not convincing. Surely experience, and indeed some experiments with corneal transplants, suggest that there are all degrees of differentiation, and even that some tumours may become less differentiated in the course of time. It is in such cases as these that early diagnosis will help.

In the case of cancer of the cervix uteri, Heyman's *Report* (Vol. VI), which includes records of 41,046 patients, shows that, between the publication of Volume IV in 1941 and Volume VI in 1949, the percentage of stage I and II cases has increased with a corresponding increase in the percentage of the five-year survival rate without symptoms or signs. This increase for *all* cases treated is shown to be 5.1%, and of this improvement Heyman suggests that 3.2% is due to the "quality of the material" and 1.7% due to improved treatment.

Dr. McKinnon in his article (*Surg. Gynec. Obstet.*) states that there has been no material reduction in cancer mortality during the last 20 to 30 years due to earlier or different treatment. If this is so, Nature is being kind and providing more differentiated tumours.

It is true that there is not nearly enough evidence to correlate time of diagnosis, stage of the disease, and the type of the tumour, and it is hoped that a critical experiment under the guidance of statisticians at every stage of the experiment will be undertaken in this country as soon as possible.—I am, etc.,

London, W.14. M. DONALDSON.

SIR,—Recent letters in the *British Medical Journal* have shown a pessimistic attitude towards the early treatment of breast cancer. It is advisable that the arguments adduced should be refuted.

The belief of the medical profession is that a certain number of cases of breast cancer, if seen early and radically treated, are cured; some are not cured but remain free from signs of "recurrence" for long periods, even up to nine or ten years of useful life. Unfortunately, others are very soon in a hopeless condition.

Dr. N. E. McKinnon (March 8, p. 544) bases his attack on these beliefs entirely on statistical evidence that the mortality rates from breast cancer remain unchanged, in spite of propaganda and early treatment. But he is dealing with two variables: one, the incidence of breast cancer in the female population; the other, the number of cases that get early and adequate treatment. If (as seems likely in an ageing population) the incidence of breast cancer is increasing, and concurrently the proportion of those who get early treatment by modern surgery and radiation with good results has also increased, then the mortality rates would not show much change.

The rather rare atrophic breast cancer can remain free from metastases, but is usually fatal in the end. However, Dr. McKinnon summarily dismisses all the (admittedly) large number of breast cancers that do well after treatment as belonging to a non-lethal and non-metastatic variety of cancer. Surely such an assertion would require evidence from the pathologists. If there is no evidence at all, we can continue in the more sensible and comforting belief that the fortunate women who do well have done so as the result of good treatment.—I am, etc.,

Hastings. HARRY GABB.

SIR,—Dr. N. E. McKinnon's letter to you on this subject (March 8, p. 544) does not appear to be helpful in the campaign against cancer. Whatever may be the statistical facts about breast cancer, the same does not apply to cancer in other parts of the body, especially the larynx and deep pharynx. It has been my painful experience over the last six years to see at least 10 cases of carcinoma in the cricoid region too far advanced for successful treatment. The causes are many, among which are fear on the part of the public of this disease, and their ignorance of the result of treatment. May I add that I disagree with the quoted words of Dr. James F. Brailsford: on the contrary, we have something solid to offer, and it should not be done quietly.—I am, etc.,

Liverpool. JOHN MCFARLAND.

Sexual Disorders in Women

SIR,—I do not agree with Dr. Joan Malleson (February 23, p. 437) that some women have their erotic sensation limited to the cervix. Deep penetration by touch and pressure will undoubtedly give rise to sensation in the pelvis interpreted by some women as an added emotional factor to the joy of sexual intercourse and by other women as dyspareunia. Even if erotic sensation were present in the cervix, it is doubtful whether the thin rubber of the occlusive cap could prevent stimulation of the cervix by the thrusting penis. It is true, however, that discarding the cap does occasionally lead to complete orgasm, but many years of experience of sexual disorders and contraception have convinced me that the basis of this is emotional. The lowest part of the anterior vaginal wall is of course erotic, because stimulation here is directly on the tissues of the vestibule and round the urethral orifice. The penetrating penis produces erotic sensations by friction at the upper two-thirds of the vaginal introitus, having practically direct contact with the tissues under discussion. A well-fitting cap cannot interfere with this contact except, as always, for psychogenic reasons, and once again discarding the cap does in a small percentage of women help to relieve varying types of emotional tension and may allow orgasm.—I am, etc.,

London, W.1. PHILIP M. BLOOM.

Male Infertility

SIR,—Your leading article (December 22, 1951, p. 1507) drew attention to work by Nelson and others, who have shown that big daily doses of testosterone given to men with defective spermatogenesis cause further inhibition of spermatogenesis. But if the testes are examined a year or two after treatment there is a regeneration of the seminiferous tubules and a normal sperm picture, in contrast to the defective spermatogenesis present before injection.

This result was interpreted as meaning that the testosterone originally suppressed the pituitary gonadotrophic hormone; but that a subsequent rebound effect occurred, stimulating the production of gonadotrophic hormone.

In 1938 I published a paper (*Lancet*, 1938, **2**, 1457) describing a comparable phenomenon. I showed that injection of large

doses of oestrogen in human beings produced a decrease in urinary output, followed by a polyuria on stopping injections. This polyuria was more than could be accounted for by a mere release of retained fluid and was interpreted as being due to a depression followed by stimulation of the anterior lobe of the pituitary gland.

In 1939 Bishop and I reported (*Guy's Hospital Reports*, 1939, **89**, 240) a case of Cushing's syndrome in which the patient found it necessary to shave every fourth day. On 10 mg. oestradiol benzoate daily by injection she required to shave only every eighth day, but on cessation of injections she had to shave every other day. This retardation and subsequent acceleration of hair growth were observed more than once in the patient. This phenomenon was interpreted as being due to depression followed by stimulation of the anterior pituitary, adrenocorticotrophic hormone.

A study of the literature revealed that Clauberg and Breiphol (*Klin. Wschr.*, 1935, **14**, 119) had described a similar pituitary release effect in connexion with gonadotrophic hormone production in rats. Evidence is thus accumulating of a method of stimulating the production of pituitary trophic hormones. Apart from this technique I know of no other method of stimulating the pituitary to increased production of its hormones.

For some years I have used this principle in the treatment of impotence in the menopausal male. Instead of giving small doses of testosterone such as 10 mg. three times a week, I have used 25 mg. daily for ten days and then stopped. I have done this on the assumption that while used as replacement therapy this dosage inhibits the production of gonadotrophic hormone, but that on cessation of injection gonadotrophic hormone production is stimulated. My cases have been too few, and the results so complicated by the possible purely psychological benefits, that it would be unscientific to draw any conclusions. Perhaps some clinic with more facilities and a large number of cases might compare this method with a control series injected with some placebo.

Finally, it seems quite probable that a similar stimulation of A.C.T.H. production should be obtainable by giving a sufficiently large dose of cortisone for a sufficiently long time first to depress but subsequently to stimulate A.C.T.H. production.—I am, etc.,

Capetown, South Africa. B. G. SHAPIRO.

The Place for Voluntary Work

SIR,—In your leading article (February 16, p. 367) you make or repeat statements which seem to be of doubtful accuracy in regard to fact or philosophy (unless of course one accepts that of Karl Marx). Thus you say:

(1) "It is often forgotten that the Health Service has grown from voluntary work and the efforts of charity."

(2) You repeat without comment that "to many social reformers charity has a suspicious and unpleasant sound," and you speak of "replacing the inadequate haphazard . . . patronage of the poor . . . by granting the right to all *citizens* equally to obtain aid from an impersonal State."

(3) "Man is a social animal, which means . . . he has the instinct to work with and to aid his fellows."

Will you allow me to comment in reverse order on these statements, though they are all connected by the same thought—namely, that the root cause of the malaise of N.H.S. must be sought for in its basic philosophy, otherwise any proposed remedies will be only symptomatic treatment.

In regard to (3) it is a fact of history that the Church in England (*Ecclesia quod est in Anglia*, of Magna Carta) founded our first hospitals and shaped our civilization, and I suggest it is nearer the truth to say that the urge to voluntary service derives from the still deeply rooted influence of its teaching—i.e., that it originates not from the *Jungle Book* or *Das Kapital*, but from applied Christian philosophy, as taught for centuries by the Church. This philosophy included a belief that man (and it still holds good for *Homo sapiens*) is partly physical, partly metaphysical in his being, and that in consequence he is subject to both physical and spiritual laws. He cannot invent these laws, he can only discover them. If he breaks any of either category, he becomes ill, physically, mentally, or morally—e.g., the present feeling of frustration.

(2) My comment on this is that the organizers of every revolution play upon real or imaginary grievances; and I hope you will make it clear that you do not concur in these opinions so far as the now dead voluntary hospitals are concerned. It is pure Communist propaganda—cf. Marx: "To each according to his need; from each according to his ability."

(1) To describe the replacement of the voluntary service by the National Health Service as a process of natural growth is just nonsense, except in the sense that a neoplasm grows out of the body.

The voluntary system, I believe, grew out of the Christian philosophy and tradition. The National Health Service constituted, according to the politicians, an essential part of a social revolution. A revolution is a complete break with tradition and the founding of new institutions based upon a totally different philosophy, in this case the replacement of a system based on Christian philosophy by one based upon that of Karl Marx. The former produced self-reliance and taught free men to give voluntary service. The social effect of the latter is illustrated in the current phrase, "What can I get out of the State?" I think myself that it is optimistic to hope that this moral rot can be cured except by a radical change of philosophy.—I am, etc.,

Bournemouth. DAVID HARDIE.

Pseudocyesis

SIR,—With reference to your interesting annotation on pseudocyesis (March 8, p. 538) an experience I had with a Scottie bitch some years ago may be of interest.

This animal came into season normally, and was mated to a good stud dog. She developed the usual signs of pregnancy, although we were never quite sure of the puppy movements, and began to whelp on the appropriate day.

We were expecting a difficult delivery, so I sat with her for the whole four hours of her labour, during which she pushed and heaved amazingly, with the production of nothing but a little mucus.

At the end of this time her activities died away leaving us both tired and fed-up and the bitch her former slim self. I went to a neighbouring kennel where I had a spaniel bitch with an over-large litter, and brought the Scottie two day-old pups, which she brought up beautifully.

Now there was no evidence that the Scottie had a mental conflict soluble by pregnancy. I have always thought that the whole process was set in motion by her mating. Is this evidence that there may be a similar physiological process occurring in women as a result of intercourse? How frequently does pseudocyesis occur in celibate women?—I am, etc.,

London, S.E.27. EDITH M. W. ELLIOTT.

Attempted Suicide

SIR,—Dr. P. Jacobs's letter on this subject (March 1, p. 490) has only just come to my notice. In case junior hospital residents, and others, may be misled by Dr. Jacobs's advice that they should act as police informers in cases of attempted suicide or suspected foul play under their care I must contradict his opinion.

A doctor's duty begins and ends with the treatment of the medical condition from which his patient is suffering, and, provided he carries out this treatment to the best of his ability and in the interests of the patient, he has fulfilled his responsibility. Whatever some coroners may say, informing the police of an attempted suicide or of a case of suspected crime is not part of the treatment of the patient nor is it in the medical interest of that patient. Clearly, if it became known that medical practitioners acted as police informers or in other ways disclosed medical secrets it would at once prove an effective bar to seeking medical aid to some in great need of it. Professional secrecy must be maintained. It is basically inherent in the confidence with which the public approaches the medical profession. Any temptation to depart from this rule for purposes of expediency in a particular case (such as calling the police to watch at the bedside), or because of a fear of being blamed by some authority, must be resisted as being beyond medical duty and contrary to the public interest.—I am, etc.,

JOHN THWAITES,
Chairman, Central Ethical Committee.

Obituary

G. W. M. FINDLAY, C.B.E., M.D., D.Sc., F.R.C.P.

We announce with great regret the sudden death of Dr. G. W. M. Findlay on March 14. He had been editor of *Abstracts of World Medicine* and *Abstracts of World Surgery, Obstetrics and Gynaecology* since 1946 and was well known for his research work on yellow fever and other virus diseases.

George William Marshall Findlay was born on January 6, 1893, the son of Dr. George Findlay, of Brailes, Warwickshire. From Dean Close School he went to Edinburgh University, where he was in his final year as a medical student when the first world war broke out. He volunteered immediately as a medical aide in the Belgian Army. After graduating M.B., Ch.B. with first-class honours in 1915 he became a surgeon lieutenant R.N. and served with great distinction for the rest of the war, being created O.B.E. and awarded the *Médaille du Roi Albert* by the Belgian Government.

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At the end of the war he returned to Edinburgh as assistant pathologist at the Royal Infirmary and as lecturer in pathology at the university, where he proceeded M.D. (gold medal) in 1920 and D.Sc. in 1922. Findlay was a man of wide outlook, throwing himself with great energy into any project which interested him, and it was soon apparent that he possessed outstanding qualities as a research worker. In 1923 he joined the staff of the Imperial Cancer Research Fund, where he remained until he took up an appointment at the Wellcome Research Institution in 1929. At one time or another he held a Lister Research Fellowship, a Carnegie Research Fellowship, a Freeland Barbour Fellowship, and an Alice Memorial Fellowship. During the course of his researches he travelled all over the world, working for a time at the Pasteur Institutes in Paris and Tunis and in the Rockefeller Institute in New York. With problems of disease in Africa he was specially familiar. He was a member of the Foot and Mouth Diseases Research Committee.

The list of Findlay's publications (82 papers written by himself or in collaboration with others were published between 1930 and 1940 alone) shows how extraordinarily diverse were his interests, but in the nineteen-thirties his most important work was on yellow fever, particularly on the development of methods of immunization against this disease, which he was able to study in the Gambia. For this work he was created C.B.E. in 1935. Another of the diseases which he studied at this time was Rift Valley fever, on which he published several important papers. The subject of chemotherapy attracted him from his early days as a student, and the first edition of his book *Recent Advances in Chemotherapy* was published in 1930. The second edition appeared in 1939, and the first two volumes of the third edition have recently been published.

During the second world war Findlay was able to put his extensive knowledge of tropical diseases to most practical use. In 1940 he was sent first to Tunis to investigate trench fever and later to the Sudan and Abyssinia to continue his work on yellow fever. From 1942 to 1946 he was consulting physician to the West African Forces with the rank of brigadier. His important studies on the prophylaxis and treatment of malaria and blackwater fever won him further credit, and he also published papers on infective hepatitis. During the last two years he had been investigating the Coxsackie virus, publishing a paper on this in the *Journal* in 1950. Findlay became a member of the Royal College of Physicians in 1942 and was elected a Fellow in 1948. For some years he was honorary editor of the *Journal of the Royal Microscopical Society*—a society which paid him the honour of electing him its president in 1950. Besides being a prolific writer himself, he was interested in the problems of disseminating scientific information, and at the time of his death was chairman of the Abstracting Services Consultative Committee set up by the Royal Society.

Findlay took on the job of editor of the abstracting journals published by the B.M.A. for the first time in 1947. A man of remarkable versatility, he decided after some hesitation to leave the Wellcome Institution and come over to B.M.A. House. With his colleagues on the staff of the *B.M.J.* he worked out plans during the second half of 1946 for *Abstracts of World Medicine* and *Abstracts of World Surgery*, the mainstays of his team then being Dr. S. S. B. Gilder and Miss Marjorie Hollowell. The idea behind the abstracting journals was that they should provide the general reader with a current survey of what was best in the world's medical periodicals: the journals were selective in their choice of articles to be abstracted, and the abstracts long enough to be informative rather than merely indicative. Findlay wrote many abstracts himself, but his heart was really in the laboratory, this being reflected to some extent in the choice of articles to be abstracted. A quick and indefatigable worker, with an encyclopaedic mind, he did not really take kindly to all the detailed work involved in producing two monthly journals: his interests were too varied for this. In the lunch intervals he would spend his time in the laboratory, and, as an afterthought almost, he was engaged in writing his monumental *Recent Advances in Chemotherapy*. And at the end of the day he would be seen going home with a bundle of books from the London Library under his arm. His pen and his advice were always at the disposal of the *B.M.J.*, to which he had been an anonymous contributor before the war. In spite of this enormous pressure of work he was always urbane and unruffled, and had a certain boyish glee in recounting stories of the less dignified aspects of the private lives of eminent bacteriologists. He will be sadly missed by his colleagues in the Journal Department of the B.M.A., and their deep sympathy is extended to his widow and two daughters.

Dr. O. C. Carter, Chairman of the Journal Committee of the British Medical Association, writes: In the sudden death of G. M. Findlay the profession has lost a man of outstanding academic attainment, and the Association will mourn the passing of one of its very distinguished officials. When the B.M.A. was contemplating the publication of *Abstracts of World Medicine* it was not easy to find someone who, under the general direction of the editor of the *B.M.J.*, would be fitted both academically and from the literary point of view to be the editor of *Abstracts*. After

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much thought and searching the Journal Committee, while in session, actually sent out one of its members to find Dr. Findlay and invite him to come to that committee. The search proved successful and Dr. Findlay came to see us, and, much to our great satisfaction, he agreed to undertake a very difficult task. Dr. Findlay not only succeeded in the work which he had set out to do, but by his charm of character and fund of knowledge he quickly gathered around him a large circle of friends who now will miss him sadly. The Association has lost a distinguished servant and will wish to extend to his widow the deepest sympathy in her great bereavement.

F. O. M. writes: With the passing of Marshall Findlay goes perhaps one of the most interesting figures in the field of virus research in Great Britain during the past 25 years. His interests and output of work ranged widely over biological and chemical investigations. Perhaps his greatest strength lay in the application of his facile pen and photographic mind to the collection and condensation of large subjects into accurate and readable accounts. The best examples of this were his *Recent Advances in Chemotherapy* and his chapters on "Variation in Viruses and Inclusion Bodies and their Relationship to Viruses" in Doerr and Hallauer's *Handbuch der Virusforschung*; and, of course, this talent was given great scope when he took on the editorship of *Abstracts of World Medicine*. But the call of the laboratory was still great, and he soon found a niche in the laboratories of the near-by Pharmaceutical Society, whence in his spare time he continued to send out papers recording the results of his investigations.

His work can be divided into several fairly distinct phases. His first researches, carried out in the laboratories of the College of Physicians at Edinburgh, were in the field of pathological and biochemical changes in experimental vitamin-deficiency, particularly avian beriberi and scurvy in guinea-pigs and rabbits. His own observations and those of many other workers at this time showed that animals were more susceptible to infection when on vitamin-deficient diets. As a result of his work on vitamins C and B he suggested that the lowered resistance might be due in part to degenerative changes and feeble leucoblastic reaction seen in the bone marrow and the lowered bactericidal power of leucocytic exudates.

At this stage he moved to the laboratories of the Imperial Cancer Research Fund in London, where, after a few brief experiments on the effect of tar and ultra-violet light on skin cancer, he embarked on the field of virus research which was his main interest from 1925 to his death. In collaboration with Ludford he published a pictographic review of the cell inclusions associated with certain ultramicroscopic diseases, and followed this with studies on the cytology of fowl pox. Later he found that fowl-pox virus grew in the same type of chick-embryo culture as Carrel and Rivers had used for vaccinia. This led him on to immunological and serological studies which confirmed the work of Levaditi and others that these two viruses were unrelated. He next entered the field of the virus aetiology of cancer and worked with several strains of infectious myxomatosis of rabbits. In 1929 he noted minute granules in the connective tissue cells of the lesions, around which controversy was centred at that time, but he came to no further satisfactory conclusion on whether or not they were the virus.

In 1929 Findlay joined the staff of the Wellcome Bureau of Scientific Research, where interest was focused on virus in relation to tropical disease rather than cancer. He joined with Hindle in the attack on yellow fever, work on which had recently entered a new phase as the result of the transmission of the disease to monkeys by Stokes and his colleagues in West Africa and Theiler's adaptation of the virus to mouse brain. They concentrated at first on trying to obtain a suitable vaccine, using killed virus from monkeys, and then, like the American workers, attempted immunization with living virus and immune serum. After a visit to the United States Findlay began work on the growth of yellow-fever virus in tissue culture; this provided a more suitable virus for immunization. Finally the 17D strain of virus was introduced from the Rockefeller Laboratories, and over the course of the next few years some thousands of Colonial Service employees were safely immunized against yellow fever.

These tissue-culture vaccines also contained "normal" human serum, and early in 1936 it became apparent that cases of jaundice were occurring in the recipients which were not due to yellow fever. These observations came to light at the same time as a report of jaundice in children receiving convalescent measles serum, but all attempts to isolate or determine the agent involved were unsuccessful; and, in fact, the incidents appeared to attract little outside attention. However, when this phenomenon appeared on a large scale in those receiving yellow-fever vaccine, multiple injections, and transfusions in the period 1939 to 1945, the work of Findlay and his colleagues formed a basis for further investigation. Findlay himself spent most of the war in West Africa, where he was consultant to the W.A.F.F., and found many opportunities to apply his energy and knowledge to problems of tropical medicine. When naturally occurring jaundice and that associated with yellow-fever vaccine appeared in the troops he seized the opportunity to renew investigations of this problem once more. In experiments on human volunteers he made the same observation as MacCallum and Bradley in England and Havens and his colleagues in the U.S.A., that stools from patients with infective hepatitis produced the disease when given by mouth to susceptible humans. In addition some of his volunteers were infected with urine, but he suggested that this was due to contamination by blood as a result of bilharzial infection. In his studies of the natural disease among the indigenous population he made the important observation that there was a much higher mortality among those on deficient diets. Thus he had returned to his original theme, and, in fact, some of his latest experiments were on the effect of Rift Valley fever virus on rats receiving a deficient diet.

Like most workers in the virus field, he collaborated with various colleagues in many unsuccessful searches for viricidal substances. Particularly was this so in relation to lymphogranuloma venereum. He also investigated the treatment of various tropical diseases—yaws, for instance—while in West Africa, and was quick to apply the newest antibiotics, such as chloramphenicol. In addition to all this he was the first to identify the virus of lymphocytic choriomeningitis in Great Britain, and with MacCallum recorded the first example of the interference phenomenon between two antigenically unrelated viruses.

It falls to the lot of few men to make truly original contributions in their scientific field, and Findlay's efforts were really never adequately rewarded in this respect. However, he added much to our knowledge of infectious diseases and stimulated many a worker both at home and abroad to intensify his efforts.

Professor G. A. H. Buttle writes: Dr. Findlay was one of the most energetic and hard-working men engaged in medical research. His knowledge of the literature was encyclopaedic and his enthusiasm for new investigation quite unfailing. Fifteen years ago he was the first to show the action of the sulphonamides in infections due to the large viruses, and he had always been anxious to extend the field of chemotherapy to the much more difficult problem of the small viruses. For the last few years of his life he spent much of his time investigating poliomyelitis and other viruses in mice. He worked along many different lines which suggested themselves on account of various physiological and pathological considerations; he was able to show a considerable antagonism between certain viruses while others potentiated one another. He also showed that there is a great decrease in the susceptibility of rats and mice to many viruses at the time the animals are weaned. At the time of his death he was engaged in an investigation of the influence of the hormones of the anterior pituitary and of the suprarenal cortex on the progress of virus infection.

Findlay was a most helpful and energetic colleague. He seemed to get an immense amount of work done in a very short time, and his life was so well organized that no time appeared to be wasted. The book which he was writing, *Recent Advances in Chemotherapy*, is quite the most comprehensive available account of the development of chemotherapy. The single volume he wrote in 1930 has grown into four volumes, two of which—the first on the chemotherapy of disease due to worms and to protozoa and the second on the chemotherapy of malaria—have already been published. He leaves us at the very height of his powers, and it is to be hoped that his work on the small viruses may be continued and extended until some means are found of controlling these infections.

Sir JOSEPH SKEVINGTON, K.C.V.O., F.R.C.S.

With the passing of Sir Joseph Skevington on February 29 at the age of 79 the Royal Borough of Windsor and the surrounding area lose a much beloved and respected resident and the medical world a distinguished surgeon. It was due chiefly to him that King Edward VII Hospital, Windsor, attained such high standing. He had remarkable foresight and driving force, and possessed the power to attract the sympathy of wealthy friends and patients towards the hospital, the main interest of his life; the plaques over wards and departments bear evidence of their generosity.

Born at Rothley in Leicestershire on February 2, 1873, Joseph Oliver Skevington was the son of J. H. Skevington, J.P., a farmer, and was educated at Oakham School and at St. Mary's Hospital, London, qualifying M.R.C.S., L.R.C.P. in 1898. He was house-surgeon to the late Mr. H. W. Page, upon whom he was to operate many years later. He obtained the F.R.C.S. in 1899 and a little later served in the Boer War as a civil surgeon to the South African Field Force. It is interesting to record that he took some of the first *x*-ray photographs ever to be taken in war.

Skevington settled in general practice in Windsor in 1903 and was elected to the staff of what was then the Windsor Royal Infirmary. His surgical practice developed rapidly and in six or seven years he was so overworked that he gave up general practice and confined himself to the work of a consulting surgeon, which included appointments at some nine hospitals of various sizes, among them being Maidenhead, Staines, Iver, Egham, Ascot, Windlesham, and Bagshot Cottage Hospitals.

In August, 1914, he went to Rouen as senior surgeon to No. 2 British Red Cross Hospital, but was invalided home in 1915. He returned to his work in Windsor and became surgeon to war hospitals in the vicinity and to the Brigade of Guards, Pirbright Camp, and Victoria Barracks, Windsor. In 1918 he returned to active service as a captain in the R.A.M.C. In 1919 he was created K.C.V.O.

Sir Joseph Skevington was a fine, hard-working, and conscientious surgeon who was much loved by his patients. He retired in 1936 after 33 years' service as honorary surgeon to King Edward VII Hospital, during which time he was also in charge of the *x*-ray department, an appointment he continued to hold until 1942. He was president of the Windsor and District Medical Society in 1929–30. During the last war he served his country a third time as a major in the Home Guard, and he was also chairman of the Berkshire Local Medical War Committee. He played golf and was captain of Sunningdale in 1931. Being extremely interested in flowers and gardens, he derived great pleasure from visits to Chelsea, Kew, and Wisley. Sir Joseph Skevington, who did not marry, was the only surviving member of his family, but there are many friends and patients who mourn him.—J. G. J.

C. KILLICK MILLARD, M.D., D.Sc.

Dr. C. Killick Millard, who was medical officer of health for Leicester from 1901 to 1935, died on March 7 at his home in Leicester, aged 81 years. Besides being a distinguished member of the public health service Dr. Millard was well known for his work for the Voluntary Euthanasia Legalization Society and for his views on vaccination against smallpox.

Charles Killick Millard was born on August 14, 1870, one of a family of nine. His father was the Rev. C. S. Millard, Rector of Costock, Notts. Educated at Trent College and Edinburgh University, Killick Millard graduated M.B., C.M. in 1892, proceeding M.D. in 1896 and D.Sc. (public health) in 1898. His first appointment was as resident medical officer at the Birmingham Fever Hospital during the severe epidemic of smallpox in 1893 to 1894, and he chose the subject of smallpox for his M.D. thesis. In 1896 he was promoted to be medical superintendent of the hospital, and held the position until 1899, when he became medical officer of health for Burton-on-Trent. Two years later he was appointed medical officer of health for Leicester.

Millard was not afraid of championing unpopular causes which he believed to be sound. Thus, while he was at the Birmingham Fever Hospital he carried out a statistical inquiry into the value of hospital isolation in reducing the prevalence and mortality of scarlet fever. He read a paper before the Society of Medical Officers of Health embodying the results of his inquiry, which, he contended, demonstrated the uselessness of this measure. His conclusions were strongly criticized at the time, but since then they have come to be fairly generally accepted. It was on the question of vaccination and smallpox that Killick Millard made his most distinctive stand. The town of Leicester had openly abandoned infant vaccination some 15 years before he went there as medical officer of health. Soon after his arrival smallpox was introduced into the town on several occasions, but the outbreaks were controlled without difficulty. It was because of this experience that Killick Millard felt compelled to modify his previously orthodox views about vaccination. He expounded his theory in a course of lectures given under the auspices of the Chadwick Trust, and these he afterwards published in book form in 1914 under the title *The Vaccination Question in the Light of Modern Experience*. His views about the effect of vaccination in protecting the infant did not differ from the orthodox view, and he gave a practical demonstration of his faith in the power of vaccination by taking his wife and two young children—all recently vaccinated—into the smallpox hospital and photographing them by the bedside of a patient with severe confluent disease. He was, however, against compulsory infant vaccination, and against mass vaccination as a means to control outbreaks of the disease. In his opinion the vaccination of all contacts was sufficient. He was of course prominent among those who welcomed the abandonment of compulsory vaccination when the National Health Service Act came into force in 1948.

In his later years he became interested in the question of voluntary euthanasia and may be said to have been the pioneer of the modern movement known by that

name. He was the honorary secretary of the Voluntary Euthanasia Legalization Society when it was founded in 1935. Lord Moynihan was its first president, and the society had the backing of a number of distinguished men in the Church and in the medical profession. The society promoted a Bill which was introduced by Lord Ponsonby in the House of Lords in 1936: this secured a good discussion, although it failed to attain a second reading. The subject was again discussed in the House of Lords about fifteen months ago.

Killick Millard was a man of the highest principles and received many professional honours during the course of his life. Besides being chairman of the Leicester and Rutland Division of the B.M.A. from 1923 to 1924 he represented his Division at a number of Annual Meetings, and was vice-president of the Public Health Section in 1909 and again in 1932. In the latter year he was also president of the Society of Medical Officers of Health, choosing the subject of voluntary euthanasia for his presidential address. In Leicester he was president of many local societies, including the Leicester Medical Society, the Leicester Literary and Philosophical Society, the Leicester Rotary Club, the Leicester Temperance Society, and the Leicester branch of the Band of Hope Union. At the age of 62, when others are considering limiting their activities, Killick Millard took up flying and obtained his pilot's certificate. On his 80th birthday he bought himself a motor-cycle and shortly afterwards toured Scotland on it. During the second world war he emerged from professional retirement to become temporary medical officer of health for the Blaby and Lutterworth Rural District, a post which he relinquished only a year ago. Dr. Millard married Miss A. S. Longley, daughter of the Vicar of Saltley, in 1899. His wife died in 1950. He is survived by two sons, the elder of whom is in general practice in Leicester, and two married daughters.

Mr. N. I. Spriggs writes: I knew Dr. Killick Millard for over 40 years, and I have seldom met any man with such enthusiasm and energy. Through his letters to the medical journals on temperance, vaccination, cremation, birth control, and voluntary euthanasia he must be known to hundreds of the profession who never met him personally. He was never afraid to champion an unpopular cause in public debate or in private conversation. I have heard it said (most unjustly) that he did not believe in vaccination against smallpox. The view he adopted when he was M.O.H. of Leicester was that, as many outbreaks of smallpox were initiated by a mild case in a person not sufficiently protected by vaccination, and as at least nine out of ten persons in Leicester were unvaccinated, or had only been vaccinated in infancy, he would rather deal with a population wholly unvaccinated, which (he held) would be unlikely to throw up mild and atypical cases of smallpox which might be missed. If, however, a case did occur, there was no one more energetic than Millard in tracing and vaccinating every contact.

Millard gave himself a motor-cycle on his 80th birthday, and soon after getting it he went to Scotland and back to visit a daughter. He enjoyed the trip, alleging that it was more exhilarating than sitting in a car. When asked why he unnecessarily used an "L" sign on his motor-cycle, however, he confided in me that he was not quite so agile as of yore, and that the L sign made others on the road more careful.

In his youth Millard had been interested in ornithology. Good specimens of rare birds stuffed by him some 60 years ago can still be seen at his home. Millard's life-long hobby, however, was gardening. When he was appointed M.O.H. at the age of 31 he went into a residence adjoining the Fever Hospital which had an acre of ground. This he converted with his own hands into a delightful garden, planting many fruit trees which are now quite large. In a pond, quite near the house, but well shaded, wild duck bred for many years, and were treated as pets by his growing family. The flower-beds, lawns, fruit trees, and vegetables were all attended to by himself alone till about two years ago. Also he had several beehives which he made and attended to himself. For some years he led a gardening "group" of the Rotary Club. The members met every month during the summer and discussed gardening matters, including the "compost heap," in which he was a firm (though not a fanatical) believer. One man who attended the group regularly, but who was no sort of gardener, when asked why he came, replied, "It does me good to see Dr. Millard's energy and enthusiasm, though he is much older than I. When I leave one of these meetings I feel years younger."

Perhaps the most outstanding feature in Millard's character was his conscientiousness and sense of duty: he would regard any attempt at tax evasion or similar action with loathing, and would always, when on official business, travel by the cheapest possible route so as to save public expense. He had a strong love of truth and a logical approach to any new problem rather unusual in an enthusiast, such as he certainly was.

Dr. E. B. Berenice Humphreys writes: The death of Dr. C. Killick Millard recalls to my mind many pleasant memories of an association which extended over a period of some 22 years. At the time when I joined the staff of his department in 1929 he was a national figure in the world of public health. He startled the daily newspapers with his presidential address to the Society of Medical Officers of Health by his views on voluntary euthanasia, while at the same time he was preparing for his local health committee a detailed report on the overcrowding in his city, illustrating his notes with actual photographs of families of eight and ten persons living in one room and enunciating a theory, at that time unorthodox, of differential rents as essential in any scheme of rehousing. He always contended that a new house alone would not suffice for these large families, unused to the amenities which would then be afforded to them. To many of them he was a constant and welcome visitor in their new surroundings; he it was who helped them to plan and to stock their new gardens. His car was often laden with plants and sacks of seed potatoes which he himself had raised for them. His garden was his greatest hobby, and all of us in the health department shared his joy in the beautiful flowers he brought for us almost each morning. We also remember the generous hospitality he and his gracious wife afforded to each and every member of the staff, how the year was punctuated with daffodil time, rose time, strawberry time, and chrysanthemum time. Fortunately for us he remained on in his home at "The Gilroes" after he retired, and so could spend more time working in his beloved garden. To the end he continued to share with us the fruits and flowers and the honey that his garden provided.

His very strict ethical sense forbade him to enter into any discussion on the work of the health department after he had retired, but his interest in public health remained undiminished. His work as a district medical officer in the County of Leicester kept him actively in touch with preventive medicine, and he was a regular attender at the monthly meetings of the East Midlands Branch of the Society of Medical Officers of Health at Nottingham. It was my privilege to drive him to these meetings, usually along a route in Leicestershire which was very familiar to him and recalled the scenes of his upbringing in a country rectory. He loved the countryside in every season of the year and taught me to appreciate, on that journey, the beauty of familiar trees in their nakedness in winter as well as their full leaf in summer. More than once in the autumn we have silently hastened back to be in time to see the sun go down over a familiar stretch of water on the edge of Charnwood Forest.

Last autumn he wrote me a note to say he was afraid that unless his health improved he would not be able to make these monthly journeys but that they would remain with him as very pleasant memories. Reluctantly at last he resigned himself to an indoor life and the novelty of his television set. But in the last weeks of his long and active life he came to cease to look back upon that life. Rather did he contemplate with faith and trust the unknown life that was to follow. And so, surrounded by a wealth of spring flowers which he himself had planted, he passed peacefully and confidently into that fuller life.

Sir RICHARD LUCE, K.C.M.G., C.B., F.R.C.S.

The death of Sir Richard Luce on February 22 was recorded in the *Journal* of March 1 (p. 493). We are indebted to Dr. F. G. Lescher, of Derby, for the following appreciation:

The death of Sir Richard Luce caused deep regret among his more senior colleagues in Derby and Derbyshire, who had worked happily with him. He had had deservedly a large consulting practice, and he was a friend to many doctors in the district. His greatest hobby was the study of military science. As a Territorial officer he founded the 1st North Midland Field Ambulance in 1909. His keenness was such that he invariably had with him a succession of military textbooks which he used to study when on his rounds and between seeing his patients. His Saturday afternoons and evenings were spent training the three field ambulances under his command, for he was one of those who considered a war inevitable. He was A.D.M.S. of the 46th Division at the outbreak of the first world war. Lord Allenby, who did not suffer fools gladly, was so struck by his ability and enthusiasm during his service in France that he took him to Egypt as D.D.M.S. of a corps. Later Lord Allenby insisted, in spite of opposition that Luce was a Territorial and not a regular officer, on his appointment as D.M.S. of the Egyptian Expeditionary Force, which included the Mediterranean area as well. With the rank of major-general, Luce was the first Territorial to occupy such a high post. It gave him his great opportunity, with the result that the medical service of this Army was raised to a peak of excellence unsurpassed in any other theatre of war. There had been some previous trouble in Egypt with the medical consultant services. Luce, since he was a wise doctor as well as a capable administrator, solved this; and the decorations which were bestowed on him were indeed well earned.

After the war, on his return to his surgical practice, he was elected president of the Derby Medical Society for the second time, an unprecedented honour. He still took an interest in military matters, being appointed honorary colonel of the medical services of the 46th North Midland Division. I remember taking him to an important divisional staff exercise. A difficult tactical problem, not a medical one, was being discussed, without a decision being arrived at. Luce was asked by the divisional general for his views. With the aid of a blackboard he gave a correct solution after a highly technical explanation. Had he not been a surgeon, Luce would have advanced far as a soldier.

His other hobby was medical politics, and at B.M.A. meetings he outlined a hospital policy not unlike the present one. It was for this mainly that he retired from the active staff of the Royal Infirmary, an institution which he loved and for which he had done so much, two years before his time would have been up, in order to enter Parliament.

W. F. FEDDEN, M.S., F.R.C.S.

Mr. W. F. Fedden, consulting surgeon to St. George's Hospital and to the Victoria Hospital for Children, died suddenly on March 12 at his home in Putney. His health had not been good in recent years.

Walter Fedde Fedden was the son of the late Samuel Fedden, and was born at Weston-super-Mare in 1879. He was educated at St. Paul's School under the celebrated and formidable F. W. Walker, whence he entered St. George's Hospital Medical School with a scholarship for his medical course. There he won many prizes and scholarships, and qualified in 1900. In 1902 he graduated M.B., B.S. of London University, with honours. He became F.R.C.S. in 1903 and obtained the M.S. in 1904. For a time he was attracted towards E.N.T. surgery, but soon turned to general surgery. After the usual resident appointments he became surgical registrar at St. George's, and then assistant surgeon, full surgeon, and consulting surgeon in the normal sequence. He retired from practice in 1935. For very many years he was surgeon to the Victoria Hospital for Children: his work there was, if anything, ever nearer to his heart than that at St. George's, and his handling of a sick child was an object-lesson in that not always easy art. He was also for a long time surgeon to the Bolingbroke Hospital, and during the 1939–45 war he emerged from retirement to resume surgical work there.

Fedden was a man of massive build, with big hands and a big head as well as a large frame. A certain deliberateness of movement and of speech was his habit; but it was far from an indication of a slow intelligence. His hands, too, were capable of most delicate and dexterous craftsmanship, and his operative technique was both carefully thought out and admirable in execution. Among his colleagues he was a man to whom many of them turned immediately for advice if they themselves or those near them stood in need of surgical care. As a teacher he was very conscientious and thorough, but rather eschewed the dramatic. During the 1914–18 war he served in the medical service of the Royal Navy as an officer of the R.N.V.R., and for a short time after the war he was on the Naval Medical Service Subcommittee of the Services Committee of the B.M.A. He had been an examiner in surgery for Cambridge and London Universities, and had edited the sections in *Gray's Anatomy* dealing with applied anatomy.

In 1921 he married Miss S. M. Haines, only daughter of the late Rev. William Haines. His wife survives him; there were no children of the marriage.

G. P. MILLS, F.R.C.S.

Mr. George Percival Mills, who died on March 7 at the age of 68, at his home at Shrawley, Worcestershire, had been living in retirement for several years. He was well known in Birmingham and throughout the Midlands, first as a general surgeon and later as an orthopaedic surgeon, and was for some years lecturer in orthopaedics in the University of Birmingham. Born at Walsall on July 18, 1883, he came from Harrow to the medical school at Birmingham, where he had a most distinguished career as a student. He qualified M.R.C.S., L.R.C.P. in 1906, and in the same year obtained the degrees of M.B., B.S. of the University of London, graduating with honours in zoology and surgery, and gaining the gold medal in anatomy. Two years later

he was admitted a Fellow of the Royal College of Surgeons of England. Except for a period as house-surgeon at the Hospital for Sick Children, Great Ormond Street, London, the whole of his work in general surgery was carried out at the General Hospital, Birmingham, where he steadily climbed the surgical ladder from house-surgeon to consulting surgeon, retiring in 1938. Mills was a skilful, patient, and ingenious craftsman. The problems of orthopaedic surgery always appealed to him, and an appointment on the staff of the Birmingham Orthopaedic Hospital gave him the opportunity to develop this work, which eventually became his main interest. There is no doubt, however, that his training in general surgery, the broader problems of which still intrigued him, gave him a sound and mature judgment in his specialty. His help was much appreciated by his colleagues in dealing with difficult cases of bone and joint disease and injury and with the problems of the wounded man. During the war of 1914–18 he spent three years in Serbia, with many of his colleagues from Birmingham, on the staff of the 47th General Hospital, where he saw more dysentery and malaria than surgical cases. For his services he was awarded the Serbian Order of St. Sava.

For many years Mills was a member of the Moynihan Chirurgical Club, and greatly enjoyed his visits with colleagues to many of the great surgical centres of Europe. His critical mind and independent outlook helped his fellow members to make a clear appraisal of the work they had been seeing, and these qualities made him a valued member of the party. Mills retired somewhat early in his professional career, owing to deterioration in health, but he maintained an active interest in the affairs of the countryside, which he deeply loved. His retirement was enriched by a happy home life, by his hobbies (of which fishing came first), and by a cultured taste in music and literature. He leaves a widow and two sons and two daughters. Both sons are members of the medical profession, in which they have already achieved distinction. Mrs. Mills and her family have the sympathy of their many friends.—S. G. B.

JOHN DUNDON, F.R.C.S., F.R.C.S.I.

Professor John Dundon, who died on February 24, at the age of 81, was born at Kilworth, Co. Cork, in 1871, the youngest son of Mr. Edmond Dundon, of Araglen Mills. He was educated at the Christian Brothers' College and at what was then Queen's College, Cork, where he was a senior exhibitioner and scholar. He graduated M.B., B.Ch., with first-class honours, at the old Royal University of Ireland in 1894. Dundon was appointed surgeon to the Mercy Hospital, Cork, in 1898, the year in which he was elected F.R.C.S.I., and from 1900 to 1915 he was surgeon to the North Cork Infirmary, to which he later became consulting surgeon. He occupied the chair of therapeutics and materia medica at University (formerly Queen's) College, Cork, from 1900 to 1927, when he became professor of surgery, holding the latter appointment until his retirement in 1940. He became a Fellow of the Royal College of Surgeons of England in 1905. Dundon was at one time an examiner in surgery for the Conjoint Board in Ireland and for some years was a member of the Irish Medical Registration Council, to which he was first appointed in 1927. He was a member of the Senate of the National University of Ireland from 1929 to 1939. When the British Medical Association met at Liverpool in 1912 he acted as secretary of the Section of Pharmacology and Therapeutics. He married May, youngest daughter of Mr. John M'Donnell, of Cork, in 1910.

A former student writes: Professor John Dundon was one of the outstanding medical men in the south of Ireland in this half-century; indeed, he was almost a legendary figure. Many of his operations were performed in private houses in remote country districts, involving long journeys from Cork. For many years he worked for sixteen to eighteen hours daily. He was an extremely dexterous operator, but did not believe in showmanship and never sought praise. His direct and logical approach to clinical problems caused students to crowd his ward-rounds long before he became professor of surgery in Cork in 1927. He was an excellent teacher, stimulating but never impatient or unkind. Indeed, his personal kindness matched his professional skill and he always avoided publicity in practising that virtue. His students and his patients ever found him tolerant and understanding. His was a truly great character.

C. E. BLOCH, M.D.

The death of the Danish scientist, Professor Carl Edvard Bloch, on February 11 comes as a reminder of the important part he played before, during, and just after the first world war in the discovery of vitamin A. He was born on September 21, 1872, and began to make his mark quite early in life by his studies, in association with Knud Faber, of pernicious anaemia and diseases of the intestinal tract. In his thesis, composed in 1902, "Studies of Intestinal Inflammation," he criticized the theory that pernicious anaemia is due to intestinal atrophy. In December, 1916, at a meeting of the Medical Society of Copenhagen, he presented the clinical evidence he had collected in support of his theory that xerophthalmia is due to lack of a nutritional factor present in fats. As pointed out in a recent Danish obituary notice, Bloch was the first to demonstrate by clinical observations the existence of vitamin A. This claim is not invalidated by the fact that McCollum and Davis, and Osborne and Mendel, had already demonstrated by experiments on animals the existence of a xerophthalmia-preventing vitamin. Their work, of which Bloch was ignorant at the time, did much to supplement and confirm his findings. Bloch was appointed acting Professor of Paediatrics in 1916, and "ordinary" Professor in 1931. He took an active part in the administrative work of the University in Copenhagen, and even after his retirement in 1943 he continued as an examiner in medicine at the University.

MICHAEL HESELTINE, C.B.

We record with regret the death on March 13, after a short illness, of Mr. Michael Heseltine, who was registrar of the General Medical Council from 1933 until June, 1951.

Michael Heseltine was born in 1886 in Norfolk, the son of the Rev. Ernest Heseltine. He was educated at Winchester and at New College, Oxford, where he read Greats. He was an accomplished classical scholar, and at a later date contributed to the Loeb Classical Library an admirable and idiomatic translation of Petronius. In 1909 Heseltine was appointed to the administrative class of the Home Civil Service, and after serving in the Office of Works and the Home Office was transferred

in 1912 to the newly constituted National Health Insurance Commission (England). Sir Robert Morant had gathered together a number of young administrators, many of whom afterwards rose to high rank in the public service, and among them Heseltine became known as one of the most able and promising. In 1919 he was awarded the C.B. After being seconded to the Ministry of Munitions and the Ministry of Reconstruction, Heseltine was transferred in 1919 to the newly established Ministry of Health, in which he served until 1933. In 1928 he was promoted to the rank of assistant secretary, and thereafter was largely responsible for the supervision of medical benefit under the National Health Insurance Acts and for the administration of insurance committees. Throughout his Civil Service career Heseltine's exceptional ability as a draftsman was given full scope in a series of appointments as secretary of important commissions and committees, including the Haldane Machinery of Government Committee (1917) and the Onslow Royal Commission on Local Government (1923–8). From 1928 to 1933 he represented the Minister of Health on the Dental Board of the United Kingdom.

In 1933 Heseltine left the Civil Service and became Registrar of the General Medical Council, and also of the Dental Board of the United Kingdom. He ceased to be registrar of the board on the appointment of a whole-time registrar in 1946, but remained registrar of the Council until June, 1951. During his long and distinguished tenure of office as registrar of the Council Heseltine had to deal with an immense variety of problems affecting medical education, medical registration, and medical discipline. Committees found him at all times experienced, resourceful, and imperturbable. During the war the Defence Regulation providing for the temporary registration of Commonwealth and foreign doctors threw an especial burden upon him at a time when the office of the Council had been bombed and staff was depleted. When evidence was required from the Council or the Board for such bodies as the Inter-departmental Committee on Medical Schools (Goodenough Committee) or the Inter-departmental Committee on Dentistry (Teviot Committee) his lucid and comprehensive memoranda, written in that dignified and rhythmical style of which he was a master, were often produced under conditions of considerable difficulty and pressure.

Heseltine's work as Registrar of the Council culminated in the passing of the Medical Act, 1950. In the Second Reading debate in the House of Lords Lord Hacking, who for 15 years had been a lay member of the Council, paid a special tribute to Heseltine "for the great part which he played from the very commencement of the discussions until their successful completion some months ago." After retiring from the post of registrar, shortly before his 65th birthday, Heseltine continued at the Council's request to conduct research and write on the history of medical education and other activities of the Council, and the office of Librarian was created for him for this purpose.

Dr. C. St. J. de Vere Shortt writes: All those who ever attended the clinical lectures of Dr. A. R. PARSONS will be deeply touched by his death, recorded in the *Journal* of March 8 (p. 549). He had a technique of his own, and the crowds of students who frequented his clinics testified to his popularity and his great gift of teaching medicine. At two minutes to nine every Monday, Wednesday, and Friday, not a minute later, Parsons would come into the hall of the Royal City of Dublin Hospital (known to students as Baggot Street) with his brisk walk, and immediately proceed to the ward where he was to give his lecture. From the moment he started he held one's interest, and if he did at times make you feel small before a class of students it was just "Alfie," and nobody minded, for everyone loved him and thought the world of him. He had the most marvellous memory. He would take the class to a bed where a patient was lying unconscious and proceed to give a complete list of every cause of unconsciousness which could be found in any textbook. His prescribing was superb, no mist. sod. sal. or other mists. for him. Every prescription was written out in full with meticulous care. His knowledge of skin diseases was unique. It would be impossible to forget his lectures: one moment he would be speaking in a tone of pathos and drama, and the next in tones of wonderment and astonishment, holding your interest till the last moment, when he would "reveal the oracle." Dublin has lost a great physician, an outstanding teacher, and one whose shoes it will be hard to fill. Hundreds of doctors who have been associated with him during the 58 years he has been physician to Baggot Street will feel that they have lost a great friend to whom they owe much of their learning, to whom they will be for ever grateful.

Dr. THOMAS HENRY BISHOP, of 94, Portland Place, London, died on March 2. He qualified M.R.C.S., L.R.C.P. in 1902 and worked for some time in Newcastle-upon-Tyne as medical officer to the City Dispensary. He took his D.P.H.(Durham) in 1905 and went to India as medical officer to the Kolar Gold Fields in the Bombay Presidency. Later he became chief medical officer to the Hardinge Bridge construction project. During this time he made a special study of cholera and described an original method of intravenous saline administration in the treatment of this condition. On the completion of the Hardinge Bridge he became chief medical officer of the Eastern Bengal State Railway. In 1914 he joined the I.M.S., from which he retired with the rank of Major in 1918. He spent the first year or more at the Indian Hospital in Brighton and was then sent to the Persian Gulf, where he spent the remainder of the war apart from when he was invalided home after two severe attacks of cholera. For some time he was civil surgeon of Basra and assistant director of the civil health services in Iraq. One of his patients was the influential Sheikh of Mohammerah, who requested the British authorities that Bishop should accompany him as his medical adviser on a pilgrimage to Ispahan. He thus became well acquainted with conditions and personalities throughout Persia and Iraq. After the war he returned to his post in the Indian State Railways and was elected president of the Railway Chief Medical Officers' Conference. During this time he made a detailed study of methods of water purification and published papers on the subject. On his retirement from India in 1928 he returned to England and occupied himself with a number of medical interests. He edited a journal called the *School Medical Officer*, spent a year in Canada, and renewed his Persian and Mesopotamian contacts. In 1935 he was appointed medical adviser to the Iraq Petroleum Company, a post which he held until his death. He was also medical adviser to Trinity College of Music. Though he was a humble man of simple tastes he had a great sense of loyalty and duty to his patients and those who came to him for advice. In his many contacts with specialists and consultants in the course of his work in the latter part of his career he was persistent and determined that the patient should derive the fullest benefit from the consultant's skill and experience. Though for some years he had been in failing health his only reaction to it was impatience and apprehension that it should interrupt his work. He was granted his greatest wish—to die in harness. He is survived by an only son, Dr. P. M. F. Bishop.

Medical Notes in Parliament

Preventing Burns

Mr. DENYS BULLARD, on March 14, moved the second reading of the Heating Appliances (Fireguards) Bill. He said its aim was to prevent the large number of accidents from burning in the home. These were perhaps the most serious of home accidents. The number of fatalities had been reduced by modern treatment, but, especially among old people and children, the number of serious or fatal accidents was still too high. All the deaths in the home were not the sole responsibility of the gas and electric fires and of the oil-stoves covered in the Bill. The open coal grate was still the greatest cause of fatal burning accidents in the home. The provision in the Children and Young Persons Act, 1908, placing a penalty upon parents of children involved in fatal accidents from fires in the home was not operative. The Bill empowered the Home Secretary and the Secretary of State for Scotland to lay down standards for the construction and fitting of guards to electric and gas fires and oil stoves. After an appointed day it would become an offence to sell any of these heating appliances unless they were adequately guarded according to the standards laid down.

Dr. SOMERVILLE HASTINGS, Dr. HORACE KING, and Dr. A. D. D. BROUGHTON supported the Bill, which was read a second time without a division.

Industrial Dermatitis

Dr. BARNET STROSS asked Mr. Peake on March 10 if he knew that some of his insurance officers appealed against every case in which a worker was certified to be suffering from industrial dermatitis, that there was a considerable delay before the worker was examined by the medical tribunal, and that certifying surgeons serve no useful purpose while this practice continued. Mr. OSBERT PEAKE replied that the great majority of claims for benefit for industrial dermatitis were decided by insurance officers on the basis of the examining medical practitioner's report.

Dr. EDITH SUMMERSKILL suggested that the trouble was partly due to a shortage of dermatologists. She asked Mr. Peake to bring this to the attention of the deans of the medical schools.

Mr. PEAKE promised to consider this suggestion.

Hospital at Aden

Mr. JOHN RANKIN inquired on March 12 why the plan for a new hospital at Aden had been abandoned, and when the tuberculosis wards to be built at Khormaksar would be ready for use. Mr. OLIVER LYTTELTON said this plan had not been abandoned. It was still proposed to construct a new 480-bed hospital at Khormaksar as rapidly as difficulties of finance and shortage of technical staff could be overcome. A sum of £600,000 was included in the present Aden Colony Development Budget towards the building of this hospital. Tuberculous patients were already adequately provided with wards at the present hospital, and would probably remain there until the major part of the new hospital had been built.

Prescription Charges

Mr. P. A. D. BAKER, on March 14, asked the Minister of Health to exempt from the prescription charge rural doctors dispensing their own prescriptions. Mr. H. F. C. CROOKSHANK replied that it was intended that the charge should be paid by the patient. He said it would not be equitable to exempt from the charge such patients as happened to get the medicine from dispensing doctors. Mr. Crookshank added that he was about to discuss the doctors' difficulties with the British Medical Association.

Medico-Legal

PENDULUM SWINGING

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

In his judgment in a case before the Circuit Court at Longford, in Ireland,[1] Judge Binchy stigmatized as "quackery and humbug" the conduct of J. H. Bennett, of Newtown Forbes, Longford.

The action was brought in respect of the death of Christopher Brogan, aged 33, from tuberculosis. Brogan was admitted to Longford Tuberculosis Hospital as an advanced case in January, 1950, but made good progress. When his relations visited him in June they found him reading a pamphlet entitled *T.B. Conquered*, by Bennett, and he expressed a wish to try the treatment offered in the pamphlet. The relations went straight to Bennett's house, and Bennett said he could cure him. He said he would *x*-ray him, and produced a string with a brass weight on the end which he swung in front of his face. Asked how he could *x*-ray an absent person with that, he said he could *x*-ray a person at the end of the world with it.

Bennett said that Brogan must leave hospital and go home, and gave the relations a jar of "medicine," warning them not to let any medical man get his hand on it, because he had refused to sell the formula to the Medical Board in Dublin, as it would be available only for rich people.

Brogan left hospital against the advice of the medical superintendent soon afterwards. He took the diet advised by Bennett—carrageen moss, boiled flaxseed, white of egg, and water. His relations visited Bennett's house several times. The pendulum was swung each time, and each time they were told there was a slight improvement in the patient. In October, 1950, Brogan died of pulmonary tuberculosis soon after Bennett had told his brother that he was completely cured and could get up.

In dismissing the action against Bennett on the ground that both Brogan and his parents had voluntarily submitted to Bennett's treatment, Judge Binchy said it was amazing that in the twentieth century someone could pretend to cure illness by twiddling the weight and pretend to tell the condition of the patient, whom he never saw from start to finish. Bennett's fee for the treatment was £20.

On March 12 the case came before the High Court at Longford, when Mr. Justice Kingsmill Moore reversed the previous decision.[2] He held that Brogan's death was caused or accelerated as a result of treatment and diet prescribed, and he assessed damages at £200, to be divided equally between the father and mother. He also agreed to state a case for the Supreme Court.

[1] *Scotsman*, November 2, 1951.
[2] *Daily Telegraph*, March 13, 1952.

Universities and Colleges

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At a meeting of the Council of the College held on March 13, with the President, Sir Cecil Wakeley, in the chair, a Hunterian Professorship was awarded to Mr. K. W. Starr; the Hallett Prize was presented to Mr. J. C. N. Wakeley (King's College Hospital); and the award of a Streatfeild Research Scholarship to Mr. A. T. Andreasen was reported.

A Diploma of Fellowship was granted to Mr. Anthony Owen Parker, of Sydney, Australia. (Mr. Parker's name has been confused with that of Mr. Arthur Orfeur Parker, of Wonastow, near Monmouth, who last year was elected to the Fellowship without examination as a medical practitioner of at least 20 years' standing.)

A Diploma of Membership was granted to Mr. Anthony Peter Coats Bacon (St. Thomas's Hospital).

The following hospitals were approved for the surgical training of candidates for the Fellowship examinations of the College: Beckett Hospital, Barnsley, orthopaedic registrar, for six months. Pontefract General Infirmary, surgical registrar for one year; resident surgical officer and house-surgeon for six months.

CONJOINT BOARD IN SCOTLAND

The following candidates, having passed the final examination, were admitted L.R.C.P.Ed., L.R.C.S.Ed., and L.R.F.P.&S.Glas., on March 8: J. C. Aickin, I. S. Arthur, T. Awuku-Asabre, J. H. Beatty, J. Berlow, W. N. Brady, C. M. S. Calder, D. I. Cowan, J. Davies, Valerie P. Fogg, A. B. Gwan-Nulla, Mary Iball, Agnes Kramer, Catherine S. MacGregor, I. MacIntyre, Cecily R. Murray, Eileen Reddy, Ferenc Sandor, W. Scott, Sheila Sweeney, A. C. Thomson, W. Welsh, Joan W. Whitaker, S. M. Young.

Vital Statistics

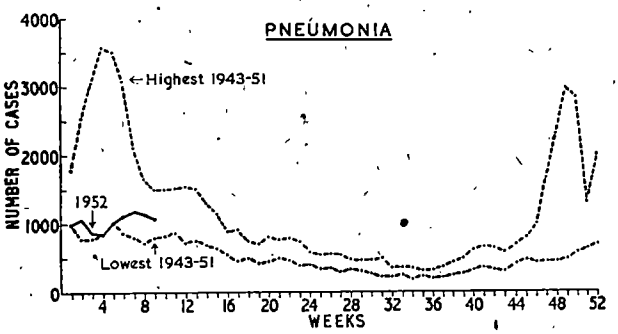
Smallpox in Lancashire

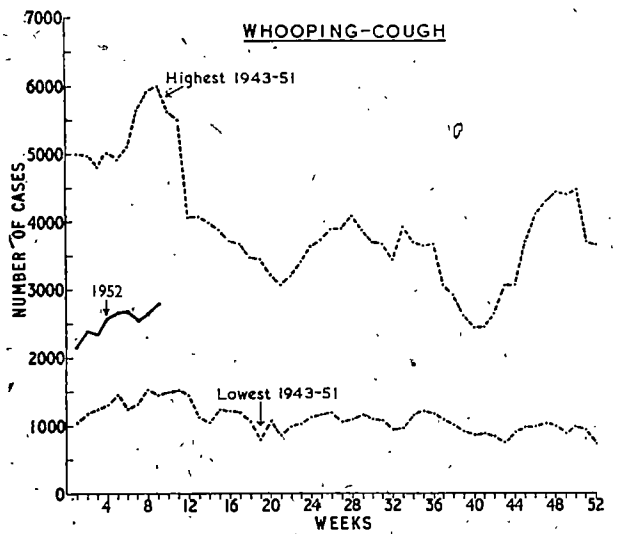
The infection of variola minor remains confined to Rochdale County Borough and the adjoining districts. Although numerous suspected cases had been investigated up to noon on March 18, there was no confirmation of the presence of the disease elsewhere in the country. Uncorrected notifications received at the General Register Office this year up to March 15 numbered 94. There have been no deaths.

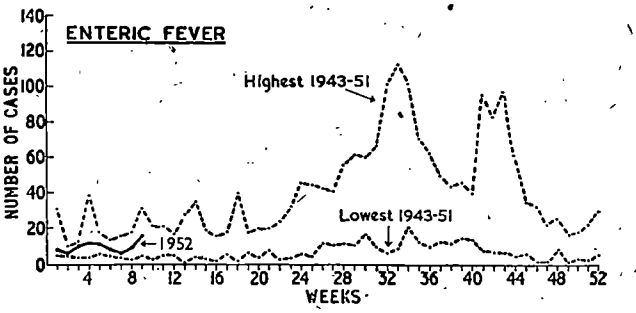
Notifications of smallpox received by the General Register Office this year are as follows: in the week ending February 16, 1; February 23, 18; March 1, 7; March 8, 62; and March 15, 6.

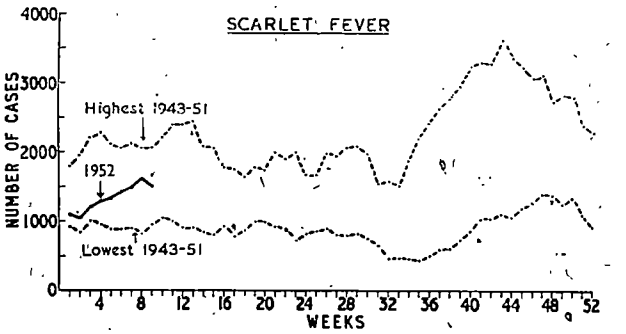
Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1943–51 are shown thus - - - - - -, the figures for 1952 thus ———. Except for the curves showing notifications in 1952, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.









Infectious Diseases

In England and Wales during the week ending March 1 an increase was reported in the number of notifications of measles 499, whooping-cough 141, and dysentery 56, while a decrease was recorded for scarlet fever 107 and acute pneumonia 82.

The largest increases in the number of notifications of measles were Gloucestershire 147, Yorkshire East Riding 135, and Warwickshire 89, and the largest decrease was Staffordshire 159. Only small changes were recorded in the local trends of scarlet fever, with the exception of a decline of 61 in the number of notifications in Lancashire. The largest variations in the returns of whooping-cough were a rise of 32 in Surrey and in Essex. The number of notifications of diphtheria were 4 fewer than in the preceding week. The chief feature of the returns of diphtheria was a decline of 4 in Lincolnshire and Yorkshire West Riding.

The number of notifications of acute poliomyelitis were 6 more for paralytic cases and 1 fewer for non-paralytic cases than in the preceding week. The largest return was Lancashire 5 (Liverpool C.B. 3).

The number of notifications of dysentery was the largest reported for the past 38 weeks. The outbreak of dysentery in Norwich C.B. is at a constant level; 62 cases were notified in each of the past three weeks. In the past 15 weeks 1,118 cases have been notified from this city. The largest centres of infection during the week reviewed were Lancashire 101 (Manchester C.B. 24, Oldham C.B. 17, Swinton and Pendlebury M.B. 12); London 82 (Wandsworth 29); Norfolk 67 (Norwich C.B. 62); Middlesex 63 (Enfield U.D. 18); Glamorganshire 40 (Cardiff C.B. 40); Yorkshire West Riding 32 (Bradford C.B. 12); Northumberland 27 (Newcastle-upon-Tyne C.B. 21); Southampton County 26 (New Forest R.D. 19); Yorkshire North Riding 25 (Middlesbrough C.B. 25); Surrey 22 (Malden and Coombe M.B. 11); Essex 22.

Week Ending March 8

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,581, whooping-cough 2,918, diphtheria 38, measles 6,883, acute pneumonia 1,143, acute poliomyelitis 19, dysentery 639, and paratyphoid fever 6.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **March 1** (No. 9) and corresponding week 1951.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 160 great towns in England and Wales (London included), London administrative county, the 17 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	33	2	24	0	1	44	3	12	1	1
Dysentery	647	82	82	10		1,364	133	222	13	
Encephalitis, acute..	3	2	0	0		8	1	2	0	
Enteric fever:										
Typhoid	4	2	0	0	2	4	0	1	1	0
Paratyphoid ..	12	0	3 (B)	0		2	0	3 (B)	0	
Food-poisoning ..	74	13		0		87	10		0	
Infective enteritis or diarrhoea under 2 years				12	16				21	28
Measles*	6,233	153	512	192	158	29,154	3315	358	82	121
Meningococcal infection	34	3	24	4	5	48	2	18	0	1
Ophthalmia neonatorum	31	1	9	0		57	6	15	0	
Pneumonia† ..	1,061	36	544	20	3	1,252	71	282	26	39
Poliomyelitis, acute:										
Paralytic ..	15	0	1	0	1	19	2	1	0	
Non-paralytic ..	4	1				9	2			
Puerperal fever§ ..	274	40	14	2	1	69	3	8	1	
Scarlet fever ..	1,506	153	229	19	71	950	53	197	38	54
Tuberculosis:										
Respiratory ..			171	32				183	39	
Non-respiratory..			36	2				22	3	
Whooping-cough ..	2,789	116	252	106	42	6,096	396	752	26	108

DEATHS in Great Towns	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	0	0		0	0	*0*	0	*0*	0	0
Dysentery	0	0		0			0		0	
Encephalitis, acute		0			0		0			0
Enteric fever ..	0	0		0		*0*	0	*0*	0	
Infective enteritis or diarrhoea under 2 years	15		0	0	0	*13*		*6*	3	1
Influenza	49	3	18	0	0	*178*	19	*7*	2	10
Measles		0		0	0		1	*0*	0	0
Meningococcal infection		1					0	*0*		
Pneumonia ..	354	48		14	19	*396*	55		8	15
Poliomyelitis, acute	1	0			0	*3*	0			0
Scarlet fever ..		0		0	0		0	*0*	0	0
Tuberculosis:										
Respiratory ..	170	30	32	3	17	*204*	33	*34*	5	11
Non-respiratory..		3	4	0	2		4	*2*	4	2
Whooping-cough ..	0	0	1	0	0	*6*	0	*0*	1	2
Deaths 0–1 year ..	278	31	39	17	28	*288*	34	*48*	12	33
Deaths (excluding stillbirths) ..	6,630	975	739	150	238	*6,741*	1040	*756*	150	275
LIVE BIRTHS ..	7,756	1138	875	224	391	*7,337*	1169	*929*	224	433
STILLBIRTHS ..	220	16	28			*202*	26	*23*		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.

Medical News

The Rh Blood Groups and their Clinical Effects.—Under this title the Medical Research Council published in 1948 as Memorandum No. 19 a useful guide to the theory and practice of Rh group testing written by Drs. P. L. Mollison, A. E. Mourant, and R. R. Race. A revised edition was issued a few days ago as Memorandum No. 27. The changes are very minor, and consist chiefly in bringing the memorandum up to date with recent references. The new price (3s.) is, however, double the old, a sign of the sad way the cost of paper has risen in three years.

Employment of Older People.—The Minister of Labour told the House of Commons on February 21 that he had decided to set up a national advisory committee on the employment of older men and women. The names of those who will serve on the committee have now been announced; among them are Dr. G. E. Godber, of the Ministry of Health; Dr. E. R. A. Merewether, of the Ministry of Labour; Dr. J. H. Sheldon, director of medicine at the Royal Hospital, Wolverhampton; Dr. Donald Stewart, chief medical officer of the Austin Motor Company; and Sir Frederic Bartlett, director of the Psychological Laboratory at Cambridge.

Foot Health.—Britain's Second National Foot Health Week will be held from June 16 to 21. Since the first National Foot Health Week the Foot Health Educational Bureau has broadened the basis of its educational work, and its advisory panel now includes members from various professions concerned with foot care—medicine, surgery, chiropody, physical education—as well as members from the shoe and leather trades, together with observers from the Ministry of Health and the Ministry of Education. The purpose of the week is to give the general public guidance, in the simplest possible terms, on foot care and footwear. In addition to foot health news and articles in newspapers and periodicals, there will be a four-day exhibition in London, staged at the Exhibition Galleries, Army and Navy Stores, S.W.1, from June 17 to 20.

Federation to Help the Disabled.—In 1950 the World Veterans' Federation was organized in Paris, operating under the United Nations, to help disabled ex-Servicemen. Through its international organization equipment available in the United States for those who have lost limbs or sight, for paraplegics and other paralysed patients, will be sent for distribution in 11 countries. Already the Federation includes some 14 million ex-Servicemen from 14 nations, and its principles, which include the maintenance of peace with freedom, have been accepted by nearly 90 member-associations. At the inaugural conference held in Belgrade last November—to which British ex-Servicemen's associations sent observers although Britain is not yet an official member of the Federation—the delegates decided to adopt as their major activity the rehabilitation of the disabled veteran. Mr. Kurt Jansson has been appointed director of rehabilitation and Dr. Harold Balme has been invited to become consultant adviser. The Federation, which has considerable funds at its disposal as well as much political influence in most countries, will work in close co-operation with both the United Nations and the World Health Organization. A conference is being planned to discuss plans of activity, and this will be held in Paris next month.

New Metabolic Ward at U.C.H.—The medical school and the majority of laboratories at University College Hospital are in a separate building across the road from the wards themselves. To make investigation and research easier a metabolic ward has now been opened in the hospital under Professor M. L. Rosenheim and Dr. C. E. Dent, where laboratories and bedrooms are adjacent in the same corridor, and studies of obesity and endocrine function can conveni-

ently be carried out without disturbing either patients or laboratory workers. This is particularly valuable at a time when biochemistry is ever-increasing in importance in clinical medicine. The ward is shared with Dr. E. E. Pochin's group, who are studying the therapeutic use of radio-isotopes (see also p. 648).

Sheriffs.—Drs. T. E. Jones-Davies and R. Davies Jones have been appointed Sheriffs for 1952 for Carmarthenshire and Montgomeryshire, respectively.

Emergency Bed Service: Applications and Admissions.—During the seven days ending March 17 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 989, of whom 87.05% were admitted.

COMING EVENTS

Ophthalmological Society.—The annual congress of the Ophthalmological Society of the United Kingdom will be held at the Royal College of Surgeons of Ireland, Dublin, from April 17 to 19. The annual dinner will be held at the Gresham Hotel on April 18, price 30s. per head; application should be made before March 29, and full details of the congress may be obtained from the secretary of the society, 45, Lincoln's Inn Fields, London, W.C.2.

Dietetics Congress.—The first international congress of dietetics will be organized from July 7 to 11 inclusive, in the Royal Tropical Institute, Amsterdam, Netherlands. Those interested are requested to apply for further details to Miss Diane J. Ten Haaf, General Secretary, Executive Committee, 13, Pomonaplein, The Hague, Netherlands.

Clinical Pathologists.—The annual general meeting of the Association of Clinical Pathologists will be held at Portsmouth (in the City Council Chambers) from April 3 to 5. Full details from the secretary, Dr. W. H. McMenemey, Maida Vale Hospital for Nervous Diseases, London, W.9.

International Haemophilia Society.—The annual general meeting of the society has been fixed for April 20, at 2 p.m., in the small assembly room of St. Pancras Town Hall. Any doctor who is interested is invited to attend, and full details are available from the society's office, the Old Fire Station (Top Floor), 94, Southwark Bridge Road, S.E.1.

Care of Old People Conference.—The National Old People's Welfare Committee announces that the sixth national conference on the care of the elderly will be held at the Olympia Ballroom, Scarborough, from April 3 to 5. Full details from the secretary of the committee, 26, Bedford Square, London, W.C.1.

Institute of Psychiatry.—Details of the lectures to be given to postgraduate students in psychiatry at the Maudsley Hospital during the term beginning on April 7 are now available from the secretary of the Institute, Maudsley Hospital, S.E.5.

Digestive Pathology Conferences.—A series of lectures and demonstrations on various aspects of digestive pathology will be held in Paris from May 26 to July 8, organized by the Faculté de Médecine de Paris and the Société Nationale Française de Gastro-entérologie.

May 26 to June 9: Liver and pancreas.
June 10 to June 23: Oesophagus, stomach, and duodenum.
June 24 to July 8: Intestines, rectum, and anus.

Full details from Dr. François Moutier, 78, rue de Monceau, Paris, 8e.

Radiology Courses.—The Faculty of Radiologists is organizing courses for the candidates for the D.M.R.D. and D.M.R.T. (R.C.P.Lond. and R.C.S.Eng.), beginning in October. Further details may be found in the advertisement columns.

Prize for X-ray Therapy.—A David Anderson-Berry silver-gilt medal, together with a sum of money amounting to about £100, will be awarded in 1953 by the Royal Society of Edinburgh to the person who in the opinion of the council has recently produced the best work on the therapeutical effect of *x* rays on human diseases. Applications may be based on both published and unpublished work and should be accompanied by copies of relevant papers. They must be sent to the general secretary, Royal Society of Edinburgh, 22, George Street, Edinburgh, 2, by March 31, 1953.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Friday, March 21

SOCIETY OF CHEMICAL INDUSTRY: FINE CHEMICALS GROUP.—At King's College, Strand, London, W.C., 7 p.m., A.G.M.; 7.30 p.m., "*The Physico-chemical Aspects of Drug Administration,*" by Dr. N. Evers.

Monday, March 24

MANCHESTER MEDICAL SOCIETY: SECTION OF GENERAL PRACTICE.—At Large Anatomy Theatre, Medical School, Manchester University, 9 p.m., "*The Problem of Peptic Ulceration in General Practice,*" by Dr. C. E. S. Lynch.

MANCHESTER MEDICAL SOCIETY: SECTION OF ODONTOLOGY.—At Manchester Dental Hospital, 5 p.m., "*A Study of the Innervation of the Developing Tooth-germ, with Reference to the Innervation of Dentine,*" by Mr. F. T. Monks.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—8.30 p.m., pathological meeting.

SOCIETY FOR ENDOCRINOLOGY.—At Royal Society of Medicine, 1, Wimpole Street, London, W., 5.30 p.m., "*The Role of the Adrenal Cortex in Homoeostasis,*" by Dr. D. J. Ingle (Michigan, U.S.A.).

Tuesday, March 25

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—5.30 p.m., "*Enzymic Mechanisms in Skin,*" by Professor R. H. S. Thompson.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—5 p.m., "*Familial Intestinal Polyposis,*" Hunterian Lecture by Professor C. E. Dukes.

WEST END HOSPITAL FOR NERVOUS DISEASES, 40, Marylebone Lane, London, W.—5.30 p.m., "*When the Electroencephalograph Helps,*" by Dr. Douglas Gordon.

Wednesday, March 26

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—5.30 p.m., "*Animal Parasites in Dermatology,*" by Dr. J. O. Oliver.

INSTITUTE OF UROLOGY.—At St. Paul's Hospital, Endell Street, London, W.C., 4.30 for 5 p.m., "*Physical Aspects of Radiotherapy,*" by Mr. S. B. Osborn.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, London, W.—3.30 p.m., "*Malformations and Irregularities of the Teeth and Jaws in Children*" (Illustrated), by Miss Rosamond Caseley, L.D.S. R.C.S.

Thursday, March 27

CHADWICK TRUST.—At Public Library Lecture Hall, Chesterfield, 7.30 p.m., "*Public Health—A Comparison Between the Age of Chadwick and Our Own,*" Chadwick Public Lecture by Mr. S. E. Finer, M.A.

●INSTITUTE OF CHILD HEALTH, Hospital for Sick Children, Great Ormond Street, London, W.C.—5 p.m., "*Surgery of Chest Disease,*" by Professor R. S. Pilcher.

INSTITUTE OF PSYCHIATRY, Maudsley Hospital, Denmark Hill, London, S.E.—3 p.m., "*Affective Epilepsy,*" public lecture by Professor L. van der Horst (Amsterdam).

LIVERPOOL MEDICAL INSTITUTION, 114, Mount Pleasant, Liverpool.—8 p.m., annual and ordinary meetings. Election of President and Officers. "*Cerebral Abscess,*" by Mr. R. H. Hannah.

LONDON JEWISH HOSPITAL MEDICAL SOCIETY.—At Medical Society of London, 11, Chandos Street, W., 8.30 p.m., "*Acute Nephritis,*" by Professor M. L. Rosenheim.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—5 p.m., "*The Status of Lymphadenoid Goitre. Hashimoto's and Riedel's Disease,*" Hunterian Lecture by Professor T. Levitt.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY, Lisle Street, Leicester Square, London, W.C.—4.15 p.m., demonstration and discussion of clinical cases.

Friday, March 28

●INSTITUTE OF DERMATOLOGY, Lisle Street, Leicester Square, London, W.C.—5.30 p.m., "*Benign New Growths,*" clinical demonstration by Dr. H. Gordon.

INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, W.C., 5.30 p.m., "*Constrictive Pericarditis*," by Dr. William Evans and Mr. Vernon C. Thompson.

INSTITUTE OF LARYNGOLOGY AND OTOLOGY, 330, Gray's Inn Road, London, W.C.—4.30 p.m., clinical discussion for general practitioners. "*Cancer of the Larynx*," by Professor F. C. Ormerod.

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES, 11, Chandos Street, London, W.—7.30 p.m., general meeting. "*Fatal Syphilis*," papers by Dr. G. L. M. McElligott and Professor W. D. Newcomb. A discussion will follow.

ROYAL INSTITUTE OF CHEMISTRY: NORTH WALES SECTION.—At Imperial Buildings, Regent Street, Wrexham, 6.30 p.m., "*Cortisone*," by Professor C. W. Shoppee, D.Sc., D.Phil.

Saturday, March 29

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION.—At Courtauld Lecture Theatre, Middlesex Hospital, Mortimer Street, W., 2.30 p.m., clinical meeting by Miss Diana Beck.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Brown.—On March 8, 1952, at Mary's Meadow, Guildown, Guildford, Surrey, to Barbara (formerly Jacobs), M.R.C.S., L.R.C.P., wife of David Fergrieve Brown, a sister for Richard—Janet Filmer.

Ewing.—On February 22, 1952 at St. Anne's Nursing Home, to Evelyn, wife of Dr. Richard F. Ewing, of 1, White Road, Cowley, Oxford, a sister for Michael Charles.

Habibis.—On March 2, 1952, at the Princess Beatrice Hospital, to Dr. Stella Murray, wife of Dr. H. S. Habibis, a daughter.

McNeill.—On February 26, 1952, at the Simpson Memorial Maternity Pavilion, Edinburgh, to Margaret (formerly Buchanan), wife of Dr. Ronald S. McNeill, 33, Colinton Mains Place, Edinburgh, a son.

Morrison.—On February 22, 1952, at Bankhall Maternity Hospital, Burnley, Lancs, to Dr. Agnes Morrison, wife of Dr. Arthur Blakemore Morrison, a daughter.

Valentine.—On March 3, 1952, to Pamela, wife of Dr. G. H. Valentine, M.R.C.P., D.C.H., of Market Deeping, Lincs, a daughter—Nicola Gay.

MARRIAGES

Carré—Forshaw.—On February 23, 1952, at Weybridge, Surrey, Ivo John Carré, M.B., M.R.C.P., D.C.H., to Pamela June Sutherland Forshaw.

DEATHS

Bassett.—On March 4, 1952, Frank Pickering Bassett, L.R.C.P.&S.Ed., L.R.F.P.S., of St. James Road, Surbiton, Surrey, late of St. Helens, Lancs, aged 89.

Blakely.—On February 24, 1952, at Sheffield, John Blakely, M.B., Ch.B.

Browne.—On March 3, 1952, at Wells, Somerset, Ada Margaret Browne, L.S.A., of 25, Denton Road, Wokingham, Berks.

Bullough.—On March 4 1952, at 57, Hall Lane, Hindley, near Wigan, Fred Bullough, M.B., Ch.B., aged 75.

Dickson.—On March 14, 1952, at his home, 55, The Broadway, Thorpe Bay, Essex, James Dickson, M.C., M.B., Ch.B.

Dodgson.—On March 4, 1952, at Maldwyn, Conway, Caern., Robert William Dodgson, O.B.E., M.D., M.R.C.P., aged 81.

Doorly.—On March 13, 1952, at his home, Arthur Rawdon Carrington Doorly, M.B., B.S., of Surbiton, Surrey.

Jones.—On February 23, 1952, at Llwyn Onn, Holywell, Flints, Arthur Owen Jones, M.R.C.S., L.R.C.P., aged 54.

Jones.—On March 6, 1952, at 41, Shoot-up Hill, London, N.W., Edmund Benjamin Jones, F.R.C.S., L.D.S., aged 83.

Leverton-Spry.—On March 3, 1952, at his home, St. Keverne, Helston, Cornwall, Edward Leverton-Spry, M.R.C.S., L.R.C.P., aged 72.

Mack.—On March 14, 1952, in a flying accident, Edward Wintrip Forsyth Mack, M.R.C.S., L.R.C.P., Squadron Leader, R.A.F.

Martyn.—On March 4, 1952, at Moulton, Lincs, Frank de Récourt Martyn, M.R.C.S., L.R.C.P.

Meredith.—On March 7, 1952, at the Johns Hopkins Hospital, Baltimore, Maryland, U.S.A., Lida Orem Meredith, M.R.C.S., L.R.C.P.

Mills.—On March 7, 1952, at his home, Shrawley, near Worcester, George Percival Mills, M.B., F.R.C.S., aged 68.

Munden.—On March 8, 1952, at Eastcombe, Stroud, Glos, Marwood Mintern Munden, M.R.C.S., L.R.C.P.

Orr.—On March 2, 1952, in a nursing-home, Ada Annie Hatchard Orr, M.B., Ch.B., of 2, South Learmouth Avenue, Edinburgh.

Osburn.—On March 7, 1952, at Bournemouth, Arthur Carr Osburn, D.S.O. and Bar, M.R.C.S., L.R.C.P., Lieutenant-Colonel, R.A.M.C., retired, aged 75.

Pearson.—On February 25, 1952, at 40, Portland Road, Leicester, Dudley Garencières Pearson, M.B., B.C.

Pennefather.—On March 15, 1952, Richard Dymoke Pennefather, L.R.C.P. & S.I. & L.M., of Herne Hill and Haywards Heath, latterly of Kentwyns, Horsham, Sussex.

Stirk.—On March 10, 1952, Percy Herbert Stirk, M.R.C.S., L.R.C.P., D.P.H., aged 83

Stockwell.—On March 9, 1952, at 3, The Grove, Roundhay, Leeds, George Ephraim St. Clair Stockwell, M.B., B.Ch., aged 75

Thorold.—On March 4, 1952, at 3, Bathwick Hill, Bath, William Grant Thorold, M.R.C.S., L.R.C.P., Major, I.M.S., retired, aged 89.

Trist.—On March 11, 1952, at St. Mary's Hospital, Clifton, John Ronald Rigden Trist, M.C., M.R.C.S., L.R.C.P., of 120, Henleaze Road, Bristol.

Vint.—On March 6, 1952, at his home, Cranethorpe, Strandtown, Belfast, Edward Thomas Vint, M.B., B.Ch., Major, R.A.M.C., retired, aged 85.

Watson.—On March 5, 1952, at 32A, Brunswick Terrace, Hove, Sussex, William Watson, L.R.C.P.&S.Ed., L.R.F.P.S., late of Holbeach, Lincs, and Cambridge, aged 81.

Whyte.—On February 27, 1952, at the Leicester Royal Infirmary, Alexander Whyte, M.B., Ch.B., D.P.H., aged 43.

Young.—On March 5, 1952, at 10, Manchester Road, Bury, Lancs, David Hunter Dow Young, M.B., Ch.B.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

When Should a Child be Dry?

Q.—*At what age should a child acquire bladder control? Is there anything unusual in a girl of 3 years being still wet both during the day and at night? What steps can the parents take to assist the child? At what age is a full medical investigation warranted?*

A.—The average child should have acquired permanent bladder control by the age of 4. There is, however, a very wide range of variation, and it is perfectly normal for a child to have acquired day and night control by the age of 18 months and yet relapse as its interests widen; nevertheless day and night control should again be established during the fourth year. If the girl in question is still being wet day and night at the age of 3 it is essential to know if she has actually been dry for perhaps two hours during the day and *ever had one single dry night*. If this is so, it is unlikely that there is any organic disease provided the urine is normal. If, however, the child is persistently wet all the time and has never had dry spells, then full investigation should take place at once. Constipation and infestation with worms are common factors, but day wetting at the age of 3 is more often due to carelessness and the distraction of other things. Parents are most likely to succeed in dealing with the problem by regular training in the daytime—that is, sending the child to pass water at gradually increasing intervals, starting with half an hour, so that at no time does she ever experience the urgency to void. When the child manages two-hour intervals by day it is likely that she will start being dry at night. Quite a number of children of this age, however, are wet in the daytime and dry at night simply because they do not bother; in these circumstances parents should not be afraid of disciplining them.

Proctalgia Fugax

Q.—*Could you please advise on the aetiology and treatment of the following condition:*

The complaint is one of severe and sudden attacks of pain in the rectum at infrequent and irregular intervals. It most frequently occurs at stool, but may occur at any time even during the night, wakening the sufferer. I have known some patients to faint with it. Attacks last from two to five minutes, and, though the whole rectum seems involved, a focal point of severity can often be described as "working its way right round the rectum." The patient is left limp after an attack. Most of the cases have been healthy young adults free from haemorrhoids, constipation, and anal fissure. Both men and women are affected.

A.—It would appear that this is a case of proctalgia fugax. The cause of the condition is unknown, but it is probably due to spasm of the pelvic floor muscles. It often occurs in patients who are anxious or overworked, and it is not uncommon in those who fear the development of a rectal carcinoma.

The writer has had the opportunity of examining a patient during an attack, and he has no doubt that the pain is due to muscle cramp.

Regarding treatment, the patient should be reassured. When an attack occurs it can often be stopped by simple dilatation of the anal canal by the passage of a finger into the rectum. A more severe attack can be terminated very

quickly by injection of a small quantity of air into the rectum through a rubber catheter, using a Higginson syringe. The patient is advised to keep some finger-stalls and/or a catheter and syringe at the bedside in case he should have a sudden attack. Some patients appear to be relieved by the insertion of an antispasmodic suppository.

Vanishing Creams

Q.—*Many proprietary ointments are made up in a vanishing-cream base and are not messy to apply. Can the ordinary skin medicaments be incorporated in a vanishing-cream base? If so, what is the composition of the base? What is Halden's emulsifying base?*

A.—Many common medicaments can be incorporated in a vanishing cream type of base such as unguentum emulsificans *B.P.* (anhydrous) or unguentum emulsificans aquosum *B.P.* The former preparation is made from emulsifying wax which contains cetostearyl alcohol and sodium lauryl sulphate, and when mixed with water gives an oil-in-water emulsion resembling a vanishing cream. The following compounds are incompatible with this type of base: phenol (above 1%), mercurous chloride, ichthyol, sublimed sulphur, solution of coal tar, acridine antiseptics.

The preparation known as Halden's emulsifying base, described by Mumford (*Brit. J. Derm. Syph.*, 1938, **50**, 540), has the following formula: liquid paraffin 3 g., white soft paraffin 2 g., "lanette wax SX" 2 g. A modification by Soulsby (*Brit. J. Derm. Syph.*, 1940, **52**, 25) is: liquid paraffin 50 g., white soft paraffin 20 g., "lanette wax SX" 30 g. The addition of 5% of anhydrous wool fat is said to improve these bases. ("Lanette wax SX" is a proprietary preparation which is very similar to the emulsifying wax of the *British Pharmacopoeia*, and the above bases closely resemble the official unguentum emulsificans.)

The following are the main advantages of these oil-in-water emulsifying bases: (*a*) they are miscible with sweat and serum and do not clog the pores; (*b*) they are readily washed from the skin and are less liable to soil clothes than the more fatty bases; (*c*) many antiseptics are more active in this type of base than in purely fatty bases; (*d*) they are readily absorbed.

For a comprehensive survey of this subject see *Report of a Symposium on New Emulgents and Ointment Bases*, British Pharmaceutical Conference, 1947 (*Quart. J. Pharm.*, 1947, **20**, 481).

Albuminuria in Gout

Q.—*(1) Does the fact that a gouty subject has albumin in his urine and polyuria contraindicate the use of cinchophen? (2) Would the use of cinchophen, if permissible, get rid of uric acid deposit in the kidneys or lessen the amount of urine and albumin passed? (3) Is there evidence that the newer forms of cinchophen are less liable to damage the liver than cinchophen itself? (4) How does the presence of a moderate amount of albumin in the urine and the polyuria affect the prognosis?*

A.—(1) Some albuminuria and polyuria do not contraindicate the use of cinchophen, the drug being much more deleterious to the liver than to the kidneys.

(2) It is unlikely that a large uric acid deposit in the kidneys would be affected by cinchophen, nor would cinchophen lessen the amount of urine or albumin passed.

(3) The evidence that the newer analogues of cinchophen are less deleterious to the liver than cinchophen itself is inadequate.

(4) If the albuminuria and polyuria are expressions of a progressive glomerulonephritis, the prognosis becomes correspondingly more grave. It is aggravated depending on the degree to which renal function has been reduced and the extent of the associated hypertension.

Fertility after Prostatectomy

Q.—*Are contraceptives necessary after enucleation of the prostate?*

A.—It is the usual practice of most surgeons to divide and doubly ligate both vasa at the time of prostatectomy, and following this procedure the patient would certainly be infertile.

If prostatectomy alone has been done it is not quite so easy to give a dogmatic answer, although it is often stated that the patient is potent but infertile. There are two important factors to be considered. First, incompetence of the internal vesical sphincter results in the semen running into the bladder instead of being ejaculated normally. The semen would then be passed together with the next specimen of urine. Secondly, in the absence of prostatic secretions the spermatozoa might not attain full motility. With regard to the first of these points it should be emphasized that the internal sphincter may not always be incompetent; regarding the second point, it must be remembered that the whole of the prostate has not been removed and that some functioning tissue usually remains. Bearing these facts in mind, it may be said that, while there is thus theoretically a risk that a patient might father a child after prostatectomy, the chances are so remote as to make contraceptive measures unnecessary.

NOTES AND COMMENTS

Acrocyanosis.—Dr. A. W. BAUER (London) writes: Might I make a small addition to your expert's answer about acrocyanosis ("Any Questions?" February 16, p. 396)? Certainly "priscol," nicotinamide, and hexamethonium should be given a trial, but, as your expert remarks, the effective dose usually produces other circulatory symptoms (and side-effects) which render the drugs useless in practice. Modern developments have provided us with a harmless and excellent weapon to combat peripheral circulatory disorders such as *digiti mortui*, acrocyanosis, Raynaud's and Burger's diseases: ultrasonic therapy; and this should definitely be contemplated before embarking on surgical intervention. See Buchtala, Suthlfauth, Tschannen in the special issue on ultrasonics in the *British Journal of Physical Medicine*, January, 1952. Up to the present I myself have had no failure in eleven cases (one acrocyanosis, three Raynaud's disease, and seven *digiti mortui*).

Geographical Tongue.—Dr. DEAN A. SMITH (London) writes: In view of the world-wide circulation of the *British Medical Journal*, may I suggest an addition to your expert's answer on geographical tongue ("Any Questions?" February 23, p. 448)? In many parts of the Tropics and subtropics the commonest cause of geographical tongue is nutritional ill-health. There is much evidence relating the condition to riboflavin deficiency, but it is probable that lack of other factors of the vitamin-B complex, particularly pyridoxin, may contribute. Treatment with a good source of the whole complex, such as yeast, is successful in the great majority of cases.

Dr. A. ROITH (Colchester) writes: In the answer on the causes and treatment of geographical tongue no mention was made of the fact that in children, at least, this condition is invariably due to chronic indigestion, and the condition will gradually clear up as the state of digestion improves with the appropriate treatment.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499. TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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SUPPLEMENT TO THE

BRITISH MEDICAL JOURNAL

LONDON SATURDAY MARCH 22 1952

CONTENTS

Adjudication Begins - 107
Warning to Durham - 108
Drug Bill now £50m. - 108
1s. on Prescriptions - 109
National Insurance Changes - 109
Training Grants for Assistants - 109
Heard at Headquarters - 109
Correspondence - 110
H.M. Forces Appointments - 111
B.M.A. Library - 112
Association Notices - 112

ADJUDICATION BEGINS

STATEMENT OF G.M.S. COMMITTEE'S CASE

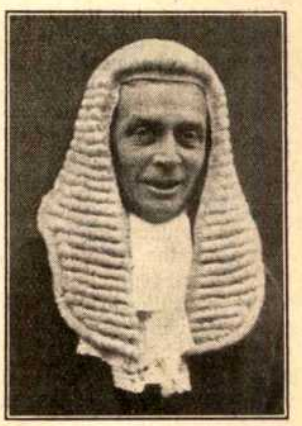
The adjudication between the General Medical Services Committee of the British Medical Association, representing all general practitioners in the National Health Service, and the Minister of Health and the Secretary of State for Scotland was opened in Chancery Court III before Mr. Justice Danckwerts on Tuesday morning, March 18. The General Medical Services Committee was represented by Mr. F. Grant, Q.C., Mr. H. B. H. Hylton Foster, Q.C., M.P., and Mr. S. B. R. Cooke, instructed by Messrs. Hempsons, solicitors to the Association. The Ministers were represented by the Attorney-General (Sir Lionel Heald, Q.C., M.P.) and Mr. Peard Clarke.

Mr. Justice Danckwerts, on taking his seat, said that he proposed to sit each day from 10 a.m. to 1 p.m., and from 2 p.m. to 4 p.m., and not to sit on Saturdays.

Mr. Grant then proceeded to present the case on behalf of the General Medical Services Committee. After reading the relevant sections of the Act, he said that the determination of the proper amount to be paid into the central pool was, of course, of first importance to general practitioners. It was well known that general practitioners who were giving their services in the N.H.S. were working very long hours, and were probably working a great deal harder than anybody expected when the Service began.

[Elliott and Fry
Mr. Justice Danckwerts

[Barratt's Photo Press, Ltd.
Mr. Frederick Grant, Q.C.



[Press Portrait Bureau
Sir Lionel Heald, Q.C., M.P.

They were working also under conditions of great difficulty and carrying onerous responsibilities, and there was a strong feeling among them that up to now a great deal less than justice had been done to them as regards remuneration.

The Spens Committee in 1946 in its report had stressed the importance of paying adequate remuneration to general practitioners in a National Health Service, and had given two reasons, among others, why it was important in the public interest that the remuneration of these practitioners should be at a proper level and the status of the profession be maintained. The first reason was that unless this was done an adequate supply of recruits to the profession to work as general practitioners would not be forthcoming, and the second was that if a general practitioner was worried about financial stringency the help and support he could give to his patients must be seriously affected. Both these reasons still held good.

No New Claim

General practitioners, Mr. Grant continued, were not now making any new claim. All that they were asking was that full and proper effect be given to the recommendations of the Spens Committee. The committee had laid down a certain scale of net income for general practitioners in a National Health Service which it considered fair, reason-

able, and even necessary for the carrying out of their duties. That scale was based on 1939 values, and Spens also recommended that it should be adjusted for later years with direct regard to changes in value of money and to increases in remuneration received by persons in other professions.

His clients—the General Medical Services Committee—were strongly of opinion that full effect had not been given to the recommendations of that Committee, and in particular that the amount in the central pool had never been adequate in any period since the N.H.S. began. The amount to be paid into that pool was a matter to be decided in the present proceedings. He would place before his lordship a formula which, his clients said, provided a good basis for giving effect to the Spens recommendations. The formula would be based upon the year ending March 31, 1951, because, once the formula was fixed and the figures for that year established, it ought not to be difficult in the light of that to work out the figures for the other years.

The Spens Committee Report

Certain matters were agreed. It was agreed that the present adjudicator should deal with all periods from July 5, 1948, onwards. It was agreed that for giving effect to the recommendations of the Spens Committee it was best to treat practice expenses and net income separately. The expenses had to be calculated on some percentage of the gross receipts—a percentage which could, of course, be reviewed from time to time. He proposed to put forward the Committee's formula and to leave his criticism of the formula put forward by the Ministry until he had heard more about it—at the moment he did not quite know what the formula was. The Ministry proposed to bring into its formula two elements—namely, a percentage increase to cover the increase in the population since 1949, and a percentage deduction to cover the fact that a certain proportion of the population did not make use of the Service. There were also certain estimates of practitioners' income from various other sources which appeared in the Ministry's statement, on which more would have to be said. But at the moment he would present his own case.

Mr. Grant then read the relevant paragraphs of the Spens Report and the recommendations. It appeared from para. 6 of the report that the scaling up had to have regard to the change in the value of money and also to the increase in the income in other professions. Effect had to be given to both these factors, and that could only be done by scaling up to whichever of them produced the larger percentage increase. A second general submission was that only the first and second recommendations contained anything in the nature of figures. Further, the report of the Spens Committee and the present adjudication were concerned only with general practitioner remuneration in the N.H.S. Neither the Spens Committee nor the Adjudicator was concerned in any way with those general practitioners who were not in the Service. What Spens did was to lay down a scale of remuneration for the individual general practitioner, and that fact must govern the approach to the present proceedings. The Spens Committee was not recommending a total sum, but a scale of remuneration which the general practitioner ought to receive, and the terms of the reference of the present adjudication were:

"To determine the size of the Central Pool, after taking account of remuneration from all other sources received by general practitioners, in order to give effect to the recommendations of the Spens Committee, having regard to the change in the value of money since 1939, to the increases which have taken place in incomes in other professions, and to all other relevant factors."

Counsel then proceeded to set out the figures in the statement of claim. His presentation of the case occupied almost the whole morning, and he was followed by the reading of the evidence of the first Association witness, Professor G. C. Allen.

The case continued as we went to press. A full report will be given next week.

WARNING TO DURHAM

TIME LIMIT IMPOSED

A letter has been sent to the Durham County Council by the Joint Emergency Committee of the Professions requesting the council to give an undertaking that its professional employees shall not be subjected to the policy of compulsory membership (the "closed shop") "in whatever manner, direct or indirect, it may be applied."

The Joint Emergency Committee "reluctantly finds it necessary to impose some time limit upon further exchanges in this protracted dispute, which has already lasted more than a year." If no satisfactory undertaking has been received by April 30 the Joint Emergency Committee "will be constrained to take further action to protect an essential principle of professional freedom." The Committee will be glad to send a deputation to the council "if the county council should consider that it would serve any useful purpose."

330,000 Professional Workers

The Joint Emergency Committee of the Professions consists of representatives of the following professional organizations: the B.M.A., the British Dental Association, the Engineers' Guild, the National Union of Teachers, the Royal College of Midwives, and the Royal College of Nursing. The number of professional workers represented by the Joint Emergency Committee is about 330,000.

Copies of the letter have been sent to the Ministers of Education, Health, Housing and Local Government, and Transport.

DRUG BILL NOW £50M.

MINISTER AT LINCOLN DIVISION

The Minister of Health, Mr. Harry Crookshank, speaking at the annual dinner of the Lincoln Division of the B.M.A. at Lincoln on March 14, emphasized the need for economy in prescribing. General practitioners, he said, were in a position of great influence here. The most worrying of all the items of expenditure in the National Health Service was the drug bill. It was surely out of all proportion that out of a total expenditure on the whole Service in Great Britain, one-eighth, or over £50m. a year, should be spent on the drugs prescribed by general practitioners and dispensed by chemists. And the most alarming feature of this expenditure was that it had increased steadily every year since the scheme started. The increase had been a double one, an increase both in the numbers of prescriptions prescribed and in the average cost of each prescription: last year the number in England and Wales alone was just on 230 million prescriptions and the estimated average cost over 3s. 8d.

Proposed 1s. on Prescriptions

The drug bill had got out of control, he said, and it was for this reason that the Government proposed a shilling charge on prescriptions. He appreciated that this would involve certain difficulties for certain doctors, especially in rural areas. "The wider question raised by what has happened is whether all this prescribing is really necessary. Most doctors, when speaking generally, seem to say no, but it is much more difficult to apply this maxim to the individual case, where many factors come into play; there may be pressure by the patient, convinced that he cannot get better without a 'bottle,' or high-powered salesmanship by the travelling representatives of the drug manufacturers, or the difficulties to-day experienced by the doctor in ascertaining the cost of prescribing."

The Doctor Knows Best

He said that doctors sometimes asked what the Ministry of Health was doing about these things. "To patients I would say: 'Your doctor knows best what is good for you; do not press him for any particular medicine you may fancy;

pay more attention to what he advises. Surely in the present educated age we should have outgrown the bottle habit. And, anyhow, you really have no right to ask the doctor for remedies intended for self-medication and the doctor is under no obligation to supply such remedies.' "

Best Protection

The doctors' best protection against high-powered and sometimes over-enthusiastic salesmanship was knowledge of the cost of prescribing, he continued. With the valuable and active help of the B.M.A. the Ministry was producing a short bulletin, to be issued periodically, intended to convey to doctors in a brief and readable form outstanding facts about the cost of prescribing. The first number was now about to be distributed. Everyone wanted the patient to have all remedies necessary to restore him to health and activity in the shortest possible time, but in our present financial difficulties it was a duty on everyone to avoid any expenditure which was not necessary. In this field he hoped to receive the co-operation of the medical profession. "But in expressing such a hope I trust I am not going beyond what it is proper for me to say: in the last resort, it is with you, the doctors, not with me, that the responsibility for looking after your patients rests."

1s. ON PRESCRIPTIONS

VISITS TO PARLIAMENT

This week a deputation from the G.M.S. Committee met the Minister of Health to discuss the 1s. on prescriptions. The G.M.S. Committee's view is that 4,000 dispensing doctors should not be made to act as intermediaries for the Inland Revenue.

On March 12 the deputation had met the Conservative Party Social Security and Health Committee to discuss this problem.

See *Journal*, page 665, for statement in Parliament.

NATIONAL INSURANCE CHANGES

CLASSIFICATION OF CONSULTANTS

At present consultants and specialists employed for more than half their time by a hospital board are classified as employees for the purposes of national insurance. From March 31 consultants and specialists will also be classified as employees if they are employed for more than half their time in the aggregate by two or more boards. This revision is made by the National Insurance (Classification) Amendment Regulations, 1952. It conforms with the recommendation of the National Insurance Advisory Committee (*Supplement*, November 3, 1951, p. 192).

The committee also recommends a further change. It is that for purposes of classification the employing bodies should not be restricted to the National Health Service. That is, a consultant should be classified as an employee if for more than half his time he works in comparable posts outside the Health Service. Such posts might be in an industrial firm or a hospital outside the N.H.S.

TRAINING GRANTS FOR ASSISTANTS

Training grants will not be paid in respect of assistants liable and medically fit for military service. Executive councils are reminded of this in a circular from the Ministry of Health (E.C.L. 18/52). If in doubt the principal should contact the secretary of the Central Medical War Committee at B.M.A. House, Tavistock Square, London, W.C.1.

Heard at Headquarters

The Plague of Inaudibility

Mr. Beverley Baxter, M.P., who is also a dramatic critic, has been writing in a London paper that "inaudibility is spreading through the London theatres like a plague." In some theatres from the middle of the stalls it is impossible to hear half the dialogue. He suggests that the reason is the tendency of actors—and the same applies to public speakers—to telescope their words and also, unlike the French, to drop the voice at the end of a sentence. If Mr. Baxter attended medical societies he would find the same fault. A generation ago most speakers at medical meetings were careful of enunciation and in their choice of words and phrases. To-day the whisperings and twitterings and mutterings are lamentable. It is the younger men who are most at fault. Could there not be at medical schools at least one lecture in a session on the art of public speaking?

The New Pharmacy

The pharmacists who discussed with the General Medical Services Committee the levy on prescriptions suggested, very nicely and politely, that many doctors in their prescribing are unaware of the cost of drugs, especially of proprietaries. They even suggested that at doctors' meetings there might be staged demonstrations to bring home to them what their prescriptions meant in pence, shillings, and sometimes pounds. Apparently it would not be enough to give the cost in money value, because such a value has very little meaning nowadays, money being an illusory, ghostlike material, more of a symbol than ever, but hardly for two consecutive days a symbol for the same thing. What must be done is to exhibit side by side, for instance, a 4-oz. box of white lint and a packet of cigarettes, and so on up the scale until the most expensive medicaments are put side by side with a television set. On the same occasion there was passed round the following, an authentic request written in pencil on a piece of packing paper:

"Dippenser. The Children have all got coughs, so can I have a Bottle to range from 14 yrs to 10 yrs, the Eldest is Ivor. . . . I know how to give the different doses. Can my Mother and myself have a large Bottle of 'lintus lardins.' Thank you for saving my time coming down. Mrs. M. . . ."

No doubt the compilers of the new *British Pharmacopoeia* will take note.

Mixed Motives

Why do people become doctors? Dr. George Day, in his oration before the Hunterian Society at the Mansion House the other evening, gave three main motives. The first was a somewhat adolescent and vague wish to do good, to make people well and improve their lives. The second was curiosity to find out how the body and mind worked, how the wheels went round, and to probe into illimitable mysteries. The third was self-betterment by becoming a professional man with a motor-car and a recognized social position. He thought every member of the medical profession who went into practice was influenced by all those motives, little or much, but the relative proportions of them differed with every individual. Another remark made by Dr. Day was perhaps more challengeable. He said that he had known many people drift into public health and preventive medicine after therapeutic disillusionment, but hardly any set out from the very beginning with a purely preventive aim. Another interesting passage in the oration concerned predestination to illness. He gave a long list of people, in history and fiction, who might be considered as predisposed to tuberculosis—for example, Hamlet and Richard III—and a similar list of people who were not predisposed—Betsy Trotwood, Mrs. Proudie, Sam Weller (not to go outside nineteenth-century fiction); on the other hand, Job Trotter and Alfred Jingle only escaped it, if they did escape it at all, by a squeak.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Health Service Charges

SIR,—As a dispensing doctor I gather that the Ministry's latest idea is to deduct 3s. 6d. per annum per patient on my list and allow me to recoup myself on such shillings as I can raise from my patients.

Working on a random sample of 100 patients, the average number of items issued by me in the last twelve months was 1.86 per patient. So that, had this system been in operation, for each patient on my list I could have collected a maximum of 1.86 shillings, and should have had to pay the Ministry 3.5 shillings. Loss on each patient = 1.64 shillings; net financial ioss to me on a list of 2,000 = £164 per annum.

To maintain financial equilibrium in the future I shall have to prescribe twice as many drugs as at present. This seems a curious way of economizing.—I am, etc.,

Felstead, Essex. PETER A. WALFORD.

SIR,—Your report of the General Medical Services Committee (*Supplement*, March 1, p. 77) nearly made me weep. Had the leaders of the profession only shown more determination before July 5, 1948, when the ball was at our feet, we would not now be in the humiliating position of having to go cap in hand to beg for a few more shillings on the capitation fee and of being told that some of our brethren are to act as tax collectors for the Government. The standard of general practice would not now be falling throughout the country, our status and relationship with our patients would not now be at its present low level, there would not now be queues of unemployed doctors after every advertised vacancy, and, in short, the present dreadful scheme would not have been foisted upon the country.

Perhaps we might have built up something really worth while, something, even, on the lines of the Australian national health service, which is such a credit to Sir Earle Page and his fellow countrymen. This would not cost the fantastic millions of the present service, and, encouraging doctors to give of their best, would have raised the standard of medicine even higher in this country. Why has the summary of this scheme been published? Dare one hope that our leaders are casting envious eyes at our Australian cousins and wondering whether after all it may not be too late?—I am, etc.,

East Horsley, Surrey. BASIL S. GRANT.

Disposal of Doctors' Houses

SIR,—I should like to express my complete agreement with Dr. A. C. E. Breach's admirably lucid letter (*Supplement*, March 8, p. 92) on the problem of the disposal of doctors' houses in general practice. As he says, the difficulty that has arisen is none of our making and was foreseeable. To try to find a solution for the Government, by ourselves adding to restrictions and penalties under which the profession groans, is monstrous and unthinkable. We should stand for the restoration of freedom and not for its further curtailment.

A positive inducement to a doctor to part with his house to a successor, by attaching a premium to the price he would be allowed to ask, might be an acceptable solution. Such attachment, of course, ought to bear some relation to the price which could be obtained in the open market and should not be tied to an arbitrary valuation at 1939 figures.

I hope that the extremely definite expression of opinion by the Conference last November will be borne in mind by the G.M.S. Committee and not relegated to oblivion—a fate that has not seldom befallen similar expressions of opinion in the past. It is all very well to be prepared to compromise, but for heaven's sake let us not play our opponents' game for them.—I am, etc.,

Wolverhampton. VICTOR RUSSELL.

Graded Capitation Fees

SIR,—I cannot agree more heartily with Dr. H. Firman (*Supplement*, March 1, p. 84) that a rise in capitation fee is necessary, especially for doctors with small lists who cannot see much prospect of increasing them. I only pointed out that our representatives might have a difficult task in persuading an impartial tribunal.

Whether or not we secure such an increase, there is much to be said for a higher capitation rate for the first 1,500 on all lists, a medium rate for the second 1,500, and a much smaller rate for any above 3,000, which in my opinion is about as many as any doctor can manage comfortably (except in densely populated districts where visiting is restricted to a very limited area). I fervently hope, with Dr. Firman, that our representatives will be successful.—I am, etc.,

Birmingham. W. WATSON NEWTON.

The School Medical Service

SIR,—Dr. W. G. Hutton's letter (*Supplement*, March 1, p. 82) should awaken interest in our present system of child health care. Many authorities have stressed the need for improved liaison in the services concerned. In order to further this liaison in all areas of the country some change in our present system is indicated, and, as Dr. Hutton states, a single service is preferable to the present double one. It would be difficult to calculate the present wastage, but it seems that this may be considerable.

In my experience any one child can be involved in a series of "services." It is not uncommon for a child attending local-authority clinics to attend a general practitioner and to be sent to a hospital, where it may attend various special departments. It is little wonder that it is difficult to obtain an unbiased history from a mother overwhelmed by the interest shown in her offspring.

On the other hand, it is not impossible to discover a child who has missed all school medical examinations because of frequent absence or moving and who may have attended various general practitioners none of whom have obtained any opinion on the cause of such a child's backwardness or delinquency.

A considerable proportion of the child population attends private schools where there may be no routine medical inspection, and, if any, this may not be conducted by a doctor trained in paediatrics and social medicine.

In spite of the improvement in child health services during the half-century, much of which must be due, as Dr. Hutton states, to the local-authority services, I have reached the conclusion that the general practitioner must be the mainspring in an integrated service. Times have changed, and many of these services were designed for a rather different social structure. If the care of the ill child is taken away from the general practitioner the child loses a valued family friend. It is to be borne in mind that not only the child but its family may need treatment to achieve a desired result. For the general practitioner medicine is still an art and not a pure science even in these days.

There are many doctors who would like to enter general practice in spite of the remuneration, but they see all its interest being removed. Alas, Dr. Hutton suggests the removal of one of its chief appeals.

For an integrated child health service it would be essential to expand the general-practitioner service and to allow direct access to ancillary aids of various sorts. For instance, the practitioner would need to call directly on the services of the local authority, including the health visitors and social workers. A much improved system of obtaining full developmental and genetical histories could be obtained, all children in the population being covered. Children would be examined at regular intervals wherever they might be. Their history form would always be available to whatever doctor was responsible for their health.

A general practitioner not wishing to conduct his own routine inspections could apply to the local authority for this to be

done by their medical officer. Local authorities would hold duplicate records for statistical and research purposes.

It should be possible to assess the amount of time the general practitioners in a given area would be prepared to devote to their child patients and so to gain some idea of the proportion of the amount to be done by the local authority.

At present the local authorities are able to take matters into their own hands and staff their own clinics without approaching general practitioners in the areas concerned. There is bound to be ill feeling between those given a fixed daily service with no direct responsibility to the patient and those working a twenty-four-hour service and holding responsibility for the patient. Parents know this, and some are resentful of the school medical examinations, referring to "our own doctor" and so on, thereby making the examination a farce and being very likely to ignore any advice given.

Distraught mothers fly from one source of advice to another, obtaining various formulae for feeding a yelling baby. It must be the doctor who will visit the baby in the middle of the night who has the last word.

General practitioners and hospital officers may have scanty knowledge of the field work done by the local-authority medical officer, as this is specialized work requiring special qualification, though not employing younger graduates for training as most other specialties. Facilities for further study in the local-authority services might be made for trainee assistants.

It would seem that definite evidence of the need for an improved child health service could be obtained if those concerned with this subject thought fit. It might be possible to form groups composed of paediatricians, child-guidance and mental-deficiency representatives, local-authority medical officers, and general practitioners, to cover B.M.A. group areas. Dental and ancillary services could be represented.

To summarize, it has been noted that improved liaison in the child health services is necessary. The importance of the general practitioner is noted. A suggestion to discover the actual wastage of the present system is made.—I am, etc.,

Winchester. MYRTLE M. HUTCHINS.

Unsatisfactory Aspects

SIR,—After a series of junior hospital appointments I undertook a few weeks as locumtenent in general practice to see how I liked it. Although some of the work was rewarding, I found certain unsatisfactory aspects.

Minor conditions like coughs, colds, digestive upsets, fibrositis, and so on bring a certain type of patient to the surgery asking for medicine. The honest thing would be to reassure them and send them away empty-handed, thus saving unnecessary expense to the National Health Service. Many of these patients would then go to another doctor who would give them medicine anyway. One's tendency, therefore, is to prescribe unnecessary and useless mixtures in order not to lose the patient.

Another difficulty is the impossibility of examining one's patient completely. Owing to lack of time, one tends to make a snap diagnosis on the history and general appearance of the patient. I found this worrying at first, but there seems no alternative in a large general practice. It must in the end lead to the atrophy of one's clinical acumen and of one's instinct to obtain all the facts of a case before making up one's mind.—I am, etc.,

Caterham, Surrey. A. J. HEBER.

The Petrol Tax

SIR,—Each spring the Chancellor of the Exchequer produces a budget which modifies the taxation by giving some reliefs and some increased burdens. It is particularly unfortunate for the rural practitioner that the reliefs granted to him are minimal, but the increases affect him more seriously than they do the general public as a whole or even other members of the medical profession.

This year the small relief in one's income tax is offset by (1) a reduced food subsidy, (2) increased insurance contributions, (3) increased telephone charges, (4) increased car tax, and, lastly and most seriously of all, (5) the increase of 7½d. a gallon on the petrol tax. This is the third recent increase in the petrol tax and represents a most grievous additional burden to the rural practitioner in view of his annual mileage, which may easily reach 15,000 miles per annum, as in my own case.

Despite the tremendous increase in the cost of running a car, there has only been one slight increase in the mileage allowance, and that was largely illusory. When the increase was granted the mileage units claimed by rural practitioners were automatically doubled. Unfortunately this did not mean a doubling of their mileage allowance, because at the same time each unit, in this area at any rate, was reduced in value from 7d. and a fraction to 4d. and a fraction, and the net increase was in the neighbourhood of 40% only.

The day after the budget the Road Haulage Associations and the bus companies were protesting vigorously against the increased charges, which they say will have to be passed on to their customers. How lucky they are. The imposition falls upon the rural practitioner's own pocket and must be borne by him and him alone, as he has no means of passing it on to his patients. Nevertheless one looked in vain for any protest from the B.M.A.

I have always understood that the mileage allowance fulfilled three objects: (1) to cover the cost of running one's vehicle, (2) to allow for the depreciation in its capital value, and (3) to compensate to a small extent for the time lost in travelling. At the present moment the mileage allowance does not even cover the running expenses let alone compensate either for depreciation or for loss of time in travelling.

Few rural practitioners have more than 1,500 to 2,000 patients and easily cover 15,000 miles per annum in visiting them. In so doing they work as hard as or harder than those doctors practising in the towns with 3,000 to 3,500 patients and covering an average distance of 3,000 to 4,000 miles annually. Not only are their earnings very much smaller but their expenses are considerably greater, and they lose both ways. Only by a complete reassessment of mileage allowance can this disproportion in income be ironed out.

It is only by an increase of the mileage allowance that the rural practitioner will be enabled to earn a net income comparable to his town colleague's for the same amount of effort and to be compensated for his greatly increased expenses. At the present moment the rural practitioner is the "poor relation" of the profession, and now is the right and probably the last opportunity of raising him to an equal level with his colleagues.—I am, etc.,

Rye, Sussex. H. MANNINGTON.

*** See annotation in *Journal* at p. 644.—ED., *B.M.J.*

POINTS FROM LETTERS

Sale of Goodwill

Dr. W. C. COLVILLE (Rowrah, Nr. Workington) writes: May I have a word to my fellow convicts via your columns? Dear fellow G.P.s, are you aware that you are serving a life sentence in your present practice? Do you know you have as much chance of a change as a convict has to escape? The sooner the buying and selling of practices is reintroduced the better. I am surprised a so-called intelligent professional body of men tolerates such intolerable conditions. Get us back our freedom.

Anxious

Dr. G. M. ADDISON (Westgate-on-Sea, Kent) writes: An anxious and mystified parent brought her daughter to see me to-day, the school report having stated: "Her diphthongs need attention."

H.M. Forces Appointments

REGULAR ARMY RESERVE OF OFFICERS

Brigadier A. E. Richmond, C.B.E., late R.A.M.C., having attained the age limit of liability to recall, has ceased to belong to the Reserve of Officers.

Colonels A. R. Ross and W. W. S. Sharpe, late R.A.M.C., having attained the age limit of liability to recall, have ceased to belong to the Reserve of Officers.

REGULAR ARMY: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

Captain (War Substantive Major) D. C. MacDonald, M.C., has relinquished his commission and has been granted the honorary rank of Lieutenant-Colonel.

Lieutenants (War Substantive Captains) B. V. Hassan, J. M. Brown, J. L. Dimond, E. S. Bompas, and J. J. W. Evans have

relinquished their commissions and have been granted the honorary rank of Major.

ROYAL AIR FORCE

Air Commodores A. Briscoe, C.B.E., and C. T. O'Neill, O.B.E., have retired.

Group Captain J. Parry-Evans has retired at his own request.

Wing Commander N. I. Smith has retired at his own request.

Squadron Leader D. G. Jarman has reverted to the Reserve.

Flight Lieutenant F. H. D. Hutter to be Squadron Leader.

B.M.A. LIBRARY

The following books have been added to the Library:

Abrahams, M., and Widdowson, E. M.: Modern Dietary Treatment. Third edition. 1951.
Alvarez, W. C.: The Neuroses. 1951.
American Dental Association: Accepted Dental Remedies. Sixteenth edition. 1951.
de Beaufort, L. F.: Zoogeography of the Land and Inland Waters. 1951.
Bell, W. G.: The Great Plague in London in 1665. Revised edition. 1951.
Bersin, T.: Kurzes Lehrbuch der Enzymologie. 3 Auflage. 1951.
Biancani, E.: Le Médecin Face au Malade. 1951.
Buchanan, A. R.: Functional Neuro-anatomy. Second edition. 1951.
Busvine, J.: Insects and Hygiene. 1951.
Carter, G. S.: General Zoology of the Invertebrates. Third edition. 1951.
Cass, M. T.: Speech Habilitation in Cerebral Palsy. 1951.
Cemach, A. I. (Editor): Grundzüge der physikalischen Therapie der Hals-, Nasen-, und Ohrenkrankheiten. Teil I. Lichttherapie. 1951.
Clayton, S., and Oram, S. (Editors): Medical Disorders during Pregnancy. 1951.
Cohn, A. E., and Lingg, C.: Burden of Diseases in the United States. Text and Charts. 1950.
Collection Informations Sociales: Le Problème Social des Diminués Physiques. 1951.
Colonna, P. C.: Regional Orthopaedic Surgery. 1950.
Cook, R. C.: Human Fertility: the Modern Dilemma. 1951.
Davidoff, E., and Noetzel, E. S.: Child Guidance Approach to Juvenile Delinquency. 1951.
Davidson, M.: Diagnosis and Treatment of Intrathoracic New Growths. 1951.
Dening, K. A., Deyo, F. S., jun., and Ellison, A. B.: Ambulation: Physical Rehabilitation for Crutch Walkers. 1951.
Giordano, M.: Patologia, Parasitologia ed Igiene dei Paesi Caldi. Terza edizione. 2 volumes. 1950.
Griffith, E. F.: Doctors by Themselves: an Anthology. 1951.
Haagensen, C. D.: Carcinoma of the Breast. 1950.
Haas, S. V., and Haas, M. P.: Management of Celiac Disease. 1951.
Harris, L. J.: Vitamins. 1951.
Howell, T. H.: Chronic Bronchitis. 1951.
Hughes, M. K.: Pioneer Doctor: A Biography of John Singleton. 1950.
Jameson and Parkinson's Synopsis of Hygiene. Tenth edition by Llywelyn Roberts. 1952.
Leriche, R.: La Philosophie de la Chirurgie. 1951.
Lopez Sanchez, J.: Vida y Obra del Sabio Medico Habanero Dr. Tomas Romay Chacon. 1950.
Møller, K. O. (Editor): Rauschgifte und Genussmittel. 1951.
Moeschlin, S.: Spleen Puncture. 1951.
Moore, R. A.: Textbook of Pathology. Second edition. 1951.
Ostlere, G.: Anaesthetics for Medical Students. Second edition. 1951.
Pi Suner, A.: The Bridge of Life. 1951.
Schilder, P.: Psychotherapy. Enlarged and revised edition arranged by Lauretta Bender. 1951.
Schmid, J.: Die Blutgerinnung in Theorie und Praxis. 1951.
Shock, N. W.: Classified Bibliography of Gerontology and Geriatrics. 1951.
Spear, F. G., and Griffiths, K.: The Radium Commission: a Short History of its Origin and Work 1929–48. 1951.
Stones, H. H.: Oral and Dental Diseases. Second edition. 1951.
Straus, R.: Medical Care for Seamen: the Origin of Public Medical Service in the United States. 1950.
Whiting, M. H.: Ophthalmic Nursing. Sixth edition. 1951.

The National Insurance Advisory Committee in a report to the Minister of National Insurance, Mr. Osbert Peake, recommend that the time limit for an individual claim to death grant and maternity attendance allowance should be extended from one month to three months. They also recommend that a month after ceasing work should be allowed for giving notice of retirement. No change is suggested for the present time limits for claiming sickness and unemployment benefits.

Association Notices

Diary of Central Meetings

MARCH

25	Tues.	Legal Subcommittee, Alcohol and Road Accidents Committee, 2.30 p.m.
25	Tues.	Publishing Subcommittee, 5.30 p.m.
26	Wed.	**Council**, 10 a.m.
26	Wed.	Charities Committee, 1.30 p.m.
27	Thurs.	**Council.**

APRIL

1	Tues.	Orthopaedic Group Committee, 12 noon.
1	Tues.	Orthopaedic Group, 2 p.m.
2	Wed.	General Practice Review Committee, 11 a.m.

Branch and Division Meetings to be Held

BOURNEMOUTH DIVISION.—At Royal Victoria Hospital, Boscombe, Friday, March 28, 8.15 p.m., meeting. Address by Dr. John Richardson: "Pyrexia of Uncertain Origin and Psychogenic Fever."

BUCKINGHAMSHIRE DIVISION.—At Bull's Head Hotel, Aylesbury, Friday, March 28, 4 p.m., annual general meeting.

CITY DIVISION.—At Finsbury Health Centre, Pine Street, London, E.C., Tuesday, March 25, 8.30 p.m., Mr. N. C. Lake: "Foot Troubles in General Practice."

DONCASTER DIVISION.—At Messrs. Parkinson's Café, High Street, Doncaster, Tuesday, March 25, 7.30 p.m., joint meeting with Doncaster Medical Society. Dinner, followed by address by His Honour Judge Caporn: "Some Idle Thoughts by One on the Shelf."

DORSET DIVISION.—At the King's Arms Hotel, Dorchester, Thursday, March 27, 8.30 p.m., Annual B.M.A. Lecture by Dr. J. D. N. Nabarro: "Potassium Metabolism in Clinical Medicine."

FURNESS DIVISION.—(1) At North Lonsdale Hospital, Tuesday, March 25, 8 p.m., meeting of Barrow and Furness Clinical Society. (2) At Duke of Edinburgh Hotel, Abbey Road, Barrow-in-Furness, Friday, March 28, 7 for 7.30 p.m., annual dinner.

GREENWICH AND DEPTFORD DIVISION.—At Greenwich Town Hall, London, S.E., Thursday, March 27, 7 for 7.30 p.m., to 1 a.m., dinner and dance.

MONMOUTHSHIRE DIVISION.—At St Mellons County Club, Thursday, March 27, 7.45 for 8.15 p.m., dinner meeting. Address by His Honour Judge O. T. Temple-Morris, Q.C.: "Bits and Pieces."

NORTH-EAST ESSEX DIVISION.—At 14, Popes Lane, Colchester, Wednesday, March 26, 8.45 p.m., annual general meeting.

NORTH WALES BRANCH.—At Ruthin Castle, North Wales, Wednesday, March 26, 3 p.m., spring meeting. Four short papers.—Mr. H. Morriston Davies: "Bronchiectasis"; Dr. J. R. Forbes: "Experiences with A.C.T.H. and Cortisone"; Dr. Gwyn Griffith: "Headache in Infancy and Childhood"; Dr. H. V. Williams: "Syphilis, the Present Position." A discussion will follow.

OXFORD DIVISION.—At Radcliffe Infirmary, Oxford, Wednesday, March 26, 8.15 p.m., meeting. Dr. Raymond Greene: "Vulgar Errors in Endocrinology."

SHEFFIELD DIVISION.—At University Medical Library, Sheffield, Tuesday, March 25, 8.30 p.m., annual general meeting.

SWINDON DIVISION.—At Goddard Arms Hotel, Swindon, Tuesday, March 25, 8.30 p.m., annual general meeting.

TOWER HAMLETS DIVISION.—At St. Andrew's Hospital, Devons Road, Bow, London, E., Friday, March 28, 3 p.m., clinical meeting.

WEMBLEY DIVISION.—At Wembley Hospital, Tuesday, March 25, 9 p.m., talk by Dr. T. M. Pollock: "Some Aspects of B.C.G. Vaccination."

WIGAN DIVISION.—At The Hollies, Wigan Lane, Wigan, Thursday, March 27, 8.15 p.m., clinical meeting. Films: "Some Aspects of Accessible Cancers" (Skin, Lip, Tongue, Mouth).

WINCHESTER DIVISION.—At Royal Hotel, Winchester, Wednesday, March 26, 8.45 p.m., meeting; 9 p.m., lecture by Dr. Graham Hayward: "Breathlessness."

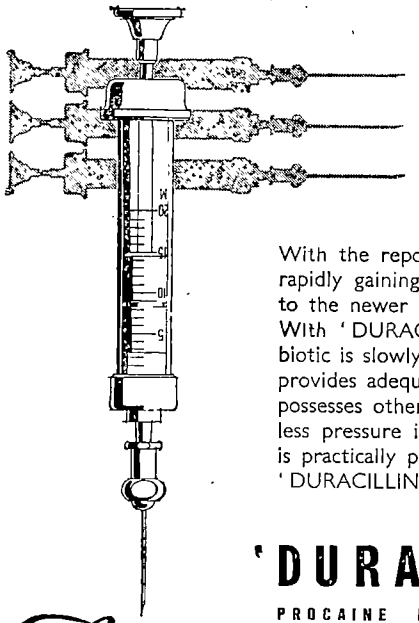
Meetings of Branches and Divisions

SOUTH STAFFORDSHIRE DIVISION

A meeting of the South Staffordshire Division was held on February 5 at Wolverhampton. Mr. H. Campbell Orr was in the chair, and 42 members were present.

After supper 15 additional members came in to hear a lecture entitled "The Significance of Subarachnoid Haemorrhage and its Surgical Treatment," by Professor Brodie Hughes. Professor Brodie Hughes said that subarachnoid haemorrhage was a symptom, and in all cases the underlying cause should be discovered. The causes (apart from injury) were cerebral aneurysm, cerebral angioma, and high blood pressure in decreasing order of frequency. With slides showing excellent angiograms he illustrated the different types and positions of cerebral aneurysms and angiomata, and discussed their surgical treatment. After the lecture there was a discussion. Dr. Sheldon and Mr. Patrick then proposed and seconded a hearty vote of thanks to the lecturer. This was carried with acclamation.

THE CHANGING SCENE



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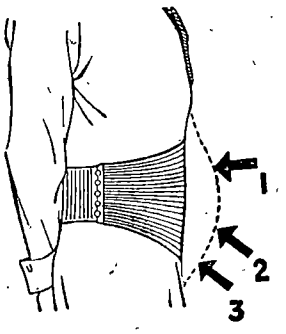

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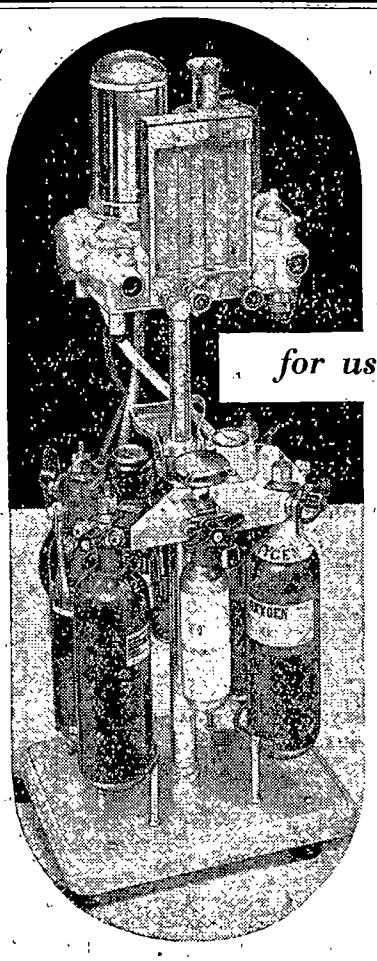

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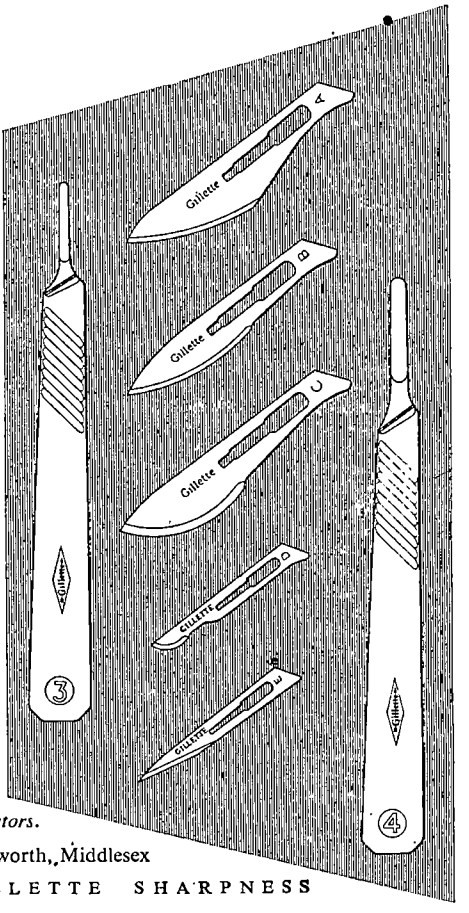

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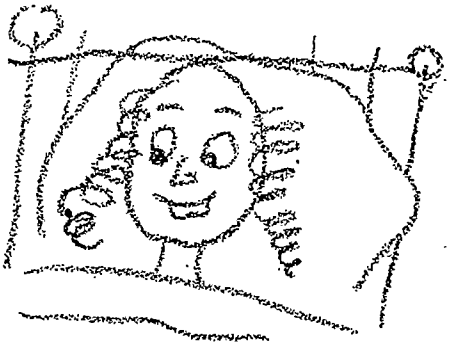

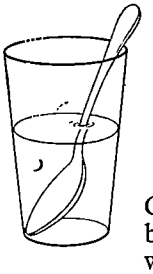

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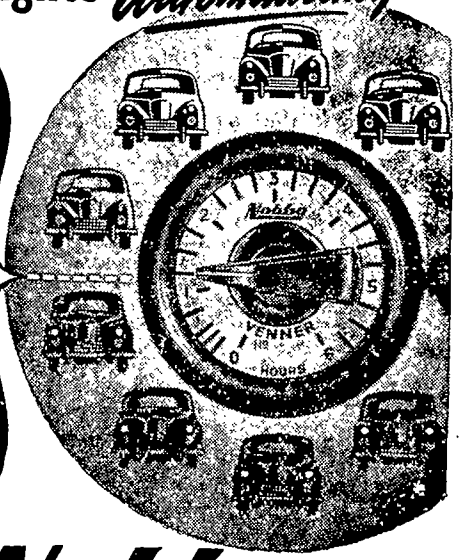

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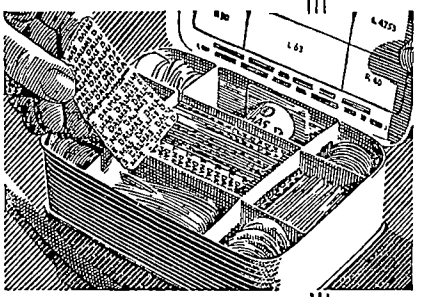

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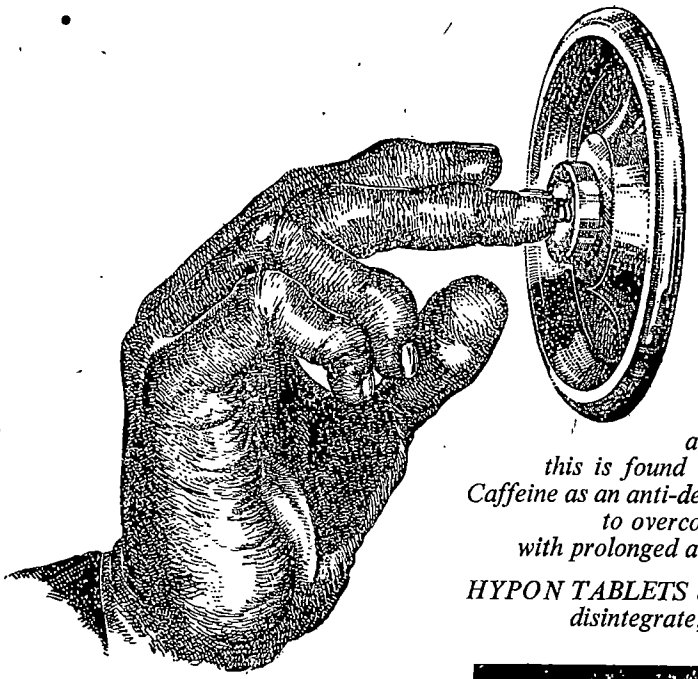

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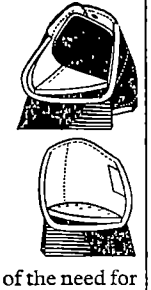

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Contents—January 1952

Frontispiece

Foreword

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"**Planning a Medical Exhibition,**" by Sylvia Treadgold.

"**Illustrating the Exhibit,**" by Derek Martin.

"**Modern Apparatus for Stereoscopic Photography,**" by Jack H. Coote.

"**The Use of Electronic Flash in Medical Photography,**" by Peter N. Cardew.

"**An Apparatus for Phase-Contrast Kinemicrography,**" by Percy Cliffe.

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APPOINTMENTS

Applicants should state name, address, age, nationality, qualifications, and enclose 3 copies (unless otherwise specified) of recent★ testimonials with short statement of experience and appointments held.

Applications should be sent at once if no closing date is given.

Canvassing in any form will disqualify.

★*SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

Deferment of call-up for "R" practitioners (i.e., practitioners liable for call-up under the National Service Acts) is granted at the discretion of the Central Medical War Committee and (in Scotland) the Scottish Central Medical War Committee. The Committees normally allow an "R" practitioner to hold a First House Officer post (N.H.S. salary £350 per annum) provided that he obtains it without delay. *Under present arrangements* the Committees also normally allow an "R" practitioner to hold a Second House Officer post (£400) and a Senior House Officer post (£670), provided in each case that the higher appointment is secured before the termination of the practitioner's current appointment.

"R" practitioners may not accept Third House Officer posts (£450 per annum) unless they have obtained the special permission of the C.M.W.C. or (in Scotland) the Scottish C.M.W.C.

SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

Registrar Grades, Whole-time

(*a*) *REGISTRAR:* Posts obtained normally not less than two years after registration as a medical or dental practitioner and held normally for two years: £775 per annum in the first year; £890 per annum in the second and any subsequent years.

(*b*) *SENIOR REGISTRAR:* Posts obtained normally not less than four years after registration as a medical or dental practitioner and held normally for three years: £1,000 per annum in the first year; £1,100 per annum in the second year; £1,200 per annum in the third year; £1,300 per annum in any subsequent years.

Other Grades, Whole-time

(*a*) *HOUSE OFFICER:* £350 per annum for the first post held, £400 per annum for the second post held; £450 per annum for the third and any subsequent post held; with, in each case, a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Each post shall be tenable for six months.

The Minister will be prepared to authorize, in exceptional circumstances, salaries up to £50 per annum higher than the standard rates specified above where a post cannot be filled otherwise.

(*b*) *SENIOR HOUSE OFFICER:* Posts obtained normally not less than one year (in Scotland, two years) after registration as a medical or dental practitioner and normally held for one year only: £670 per annum.

(*c*) *JUNIOR HOSPITAL MEDICAL OFFICER:* Officers who have held house appointments but who are not Registrars and who have less responsibility than other hospital officers of non-consultant status: £700 (for an officer appointed not less than two years after registration as a medical practitioner) by £50 to £1,000 per annum.

ALL NATIONAL HEALTH SERVICE HOSPITAL APPOINTMENTS ARE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SERVICE OF HOSPITAL MEDICAL STAFF

Those intending to apply for resident appointments in the Registrar grades are recommended to make inquiries with regard to the deductions proposed for board and lodging at the time of submitting their applications, where this is not stated in the advertisement.

(22/2/52)

CLASSIFICATION

and order of appearance

Practices	Assistantships
Partnerships	Locums

HOSPITAL APPOINTMENTS

CONSULTANTS
S.H.M.O.s
REGISTRARS
J.H.M.O.s
SENIOR HOUSE OFFICERS
HOUSE OFFICERS
CLINICAL ASSISTANTS

under appropriate specialty headings, e.g.:—

Anaesthetics	Paediatrics
Blood Transfusion	Pathology
Cardiology	Physical Medicine
Chest and Tb.	Plastic Surgery
Dental	Psychiatry
Dermatology	Radiology
E.N.T.	Radiotherapy
Geriatrics	Rheumatology
Infectious Diseases	Urology
Obstetrics and Gynaecology	Medicine
Ophthalmology	Surgery
Orthopaedics	Casualty

PUBLIC HEALTH

in alphabetical order of names of employing authorities

Industrial	Consulting Rooms, etc.
Eire	Holiday Accommodation
Overseas	Houses
University	Hotels
Personal	Cruises
Educational	Motor Cars, Hire, etc.
Lectures	Miscellaneous
Situations(Non-med.)	Nursing Homes
Pharmacists, etc.	Homes
Receptionists, etc.	Agents

EASTER, 1952

ALL CLASSIFIED ADVERTISEMENTS should reach the Advertisement Manager not later than:

WED. March 26 for April 5 issue.
WED. April 2 for April 12 issue.
WED. April 9 for April 19 issue.

Cancellations and/or corrections for the above issues cannot be effected if received in this office after 4 p.m. on March 27, April 3, and April 10, respectively.

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

ISLANDS OF ROUSAY, EGILSHAY and WYRE
Applications are invited from registered medical practitioners for a vacancy in the islands of Rousay, Egilshay and Wyre (available from June 8, 1952), approximate population 420. A house of six rooms, bathroom, kitchen and surgery is available to rent. In addition to the usual capitation fees a substantial inducement grant is payable. Further information may be obtained from the undersigned with whom applications, stating age, qualifications and experience, together with copies of recent testimonials, should be lodged not later than April 11, 1952.—Gordon D. Robertson, Clerk to the Executive Council, 8, Broad Street, Kirkwall, Orkney.

LINCOLNSHIRE (HOLLAND), Moulton, near Spalding
Applications invited for vacancy (rural) due to death. List at present approximately 2,300. Residence and surgery not available. Apply on E.C.16A, before April 1, 1952, to the undersigned.—N. Bell, Clerk of the Lincolnshire (Holland) Executive Council, Dembleby House, Broad Street, Spalding.

LOCHMABEN, Dumfries
Applications are invited for succession at June 1, 1952, to a medical practice at Lochmaben. The practice is urban and rural. Approximately 2,200 persons on list. Further particulars may be obtained from the undersigned, with whom applications, stating age, qualifications and experience, together with the names of three referees, should be lodged by April 5, 1952.—William Dodds, Clerk to the Council, 35, Castle Street, Dumfries.

PORTSMOUTH, Hants
Applications invited for death vacancy in urban district of Cosham. List at present approximately 2,500. Residence and surgery may be available. Apply on form E.C.16A, before April 2, 1952, to the undersigned.—A. R. Goddard, Clerk of the Portsmouth Executive Council, 66/74, Pearl Buildings, Commercial Road, Portsmouth.

PRACTICES (Exchange)

EXCHANGE N.H.S. PRACTICE, COTSWOLDS, £2,600, for larger income anywhere Southern England, London area preferred, or similar value South-West.—Box P1141, B.M.J.

PRACTICES (Wanted)

AMERICAN WOMAN PRACTITIONER, EXperienced, British *Register*, wishes contact principal within 50 miles of London. Would assist emigration.—Box P1128, B.M.J.

PARTNERSHIPS (Offered)

Ophthalmic Partner or Assistant, whole- or part-time, wanted immediately. Essex.—Box P1127, B.M.J.

PARTNERSHIPS (Wanted)

Wanted, Partnership or Assistantship with view, preferably country, anywhere in England. Hospital, including obstetrics and G.P. Car owner. Aged 30. Free end of May. Married and R.C.—Box P902, B.M.J.

Experienced practitioner, on obstetrical list, House and car owner. East Lancs-Yorks.—Box P748, B.M.J.

Experienced practitioner, 36, requires Partnership or Assistantship with View. Car owner. Capital available for house purchase. Free now.—Box P1143, B.M.J.

Experienced Scots practitioner, 38, married, requires post in general practice in Scotland.—Box P1129, B.M.J.

Experienced practitioner desires Partnership or Succession, London area. Capital for house purchase.—Box P1022, B.M.J.

M.B. seeks Partnership or Succession, London or near. Capital available for house.—Box P1117, B.M.J.

Partnership, Succession or Assistantship with definite view wanted. London Hospital graduate, M.R.C.S., M.R.C.O.G. (Jewish), married, car owner. Capital house purchase. London or country.—Box P1142, B.M.J.

Reliable practitioner, wide experience, desires Partnership. Own car and capital for house purchase.—Box P1118, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, Assistant, rural practice N. Ireland. Car owner.—Box 1003, B.M.J.

Wanted, Assistant, outdoor, R.C. preferred, car desirable, but not essential. Pleasant Cheshire town.—Box 1040, B.M.J.

Wanted, Assistant, Chelmsford. £700, outdoor, car provided. G.P. experience and driver essential.—Box 1133, B.M.J.

Wanted, male Assistant, British, South Coast town. Permanency, without view. Car owner. Unfurnished house available to rent. Salary £1,100, inclusive of car allowance.—Box 1130 B.M.J.

Assistantships Vacant—contd.

Wanted, Male Assistant, British, Plymouth, April, no view. Seventeen guineas weekly, £3 car allowance. Outdoor, duty rota.—Box 1105, B.M.J.

Assistant wanted for North Wales partnership. Car owner. Welsh-speaking preferred. Hospital and general practice experience essential.—Box 1144, B.M.J.

Assistant required (Gentile) Leeds, Yorkshire, good mixed practice, no immediate view. Car owner essential. Salary £1,100 inclusive, live out. —Box 1103, B.M.J.

Male Trainee Assistant required early May, semi-rural Essex. Own car. Furnished accommodation for married couple without children.—Box 1145, B.M.J.

Part-time Assistant, morning and evening surgeries, good furnished flat available with lovely garden and garage. Suit married postgraduate, Wimbledon area.—Box 1132, B.M.J.

Trainee Assistant, indoor, either sex, single, about May-June. Near Sheffield.—Box 1131, B.M.J.

Trainee Assistant wanted May 1, male, single. Accommodation and car provided. Pleasant country district.—Dr. Connolly, Rothwell, near Kettering, Northants.

Trainee Assistant required for mixed practice, after the middle of May. Unfurnished flat available.—Drs. Drake Lee, Ogle and Brook, 15, Lower Street, Kettering, Northants.

Trainee Assistant, male, required mid-Sussex rural practice. Salary to scale. Car can be provided.—Dr. Greville Tait, Archpool, Handcross, near Haywards Heath, Sussex.

ASSISTANTS AVAILABLE

Assistantship with view wanted, border counties; North or mid-Wales. Married. Welsh-speaking. Hospital experience, including midwifery. Car owner.—Box 1107, B.M.J.

Experienced practitioner, Jewish, single, seeks Assistantship with view. Car owner. Excellent references.—Box 1119, B.M.J.

Jewish doctor, 28, married, requires Assistantship, 2½ years' G.P. experience. Car.—Box 1043, B.M.J.

Trainee or Assistantship, without view, wanted by married man, aged 35, any district. Accommodation required for family. Own car. Free now.—Box 1146, B.M.J.

Woman doctor, experienced general practice, midwifery, seeks Assistantship or Locums. Booking now.—Box 1101, B.M.J.

LOCUMS (Vacant)

Wanted, Locum, May 3 to 19. Car essential. Southend. Not sole charge.—Box 1134, B.M.J.

Wanted, Locum, male or female, with car, from May 1 to 25 inclusive, for practice in Southend-on-Sea. Usual fees.—Box 1108, B.M.J.

Wanted, Locum, woman preferred, April 17 to 24. Car owner if possible. London suburb.—Box 1150, B.M.J.

Wanted, Locum Tenens, June 22 to 28, car provided. Fee 15 guineas.—Box 1110, B.M.J.

Wanted, Locum Tenens, from July 23 to August 21, 10 miles from Leeds, car provided. Fees by agreement.—Box 1111, B.M.J.

Locum required, May 24 to June 21, Nottinghamshire country practice. Car provided.—Box 1151, B.M.J.

Locum wanted, Stoke-on-Trent, for about three weeks about June 3. Work light, no midwifery. Car provided. Usual terms.—Box 1028, B.M.J.

Locum required, general practice (Leeds), July 25 to August 10, inclusive. With or without car. Standard rates.—Box 1135, B.M.J.

Locum required, woman preferred, about ten days from mid-April. Purely private practice, Midlands. Car and chauffeur available.—Box 1109, B.M.J.

Locum required, June 26, for three weeks. Car owner essential.—Dr. Gillis, Ashburne Villa, Ryhope, near Sunderland.

Locum, married or single, semi-rural practice, South-West Durham, four weeks commencing about June 1. £20 per week, car provided. Please forward references, nationality, etc.—Box 1112, B.M.J.

Locum required, fortnight end of April, Northampton, 2 guineas daily, own car.—Box 1121, B.M.J.

Urgent, wanted Locum for thirteen months from May 1. Terms excellent. South Wales area. Preferably single and car owner.—Box 1148, B.M.J.

Woman Locum (British) wanted private practice South Yorkshire, April 16 to May 1. Car provided. No midwifery. 14 guineas weekly.—Box 1147, B.M.J.

Urgent, wanted Locum for two months from May 1. £18 per week all found. South Wales area. Single, car owner.—Box 1149, B.M.J.

North-Western Group Laboratory, 4/8, Pond Street, Hampstead, N.W.3. North-West Metropolitan Regional Hospital Board.—Locum Tenens Senior Registrar in Pathology required for one year. Applicants must have good all-round experience in pathology with special experience in haematology. Duties may include work at other hospitals in the Group. Candidates invited to visit the Laboratory. Applications to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by April 3. (9919)

Royal Chest Hospital, City Road, London, E.C.1. Northern Group Hospital Management Committee. —Locum Part-time Senior House Officer (non-resident) required for indefinite period from April 17, 1952. Duties involve attendance at five afternoon sessions per week. Applications to be sent to the Assistant Secretary, Royal Northern Hospital, Holloway, London, N.7, by April 5. (9866)

St. James' Hospital, Ouseley Road, Balham, S.W.12 (660 beds—General). Wandsworth Hospital Group.—Locum Registrar (Anaesthetics). Post vacant April 1, 1952. Applications immediately, stating qualifications, experience and names of two referees, to Group Secretary, 14, Atkins Road, Balham, S.W.12. (9868)

St. James' Hospital, Ouseley Road, Balham, S.W.12 (660 beds—General). Wandsworth Hospital Group.—Locum Senior Registrar (Pathology). Post vacant April 1, 1952. Candidates with experience in bacteriology preferable. Applications immediately, stating qualifications, experience and names of two referees, to Group Secretary, 14, Atkins Road, Balham, S.W.12. (9867)

St. Thomas's Hospital, London, S.E.1.—Locum Senior Registrar, Department of Radiotherapy, for a maximum of three months. Applications, including names and addresses of three referees, to the Clerk of the Governors by April 5. (9920)

Aylesbury, Royal Buckinghamshire Hospital.—Locum House Surgeon for E.N.T. and Ophthalmic Department. Vacant now. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Secretary-Superintendent. (9713)

Aylesbury, Royal Buckinghamshire Hospital.—Locum House Surgeon to Department of Children's Surgery and Orthopaedics. Vacant now. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Secretary-Superintendent. (9714)

Canterbury, Kent and Canterbury Hospital, Canterbury Group Hospital Management Committee.—Whole-time Locum Radiotherapist required for a period of one month during the coming summer. Remuneration at the rate of 31½ guineas or 45 guineas a week. Applications, with names of three referees and stating dates when available, should be sent to the Secretary, Central Office, Nunnery Fields Hospital, Canterbury. (9956)

Kettering and District General Hospital.—Applications are invited from registered medical practitioners for the post of **Locum House Surgeon (General Surgery)** from the middle of March to the end of June. Salary will be in accordance with National Health Service Regulations and dependent upon past experience. Applications, stating age, nationality, qualifications, and giving details of previous experience, together with not more than two recent testimonials, should be sent to the Assistant Secretary, General Hospital, Kettering, as soon as possible. (9131)

Newcastle Regional Hospital Board. Gateshead Hospital Management Committee Group.—Locum Tenens Consultant Anaesthetist required for the above Group and possibly other groups in the Region. Applications, together with one to three testimonials, and/or one to three referees, to be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (9715)

Salisbury General Hospital. Salisbury Group Hospital Management Committee.—Locum Orthopaedic Registrar required immediately for approximately two months. Apply, naming two referees, to Group Sec., Odstock Hospital, Salisbury. (9842)

South-East Essex Hospital Management Committee. Locums required.—Senior Anaesthetic Registrar, Orsett Hospital, April 7 to May 7, 1952. Salary £1,100 per annum, less £130 emoluments. **Anaesthetic Senior House Officer, St. Andrews Hospital, Billericay,** April 15 to 30, 1952. Salary £670 per annum, less £130 emoluments. **Senior Surgical Registrar, Orsett Hospital,** March 24 to 30, 1952. Salary £1,200 per annum, less £130 emoluments. **Senior Orthopaedic Registrar, Orsett Hospital,** April 21 to 28, 1952, June 2 to 9, 1952. Salary £1,100 per annum, less £130 emoluments. Applications should be forwarded to the Secretary, South-East Essex Hospital Management Committee, Thurrock Hospital, Grays, Essex. (9385)

Stoke-on-Trent, City General Hospital.—Applications are invited for **Locum Senior Anaesthetic Registrar (resident, whole-time)** for the month of April, 1952. Applications, with names of two referees, to the Secretary, Stoke-on-Trent H.M.C., Princes Road, Stoke-on-Trent. (9706)

LOCUMS (Available)

Experienced doctor available August. Own car. Seaside preferably. Hospitality wife, child 4½.—Box 1136, B.M.J.

Doctor, large city practice, would run quiet seaside practice two to four weeks August. Hospitality wife and two grown children. Own car.—Box 1012, B.M.J.

Lady doctor requires Locums May, June. Own car if necessary. No midwifery.—Francis, Holt House, Bassett, Southampton 68162.

Lady doctor, experience G.P., seeks Locums or Part-time Work. Free now.—Box 1113, B.M.J.

Locums available, short or long-term surgeries, London area.—Box 1154, B.M.J.

Temporary or Locum work, industrial public health or G.P., required by experienced doctor, London area. Non-resident. Own car.—Box 1152, B.M.J.

APPOINTMENTS

ANAESTHETICS

NATIONAL HOSPITALS FOR NERVOUS DISEASES

The Board of Governors invites applications for the appointment of

ANAESTHETIST (Consultant status)
at the Maida Vale Hospital for Nervous Diseases, Maida Vale, W.9

The appointment will be part-time and the successful applicant will be required to attend four half-days per week. Applications (35 copies), giving the names of three referees, must be submitted to the undersigned not later than March 29, 1952.—H. Ewart Mitchell, Secretary, The National Hospitals for Nervous Diseases, Queen Square, W.C.1. (9495)

NATIONAL TEMPERANCE HOSPITAL
Hampstead Road, N.W.1 (158 general beds)
North-West Metropolitan Regional Hospital Board
CONSULTANT ANAESTHETIST

Required two half-days a week. Applications, giving three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by April 19, 1952. Hospital may be visited by direct appointment. (9531)

PYRFORD, SURREY, ROWLEY BRISTOW ORTHOPAEDIC HOSPITAL
South-West Metropolitan Regional Hospital Board

Applications are invited for the appointment of

PART-TIME CONSULTANT ANAESTHETIST
(Four half-days per week)

Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than April 19, 1952. Applicants may visit the hospital by local arrangement. (9688)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time, non-resident post of

ASSISTANT ANAESTHETIST

to work under the general guidance of the Group Consultant at the Blackburn and District Hospital Centre (Blackburn Royal Infirmary, Queen's Park Hospital, Blackburn, and the Victoria Hospital, Accrington). Salary £1,300 by £50 to £1,750. The successful candidate will be required to live near Blackburn. Forms of application may be obtained from the Senior Administrative Medical Officer to the Board at Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than April 14, 1952. (9879)

MANCHESTER, SAINT MARY'S HOSPITALS
United Manchester Hospitals

Applications are invited for the post of

ASSISTANT ANAESTHETIST

at a salary of £1,300 (at age 32) by £50 to £1,750. The person appointed will require to undertake duties in both the obstetrical and gynaecological sections of the hospitals, but his services are particularly required in connexion with the obstetrical units, where the person appointed will be required to take a close and personal interest not only in the anaesthesia for operative obstetrics, but in the general measures to relieve the pain of childbirth. Forms of application may be obtained from the undersigned. The closing date for applications is April 30, 1952.—A. R. Wise, General Superintendent, Saint Mary's Hospitals, Manchester, 13. (9957)

ST. JAMES' HOSPITAL
Ouseley Road, Balham, S.W.12
South-West Metropolitan Regional Hospital Board
Wandsworth Hospital Group
REGISTRAR (Anaesthetics)

Application forms (send stamped addressed foolscap envelope) for the above vacancy, obtainable from the Secretary of the Group, 14, Atkins Road, Balham, S.W.12, to be completed and returned by April 1, 1952. (9880)

CARDIFF, UNITED, HOSPITALS

The Board of Governors invites applications for the appointment of

TWO SENIOR REGISTRARS
in the Department of Anaesthetics

Applications, stating age, nationality, qualifications, experience and present appointment, together with the names of two referees, should be sent as soon as possible to Arnold Tunstall, Secretary and Principal Administrative Officer, The United Cardiff Hospitals, Cardiff Royal Infirmary, Cardiff. (9877)

GRIMSBY AND DISTRICT GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the resident whole-time post of

REGISTRAR (Anaesthetics)

to the above hospital, which is recognized for training for the D.A. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 31, 1952. (9343)

Anaesthetics—contd.

CARDIFF, UNITED, HOSPITALS
The Board of Governors invites applications for the appointment of
REGISTRAR in the Department of Anaesthetics
Applications, stating age, nationality, qualifications, experience and present appointment, together with the names of two referees, should be sent as soon as possible to Arnold Tunstall, Secretary and Principal Administrative Officer, The United Cardiff Hospitals, Cardiff Royal Infirmary, Cardiff. (9876)

DUNDEE TEACHING HOSPITALS
Eastern Regional Hospital Board (Scotland)
Applications are invited for an appointment as
SENIOR REGISTRAR in Anaesthetics
at the Dundee Teaching Hospitals (Dundee Royal Infirmary, 550 beds, and Maryfield Hospital, 350 beds). The post is on the authorized Registrar establishment. Salaries and conditions of service in accordance with national agreement. Further particulars and forms of application from the Secretary to the Board, Braeknowe, 430, Blackness Road, Dundee with whom applications must be lodged not later than March 31, 1952. (9532)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
SENIOR REGISTRAR in Anaesthetics
for duties mainly in the Hull "A" Group of hospitals, with additional duties as required in the Hull "B" and East Riding Groups. Applications, stating age qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than March 29, 1952. (9386)

LEICESTER ROYAL INFIRMARY
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
REGISTRAR (Anaesthetics)
to the above hospital. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointment (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 31, 1952. (9387)

MEXBOROUGH, MONTAGU HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident post of
WHOLE-TIME REGISTRAR (Anaesthetics)
to the above hospital. The appointment is for one year in the first instance, and may be renewed for a second year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to reach him not later than April 7, 1952. (9716)

SCOTLAND, NORTH-EASTERN REGIONAL HOSPITAL BOARD
Applications are invited for the post of
SENIOR REGISTRAR in Anaesthetics
on the staff of the Aberdeen General Hospitals
Candidates preferably should hold a higher qualification in anaesthetics. Salary is within the scale of £1,000 to £1,300 per annum. Terms and conditions are as laid down for hospital medical and dental staff (Scotland). Applications, together with the names of two referees, should be lodged by April 7, 1952, with the Secretary, 1, Albyn Place, Aberdeen, from whom further particulars may be obtained. (9491)

SOUTH WARWICKSHIRE GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
WHOLE-TIME REGISTRAR IN ANAESTHETICS
Duties mainly at Warwick Hospital (348 beds). Non-resident appointment. Experience in specialty essential, and possession of D.A. an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of application, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before April 7. Candidates may visit the hospital. (9945)

EDINBURGH CENTRAL HOSPITALS
Applications are invited from registered medical practitioners for the appointment of
ANAESTHETIST (J.H.M.O. grade)
in the above Group. Salary scale £700 by £50 to £1,000 per annum, and other conditions under National Health Service. The post is non-resident, and work will mainly be with children, but will include some adult general surgery and gynaecology. Applications, with full details of experience, qualifications and date of birth, together with the names of two referees, to be submitted not later than April 15 to the Medical Superintendent, Edinburgh Central Hospitals, 18, Rillbank Terrace, Edinburgh, 9. (9958)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1, or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional) for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
(Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

FIFE COUNTY COUNCIL
(Senior Medical Officer (Chief Executive School Medical Officer))

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE
(Assistant School Medical Officer)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,
A. MACRAE,
March 18, 1952. Secretary.

CENTRAL MIDDLESEX HOSPITAL
Park Royal, N.W.10
WHOLE-TIME, RESIDENT SENIOR HOUSE OFFICER (Anaesthetist)
Appointment for six months from June 1, 1952, renewable. Previous experience in anaesthesia essential, and possession of Part I of the D.A. an advantage. Hospital recognized for the Diploma. Applications to Medical Director by April 5. (9921)

ST. GEORGE'S HOSPITAL, S.W.1
Applications are invited for the post of
SENIOR HOUSE OFFICER
to the Department of Anaesthetics
for a period of six months, with effect from April 15, 1952. Candidates must have held a previous hospital post as Junior Resident Anaesthetist. Applications, together with the names of two referees, must be received by the undersigned by April 2, 1952.—P. H. Constable, House Governor. (9823)

BIRMINGHAM (DUDLEY ROAD) GROUP OF HOSPITALS
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics)
vacant from April 1, 1952, at Dudley Road Hospital (900 beds). Duties within the Group may occur. Hospital recognized for training for Diploma in Anaesthetics. Applications, stating age, nationality, qualifications and experience, with copies of three recent testimonials, within seven days, to Secretary, H.M.C., Dudley Road Hospital, Birmingham, 18. (9443)

DONCASTER ROYAL INFIRMARY
(Recognized under the regulations for the D.A.)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners with the necessary experience for the appointment of
RESIDENT ANAESTHETIST
in the grade of Senior House Officer
Salary at the rate of £670 per annum, from which a deduction of £130 per annum will be made for board, residence, etc. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with copies of three testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (9717)

DERBYSHIRE ROYAL INFIRMARY, Derby (416 beds)
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
SENIOR HOUSE OFFICER (Anaesthetics)
(Resident)
now vacant. Recognized for D.A. Apply, with full details and two names for reference, to Secretary, No. 1 Hospital Management Committee, Babington Lane, Derby. (9681)

HITCHIN—LUTON AND HITCHIN GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
to work in the Hitchin area under the direction of the whole-time Consultant Anaesthetist. The appointment, which is vacant now, offers experience in general surgery, E.N.T., gynaecology and obstetrics, and orthopaedics, and is recognized for the D.A. examination. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent immediately to the Medical Director, The Lister Hospital, Hitchin. (9718)

HULL (A) GROUP HOSPITAL MANAGEMENT COMMITTEE
SENIOR HOUSE OFFICER in Anaesthetics
Required for duties at various hospitals in the Group. Resident or non-resident. Salary £670 per annum; if resident, less £130 for residential emoluments. The post is recognized for the D.A. Appointment will be for twelve months in the first instance, but will be terminable at any time by two months' notice on either side. Application forms may be obtained from, and should be returned as soon as possible to, R. J. Carless, Secretary to Management Committee, Hull Royal Infirmary. (9419)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding
(Full Consultant Staffs)
Applications are invited for the appointment of
SENIOR HOUSE OFFICER in Anaesthetics
(Male or female)
for duty at the above hospitals for acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment, vacant now. Salary £670 per annum. National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley, as soon as possible. (8688)

MAIDENHEAD (near), CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow
SENIOR HOUSE OFFICER (Anaesthetics)
The post becomes vacant on March 24 and is tenable for one year. Salary £670 per annum, less £120 for residential emoluments. Applications, stating age, experience and qualifications (with dates), together with copies of three testimonials, should be sent to the Administrative Officer. (9779)

MANSFIELD AND DISTRICT GENERAL HOSPITAL
Mansfield Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetic)
The post is recognized for the D.A. examination and is tenable for one year. Salary £670 per annum, less an appropriate deduction in respect of board residence. Applications, stating age, qualifications, nationality and experience, etc., with names of two persons for reference, should be addressed to the Secretary, Mansfield Hospital Management Committee, Oak Bank, Crow Hill Drive, Mansfield, Notts. (9719)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer Grade)
(Recognized for D.A.)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9591)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY (225 beds)
Wigan and Leigh Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
for duties at the above hospital. The post, which is tenable for one year, will be resident, and is recognized for the D.A. examinations. Wide experience in all branches of anaesthesia is available, and there are particular facilities for experience in major thoracic and orthopaedic work. Applications, stating age, experience, and nationality, together with the names of two referees, should be forwarded to the undersigned as soon as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (9444)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Anaesthetics—contd.

SHEFFIELD, UNITED, HOSPITALS
Royal Infirmary Unit
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER IN ANAESTHETICS
Applications stating age, qualifications, and experience, to be addressed to the undersigned immediately.—Frank Hart, Superintendent, Royal Infirmary, Sheffield, 6. (9801)

DULWICH HOSPITAL
East Dulwich Grove, S.E.22
Camberwell Hospitals Management Committee
Applications are invited for appointment as
HOUSE OFFICER (Anaesthetist duties)
Position vacant from April 1, 1952. Salary £400 or £450 a year, according to posts held, with deduction at rate of £100 a year in respect of residence. Applications, stating age, qualifications and experience, enclosing copy testimonials, to the Secretary, Camberwell H.M.C., Dulwich Hospital, S.E.22, as soon as possible. (9780)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE OFFICER (Anaesthetics Department)
Post is vacant April 7, 1952, and recognized for D.A. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (9345)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE OFFICER (Anaesthetics)
Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9887)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
RESIDENT ANAESTHETIST
(House Officer status)
Vacant beginning of May. Recognized for D.A. Applications, with full details of experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of the appearance of this advertisement. (9824)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 beds)
South Warwickshire Hospital Group (No. 14)
Applications are invited for the appointment of
RESIDENT ANAESTHETIST
Six months' appointment, commencing April 21, 1952. The post is recognized for the D.A. Salary £300 or £350, according to previous number of appointments held, plus full residential emoluments. Applications as soon as possible to Miss V. Wells, Hospital Sec., Warneford General Hospital. (9707)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
JUNIOR ANAESTHETIC OFFICER
(House Officer Grade)
The appointment, which is tenable May 1, 1952, for a period of six months, is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5. (9720)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group 15 Hospital Management Committee
RESIDENT ANAESTHETIST
(House Officer grade)
Post recognized for the D.A. Vacant April 1, 1952. Applications, stating age, nationality, qualifications and previous hospital appointments, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (9171)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL (350 beds)
Tunbridge Wells Group Hospital Management Committee
Applications are invited for the appointment of
FULL-TIME RESIDENT ANAESTHETIST
vacant April 12, 1952. Post tenable for six months in first instance, or locum duties, and recognized for Diploma of Anaesthetics. Applications, stating age, qualifications, with copies of recent testimonials, to Administrative Officer. (9922)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (Junior Anaesthetist)
(Recognized for Diploma in Anaesthetics)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton (9881)

BLOOD TRANSFUSION

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications invited for appointment of
TWO WHOLE-TIME REGISTRARS
to the Birmingham Regional Blood Transfusion Centre; duties mainly in B.T.S. laboratory. Knowledge of haemato-serology, haematology and bacteriology an advantage; appointment offers full training facilities in these subjects. Opportunity for research and clinical experience. Successful candidate required to assist at blood-donor sessions. Appointments subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before April 7. Candidates may visit laboratory. (9946)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
WHOLE-TIME JUNIOR HOSPITAL MEDICAL OFFICER
in the Blood Transfusion Service in the South-West and South-East Metropolitan Regions. Main duties will be concerned with the collection of blood from donors in the area covered by the South-West and South-East Metropolitan Regional Hospital Boards, but the appointment also offers scope in haematology and serology, including research, at the South London Blood Transfusion Centre, Stanley Road, Sutton, Surrey. Salary scale £700 by £50 to £1,000 per annum. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place London, W.1, to arrive not later than April 5, 1952. Applicants may visit the Blood Transfusion Centre by local arrangement. (9721)

CARDIOLOGY

WIRRAL, CALDY MANOR HOSPITAL, Caldy (41 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT HOUSE PHYSICIAN
for the above new hospital, which specializes in the treatment of heart cases. The appointment will become vacant on April 1, 1952, and will be tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging, and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Secretary, North Wirral H.M.C., Lensowe Children's Hospital, Moreton, Wirral, Cheshire. (8832)

CHEST AND TUBERCULOSIS

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of a
CONSULTANT CHEST PHYSICIAN (Whole-time)
at the Bradford Chest Clinic. Applicants should possess high medical qualifications and extensive experience of pulmonary tuberculosis and other diseases of the chest. The successful applicant will be the senior member of a team consisting of two Assistant Chest Physicians of Senior Hospital Medical Officer status and a Registrar. There is close collaboration with the Thoracic Surgical Unit at the Bradford Royal Infirmary, and a new chest clinic is nearing completion in the grounds of St. Luke's Hospital, Bradford. The person appointed will be responsible for the administration of a Sub-Regional Tuberculosis Admission Bureau serving the western half of the Region, and for the supervision of the Mass Radiography Unit based upon the Bradford Clinic. He will also be responsible to the Local Health Authority through the Medical Officer of Health for functions relating to the prevention, care and after-care of tuberculosis under Section 28 of the National Health Service Act. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than April 12, 1952. (9990)

NORTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
CONSULTANT THORACIC SURGEON
(Whole-time or maximum sessions)
The consultant appointed will be based at Clare Hall Hospital, South Mimms Barnet, Herts, but duties will include visits to Colindale Hospital, N.W.9, and associated general hospitals and clinics, including those in Bedfordshire. Applications, with names of three referees to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by April 19, 1952. Hospitals may be visited by direct appointment. (9593)

BOURNEMOUTH AREA
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
Whole-time ASSISTANT CHEST PHYSICIAN
(S.H.M.O. scale)
to work under the supervision of the Consultant Chest Physician. The successful candidate will be required also to devote two sessions per week to work at the Mass Miniature Radiography Unit, under the Unit Director. Apart from these duties the appointment will be a joint one between the Regional Board and the County Borough of Bournemouth. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than April 5, 1952. Applicants may visit the area by local arrangement. (9722)

LEICESTER ISOLATION HOSPITAL AND CHEST UNIT, Groby Road, Leicester
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the whole-time post of
DEPUTY PHYSICIAN SUPERINTENDENT
There is a thoracic surgical centre at this hospital. Clinical duties will be mainly on the chest side. Candidates should have a good general medical experience and special experience in the treatment of chest diseases and tuberculosis. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms should be returned to the Secretary not later than April 19, 1952. (9781)

MERTON AND MORDEN AREA
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
Whole-time ASSISTANT CHEST PHYSICIAN
(S.H.M.O. grade)
Duties will include charge of the Chest Clinic at St. Helier Hospital, under the supervision of the Consultant Chest Physician for the Sutton area and charge of beds at St. Helier Hospital, Carshalton, and associated institutions in the area, under the supervision of the Consultant Chest Physicians there. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than April 5, 1952. Applicants may visit the hospitals and clinic by local arrangement. (9723)

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners with experience in tuberculosis and chest radiography for the whole-time post of
MEDICAL DIRECTOR
of the Lincolnshire Mass Radiography Unit, with headquarters at St. George's Hospital, Lincoln. The successful candidate will be required to reside within ten miles of Lincoln. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than April 12, 1952. (9388)

NEWCASTLE, WALKER GATE HOSPITAL
Newcastle Regional Hospital Board
Newcastle Hospital Management Committee Group
REGISTRAR CHEST PHYSICIAN (Whole-time)
Required, with duties at a chest clinic. A regional training scheme is in operation for chest physicians. Appointment up to August 31, 1953. Salary £775 to £890. An unfurnished house will be available if required at the hospital. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, to be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (9782)

SOUTH WORCESTERSHIRE GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
WHOLE-TIME REGISTRAR IN TUBERCULOSIS
Duties at St. Wulstan's Hospital (258 beds). Resident appointment. Experience in specialty essential. Possession of higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before April 7. Candidates may visit the hospital. (9947)

CHEPSTOW, MON., MEMORIAL WARDS MINISTRY OF PENSIONS HOSPITAL
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
in Tuberculosis
National salary scales and conditions. The resident medical staff consists of a Senior Hospital Medical Officer and this post, while the Consultant visits regularly. Apply, with the names of three referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8692)

Chest and Tuberculosis—contd.

WORCESTER, KNIGHTWICK SANATORIUM (100 beds)
South Worcestershire Hospital Management Committee

Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
The post, which is a resident one, would be suitable for a candidate convalescent from tuberculosis. Single quarters provided. There is ample opportunity for gaining experience in the modern treatment of pulmonary tuberculosis, and minor thoracic surgery is frequently undertaken. Arrangements could be made for chest clinic work if desired. Salary and conditions of service in accordance with National Health Service terms. Applications, stating age, nationality, qualifications and experience should be sent to the Secretary, Worcester Royal Infirmary, not later than March 29, 1952. (9421)

BLAYDON-ON-TYNE, NORMAN'S RIDING HOSPITAL, Winlaton (Tuberculosis, 76 beds)
Gateshead and District Hospital Management Committee

Applications are invited for the appointment of
SENIOR HOUSE OFFICER
at the above hospital. Norman's Riding Hospital is modern in every respect and is rapidly being developed into a first-class acute tuberculosis sanatorium. Previous experience in the diagnosis and treatment of pulmonary tuberculosis is desirable. Applications, stating age, experience, and submitting the names of three referees or three references, should be sent to the undersigned as soon as possible.—H. Clark, Secretary, The Lodge, I.D. Hospital, Sheriff Hill, Gateshead, 9. (9468)

NEWCASTLE, WALKER GATE HOSPITAL
Chest Department
Newcastle-upon-Tyne Hospital Management Committee

Applications are invited for the appointment of
RESIDENT SENIOR HOUSE OFFICER
There are 105 beds in the department, and the appointee will be required to carry out duties assigned to him under the supervision of the Senior Chest Physician. Facilities for study available. Salary £670 per annum, less residential charges. National Health Service terms and conditions. Applications, with three testimonials, should reach the Secretary, Newcastle-upon-Tyne Hospital Manment Committee, Newcastle General Hospital, Westgate Road, Newcastle-upon-Tyne, 4, by April 7, 1952. (9923)

ST. HELENS, LANCS, ECCLESTON HALL HOSPITAL
St. Helens and District Hospital Management Committee

Applications are invited from suitably qualified registered medical practitioners for the post of
SENIOR HOUSE OFFICER
at above hospital. Salary £670 per annum, less £150 per annum for residential emoluments. The person appointed will work under the supervision of the Tuberculosis Medical Officer, who is also on the staff of this hospital. There are 75 beds and the work comprises all types of tuberculosis. The appointment may also include duties at another hospital in the Group which is to be converted for the treatment of tuberculosis. Good residential accommodation for a single person, male or female, is available. Applications to be forwarded to the undersigned immediately.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (9539)

STOURBRIDGE (near), PRESTWOOD SANATORIUM
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region

Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Resident)
at the above sanatorium, which consists of 200 beds at Prestwood, 35 at Edge View, and 60 at The Limes, and is for pulmonary tuberculosis. Candidates should have held house appointments, and have had experience in the treatment of tuberculosis. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum for residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (9028)

WARWICK (near), KING EDWARD VII MEMORIAL SANATORIUM, Hertford Hill
South Warwickshire Hospital Group (No. 14)

Applications are invited for the post of
SENIOR HOUSE OFFICER
Salary and conditions of service according to National Health Service scales. Resident accommodation for man or woman is available. The Sanatorium is a modern one of 239 beds, and a thoracic surgery unit of about 50 beds is being planned. Applications, together with the names and addresses of three referees, should be sent to the Medical Supt. at the above address. (9006)

HOSPITALS FOR DISEASES OF THE CHEST

Applications are invited from registered medical practitioners (male and female) for appointment of
NON-RESIDENT HOUSE PHYSICIAN
at Brompton Hospital, S.W.3, for which there are three vacancies. The appointment is whole-time for six months, commencing June 1, 1952. The duties include work in the Outpatients Department as well as in the wards. Salary £400 or £450 a year, according to experience. Applications, stating age, qualifications, with dates, nationality, and previous appointments held, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, April 5, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (9802)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (Thoracic Unit)

Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials to the Secretary. (9540)

CAMBRIDGE, PAPWORTH SANATORIUM
Papworth Hospital Management Committee
HOUSE PHYSICIAN

Applicants must have held resident surgical and medical posts in a general hospital. Appointment for six months, and salary at rate of £400 to £450 per annum, according to experience, less £100 for residential emoluments. Applications should be sent to the Secretary, Papworth Group Hospital Management Commitee, Papworth Hall, Cambridge, accompanied by three recent testimonials. (9471)

CRANBROOK (near), KENT, BENENDEN SANATORIUM, Benenden
TWO RESIDENT HOUSE PHYSICIANS

Applications are invited from fully qualified registered medical practitioners, male or female, for two posts, one vacant now and one April 1, 1952. Appointment is for six months or one year. Salary £400 per annum (no deduction for full residential emoluments valued at £120). The Sanatorium of 154 beds is for the treatment of adult male and female pulmonary tuberculosis and is independent of the National Health Scheme. Applications, stating age, qualifications (with dates), and details of previous experience, together with copies of testimonials, should be sent immediately to the Secretary, Benenden Sanatorium. (9594)

EDINBURGH HOSPITALS
HOUSE OFFICERS (Male or female)

Required for Tuberculosis Wards in the following hospitals:

Royal Victoria Hospital, Comely Bank (90 beds)
Required April 7, 1952.

City Hospital, Greenbank Drive (202 beds)
Required immediately

Previous hospital experience desirable, but not essential, and appointment is for six months in first instance. N.H.S. salary and conditions of service. Applications, stating age and experience, with names of two referees, to the Secretary, Board's Office, City Hospital, Greenbank Drive, Edinburgh, 10. (9803)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER
in the Manchester Regional Hospital Board Centre for non-tuberculous thoracic surgery, which will become vacant mid-May, 1952. Salary £350 to £450 per annum, according to experience. £100 per annum will be deducted for residential accommodation and services. Six months' appointment. Vacancies occur periodically in the various departments and House Officers are eligible for appointment to another specialty at the end of the original term of service when such vacancies exist. Application forms may be obtained from the Secretary, Park Hospital, Davyhulme. (9924)

DENTAL

TUNBRIDGE WELLS GROUP OF HOSPITALS
South-East Metropolitan Regional Hospital Board

Applications are invited for the appointment of
SENIOR REGISTRAR in Dental Surgery
The duties will be mainly carried out in the Special Jaw Centre of the Plastic and Maxillo-Facial Unit at East Grinstead. Considerable experience in the specialty is essential and a higher qualification is desirable. The appointment will be in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales), and will be for one year in the first instance. Applications, giving particulars of age, qualifications and experience with relevant dates, together with the names and addresses of three referees, to be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, London, W.1, not later than April 15, 1952. (9724)

DERMATOLOGY

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the part-time (six sessions) post of
CONSULTANT DERMATOLOGIST
at Oldham, Ashton, and Stockport Hospital Centres and Manchester and Salford Hospital for Skin Diseases. Applicants must be of high professional standing. Wide experience and a higher qualification desirable. Forms of application can be obtained from the Senior Administrative Medical Officer, Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than April 8, 1952. (9541)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee

Applications are invited from registered medical practitioners, male and female, for appointment of
HOUSE PHYSICIAN (Dermatology)
The appointment, which is tenable May 1, 1952, for a period of six months, is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5. (9725)

EAR, NOSE, AND THROAT, etc.

BIRMINGHAM, 16, CHILDREN'S HOSPITAL
Ladywood Road
United Birmingham Hospitals

Applications are invited for the appointment of
NON-RESIDENT AURAL REGISTRAR
(in the grade of Registrar)
vacant July 1, 1952, for one year. Preference will be given to candidates who are Fellows of the Royal College of Surgeons and/or hold the Diploma in Child Health. Forms of application may be obtained from the undersigned and should be returned not later than April 7, 1952.—N. R. Winwood, House Governor. (9843)

BIRMINGHAM (DUDLEY ROAD) GROUP
Birmingham Regional Hospital Board

Applications invited for appointment of
WHOLE-TIME REGISTRAR IN E.N.T. SURGERY
Duties mainly at Birmingham and Midland Ear and Throat Hospital (124 beds). Resident appointment. Experience in specialty essential. Higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of application, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before April 7. Candidates may visit hospital concerned. (9948)

CARLISLE, CUMBERLAND INFIRMARY (322 beds)
East Cumberland Hospital Management Committee

Applications are invited for the undermentioned resident post, vacant April 1, 1952, and tenable for six months:
"SPECIALS" SENIOR HOUSE OFFICER
(Ear, Nose and Throat and Ophthalmic)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (9689)

PERTH GENERAL HOSPITALS, BOARD OF MANAGEMENT FOR THE COUNTY AND CITY OF

Applications are invited for the post of
SENIOR HOUSE OFFICER
in the E.N.T. Department at Bridge of Earn Hospital, with duties in the E.N.T. Out-patient Department at Perth Royal Infirmary. The post is resident, and applicants must have been registered for not less than two years, of which twelve months must have been spent in House Officer appointments. Applications, giving details of previous experience, together with the names of three referees, should be submitted to the Medical Superintendent, Perth Royal Infirmary, Perth. (9844)

SHREWSBURY, EYE, EAR AND THROAT HOSPITAL (70 beds)
Shrewsbury Group 15 Hospital Management Committee

Applications are invited for the post of
SENIOR HOUSE OFFICER (E.N.T.)
Post recognized for the D.O.M.S. and D.L.O.R.C.S. and tenable for a period of one year. Vacant May 1, 1952. Applications, stating age, qualifications, nationality and experience, together with copies of recent testimonials, should be sent to the undersigned.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (9497)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of
SENIOR HOUSE OFFICER (E.N.T.)
Vacant now. Post recognized for F.R.C.S. and D.L.O. Applications, with copy testimonials, to be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent. (9411)

Ear, Nose, and Throat, etc.—contd.

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds) and SOUTHAMPTON GENERAL HOSPITAL (453 beds)
SENIOR HOUSE OFFICER (E.N.T.)
Applications are invited for this whole-time post, becoming vacant March 27. The post is recognized for the F.R.C.S. (Eng.) and D.L.O. examinations, providing experience in all branches of E.N.T. work, including audiometry. The Group includes a diagnostic and distributing hearing aid centre. Occasional work at other hospitals may be required. Applications, with copies of three recent testimonials, should be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8226)

NORTH MIDDLESEX HOSPITAL
Edmonton, N.18
RESIDENT HOUSE SURGEON (E.N.T. and Eyes)
Six months' appointment. Vacant May 1 or earlier. Application, stating age, qualifications, experience, nationality, with copies of recent testimonials, to Sec. of hospital by March 26. (9498)

ALTRINCHAM, CHESHIRE, ST. ANNE'S (EAR, NOSE AND THROAT) HOSPITAL (53 beds)
North and Mid-Cheshire Hospital Management Committee
RESIDENT MEDICAL OFFICER
(House Officer) (Male or female)
Required to commence duties on or about April 8, 1952. This is a busy hospital staffed by Manchester Consultants and a full-time Senior House Officer. Facilities for postgraduate study will be afforded, and there is also opportunity for much practical experience. Salary and conditions will be as laid down in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, qualifications, etc., should be forwarded to E. A. Biden, Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham. (9346)

ASHFORD HOSPITAL, Ashford, Middlesex
Staines Group Hospital Management Committee
RESIDENT HOUSE OFFICER (Male)
Special Departments (E.N.T., Ophthalmology, etc.)
Six months' appointment. Vacant April, 1952. National Health Service terms and conditions of service. Applications, stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Medical Director of hospital by March 29, 1952. (9499)

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON
for E.N.T. and Ophthalmic Department
Recognized for D.L.O. and D.O. First or second post, which carries additional remuneration at the rate of £50 per annum. Vacant now. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Secretary-Superintendent. (9726)

BRADFORD ROYAL EYE AND EAR HOSPITAL
HOUSE SURGEON (E.N.T.)
Vacant April 1. Hospital recognized for D.L.O. and F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9543)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
HOUSE SURGEON (E.N.T. and Ophthalmology)
The appointment, which is tenable May 1, 1952, for a period of six months, is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9: not later than April 5. (9727)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
HOUSE SURGEON
to the E.N.T. Department for a period of six months from April 1, 1952. The post is recognized for the D.L.O. and the F.R.C.S. Applications, stating age experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (9051)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)
Applications are invited for the post of
HOUSE SURGEON (E.N.T. Department)
Male or female. Vacant immediately. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (E.N.T. Department)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (9882)

GERIATRICS

PORTSMOUTH GROUP OF HOSPITALS
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
Whole-time ASSISTANT GERIATRIC PHYSICIAN (S.H.M.O. scale)
The successful candidate would be required to work under the general supervision of a Consultant, mainly at the Queen Alexandra Hospital (140 geriatric beds), together with additional duties as may be required at other hospitals in the Group. Residence in the Portsmouth area will be a condition of the appointment. Applications (five copies), stating date of birth, qualifications, experience and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than April 5, 1952. Applicants may visit the hospital by local arrangement. (9728)

YORK, GRANGE HOSPITAL
(Chronic sick hospital of 259 beds, with consultant staff)
JUNIOR HOSPITAL MEDICAL OFFICER
in Geriatrics
Salary £700 by £50 to £1,000. Residence available at doctors' hostel of modern general hospital in same grounds, for which £153 is charged. Person appointed may be non-resident. Post vacant now. Applications, giving age, nationality, experience, qualifications and names of two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (9888)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
SENIOR HOUSE OFFICER (Geriatrics)
at the above hospital. The appointment will be for a period of one year and the salary will be in accordance with the agreed terms and conditions of service of hospital medical and dental staffs, namely £670 per annum, with an appropriate deduction in respect of board, lodgings and other services provided. Applications, stating age, qualifications, experience, etc., to be forwarded to the undersigned not later than March 29, 1952.—J. Folkard, Secretary to Committee, Administrative Offices, St. James's Hospital, Leeds, 9. (9729)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
TWO HOUSE PHYSICIANS (Geriatrics)
The appointments, which are tenable May 1, 1952, for a period of six months, are subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5, 1952. (9730)

SUNDERLAND, GENERAL HOSPITAL
HOUSE PHYSICIAN
Required for Geriatric Department (264 beds). Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (9871)

INFECTIOUS DISEASES

EASTERN HOSPITAL (Fevers), E.9
HOUSE OFFICER (Third post)
Salary £450 per annum, less £100 per annum for residence. Duties include some work in chest unit. Applications, with testimonials, to the Group Secretary, Group Administrative Offices, Hackney Hospital, E.9. (9423)

BIRMINGHAM, LITTLE BROMWICH INFECTIOUS DISEASES HOSPITAL (750 beds)
Group 25 Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER
(Male or female)
Applications, stating experience, with two testimonials, to the Physician Superintendent, Little Bromwich Hospital, Birmingham, 9. (9465)

OBSTETRICS AND GYNAECOLOGY

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for the following appointment:
WHOLE-TIME ASSISTANT OBSTETRICIAN
within the Group of hospitals administered by the Board of Management for Glasgow Royal Infirmary and associated hospitals. Duties will be carried out primarily at the Eastern District Hospital and associated antenatal and post-natal clinics. The salary will be on the scale £1,300 by £50 to £1,750. Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than thirty days after the publication of this advertisement to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (9925)

BIRMINGHAM, UNITED, HOSPITALS
Queen Elizabeth Hospital
Applications are invited for the post of
REGISTRAR
to the Department of Obstetrics and Gynaecology
The post is tenable for one year in the first instance. Candidates must be registered medical practitioners, and have held appropriate resident hospital appointments. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Candidates should obtain a form of application and return it with two testimonials, not later than April 6, to the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (9596)

NEWCASTLE REGIONAL HOSPITAL BOARD
North-West Durham Hospital Management Committee Group
Main hospitals: Shotley Bridge (550 beds), Richard Murray, Blackhill (52 beds)
WHOLE-TIME REGISTRAR OBSTETRICIAN AND GYNAECOLOGIST
Required temporarily up to August 31, 1952, in the first instance. The appointment may be renewed for a further year. Salary £775 to £890. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be addressed to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (9783)

NOTTINGHAM HOSPITAL FOR WOMEN
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the non-resident post of
WHOLE-TIME SENIOR REGISTRAR
(Obstetrics and Gynaecology)
Candidates should preferably be members of the Royal College of Obstetricians and Gynaecologists. The work of the hospital is mainly gynaecological, but 27 beds are available for abnormal obstetric cases. The appointment is for one year in the first instance reviewable annually. It has been agreed in principle that the period of appointment of Senior Registrars shall be divided between Regional Board hospitals and those administered by the Board of Governors of the United Sheffield Hospitals. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to reach him not later than April 7, 1952. (9784)

EAST FIFE HOSPITALS BOARD OF MANAGEMENT
Craigtoun Maternity Hospital, St. Andrews
Netherlea Maternity Hospital, Newport
RESIDENT OBSTETRICAL OFFICER
Required for the above hospitals—Craigtoun, 40 beds; Netherlea, 17 beds. Accommodation will be provided at Craigtoun, and the applicant will be graded J.H.M.O. or S.H.O., according to experience. Applications, stating age, nationality, qualifications, and experience, together with copies of three testimonials, to be sent to the Medical Superintendent, East Fife Hospitals Board of Management, 243A, High Street, Kirkcaldy. (9804)

BRADFORD ST. LUKE'S MATERNITY HOSPITAL
SENIOR HOUSE SURGEON (Obstetrics)
Vacant April 1. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9548)

BROMSGROVE, ALL SAINTS' HOSPITAL (468 beds)
Mid-Worcestershire Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)
To work in new unit under supervision of Consultant. Post vacant end of April, 1952, and is for six months in the first instance. Salary £670, less residential emoluments. Applications, stating age, qualifications and experience and the names of three referees, to C. M. Smith, Secretary, Birmingham Road, Bromsgrove, Worcs. (9708)

CARLISLE, CUMBERLAND INFIRMARY (322 beds)
East Cumberland Hospital Management Committee
Applications are invited for the following resident post for the six months commencing April 1, 1952:
SENIOR HOUSE OFFICER
(Gynaecology and Obstetrics)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (9691)

Obstetrics and Gynaecology—contd.

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for post, vacant now, of
SENIOR HOUSE SURGEON (Gynaecology)
(Male or female)
for duties at the above hospital and Scarthoe Road, Infirmary, Grimsby. Apply to Administrative Officer, Grimsby General Hospital. (7020)

GRIMSBY MATERNITY HOSPITAL (45 beds)
Grimsby Hospitals Management Committee
RESIDENT SENIOR OBSTETRIC HOUSE OFFICER
Applications are invited for the above post. Immediate vacancy. Salary £670 per annum. Applications, with names of three referees, to the Secretary, Grimsby Hospitals Management Committee, 13, Queen's Parade, Grimsby. (9391)

ROSSENDALE GENERAL HOSPITAL
Rawtenstall
(Beds: 25 Obstetric, 8 Gynaecological)
Bury and Rossendale Hospital Management Committee
There is a vacancy for a
SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)
at the above hospital. Salary and conditions of service are in accordance with national recommendations. Applications, stating age, qualifications, experience, nationality, and other relevant details, together with the names and addresses of two referees, or copies of recent testimonials, should be sent to the undersigned as soon as possible.—H. Wilkinson, Sec. to Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9211)

WORKINGTON INFIRMARY
West Cumberland Hospital Management Committee
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Obstetrical and Gynaecological Department
preferably with previous experience. The obstetrical department is a modern one with 22 beds, and the gynaecological ward has 12 beds, both under the charge of a Consultant. Salary and terms and conditions of service in accordance with national agreement. Applications, giving full particulars of experience and qualifications, and the names of two referees, to be forwarded immediately to the undersigned.—R. M. Bompas, Secretary, Workington Infirmary, Workington, Cumberland. (9690)

BRITISH HOSPITAL FOR MOTHERS AND BABIES, Samuel Street, Woolwich, S.E.18
OBSTETRICAL HOUSE OFFICER
(Recognized for M.R.C.O.G.)
Vacant May 1. Salary £400 or £450 per annum, less £100 per annum for residence. Apply to Secretary, Memorial Hospital, Woolwich, S.E.18. (9889)

BLACKPOOL, VICTORIA HOSPITAL
RESIDENT HOUSE OFFICER
(Gynaecology and Obstetrics)
Post recognized for gynaecology for membership of R.C.O.G Vacant May, 1952. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (9785)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE SURGEON
to the Gynaecological Department
commencing May 18, 1952. Applications, giving full details, togetheer with copies of two recent testimonials should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings. (8174)

COVENTRY, GULSON HOSPITAL (311 beds)
HOUSE SURGEON
to Gynaecological and Obstetric Department
Required May 1. Hospital recognized for D.Obst.R.C.O.G. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (9826)

DARLINGTON DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Greenbank Maternity Hospital (53 beds)
Applications are invited for the post of
OBSTETRICAL HOUSE OFFICER
Post vacant April 10. The appointment will be in accordance with the terms and conditions for hospital medical staff. Applications, stating age, qualifications and experience, together with the names of two referees, should be addressed to the Secretary, Darlington Memorial Hospital. (9474)

DERBYSHIRE HOSPITAL FOR WOMEN, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Gynaecology)
vacant April. Post recognized for training for the Membership examination in Gynaecology of the R.C.O.G. Applications, stating age, qualifications, and experience, with copies of two testimonials, should be forwarded immediately to the Secretary, No. 1 Hospital Management Committee, Babington Lane, Derby. (9682)

DERBYSHIRE HOSPITAL FOR WOMEN AND QUEEN MARY MATERNITY HOME, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Obstetrics and Gynaecology)
vacant April. Duties include gynaecology at the Derbyshire Hospital for Women and the care of 21 beds at the Maternity Home. Previous obstetric experience is desirable. Applications, stating age, qualifications, and experience, with copies of two testimonials, should be forwarded immediately to the Secretary, No. 1 Hospital Management Committee, Babington Lane, Derby. (9683)

DERBYSHIRE ROYAL INFIRMARY, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Gynaecology)
Vacant April 19, 1952. Post recognized for the M.R.C.O.G. Applications, stating full particulars, with copies of two testimonials, should be sent immediately to Secretary, Derbyshire Royal Infirmary, Derby. (9731)

DEVONPORT, ALEXANDRA MATERNITY HOME
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON (Second or third post)
in the Department of Obstetrics and Gynaecology
vacant May 19, 1952. The appointment will be for a period of six months and terminable by one month's notice on either side. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, should be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9845)

DONCASTER HOSPITAL MANAGEMENT COMMITTEE
Hamilton Annexe, Western Hospital
Recognized under the Regulations for the D.Obst.R.C.O.G.
Applications are invited from registered medical practitioners for the appointment of
JUNIOR OBSTETRICAL HOUSE OFFICER
Duties to commence end of April. The appointment is for six months. Salary at the rate of £350, £400 or £450 per annum, according to previous posts held, from which a deduction at the rate of £100 per annum will be made for residential emoluments. Applications, stating age, nationality, qualifications and experience, and accompanied by copies of two testimonials, should be forwarded to the Secretary to the Committee, Doncaster Royal Infirmary. (9325)

EDINBURGH, ROYAL INFIRMARY OF
Applications are invited from registered medical practitioners for the post of
OBSTETRIC AND GYNAECOLOGICAL HOUSE SURGEON (Recognized for the M.R.C.O.G.)
Applications, with the names of three referees, should be sent to the Superintendent, Royal Infirmary, Edinburgh. The appointment is for one year in the wards of the Professor of Obstetrics and Gynaecology, and the successful candidate will be required to take up duty on June 1, 1952. Previous experience as a House Surgeon and House Physician is desirable. Applications should be made within three weeks. (9805)

GLASGOW, W.2, REDLANDS HOSPITAL FOR WOMEN, Lancaster Crescent
TWO RESIDENT HOUSE OFFICERS (female)
Required for the six months commencing August 1, 1952. Three months medicine/midwifery, and three months surgery/gynaecology. Applications, in writing, to the Group Medical Superintendent, Glasgow Maternity and Women's Hospital, Rottenrow, Glasgow, C.4. (9846)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE SURGEON
to the Gynaecological and Abnormal Maternity Department
Required to commence duties on April 1, 1952. Salary in accordance with terms and conditions of service for hospital medical and dental staff, with full residential emoluments. Applications, together with copies of three recent testimonials, to be addressed to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, the Royal Infirmary, Huddersfield. (9549)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
HOUSE SURGEON (Gynaecology)
Recognized by the Royal College of Obstetricians and Gynaecologists for membership. The appointment, which is tenable May 1, 1952, for a period of six months, is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5, 1952. (9732)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (General—207 beds)
Applications are invited from registered medical practitioners for the appointment of
OBSTETRIC AND GYNAECOLOGICAL HOUSE SURGEON
(House Officer Grade. Second or third post)
Post vacant April 1, 1952. Post recognized for D.R.C.O.G. Applications to be sent to Miss V. Wells, Hospital Secretary. (9010)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
HOUSE SURGEON (Obstetrics)
Recognized by the Royal College of Obstetricians and Gynaecologists for Diploma. The appointment, which is tenable May 1, 1952, for a period of six months, is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5, 1952. (9733)

LEEDS, 12, ST. MARY'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
TWO HOUSE SURGEONS (Obstetrics)
Recognized by the Royal College of Obstetricians and Gynaecologists for Diploma. The appointments, which are tenable May 1, 1952, for a period of six months, are subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5, 1952. (9735)

MACCLESFIELD HOSPITAL
(West Park Branch)
Macclesfield and District Hospital Management Committee
Applications are invited for the post of
RESIDENT OBSTETRIC-GYNAECOLOGICAL HOUSE OFFICER
to become vacant April 1, 1952. The post is recognized for the purpose of training for the D.R.C.O.G. There are 28 obstetric and 30 gynaecological beds in the unit. Applications, stating age, nationality, qualifications and experience, with copies of three recent testimonials, to be forwarded as soon as possible to the Secretary, Willerby House, Cumberland Street, Macclesfield. (9786)

MAIDENHEAD (near), CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow
HOUSE SURGEON
to the Unit of Obstetrics and Gynaecology
Post vacant May 5 and is recognized for M.R.C.O.G. Preference will be given to candidates who have had previous experience in midwifery and gynaecology. Salary on national scale. Applications, stating age, experience, and qualifications (with dates), together with copies of two testimonials, should be sent to the Administrative Officer. (9787)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General hospital, 426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Obstetrics)
Applications are invited from registered medical practitioners. Post vacant mid-April, 1952, and is recognized for training for membership and Diploma in Obstetrics examinations of the R.C.O.G. Salary £350 to £450 per annum, according to experience. A deduction of £100 per annum will be made for residential accommodation and services. The appointment will be for six months. Vacancies occur periodically in the various departments and House Officers are eligible for appointment to another speciality at the end of the original term of service when such vacancies exist. Application forms may be obtained from the Secretary, Park Hospital, Davyhulme. (9550)

NEWCASTLE GENERAL HOSPITAL
Newcastle-upon-Tyne Hospital Management Committee
Department of Obstetrics and Gynaecology
Applications are invited from registered medical practitioners for the post of
RESIDENT OBSTETRICAL HOUSE SURGEON
to the above department (70 beds). The duration of the appointment will be for six months. The salary is in accordance with the terms and conditions of the National Health Service, according to experience. The department is recognized by the Royal College of Obstetricians and Gynaecologists for the Diplomas of M.R.C.O.G. and D.Obst. R.C.O.G., and undertakes the training of medical students in the University of Durham. The post is vacant on May 1, 1952. Applications should be sent without delay, together with one copy of two recent testimonials, or the names and addresses of two referees, to Sec., Newcastle General Hospital, Westgate Rd., Newcastle-upon-Tyne, 4. (9551)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Obstetrics and Gynaecology—contd.

NORTH SHIELDS, PRESTON HOSPITAL
South-East Northumberland Hospital Management Committee
Applications are invited from male or female registered medical practitioners for the post of
HOUSE SURGEON (Obstetrics)
Applications, with two testimonials, should be sent to the Secretary, South-East Northumberland H.M.C., Preston Hospital, North Shields, as soon as possible. (9873)

NOTTINGHAM CITY HOSPITAL (833 beds)
OBSTETRIC HOUSE SURGEON
Post vacant May 1, 1952. Salary within scale of £350 to £450 per annum, less £100 per annum for residential emoluments. Recognized for M.R.C.O.G. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be sent to Administrative Officer, City Hospital, Hucknall Road, Nottingham. (9806)

NOTTINGHAM, FIRS MATERNITY HOSPITAL (40 beds)
OBSTETRIC HOUSE SURGEON
Post vacant April 16, 1952. The post is recognized for D.(Obst.)R.C.O.G. Applicants should have had previous experience in obstetrics. Salary within the scale £400 to £450 per annum, less £100 per annum for board and lodging. Applications, stating age, qualifications, experience and nationality, together with copies of not more than three testimonials, to be sent to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (9807)

PETERBOROUGH, MEMORIAL HOSPITAL and OBSTETRIC ANNEXES
Peterborough Area Hospital Management Committee
HOUSE OFFICER (Obstetrics and Gynaecology)
Applications are invited for this position. There are 56 obstetric beds, and the unit consists of a Consultant, Registrar and two House Officers. Vacant April 21, 1952. Applications to the Secretary, The Memorial Hospital, Peterborough. (9501)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Department of Obstetrics and Gynaecology
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointments of
HOUSE SURGEON (Second or third post)
vacant May 14, 1952
HOUSE SURGEON (Second or third post)
vacant May 1, 1952
Recognized for the Fellowship of the College of Obstetricians and Gynaecologists. Wide experience can be obtained in obstetrics, including antenatal and post-natal clinics. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, should be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9847)

ROCHFORD, ESSEX, GENERAL HOSPITAL (603 beds)
RESIDENT HOUSE SURGEON
(Obstetrics and Gynaecology)
Applications are invited for the above appointment which becomes vacant on April 30, 1952. The hospital has a maternity unit of 60 beds and a busy gynaecological ward of 25 beds, also a premature baby unit. The post is recognized for the M.R.C.O.G., in obstetrics. Applications, etc., should be sent to the undersigned not later than April 5, 1952.—J. C. Field, Secretary. (9848)

ST. LEONARD'S-ON-SEA, BUCHANAN HOSPITAL (94 beds)
Hastings Group Hospital Management Committee
RESIDENT HOUSE SURGEON (Gynaecology)
Post vacant April 1, 1952, is recognized for the M.R.C.O.G. National scales of salary. Applications to Administrator at the hospital. (9734)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Orsett Branch)
South-East Essex Hospital Management Committee
Applications are invited for the post of
OBSTETRIC HOUSE SURGEON
at the above hospital. Male or female. Resident. Six months' appointment in the first instance. Applications for the post, which becomes vacant on April 21, 1952, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (9692)

OPHTHALMOLOGY

SCOTLAND, NORTH-EASTERN REGIONAL HOSPITAL BOARD
Applications are invited for the post of
SENIOR REGISTRAR in Ophthalmology
on the staff of the Aberdeen General Hospitals
Candidates preferably should hold a higher qualification in ophthalmology. Salary is within the scale of £1,000 to £1,300 per annum. Terms and conditions are as laid down for hospital medical and dental staff (Scotland). Applications, together with the names of two referees, should be lodged by April 7, 1952, with the Secretary, 1, Albyn Place, Aberdeen from whom further particulars may be obtained. (9492)

NOTTINGHAM AND MIDLAND EYE INFIRMARY
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Ophthalmic)
Required to undertake work at the above infirmary. Salary and conditions of service in accordance with those published by the Ministry of Health. The post becomes vacant on April 1, 1952, and applications, stating age, qualifications, and experience, together with copies of testimonials, should be sent to the undersigned.—Henry M. Stanley, Secretary, General Hospital, Nottingham. (8671)

SHREWSBURY, EYE, EAR AND THROAT HOSPITAL (70 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from registered medical practitioners of either sex for the post of
SENIOR HOUSE OFFICER (Ophthalmic)
Vacant May 1, 1952. Applications, stating age, qualifications, nationality, together with copies of recent testimonials, should be sent to the undersigned.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (9502)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE OFFICER (Eye and E.N.T. Department)
Post recognized for D.L.O. and D.O.M.S. Vacant April, 1952. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (9788)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
OPHTHALMIC HOUSE SURGEON
for duties at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. (Recognized for D.O.M.S.) Vacant now. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer, Hull Royal Infirmary. (8596)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 general beds)
HOUSE SURGEON
for Ophthalmic and E.N.T. Departments
Tenure of post six months. Salary dependent on the number of posts previously held, and in accordance with the terms and conditions of service for hospital medical staff. Apply as soon as possible to the Hospital Secretary. (9684)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Ophthalmic)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9597)

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY
(Recognized for the full course of instruction for admission to the D.O.M.S.)
Wolverhampton Hospital Management Committee Group No. 16, Birmingham Region
HOUSE OFFICER
Vacant April 17. Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (9885)

ORTHOPAEDICS

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications invited for following whole-time appointments:
REGISTRAR IN ORTHOPAEDICS (R.S.O.)
Coventry Group; duties at Hospital of St. Cross, Rugby (168 beds, including 40 orthopaedic). Resident appointment. Experience in specialty essential; possession of higher qualification an advantage.
SENIOR REGISTRAR IN ORTHOPAEDICS
Birmingham (Selly Oak) Group: duties at Royal Orthopaedic Hospital, Birmingham (340 beds). Resident appointment. Candidates should have higher qualification, and wide experience in specialty.
Appointments subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before April 7. Candidates may visit the hospitals concerned. (9949)

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the whole-time post of
REGISTRAR (Orthopaedics)
to the above hospital (269 beds). The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than March 31. (9352)

NEWCASTLE REGIONAL HOSPITAL BOARD
Hexham Hospital Management Committee Group
WHOLE-TIME ORTHOPAEDIC REGISTRAR
Appointment up to August 31, 1953. Salary £775 to £890, according to experience. Approximately 130 orthopaedic beds in a general hospital of 350 beds. Accommodation will be aavilable for a single person. Applications, together with names and addresses of one to three referees and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (9991)

GALASHIELS, PEEL HOSPITAL
(General Hospital of 220 beds with full Consultant staff)
Applications are invited from registered medical practitioners for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
(Orthopaedic Department)
The post will become vacant on July 1, 1952. Salary £700 by £50 to £1,000. This is a busy general hospital dealing with a large number of emergency surgical cases from the Scottish borders. Accommodation is available for a single man, for which the recognized charge will be made. Applications, giving full particulars and the names of two referees, to be sent to the Group Medical Superintendent, Peel Hospital, Galashiels. An opportunity will be given to applicants to visit the hospital if so desired. (9926)

LEWISHAM HOSPITAL, London, S.E.13
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE OFFICER
to the Department of Orthopaedics and Trauma
Vacant now and tenable for one year at a salary of £670 per annum, less £150 for residential emoluments. The medical staff of the department comprises two Registrars in addition to this vacancy under the direction of two Consultants. There is a separate establishment of Casualty Officers. Applications, stating age, nationality, qualifications and experience, with names of three referees, should be addressed to the Secretary, Lewisham Group Hospital Management Committee, Lewisham Hospital, London, S.E.13. (9789)

BEVERLEY, YORKS, WESTWOOD HOSPITAL
SENIOR ORTHOPAEDIC HOUSE SURGEON
Post vacant now. Salary £670. Charge for board and lodging. Applications to Secretary. (9741)

BRADFORD ROYAL INFIRMARY
SENIOR ORTHOPAEDIC HOUSE SURGEON/ CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary (9552)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR ORTHOPAEDIC HOUSE SURGEON/ CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary.
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9553)

BRAINTREE, ESSEX, BLACK NOTLEY HOSPITAL
Applications are invited for the post of
SENIOR HOUSE OFFICER
in departments of orthopaedic surgery and surgical tuberculosis at above hospital. Salary in accordance with the terms of service issued by the Ministry of Health. Applications, with copies of three recent testimonials, to the Secretary, Colchester Group Hospital Management Committee, 14, Pope's Lane, Colchester. (9476)

BRISTOL (near), WINFORD ORTHOPAEDIC HOSPITAL (235 beds)
SENIOR HOUSE OFFICER
Applications are invited from registered medical practitioners to fill vacancy at end of April, 1952. Position tenable for twelve months. Salary £670 per annum. Apply, stating age, qualifications and experience, with copies of testimonials, to the undersigned as soon as possible.—E. N. Roper, Secretary-Administrator. (9554)

CARLISLE, CUMBERLAND INFIRMARY (322 beds)
East Cumberland Hospital Management Committee
Applications are invited for the undermentioned resident post, vacant April 1, 1952, and tenable for six months:
SENIOR HOUSE OFFICER
(Orthopaedic and Fracture)
Applications giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (9693)

Orthopaedics—contd.

DARLINGTON MEMORIAL HOSPITAL
ORTHOPAEDIC SENIOR HOUSE OFFICER
Applications are invited from male or female practitioners for the above appointment (resident or non-resident) to commence forthwith. Salary £670 per annum. Apply, with references, stating age and experience, to the undersigned.—G. W. Beckwith, Secretary. (9827)

GLOUCESTERSHIRE ROYAL HOSPITAL
(Great Western Road Unit) (350 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
SENIOR HOUSE OFFICER
Required for the Orthopaedic and Traumatic Surgery Unit (100 beds). Salary £670 per annum, less £125 per annum emoluments. Applications, naming two referees, to the Secretary, Gloucestershire Royal Hospital, Southgate St., Gloucester. (9737)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
for Orthopaedic, Fracture and Accident Service
vacant April 21, 1952. Previous surgical and orthopaedic experience would be an advantage. Applications should be sent immediately to the Administrative Officer, Grimsby General Hospital. (9709)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds—5 residents)
Applications are invited for the post of
RESIDENT SENIOR HOUSE SURGEON
to the Traumatic and Orthopaedic Department
Duties include charge of casualty department, under consultant staff, care of in-patient beds and supervision of other residents. The hospital is a peripheral centre of the Oxford Regional Orthopaedic Service based on the Wingfield-Morris Orthopaedic Hospital. Salary £670 per annum, with deduction for residence. Post recognized for F.R.C.S. Applications, with testimonials, to the Secretary, St. Mary's Cottage, High Wycombe. (9738)

KINGSTON HOSPITAL (500/600 beds)
Wolverton Avenue, Kingston-upon-Thames
Applications are invited from suitably qualified and experienced medical practitioners for post of
RESIDENT SENIOR HOUSE OFFICER
(Fracture and Casualty Department)
Vacant June 1, 1952. Applications, by letter, stating age, qualifications and experience, with copies of not more than three recent testimonials (or names of three referees), should reach the Physician Supt. of the hospital as soon as possible. (9739)

LEICESTER GENERAL HOSPITAL
Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
for Fracture and Orthopaedic Service
Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (9790)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
for Fracture and Orthopaedic Service
Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (9791)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
TWO SENIOR HOUSE OFFICERS
Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out-patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible. (6671)

NUNEATON, MANOR HOSPITAL (139 beds)
SENIOR HOUSE SURGEON
to Traumatic and Orthopaedic Department (40 beds)
The hospital treats all accident and orthopaedic cases for an area with a population of 100,000 and is well equipped with ancillary services. Applications to the Assistant Secretary. (9828)

SHEFFIELD, 6, KING EDWARD VII ORTHOPAEDIC HOSPITAL, Rivelin Valley Road
(140 beds)
Sheffield Regional Hospital Board
Sheffield No. 3 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER
at the above hospital. Candidates should have held a resident appointment in a hospital. Salary £670 per annum, subject to a deduction of £165 per annum for full residential emoluments. The appointment is normally for one year, subject to one month's notice either side. Applications, stating age, qualifications, experience, etc., to be forwarded to the Secretary, Sheffield No. 3 H.M.C., Lodge Moor Hospital, Sheffield, 10. (9477)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)
Applications are invited from registered medical practitioners for the posts of
RESIDENT SENIOR HOUSE SURGEONS
The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
ORTHOPAEDIC/ACCIDENT HOUSE SURGEON
(Senior House Officer)
Vacant May 1, 1952. The successful applicant will be allowed to attend for two days a month at the Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, for postgraduate study, with the Consultant. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 H.M.C., Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (9849)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
SENIOR HOUSE OFFICER (Orthopaedic)/ CASUALTY OFFICER
Required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8744)

STOKE-ON-TRENT, ORTHOPAEDIC HOSPITAL
Hartshill (78 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the undersigned at Head Office, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Sec. (9056)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(12 Residents)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
SENIOR HOUSE OFFICER
(Orthopaedic and Traumatic Surgery)
Salary is in accordance with the National Health Service scale. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton Hospital Management Committee, Musgrove Park Hospital, Taunton, Somerset. (6986)

WIGAN, ROYAL ALBERT EDWARD INFIRMARY
Wigan and Leigh Hospital Management Committee
SENIOR HOUSE SURGEON (Orthopaedics)
(Male or female)
Senior House Officer grade. Post recognized for the F.R.C.S. examinations. Applications, stating age, qualifications, etc., together with the names of two referees, should be received by the undersigned as early as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (9448)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
SENIOR HOUSE OFFICER
(Fracture and Orthopaedic Department)
HOUSE OFFICER
(Fracture and Orthopaedic Department)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (9883)

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON
Required for the Department of Children's Surgery and Orthopaedics, which is centred on this hospital for the area. There are 35 orthopaedic beds and 10 children's beds. First or second post, which carries additional remuneration at the rate of £50 per annum. Vacant now. Applications, stating age, nationality, qualifications and experience, with two testimonials to Secretary-Superintendent. (9740)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
HOUSE SURGEON (Orthopaedics)
The appointment, which is tenable May 1, 1952, for a period of six months, is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5, 1952. (9742)

BRADFORD ROYAL INFIRMARY
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary. (9555)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds)
(Base Hospital for the Newport and East Monmouthshire Group—10 residents)
Applications are invited for the post of
HOUSE OFFICER (Orthopaedics)
vacant April 1. The post is recognized for the Fellowship of the Royal College of Surgeons. The fracture and orthopaedic department is a self-contained unit of 36 beds, and affords a good opportunity for gaining experience in this speciality. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (8695)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE HOUSE SURGEON
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary, £350, £400 or £450 per annum, less £100 residential emoluments, according to experience. Appointment for six months in the first instance. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (9487)

PEMBURY HOSPITAL
Tunbridge Wells Group Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON to Orthopaedic Unit
Vacant April 1, 1952. Post, for six months in first instance, is recognized for F.R.C.S.(Eng.). Previous experience desirable. Work of unit includes treatment of long and short stay cases and traumatic surgery. Applications, stating, age, qualifications, experience, with three testimonials, to Surgeon Superintendent. (9178)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary (9598)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Administrative Officer. (9526)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)
Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6675)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(12 Residents)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON (Orthopaedic and Casualty)
Salary in accordance with the National Health Service scale. The post is recognized by the Royal College of Surgeons as qualifying appointment for the Final Fellowship examination. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton H.M.C., Musgrove Park Hospital, Taunton, Somerset. (7025)

PAEDIATRICS

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
REGISTRAR in Paediatrics
for duties at hospitals in the Bradford "A" and "B" Hospital Management Committee Groups. The appointment will be resident, for which the necessary deductions from salary will be made. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 29, 1952. (9394)

Paediatrics—contd.

WOLVERHAMPTON GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
SENIOR REGISTRAR IN PAEDIATRICS
Duties mainly at Royal Hospital, Wolverhampton (38 children's beds—recognized for D.C.H.), and at New Cross Hospital, Wolverhampton. Experience in general medicine and paediatrics essential. Higher qualifications an advantage. Appointment subject to N.H.S. (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before April 7, 1952. Candidates may visit group hospitals. (9950)

BOLTON DISTRICT GENERAL HOSPITAL
(521 beds, including 109 for obstetrics and 60, plus premature nursery, for paediatrics)
Bolton and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
for the Department of Paediatrics
Post vacant May 1 and tenable for twelve months. Previous experience in paediatrics essential and possession of the Diploma in Child Health would be an advantage, although the hospital is recognized for this examination. The duties will include the supervision of new-born and premature infants in addition to the care of sick children. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (9743)

NOTTINGHAM CHILDREN'S HOSPITAL
(134 beds)
RESIDENT SENIOR HOUSE OFFICER (Medical)
Applications are invited for the above post, which falls vacant on April 1, 1952. The appointment is tenable for one year in the first instance. Salary £670 per annum, less emoluments. Applications, with copies of two testimonials, should be sent to the Assistant Secretary, Nottingham Children's Hospital, Chestnut Grove, Nottingham. (9452)

BELGRAVE HOSPITAL FOR CHILDREN, S.W.9
King's College Hospital Group
Applications are invited for the appointment of
HOUSE OFFICER
commencing May 1. Appointment is for six months, the last two months as Casualty Officer. Salary and all conditions of service as for National Health Service. Applications, stating age, qualifications, and enclosing copies of two recent testimonials, should reach the undersigned by March 24, 1952.—Secretary, Belgrave Hospital for Children, 1, Clapham Road, London, S.W.9. (9428)

ST. JAMES' HOSPITAL
Ouseley Road, Balham, S.W.12
Wandsworth Hospital Group
HOUSE PHYSICIAN (Paediatrics)
Post vacant in April. Applications, stating age, qualifications, experience and names of three referees, to the Group Secretary, 14, Atkins Road, Balham, S.W.12, by April 1, 1952. (9928)

AYLESBURY, STOKE MANDEVILLE HOSPITAL
HOUSE PHYSICIAN
Required for Paediatric Department, including care of children in infectious diseases and plastic units, also out-patient clinics (at Royal Buckinghamshire Hospital). Recognized for D.C.H. First or second post. Vacant May 10. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Administrative Officer. (9744)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
TWO HOUSE OFFICERS (Surgical)
Required for six months, one to commence duty as soon as possible and one on May 1, 1952. The duties will be mainly general surgery, but the officer will have, in addition, the opportunity of undertaking a certain amount of special surgery. Forms of application may be obtained from the House Governor and should be returned within ten days of the appearance of this advertisement.—G. H. Phalp, Sec. to the Board of Governors. (9959)

BRADFORD CHILDREN'S HOSPITAL
(102 beds)
HOUSE OFFICER (Female)
Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Hospital recognized for D.C.H. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9557)

DERBYSHIRE HOSPITAL FOR SICK CHILDREN, Derby (84 beds)
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
vacant April. Post recognized for D.C.H. Applications, stating age, qualifications, and experience, with copies of two testimonials, should be forwarded immediately to the Secretary, No. 1 Hospital Management Committee, Babington Lane, Derby. (9685)

BOLTON DISTRICT GENERAL HOSPITAL
(521 beds)
Bolton and District Hospital Management Committee
RESIDENT HOUSE PHYSICIAN
(Second or third appointment)
Required for the Department of Paediatrics. Post vacant May 1 and tenable for six months. The hospital is recognized for the D.C.H. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (9745)

HULL, VICTORIA HOSPITAL FOR SICK CHILDREN, Park Street (143 beds)
Hull (A Group) Hospital Management Committee
Applications are invited for the following posts:
HOUSE SURGEON (Now vacant)
HOUSE PHYSICIAN (Vacant April 22, 1952)
Posts are for a term of six months and count towards qualification D.C.H. Salary in accordance with terms of service issued by the Ministry of Health. Applications, together with testimonials, to be sent to the Administrative Officer at the above address. (9089)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
HOUSE PHYSICIAN (Paediatrics)
The appointment, which is tenable May 1, 1952, for a period of six months, is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5, 1952. (9746)

MANCHESTER, 19, DUCHESS OF YORK HOSPITAL FOR BABIES
Manchester Babies' and Children's Hospital Management Committee
HOUSE PHYSICIAN (Male or female)
Required for six months from April 28, 1952. Salary in accordance with national scales. Applications, with copies of three testimonials, to be sent to the Administrative Officer of the hospital before March 31, 1952. (9960)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Paediatrics)
Applications are invited from registered medical practitioners for this post, which will become vacant mid-April, 1952. Salary £350 to £450 per annum, according to experience. £100 per annum will be deducted for residential accommodation and services. Six months' appointment. Vacancies occur periodically in the various departments and House Officers are eligible for appointment to another specialty at the end of the original term of service when such vacancies exist. Application forms may be obtained from the Secretary, Park Hospital, Davyhulme. (9927)

MANCHESTER, SAINT MARY'S HOSPITALS
United Manchester Hospitals
Applications are invited from registered medical practitioners, male or female, for the post of
HOUSE PHYSICIAN
in the Neonatal Unit of Saint Mary's Hospitals (attached to the University Department of Child Health), for a period of six months, commencing April 17, 1952. Previous paediatric experience essential. Duties include the care of the newborn in the maternity department, the care of infants in the infants' ward, and work in the clinics under the charge of the Department of Child Health. Salary in accordance with national scales. Application forms may be obtained from the undersigned and returned duly completed before April 7, 1952.—A. R. Wise, General Supt., Saint Mary's Hospitals, Whitworth Park, Manchester, 13. (9961)

NEWCASTLE GENERAL HOSPITAL
Newcastle-upon-Tyne Hospital Management Committee
HOUSE PHYSICIAN
to the Paediatric Department
Applications are invited from registered medical practitioners male and female, for the above-named resident post, tenable for six months from May 1, 1952. The department is actively associated with and shares staff with the department of child health of Durham University, and the post offers exceptional opportunities for gaining experience in many aspects of paediatrics. Salary is in accordance with the terms and conditions of the National Health Service. Applications, together with one copy of two testimonials, should be sent to the Secretary, Newcastle General Hospital, Westgate Road, Newcastle-upon-Tyne, 4. (9558)

NOTTINGHAM CHILDREN'S HOSPITAL
(134 beds)
RESIDENT HOUSE SURGEON
Applications are invited for the above post, which is immediately vacant. The post is tenable for six months in the first instance. Salary £350 to £450 per annum, less emoluments. Applications, with copies of two testimonials, should be sent to the Assistant Secretary, Nottingham Children's Hospital, Chestnut Grove, Nottingham. (9829)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
PAEDIATRICS HOUSE OFFICER
vacant on April 1, 1952. Post recognized for the D.C.H. The person appointed will be required to reside, in conjunction with another Paediatrics House Officer, alternately for three months at the Northampton General and at the Harborough Road Hospitals, Northampton, and whilst at the latter hospital, to be responsible to the Consultants for the supervision of all the beds, allocated as follows: Sub-acute paediatric 16, dermatological 6, general medical 22, infectious diseases 41 (mostly children but including polio). National Health Service salary scale and conditions of service for House Officers. Six months' appointment. Applications, giving particulars, and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Secretary to the Management Committee. (9355)

SALISBURY GENERAL HOSPITAL
Children's Department
Salisbury Group Hospital Management Committee
Applications are invited for the post of
PAEDIATRIC HOUSE OFFICER
to the above department, situated at Odstock Hospital and containing 55 medical and surgical beds. Post recognized for D.C.H. Applications, with relevant testimonials, should be submitted to Group Sec., Odstock Hosp., Salisbury, by March 25. (9559)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
PAEDIATRIC HOUSE PHYSICIAN
Resident, at the Middlesbrough General Hospital, Middlesbrough, where there is a unit of 60 beds for acute cases. There are also duties at the Children's Hospital, Stockton, containing 45 beds including a babies unit. Applications, stating age, qualifications, and accompanied by copies of three testimonials, to be sent to the Secretary-Superintendent, General Hospital, Ayresome Green Lane, Middlesbrough. (9490)

WARWICK HOSPITAL
South Warwickshire Hospital Group (No. 14)
Applications are invited from registered medical practitioners, male or female, for the resident appointment of
PAEDIATRIC HOUSE PHYSICIAN
vacant about April 18. 30-bedded paediatric unit. The hospital is recognized for D.C.H. Salary £350 to £450, depending upon experience, less £100 per annum for residential emoluments. Applications, with two recent testimonials, should be sent to the Medical Superintendent, Warwick Hospital, Lakin Road, Warwick. (8978)

WIRRAL, CHESHIRE, LEASOWE CHILDREN'S HOSPITAL (211 beds)
Applications are invited from duly qualified medical practitioners for the post of
HOUSE OFFICER
at the above hospital specializing in the treatment of long-term orthopaedic, non-pulmonary tuberculous and general paediatric conditions. This appointment, which is vacant May 1, 1952, gives ample scope to a practitioner reading for a higher qualification. Salary in accordance with National Health Service Regulations, i.e., £350, £400 or £450, according to experience. Applications, giving full details of age, qualifications and experience, together with the names and addresses of three referees, to Physician Superintendent, Leasowe Children's Hospital, Leasowe, Moreton, Wirral, Cheshire. (9809)

PATHOLOGY

NORTH GLOUCESTERSHIRE CLINICAL AREA
South-Western Regional Hospital Board
Applications are invited from registered medical practitioners for the appointment of
ASSISTANT CLINICAL PATHOLOGIST
in the North Gloucestershire Clinical Area to work mainly at Cheltenham General Hospital. The appointment will be on a whole-time basis on the Senior Hospital Medical Officer scale. Preference will be given to candidates with a special knowledge and experience of biochemistry and haematology. The successful candidate will be required to work under the general direction of the Consultant Pathologists in the area, and to visit other hospitals in the clinical area as may be required by the Regional Board from time to time. Twelve copies of application, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than April 10. (9890)

SHEFFIELD, UNITED, HOSPITALS
Applications are invited for the non-resident post of
REGISTRAR or SENIOR HOUSE OFFICER
in Clinical Pathology
Grade according to experience and qualifications. Duties in the first place at the Children's Hospital. Applications, stating age, qualifications and experience, with the names of three referees, should be sent not later than April 5, 1952, to Chief Administrative Officer, The United Sheffield Hospitals, West Street, Sheffield, 1. (9892)

Pathology—contd.

COVENTRY GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
WHOLE-TIME REGISTRAR IN PATHOLOGY
Duties at Group Laboratory at Coventry and Warwickshire Hospital. Applicants must have some experience in pathology, and an interest in haematology is desirable. Appointment subject to N.H.S. (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before April 7, 1952. Candidates may visit the hospital. (9951)

DUNDEE, MARYFIELD HOSPITAL
Eastern Regional Hospital Board (Scotland)
Applications are invited for the post of
SENIOR REGISTRAR in Pathology
This is a teaching hospital of over 400 beds and provides a pathological service for general and special hospitals in Dundee and Angus. Applicants should have had training in all branches of pathology and should have special experience in morbid anatomy and histology. Salary and conditions of service in accordance with national agreement. Further particulars and forms of application from the Secretary to the Board, Braeknowe, 430, Blackness Road, Dundee, with whom applications must be lodged not later than April 5, 1952. (9891)

ROMFORD GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from registered medical practitioners for the non-resident post of
SENIOR PATHOLOGICAL REGISTRAR
on a temporary basis for duties at the Rush Green and Victoria Hospitals, Romford. The appointment is for six months in the first instance. The laboratory at the Rush Green Hospital (247 beds for general and infectious diseases cases) is of a moderate size and well equipped for biochemistry, bacteriology and pathology, with small animal house attached. The staff consists of a part-time Consultant Pathologist and four Technicians. Applications with the names of two referees, should be sent to the Group Secretary at Oldchurch Hospital, Romford, or by personal call to the Medical Superintendent at Rush Green Hospital. (Telephone: Romford 7711). (9792)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the non-resident whole-time post of
REGISTRAR (Pathology)
to the laboratory, City General Hospital, Sheffield, with duties at other hospitals in the area. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 7. (9747)

SHEFFIELD, UNITED, HOSPITALS
Applications are invited for the non-resident post of
REGISTRAR or SENIOR HOUSE OFFICER in Clinical Pathology
Grade according to experience and qualifications. Duties in the first place at the Royal Infirmary. Applications, stating age, qualifications and experience, with the names of three referees, should be sent not later than April 5, 1952, to Chief Administrative Officer, The United Sheffield Hospitals, West Street, Sheffield, 1. (9893)

WESTMINSTER HOSPITAL
St. John's Gardens, S.W.1
Applications are invited for the post of
NON-RESIDENT SENIOR HOUSE OFFICER to the Department of Clinical Pathology
The appointment is for one year. The successful candidate will be required to take up his duties as soon as possible. The salary will be at the rate of £670 per annum. National Health Service terms and conditions of service will apply. Applications (three copies), with the names of two referees, should be sent to me by March 31, 1952.—Charles M. Power, House Governor and Sec. (9929)

BIRMINGHAM, 16, CHILDREN'S HOSPITAL
Ladywood Road
United Birmingham Hospitals
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE OFFICER (Clinical Pathology)
vacant on June 1, 1952. Applicants should have held resident appointments in a children's hospital, or a children's department of a general hospital, and preference will be given to those wishing to concentrate on pathology and to those with a higher qualification. The successful applicant will be required to work in the Clinical Pathological Department. Forms of application may be obtained from the undersigned, and should be returned not later than April 5, 1952.—N. R. Winwood, House Governor. (9830)

BIRMINGHAM, QUEEN ELIZABETH HOSPITAL
United Birmingham Hospitals
Applications are invited for the post of
RESIDENT CLINICAL PATHOLOGIST (Senior House Officer)
in the Department of Bacteriology and Clinical Pathology as from June 1, 1952. This officer will act as one of three blood bank officers in addition to routine work in the department. Previous experience in clinical pathology is not essential, but applicants should have had hospital postgraduate experience The appointment is for twelve months and the salary at the rate of £670 per annum, from which £110 will be deducted for board and lodgings. Further particulars can be obtained from the Director of the Clinical Pathological Services. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him not later than April 19, 1952. (9504)

LANCASTER, ROYAL INFIRMARY (230 beds)
RESIDENT SENIOR HOUSE OFFICER (Pathology)
The pos. is vacant May 1, 1952, and normally tenable for one year. The successful applicant will work in the Group laboratory. Applications, stating age, qualifications and experience, along with names of two referees, to Secretary. (9601)

PRESTON ROYAL INFIRMARY
Group Pathological Laboratory
SENIOR HOUSE OFFICER (Pathological)
Previous experience in Pathology desirable but not essential. Applications, stating experience and qualifications, to be forwarded to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary. (9602)

EDGWARE GENERAL (formerly Redhill County) HOSPITAL, Edgware, Middx
RESIDENT HOUSE PATHOLOGIST
Post vacant May 14, 1952. Salary £350 to £450 per annum according to experience. Deduction of £100 per annum for board, lodging, etc. Six months' appointment. Applications, stating age, qualifications, experience, and enclosing copies of up to three recent testimonials, to Medical Director of Hospital by March 29, 1952. (9430)

PHYSICAL MEDICINE

MANOR HOUSE HOSPITAL, N.W.11
Applications are invited for a
RESIDENT FULL-TIME PHYSICIAN
for their Rehabilitation Centre, Clapham Park, Bedford. Candidates should hold a Diploma in Physical Medicine and have had experience of rehabilitation. Commencing salary £1,300 a year, rising by increments of £50 to £1,750 a year, less charge for residential emoluments to be fixed by agreement. The hospital is exempt from the National Health Service. Applications, with copies of three testimonials, to be forwarded to the Secretary, Manor House Hospital, Golders Green, N.W.11. (9930)

PLASTIC SURGERY

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
HOUSE SURGEON (Plastic Surgery)
The appointment, which is tenable May 1, 1952, for a period of six months, is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5, 1952. (9748)

OXFORD, UNITED, HOSPITALS
Applications are invited for the post of
HOUSE SURGEON to the Department of Plastic Surgery at the Churchill Hospital
for six months from April 1. Applications, stating age, qualifications and experience, together with the names of two referees, should be sent to the Administrator, The Radcliffe Infirmary, Oxford, as soon as possible. (9821)

PSYCHIATRY

NATIONAL HOSPITALS FOR NERVOUS DISEASES
The Board of Governors invites applications for the appointment of
ASSISTANT in the Department of Psychological Medicine
at the National Hospital, Queen Square. The post carries consultant status and the duties required are those of conducting a psychotherapeutic clinic for out-patients and in-patients on two half-day sessions weekly. Applications (35 copies), giving the names of three referees, must be submitted to the undersigned not later than March 28, 1952.—H. Ewart Mitchell, Secretary, The National Hospitals for Nervous Diseases, Queen Square, W.C.1. (9472)

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications invited for whole-time appointment of
CONSULTANT PSYCHIATRIST
Birmingham (Mental C) Group; duties at Highcroft Hall Hospital, Birmingham (1,227 beds). Non-resident appointment. Candidates should possess D.P.M. Wide experience in specialty essential. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Edgbaston, Birmingham, 15, before April 7, 1952. Candidates may visit the hospital by appointment. (9962)

EPSOM, SURREY, HORTON HOSPITAL
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
CONSULTANT PSYCHIATRIST (Whole-time)
This is a large mental hospital of 1,800 beds, of which 950 are at present occupied, and which provides all modern methods of psychiatric treatment, including a special unit for the treatment of neurosyphilis—the Mott Clinic, with which is associated the Malaria Reference Laboratory of the Medical Research Council. Out-patient clinics are operated at certain London hospitals. Candidates should possess the D.P.M., and preferably a higher medical qualification, and have wide experience of psychiatry in all its branches. Residential accommodation is available at present for single persons only. Applications (five copies), stating date of birth, qualifications, experience, and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than April 19, 1952. Applicants may visit the hospital by local arrangement. (9988)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for the part-time (nine sessions) post of
CONSULTANT PSYCHIATRIST
to Blackburn and Burnley General Hospitals and Whittingham Mental Hospital (3,000 beds) near Preston. Out-patient clinics at Blackburn and Burnley and in-patient treatment at Blackburn, Burnley and Whittingham. Candidates must be of high professional standing and possess higher degrees or diplomas. Successful candidate required to live near Blackburn or Burnley. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than April 8, 1952. (9453)

PORTSMOUTH, ST. JAMES' HOSPITAL
South-West Metropolitan Regional Hospital Board
Applications are invited for the appointment of
CONSULTANT PSYCHIATRIST (Whole-time)
in charge of the Department of Child Psychiatry. This Department has been in existence since 1935, and offers scope for both treatment and research. The successful candidate will have the assistance of a whole-time Psychologist, a trained psychiatric social service, play therapist, secretarial and nursing staff, and the full ancillary services of the hospital, including an E.E.G. Department. In addition to providing an active Child Guidance Clinic run in close conjunction with the Local Education Authority and the Juvenile Courts, 40 in-patient beds are available. Candidates should possess the D.P.M. and a higher medical qualification, must have had wide experience in child psychiatry, and should preferably be of teaching status. Applications (five copies), stating date of birth, qualifications, experience, and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than April 15, 1952. Applicants may visit the hospital by local arrangement. (9989)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
ASSISTANT PSYCHOTHERAPIST
Required to commence as soon as possible. Part-time post of S.H.M.O. status. Salary on scale £1,300 to £1,750 per annum. Applicants must have wide experience in the specialty, and possess a Diploma in Psychological Medicine. The successful applicant will be required to serve two sessions per week for out-patient work. Applications to be made on forms obtainable from the undersigned, and to be returned not later than April 9, 1952.—F. J. Cable, Secretary to the Board of Governors. (9963)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Psychiatry—contd.

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for whole-time post of
RESIDENT ASSISTANT PSYCHIATRIST
at Lancaster Moor Hospital (2,500 beds). Large flat suitable for man with family available in hospital grounds. Salary £1,300 by £50 to £1,750 per annum. Candidates should have had considerable experience in psychiatry and possess the D.P.M. Forms of application can be obtained from the Senior Administrative Medical Officer to the Board at Cheetwood Road, Manchester, 8, and should be returned to be received not later than April 14, 1952. (9894)

RADCLIFFE-ON-TRENT, NOTTS, SAXONDALE HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners preferably holding a higher qualification in psychiatry for the whole-time post of
ASSISTANT PSYCHIATRIST
A house on the hospital estate is available for the successful candidate. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms should be returned to the Secretary not later than April 12, 1952. (9395)

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners, preferably holding a higher qualification in psychiatry, for the whole-time post of
ASSISTANT PSYCHIATRIST
who will be attached to the Middlewood Hospital, Sheffield (1,788 beds). A house is available for the successful candidate. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, and returned to the Secretary not later than April 12, 1952. (9396)

NATIONAL HOSPITALS FOR NERVOUS DISEASES
Applications are invited for the appointment of
WHOLE-TIME PSYCHOLOGIST
at the National Hospital, Queen Square, W.C.1
A medical qualification would be an advantage. Experience in psychometric methods and research interests will be recommendations. If the successful applicant is medically qualified the post will carry the grade of Registrar. The appointment will be for one year in the first instance. Applications, giving the names of two referees, should be sent to the undersigned not later than March 26, 1952.—H. Ewart Mitchell, Secretary, The National Hospitals for Nervous Diseases, Queen Square, W.C.1. (9454)

EPSOM, SURREY, ST. EBBA'S HOSPITAL
South-West Metropolitan Regional Hospital Board
St. Ebba's and Belmont Group Hospital Management Committee
Applications are invited for the appointment of
REGISTRAR
The hospital is principally concerned with the treatment of voluntary cases of good prognosis, has a high turnover of cases, uses all modern treatment methods and has teaching linkages with two London training hospitals. For residents a charge of £3 3s. a week is made for full residential amenities. Candidates may visit the hospital by appointment. Application forms may be obtained by sending a stamped addressed envelope to the Group Secretary, Group Office, Belmont Hospital, Brighton Road, Sutton, Surrey, and completed forms (five copies) should be returned to him within two weeks of the appearance of this advert. (9694)

EPSOM, SURREY, WEST PARK HOSPITAL
(for all stages of nervous and mental disorders)
South-West Metropolitan Regional Hospital Board
West Park Hospital Management Committee
Applications are invited for three appointments of
REGISTRAR in Psychiatry
Candidates may be of either sex. Single residential quarters are available. Applications (five copies) should be made on forms to be obtained from the Secretary to the Hospital Management Committee at the hospital, to whom they should be returned within fourteen days of the appearance of this advertisement. (9749)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the post of
REGISTRAR in Psychiatry
for duties at the Oulton Hall Hospital, near Wakefield, and affiliated Mental Deficiency Colonies. The post is non-resident. It is anticipated that the successful candidate will have the opportunity for training in child psychiatry in association with the department of psychiatry of the University of Leeds, which he will attend on two sessions per week. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate not later than March 29, 1952. (9398)

LEEDS, ST. JAMES'S HOSPITAL
Leeds Regional Hospital Board
Applications are invited for the appointment of
REGISTRAR in Psychiatry
The post will be resident for which the appropriate charges will be made. The psychiatric unit of this general hospital deals with emergency admissions from the City of Leeds and has accommodation for investigation and treatment of patients suffering from neurosis. There is also a large out-patient department. Facilities will be available for study for the D.P.M. in association with the department of psychiatry at Leeds University. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 29, 1952. (9397)

LEICESTER (near), CARLTON HAYES HOSPITAL, Narborough
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the whole-time post of
REGISTRAR (Psychiatry)
to the above hospital, which is a recognized training hospital for the D.P.M. A house is available. The appointment is for one year in the first instance and may be renewed for a further year, and will become vacant on April 21, 1952. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 7. (9750)

MANCHESTER REGIONAL HOSPITAL BOARD
Applications are invited for two resident posts of
REGISTRAR IN PSYCHIATRY
Calderstones (Mental Deficiency) Hospital, near Blackburn. Accommodation available for married or single person.
Lancaster Moor Hospital, Lancaster. Small furnished flat available.
Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by March 31, 1952. (9895)

NORTHAMPTON, ST. ANDREW'S HOSPITAL
Applications are invited for the appointment of
SENIOR REGISTRAR
Previous experience in psychiatry and possession of the D.P.M. are essential. The successful candidate will work in the hospital and at Out-Patient Clinics. Salary £850 to £1,150 per annum, together with full residential emoluments. Married quarters are available if desired. Applications to be addressed to the Medical Superintendent. (9831)

SOUTH-WEST METROPOLITAN REGION
Horton Hospital Management Committee
Applications are invited for the post of
PSYCHIATRIC REGISTRAR
Previous psychiatric experience necessary. Single resident accommodation available. The hospital deals with all types of psychiatric illness and experience may be gained in all modern physical, occupational and psychotherapeutic methods. There is a special unit (Mott Clinic) for the treatment of neurosyphilis. Facilities are afforded for attending courses of instruction in London for the D.P.M. Application forms are obtainable from the Secretary, Horton Hospital, Epsom, Surrey, to whom they should be returned, duly completed, not later than April 5, 1952. (9850)

SUTTON, BELMONT HOSPITAL
South-West Metropolitan Regional Hospital Board
St. Ebba's and Belmont Group Hospital Management Committee
Applications are invited for the appointment of
REGISTRAR
which is principally concerned with the treatment of neuroses and the early psychoses. There are ample opportunities for research and the hospital, which is recognized for the D.P.M., takes an active part in teaching in association with teaching hospitals. Candidates may visit the hospital by appointment. Application forms may be obtained by sending a stamped addressed envelope to the Group Secretary, Group Office, Belmont Hospital, Brighton Road, Sutton, Surrey, and completed forms (five copies) should be returned to him within two weeks of the appearance of this advertisement. (9695)

WILLERBY, HULL, DE LA POLE HOSPITAL
Leeds Regional Hospital Board
Applications are invited for the appointment of
SENIOR REGISTRAR in Psychiatry
The appointment will be resident for which the necessary deductions from salary will be made. Candidates must hold the D.P.M. or equivalent qualification. It is anticipated that the successful candidate will undertake two clinical sessions in association with the department of psychiatry of the University of Leeds. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Joint Registrars Committee, Park Parade, Harrogate, not later than March 29, 1952. (9399)

WOODFORD GREEN, ESSEX, CLAYBURY HOSPITAL (for Nervous and Mental Disorders)
Woodford Bridge
Applications are invited for the temporary post of
SENIOR REGISTRAR (Psychiatry)
at this hospital of 2,224 beds and an admission rate of about 900 a year. The appointment is for not less than six months until the allocation of Registrars is made. All forms of treatment are undertaken and out-patients clinics at general hospital are run by the hospital staff. Possession of the D.P.M. is essential. Board and residence for an unmarried applicant, for which a charge of £175 will be made, is available. Salary £1,000 per annum. Applications, with full particulars and the names and addresses of not less than two referees, to be sent to the Physician Superintendent at the hospital within fourteen days after the appearance of this advertisement. (9931)

BURY, FAIRFIELD GENERAL HOSPITAL
(Comprising 175 Mental, 203 Chronic and 133 Obstetric and Gynaecological beds)
Bury and Rossendale Hospital Management Committee
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
at the above hospital. This post is mainly for the mental and chronic sick beds, and the successful applicant will be required to work in the main under the direction of the Consultant Psychiatrist. Salary will be at the rate of £700 per annum, rising by annual increments to £1,000 per annum. Conditions of service in accordance with national recommendations. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (8434)

FAREHAM, HANTS, KNOWLE HOSPITAL
Applications are invited for two posts of
JUNIOR HOSPITAL MEDICAL OFFICER
at the above Mental Hospital, at which all forms of modern psychiatric treatment are undertaken. Single residential accommodation is available, but officers who so desire may live outside the hospital. Applications must be sent immediately to the Physician Superintendent.—M. Walsh, Secretary, Knowle H.M.C. (9696)

PORTSMOUTH, ST. JAMES HOSPITAL FOR MENTAL AND NERVOUS DISEASES
South-West Metropolitan Regional Hospital Board
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
The hospital is the centre for the mental health service of the locality and is fully comprehensive. The post offers excellent experience in the diagnosis and treatment of the psychoses, the psychoneuroses and the maladjusted child, and in the problems of mental deficiency and delinquency. Accommodation for an unmarried officer is available in the hospital. Applications, accompanied by copies of three recent testimonials, should be sent to Thomas Beaton, Esq., C.B.E., M.D., F.R.C.P., Physician Superintendent, St. James Hospital, Milton, Portsmouth. (9851)

STAFFORD, ST. GEORGE'S HOSPITAL
Mid-Staffs (Mental) Hospital Management Committee
Applications are invited for the following resident appointments at the above mental hospital (1,200 beds, with separate unit for private patients):
JUNIOR HOSPITAL MEDICAL OFFICERS
SENIOR HOUSE OFFICERS
Mental hospital experience not essential. Excellent opportunities for studying, and experience of modern methods of psychiatric treatment, including Out-patient Clinics. Applications, stating age, qualifications, and details of appointments, with copies of three testimonials, to be sent to the Medical Superintendent as soon as possible. (9562)

BEVERLEY, YORKS, BROADGATE HOSPITAL
(600 mental beds)
RESIDENT SENIOR HOUSE PHYSICIAN
Salary £670 per annum
RESIDENT HOUSE PHYSICIAN
Salary £350 to £450, according to previous posts held
Applications to the Secretary, Westwood Hospital, Beverley, Yorks. (9751)

EPSOM, SURREY, HORTON HOSPITAL
There is a vacancy for a
SENIOR HOUSE OFFICER
Salary £670 per annum. Applicants must have held a house appointment in a general hospital. Single resident accommodation is available. The hospital deals with all types of psychiatric illness. There is a special unit (the Mott Clinic) for the treatment of neurosyphilis. Facilities are afforded for attending courses of instruction in London for the D.P.M. Applications, with the names and addresses of two referees, should be sent to the Physician Superintendent not later than ten days after the appearance of this advertisement. (9852)

Psychiatry—contd.

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
HOUSE PHYSICIAN (Psychiatry)
The appointment, which is tenable May 1, 1952, for a period of six months, is subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5, 1952. (9752)

RADIOLOGY

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications invited for whole-time appointment of
MEDICAL DIRECTOR, Wolverhampton Mass Radiography Unit, and ASSISTANT CHEST PHYSICIAN to Area and Chest Clinics
Duties mainly with the Mass Radiography Unit, with three clinical sessions weekly at chest clinics. Experience in tuberculosis and diseases of the chest essential. Salary scale £1,300 to £1,750 per annum. Appointment subject to National Health Service (Superannuation) Regulations. Fifteen copies of application, stating name, age, nationality, qualifications, present and previous appointments, and names of three referees, before April 7 to Secretary, 10, Augustus Road, Birmingham, 15, from whom further details may be obtained. (9944)

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications invited for following whole-time appointments:
SENIOR REGISTRAR IN RADIO-DIAGNOSIS
Birmingham (Dudley Road) Group; duties at Dudley Road Hospital (906 beds) and other hospitals connected with Radiological Department. Candidates should possess higher qualification, and have had wide experience in the specialty.
REGISTRAR IN RADIOLOGY
Coventry Group; duties at Coventry and Warwickshire Hospital (346 beds), which is recognized for training of radiographers. Experience in specialty essential. Higher qualification an advantage.
Appointments subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before April 7. Candidates may visit hospitals concerned. (9952)

BIRMINGHAM, UNITED, HOSPITALS
Applications are invited for the post of
NON-RESIDENT REGISTRAR in Radiodiagnosis (Registrar Grade)
for duties within the Teaching Group. Possession of the D.M.R. would be an advantage. Post vacant and tenable for one year in the first instance. Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned to him not later than April 5, 1952. (9608)

RADIOTHERAPY

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of a
REGISTRAR in Radiotherapy
to serve the Glantawe Hospital Management Committee. He will be based on Swansea Hospital but will be expected to visit other hospitals in the area. The post is non-resident and will be subject to review at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh R.H.B., Cathays Park, Cardiff. (9810)

RHEUMATOLOGY

MAIDENHEAD (near), CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow
North-West Metropolitan Regional Hospital Board
REGISTRAR
Required for one year in first instance, special unit for research in juvenile rheumatism. Vacant March 31, 1952. Hospital may be visited by direct appointment. Application forms obtainable from, and returnable to, Secretary, Windsor Group Hospital Management Committee, Kipling Memorial Building, Alma Road, Windsor, by March 31. (9753)

MAIDENHEAD (near), CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow
HOUSE PHYSICIAN
to the Special Unit for Research in Juvenile Rheumatism
The post offers scope for those interested in research, paediatrics, rheumatology or cardiology, and previous experience in one of these is desirable. Salary on national scale. Applications, stating age, qualifications (with dates) and experience, together with copies of two testimonials, should be sent to the Administrative Officer. (9754)

UROLOGY

LEEDS, UNITED, HOSPITALS
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
to the Department of Urology
The appointment will be resident and candidates should have held at least one previous house appointment, not necessarily in this specialty. Applications, stating age, sex, nationality, qualifications and experience, to be addressed to the undersigned as soon as possible.—S. Clayton Fryers, Secretary to the Board, the General Infirmary at Leeds. (9811)

CARDIFF, UNITED, HOSPITALS
The Board of Governors invites applications for the appointment of
HOUSE SURGEON in the Department of Urology
Applications, stating age, nationality, qualifications, experience and present appointment, together with the names of two referees, should be sent as soon as possible to Arnold Tunstall, Secretary and Principal Administrative Officer, The United Cardiff Hospitals, Cardiff Royal Infirmary, Cardiff. (9878)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Urological)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9609)

MEDICINE

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of a
CONSULTANT PHYSICIAN
to serve the North Monmouthshire and the Newport and East Monmouthshire Hospital Management Committee Groups. He will be expected to work in association with the Consultant Physicians in Newport. Possession of higher qualifications in medicine is essential. Candidates are asked to state whether they wish to be considered for a whole-time or maximum part-time appointment. Twelve copies of applications, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (9964)

ROYAL MASONIC HOSPITAL
Ravenscourt Park, London, W.6
Applications are invited for two resident appointments as
MEDICAL REGISTRARS
one of which will occur on or about May 13, 1952, and the other before the end of May. Salary £775 per annum, inclusive of full residential emoluments. Applications, stating age, qualifications, past and present appointments, together with two recent testimonials and also the names of two referees, should be received by the Secretary and House Governor at the hospital by the first post on April 7, 1952, by whom further information would be given on request. (9896)

ST. MARY'S HOSPITAL, W.2
Applications are invited for the post of
GENERAL MEDICAL OUT-PATIENT REGISTRAR (Part-time)
Candidates must be Fellows, Members or Licentiates of the Royal College of Physicians, or graduates in medicine of a University in the British Empire. The successful candidate will be required to undertake four notional half-days weekly, on Tuesday morning, Tuesday afternoon, Thursday afternoon, and Friday morning. The appointment will be for a first period of twelve months. Applications, stating nationality, date of birth, permanent address, qualifications (with dates) and details of previous appointments, together with the names and addresses of three referees, should reach the undersigned by Friday, March 28, 1952.—Alan Powditch, House Governor. (9507)

ST. STEPHEN'S HOSPITAL
Fulham Road, Chelsea, S.W.10
NON-RESIDENT REGISTRAR
for General Medical duties
Vacancy about May 1, 1952. Application forms from Secretary, St. Luke's Hospital, Sydney Street, Chelsea, S.W.3, returnable by April 5. Enclose S.A.E. foolscap. (9917)

BIRMINGHAM (SELLY OAK) GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
WHOLE-TIME SENIOR REGISTRAR IN GENERAL MEDICINE
Duties at Selly Oak Hospital, Birmingham (1,098 beds). Experience in specialty essential. Candidates should possess higher qualification. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Sec., 10, Augustus Road, Birmingham, 15, before April 7. Candidates may visit the hospital. (9953)

CHESTERFIELD ROYAL HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the whole-time post of
MEDICAL REGISTRAR
to the above hospital. Single accommodation is available if required. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 7, 1952. (9755)

LIVERPOOL REGIONAL HOSPITAL BOARD
Applications are invited for the post of
WHOLE-TIME MEDICAL REGISTRAR
to the Regional Thoracic Surgical Unit, Broadgreen Hospital, and the Cardiac Centre at Sefton General Hospital. The appointment is subject to annual review and the duties are mainly concerned with the physiological investigation of cases for cardiac and pulmonary surgery. Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than April 5, 1952.—Vincent Collinge, Secretary to the Board. (9853)

MANCHESTER, WITHINGTON HOSPITAL (750 beds)
Manchester Regional Hospital Board
Applications are invited for the post of
SENIOR REGISTRAR in General Medicine
A higher qualification is essential. Arrangements may eventually be made for the person appointed to transfer to the United Manchester Hospitals to complete his training. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with names of three referees, to be received by March 31, 1952. (9455)

REDHILL COUNTY HOSPITAL (576 beds)
South-West Metropolitan Regional Hospital Board
Redhill Group Hospital Management Committee
Applications are invited for the post of
WHOLE-TIME MEDICAL REGISTRAR
Candidates may visit the hospital by arrangement with the Physician Superintendent. Application forms obtainable (enclose 3d. stamp) from Secretary, Redhill Group Hospital Management Committee, Redhill County Hospital, Earlswood Common, Redhill, Surrey, to be returned within fourteen days of the appearance of this advert. (9756)

ST. ANN'S GENERAL HOSPITAL, N.15 (756 beds)
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE PHYSICIAN (Senior House Officer)
for duty in the chest and paediatric units for a period of six months. Application form from the Secretary, Tottenham Group Hospital Management Committee, The Green, Tottenham, N.15, to be returned to the Secretary by March 29. (9897)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER and Casualty Officer
at the above hospital. The appointment, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (9757)

BLACKBURN, QUEEN'S PARK HOSPITAL (650 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER (General Medicine)
Post tenable for one year. Salary at £670 per annum, less an appropriate deduction in respect of board, lodgings, etc. Applications, with names of two persons for reference, to be sent to the Sec., Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (9329)

CHESTERFIELD ROYAL HOSPITAL (322 beds)
Chesterfield Hospital Management Committee
SENIOR HOUSE PHYSICIAN (Senior House Officer)
Required immediately. National salary and conditions. Apply, in detail, to M. H. Boone, Secretary. (9793)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds—5 residents)
RESIDENT HOUSE PHYSICIAN
Required from April 1 to take charge of two acute medical wards. Salary £670 per annum, less deduction of £150 for board residence. One year tenure first instance. Busy out-patient department with full consultant staff. Applications, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (9758)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Medicine—contd.

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
Applications are invited from registered medical practitioners for the following post, which is vacant on March 31, 1952:
SENIOR HOUSE OFFICER (General Medicine)
The appointment will be for twelve months at a salary of £670 per annum, less £155 per annum for residential accommodation and services. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8472)

MIDDLESBROUGH, HEMLINGTON HOSPITAL
(220 beds)
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for the following appointment:
SENIOR HOUSE OFFICER (Medical)
attached to Medical Clinic No. 2, which has 40 beds at the above hospital. Applications, stating age, qualifications and experience, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (9155)

PURLEY AND DISTRICT WAR MEMORIAL HOSPITAL (55 beds)
Croydon Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT MEDICAL OFFICER
of Senior House Officer status
from May 1, 1952. Charge of £150 per annum for board and lodging, etc. There is no other resident medical officer at the hospital. Experience in obstetrics an advantage. Hospital comprises surgical, medical, obstetric and gynaecological beds, and there is a casualty department. Form of application, obtainable from George A. Paines, Secretary, H.M.C., General Hospital, Croydon, to be returned immediately (9403)

TREDEGAR, ST. JAMES HOSPITAL
(38 beds for acute medicine, 75 chronic sick, 46 obstetrical)
RESIDENT SENIOR HOUSE OFFICER
(Male or female)
Required July 1. Term of appointment twelve months. Salary £670 per annum less an agreed deduction for full residential emoluments. Medical establishment comprises visiting physician, geriatrician, and obstetrician, together with Resident Senior Hospital Medical Officer and Junior House Officer. Apply to Secretary, Hospital Management Committee, District Miners Hospital, St. Martins Road, Caerphilly. (9932)

WEST HARTLEPOOL GENERAL HOSPITAL
Applications are invited for the appointment as
SENIOR HOUSE OFFICER (Medical)
at the above hospital, now vacant. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (8260)

WISBECH, NORTH CAMBRIDGESHIRE HOSPITAL
Peterborough Area Hospital Management Committee
RESIDENT MEDICAL OFFICER
(Senior House Officer Grade)
Post vacant March 26. This is a busy general hospital of 65 beds with full consultant staff, and the post offers very good all-round experience in general medicine. Applications forthwith to the Secretary, North Cambridgeshire Hospital, Wisbech (9965)

YORK, COUNTY HOSPITAL
(General hospital of 269 beds)
CITY HOSPITAL, York
(General hospital of 265 beds)
YEARSLEY BRIDGE HOSPITAL, York
(Infectious diseases hospital of 86 beds)
SENIOR HOUSE OFFICER IN PAEDIATRICS AND INFECTIOUS DISEASES
Required, to spend approximately half-time on paediatric duties at County Hospital (22 paediatric beds), City Hospital (32 paediatric beds), and other hospitals of the Group, and approximately half-time at Yearsley Bridge Hospital. Candidates should have had previous experience of paediatrics and infectious diseases. Holders of D.C.H. preferred. Post vacant from April 1, 1952, for one year in first instance. Salary £670, less £170 for residence at Yearsley Bridge Hospital. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (9898)

HOSPITAL OF ST. JOHN AND ST. ELIZABETH
60, Grove End Road, N.W.8
Applications are invited from registered medical practitioners (male) for the appointment of
HOUSE PHYSICIAN
to become vacant on Monday, April 14, 1952. Appointment will be for a period of six months. Salary is at the rate of £350 per annum. Applications should reach the Secretary on or before Thursday, March 27, 1952, together with copies of three recent testimonials. (9094)

ST. STEPHEN'S HOSPITAL
Fulham Road, Chelsea, S.W.10
HOUSE OFFICER for General Medical duties
Vacancy April 16, 1952. Resident. Applications, naming two personal referees, to Medical Superintendent immediately. (9918)

ACCRINGTON, VICTORIA HOSPITAL
(112 beds)
HOUSE PHYSICIAN
Salary £350 to £450 per annum, less £100 per annum board and lodging. Applications, with copies of two testimonials, to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (9697)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Physician and Casualty)
Required to commence duties as soon as possible. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid Cheshire H.M.C., The Hospital, Sinderland Road, Altrincham, Cheshire. (9339)

AYLESBURY, BUCKS, STOKE MANDEVILLE HOSPITAL
HOUSE PHYSICIAN for General Medical beds
Also required to attend out-patient clinics (at Royal Buckinghamshire Hospital). First or second post. Vacant now. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Administrative Officer. (9759)

BARNSTAPLE, NORTH DEVON INFIRMARY
(110 beds)
HOUSE PHYSICIAN
Required April 1, 1952. Applications to Secretary and Finance Officer, North Devon Hospital Management Committee, 19, Alexandra Road, Barnstaple, North Devon. (9415)

BINGLEY HOSPITAL, Bingley (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton
(64 beds) Yorkshire, West Riding
(Full Consultant staffs)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
at each of the above hospitals. First, second or third appointments. Now vacant. Six months' appointments. Salary in accordance with National Health Service terms and conditions. Applications, stating age, qualifications, experience, and nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, as soon as possible. (8705)

BIRKENHEAD, ST. CATHERINE'S HOSPITAL
(476 beds)
Birkenhead Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
for six months from April 1, 1952. Salary £350 by £50 to £450, less £100 for full residential emoluments. Apply immediately, stating age, qualifications (with dates), experience, enclosing copies of two recent testimonials, to J. Dawber, Secretary above Committee, St. James' Hospital, Tollemache Road, Birkenhead. (9478)

BIRMINGHAM, 9, LITTLE BROMWICH HOSPITAL
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Medicine)
(Male or female)
Applications, stating experience, with two testimonials, to the Physician Superintendent, Little Bromwich Hospital, Birmingham, 9. (9466)

BISHOP AUCKLAND, GENERAL HOSPITAL
(350 beds)
South-West Durham Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN
available May 1. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for residential emoluments. Applications, stating age, nationality, qualifications and experience, with copies of not more than three testimonials, to be sent to Secretary, the General Hospital, Bishop Auckland, Co. Durham, not later than March 26, 1952. (9854)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge. Main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for the following resident appointment:
HOUSE OFFICER (Medical) (Male or female)
(First, second or third post held)
with primary attachment to the paediatric ward of 24 beds, and other duties in connexion with eight skin beds and the casualty department. Salary £350 to £450 per annum, less £100 per annum for residential emoluments. Appointment to commence May 1, 1952, for a period of six months. Applications, stating nationality, age, qualifications and experience, with copies of testimonials or the names of two referees, should be sent to the Administrative Officer as soon as possible. (9966)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
HOUSE PHYSICIAN
to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

DARLINGTON MEMORIAL HOSPITAL
(210 beds)
Darlington District Hospital Management Committee
Applications are invited for the post of
HOUSE PHYSICIAN (J.H.O.—Resident)
Salary in accordance with national scale. Apply, giving age and references, to the undersigned at once.—G. W. Beckwith, Secretary. (7237)

DEWSBURY, GENERAL HOSPITAL
Moorlands Road, Dewsbury (119 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN
now vacant. This is a modern general hospital with a large out-patient department. Excellent experience available. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (8047)

DRIFFIELD, YORKS, EAST RIDING GENERAL HOSPITAL
HOUSE PHYSICIAN
Post vacant now. Duties to include medical wards, out-patients and some anaesthetics. Salary £350 to £450 per annum. Applications to Secretary, Westwood Hospital, Beverley, E. Yorks. (9760)

EDINBURGH, NORTHERN GENERAL HOSPITAL, Ferry Road
Board of Management for the Edinburgh Northern Hospitals
RESIDENT MEDICAL HOUSE OFFICER
(Third or subsequent post if possible)
Required to work in neurological department and in general medical and rheumatic units. Appointment to commence on April 1, 1952, or as soon after as possible, and to be for six months in first instance. Salary £450 per annum for third or subsequent post, less £100 for residential emoluments. Applications to Medical Superintendent, Western General Hospital, Edinburgh, 4, as soon as possible. (9855)

FARNHAM HOSPITAL
Hale Road, Farnham, Surrey
HOUSE PHYSICIAN
Appointment for six months, renewable for further six months if applicant is not liable for service with H.M. Forces. Salary £350 to £450 per annum, according to experience. £100 per annum deducted in respect of board and lodging, etc. Applications by letter, stating age, qualifications and experience, and present appointment, with one to three recent testimonials (copies), to the Medical Superintendent of the hospital. (9625)

GLOUCESTERSHIRE ROYAL HOSPITAL
(Southgate Street Unit) (245 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
HOUSE PHYSICIAN
Salary £350 to £450 per annum, required to commence April 15, 1952. Applications, naming two referees, to the Secretary. (9761)

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL (229 beds)
HOUSE PHYSICIAN
Post is tenable for six months and will be vacant on May 1. Applications, with copies of three testimonials, to Secretary-Superintendent as soon as possible. (9812)

HASTINGS, ST. HELEN'S HOSPITAL
(452 beds)
Hastings Group Hospital Management Committee
HOUSE PHYSICIAN AND, PAEDIATRIC HOUSE PHYSICIAN (combined post)
Post vacant April 16. National scales of salary. Apply to the Administrator at the hospital. (9762)

HOVE GENERAL HOSPITAL
(75 beds, 3 residents)
Brighton and Lewes Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
vacant May 9, 1952. Excellent clinical material available, and the post is suitable for candidates working for a higher degree. Applications, stating age, qualifications, etc., together with names and addresses of two referees, to be sent to the Administrative Officer, Hove General Hospital, Hove, 3, within ten days of the appearance of this advertisement. (9899)

Medicine—contd.

LARNE, MOYLE HOSPITAL (166 beds)
Northern Ireland Hospitals Authority
THREE HOUSE OFFICERS

Applications are invited from suitably qualified persons for three vacancies in the grade of House Officer at the above hospital. Salary, terms and conditions of service will be in accordance with the Authority's interpretation of the Spens Report. The successful applicants will be required to undertake duties in any of the four hospitals in the East Antrim area as directed. Applications should be addressed to the Secretary, Moyle Hospital, Larne, as soon as possible. (9933)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 general beds)

Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
Post vacant now. Salary £350 to £450, dependent upon experience, less £100 per annum for residential emoluments. Applications, together with two recent testimonials, should be sent to the Hospital Secretary as soon as possible. (9686)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee

Applications are invited from registered medical practitioners, male and female, for appointment of
SEVEN HOUSE PHYSICIANS (General Medicine)
The appointments, which are tenable May 1, 1952, for a period of six months, are subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5. (9763)

LEIGH INFIRMARY, Leigh, Lancs
HOUSE PHYSICIAN

Required at the above hospital, resident post. Applications, stating age, qualifications, and details of previous employments, together with the names of two referees, should be forwarded to the Secretary, Wigan and Leigh Hospital Management Committee, Knowsley House, Wigan, as early as possible (9457)

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)

Applications are invited for the post of
HOUSE PHYSICIAN
commencing April 1, 1952. Applications, stating age, experience and qualifications, with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street Leicester (8339)

MANSFIELD AND DISTRICT GENERAL HOSPITAL
Mansfield Hospital Management Committee

Applications are invited for the post of
HOUSE PHYSICIAN
(First, second or third appointment)
Applications, stating age, qualifications, etc., together with copies of three recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (9366)

MIDDLESBROUGH, HEMLINGTON HOSPITAL (220 beds)
Tees-side Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
at the above hospital. Salary at the rate of £400 to £500 per annum. Applications, stating age, experience and qualifications, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (9156)

MIDDLESBROUGH, NORTH ORMESBY HOSPITAL (189 beds)
Tees-side Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
to No. 1 Medical Team, which will become vacant on April 8, 1952. Residential accommodation available. Applications, stating qualifications, experience and accompanied by copies of testimonials, should be addressed to the Assistant Secretary as soon as possible. (9489)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)

For the care of both medical and surgical cases. Appointment for six months. Duties to commence immediately. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NORTHALLERTON, FRIARAGE (GENERAL) HOSPITAL (300 beds)
Northallerton Hospital Management Committee
HOUSE PHYSICIAN

Required for April 1, 1952. Conditions of service six months. Salary in accordance with national scale. Applications, together with the names of two referees, to be sent to the Secretary, Friarage Hospital, Northallerton, Yorks. (8474)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE PHYSICIAN (Male or female)

Required for the above hospital. Duties to commence as soon as possible. Salary and conditions of service in accordance with published regulations of the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (9061)

NUNEATON, GEORGE ELIOT HOSPITAL (258 beds)

Applications are invited for the post of
HOUSE PHYSICIAN (46 general medical beds)
Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (9832)

NUNEATON, MANOR HOSPITAL (139 beds)

Applications are invited for the post of
HOUSE PHYSICIAN (32 general medical beds)
Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (9833)

PONTYPOOL AND DISTRICT HOSPITAL
Pontypool, Mon (115 beds)

Applications are invited for the post of
HOUSE OFFICER (Medical)
vacant about April 15, who will work under the directions of the Consultant Physician and the Paediatrician. The resident staff consists of a Junior Hospital Medical Officer (surgical), a House Officer (Surgical), and this post. The post carries an increment of £50 per annum above national scale, in view of extra responsibilities. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (8707)

REDHILL, SURREY, EAST SURREY HOSPITAL, Shrewsbury Road (139 beds)
Redhill Group Hospital Management Committee
TWO HOUSE OFFICERS

Required for medical, surgical and casualty work. Apply to the Administrative Officer at the above address. (9764)

REDRUTH, CAMBORNE-REDRUTH GENERAL HOSPITAL (159 beds—4 residents)
West Cornwall Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN (Male or female)
vacant June 1, 1952. Applications, stating age, nationality, qualifications and experience, together with copies of two testimonials, should be forwarded to the Administrative Assistant, Camborne-Redruth General Hospital, Redruth. (9765)

ROMFORD, ESSEX, VICTORIA HOSPITAL (91 beds)
RESIDENT HOUSE PHYSICIAN

Applications are invited from registered medical practitioners (male) for the above vacant post. The duties will include experience in gynaecology. Six months' appointment. Applications, stating age, nationality, qualifications (with dates), and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (9368)

SOLIHULL HOSPITAL
Lode Lane, Solihull, near Birmingham
Group 25 Birmingham (Selly Oak) Hospital Management Committee

Vacancy immediately available for
HOUSE PHYSICIAN
This is a general hospital and offers good experience. Five other Resident Medical Officers. Applications, giving qualifications, age, and experience, with copies of two recent testimonials or names of two referees, to the Medical Supt. (9834)

STOKE-ON-TRENT, BURSLEM, HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of
RESIDENT HOUSE OFFICER (Medical)
vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, H.M.C., Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (9794)

SWINDON HOSPITALS (500 beds)
Swindon and District Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE PHYSICIAN
in acute medical unit of 64 beds at St. Margaret's Hospital. Full details, together with copies of three recent testimonials, to Secretary, 7, Okus Rd., Swindon, Wilts, as soon as possible. (9698)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of
HOUSE PHYSICIAN
at the above hospital. Resident. The appointment will be for six months in the first instance and the post is now vacant. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (7963)

TIVERTON AND DISTRICT HOSPITAL
Exeter and Mid-Devon Hospitals Management Committee
HOUSE MEDICAL OFFICER

The appointment is for six months, is resident, and the salary is £350 per annum for first post held, £400 per annum for the second post and £450 per annum for third and any subsequent post, with in each case, a deduction of £100 per annum in respect of board and lodging, etc. The hospital has 50 beds, of which 11 are maternity, and there is also a busy out-patient department. The officer appointed would have the opportunity of gaining experience in a very wide field. Applications, stating age, qualifications, etc., and enclosing copies of two recent testimonials or names of two referees, should be sent to the Senior Administrative Officer at Belmont Hospital, Tiverton, Devon, as soon as possible (9611)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY, Hawkeys Lane, North Shields
South-East Northumberland Hospital Management Committee

Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
now vacant. Applications, with two testimonials, should be sent to the Secretary, South-East Northumberland H.M.C., Preston Hospital, North Shields, as soon as possible. (9874)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey (6770)

WARRINGTON GENERAL HOSPITAL (372 beds)
RESIDENT HOUSE PHYSICIAN

Required at the above hospital. Salary £350 to £450 per annum, less a deduction of £100 for residential emoluments. Applications should be forwarded to H. L. Boot, Secretary, Warrington and District Hospital Management Committee, c/o General Hospital, Warrington. (9140)

WOKING, VICTORIA HOSPITAL (74 beds)

Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
Salary and conditions of service as published by Ministry of Health. Apply to Assistant Secretary, Victoria Hospital, Woking, Surrey. (6977)

WREXHAM, MAELOR GENERAL HOSPITAL (513 beds)
Wrexham, Powys and Mawddach Hospital Management Committee

Applications are invited for the appointment of
HOUSE PHYSICIAN
at the above hospital. The appointment will be for a period of six months and will commence on May 22, 1952. Salary will be at the rate of £350 to £450 per annum, according to experience, less £100 per annum for full residential accommodation. Applications, stating age, nationality, qualifications and experience, with copies of two recent testimonials, to be addressed to the Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (9766)

SURGERY

PRINCESS BEATRICE HOSPITAL
Earls Court, S.W.5
RESIDENT, WHOLE-TIME SURGICAL REGISTRAR for General Surgery

F.R.C.S. essential. Vacancy April 17. Application forms from Secretary, St. Luke's Hospital, Sydney Street, Chelsea, S.W.3 (enclose S.A.E. foolscap) returnable by March 31. (9967)

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Upper Road, Plaistow, London, E.13

Applications are invited from registered medical practitioners for the appointment of
TEMPORARY RESIDENT SURGICAL OFFICER
(Senior Registrar grade)
at the above hospital for a period of six months. Preference will be given to candidates holding the Diploma F.R.C.S. Applications, stating age, experience, and qualifications, together with copies of recent testimonials, should be sent to the Senior Administrative Officer by April 7, 1952. (9900)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Surgery—contd.

ST. STEPHEN'S HOSPITAL
Fulham Road, Chelsea, S.W.10
WHOLE-TIME, NON-RESIDENT REGISTRAR
for General and Traumatic Surgery
Application forms from Secretary, St. Luke's Hospital, Sydney Street, Chelsea, S.W.3 (enclose S.A.E. foolscap), returnable by April 5. (9916)

WESTMINSTER HOSPITAL TEACHING GROUP
The Gordon Hospital for Rectal, Colonic and Gastro-Intestinal Diseases
Applications are invited for the post of
SENIOR SURGICAL REGISTRAR (Temporary)
Applicants must be Fellows of the Royal College of Surgeons (Eng.). The appointment, which is for six months from May 1, 1952, is being reviewed in the light of proposals of the Ministry of Health for the establishment, and may be renewed on a permanent basis. Applications, with names of three referees, should be sent immediately to the Chief Administrative Officer, Gordon Hospital, Vauxhall Bridge Road, S.W.1. (9934)

BARNSLEY, BECKETT HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
SURGICAL REGISTRAR
to the above hospital. Recognized for training for the F.R.C.S. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointment (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 7, 1952. (9767)

BIRMINGHAM REGIONAL HOSPITAL BOARD
Applications invited for the following whole-time appointments:
SENIOR REGISTRAR IN GENERAL SURGERY
Birmingham (Dudley Road) Group; duties mainly at Dudley Road Hospital (906 beds). Appointment may be resident or non-resident. Candidates should possess higher qualification, and must have had wide experience in general surgery.
SURGICAL REGISTRAR
South Warwickshire Group; duties at Stratford-on-Avon Hospital. Residential appointment. Experience in specialty essential. Possession of higher qualification an advantage.
SURGICAL REGISTRAR (R.S.O.)
to the Coventry Group. Successful candidate will act as R.S.O. to Manor Hospital, Nuneaton (139 beds), and George Eliot Hospital, Nuneaton (258 beds). Resident appointment. Experience in specialty essential. Possession of higher qualification an advantage.
Appointments subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age and nationality, qualifications, present and previous appointments, and details of three referees, to the Secretary, 10, Augustus Road, Birmingham, 15, before April 7. Candidates for more than one appointment should forward seven copies of application in respect of each vacancy for which they wish to be considered. Candidates may visit the hospitals concerned. (9954)

NEWCASTLE REGIONAL HOSPITAL BOARD
Gateshead Hospital Management Committee Group
WHOLE-TIME SURGICAL REGISTRAR
Required temporarily up to August 31 in the first instance. Salary £775 per annum. Accommodation is available for a single person. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be sent to the Senior Administrative Medical Officer, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within fourteen days. (9768)

SHEFFIELD, WHARNCLIFFE HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for whole-time post of
SURGICAL REGISTRAR
to the above hospital, with additional duties in the orthopaedic department. Single accommodation is available if required. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 7, 1952. (9769)

WISBECH, NORTH CAMBRIDGESHIRE HOSPITAL (40 surgical beds)
East Anglian Regional Hospital Board
SURGICAL REGISTRAR
Post provides wide experience in general surgery with opportunities for study. Appointment for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, with names of three referees, to Secretary of Board, 117, Chesterton Road, Cambridge, by April 7, 1952. Candidates invited to visit hospital by direct arrangement with H.M.C. Secretary, Peterborough Memorial Hospital, Peterborough. (9699)

CHORLEY AND DISTRICT HOSPITAL, Lancs
Preston and Chorley Hospital Management Committee
RESIDENT SURGICAL OFFICER
(J.H.M.O. Grade)
The establishment of this hospital includes two Junior House Officers. The R.S.O. works under the supervision of the visiting consultants from Preston Royal Infirmary. Applications, including names for reference, to be sent to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary. (9615)

LONDON JEWISH HOSPITAL
Stepney Green, E.1 (130 beds)
Applications invited for the post of
RESIDENT SENIOR HOUSE OFFICER
(Surgical Department)
vacant middle April, 1952. Salary (£670 per annum) is subject to deduction at the rate of £156 per annum for board, lodging, etc. Applications, with copies of testimonials, to the Secretary at the hospital. (9901)

MANOR HOUSE HOSPITAL
Golders Green, N.W.11
(exempted from National Health Service)
RESIDENT SURGICAL OFFICER
Salary £670 per annum, less £100 per annum deducted for emoluments. Six months' appointment, renewable. Applications, stating age, nationality, qualifications, and surgical or orthopaedic experience, with copies of three recent testimonials, to the Secy., Mr. P. F. Pollard. (9835)

ST. JOHN'S HOSPITAL
Lewisham, London, S.E.13 (General—112 beds)
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE SURGEON
Vacant now and tenable for one year at a salary of £670 per annum, less £150 for residential emoluments. At present recognized for six months' training for the F.R.C.S. examination (upgraded House Surgeon post). Applications, stating age, nationality, qualifications and experience, with names of three referees, should be addressed to the Secretary, Lewisham Group H.M.C., Lewisham Hospital, London, S.E.13. (9770)

BARNSTAPLE, NORTH DEVON INFIRMARY
(110 beds)
SENIOR HOUSE SURGEON
Required immediately. Applications to Secretary and Finance Officer, North Devon Hospital Management Committee, 19, Alexandra Road, Barnstaple, North Devon. (9414)

BISHOP'S STORTFORD, HERTS, HAYMEADS HOSPITAL (300 occupied beds)
(Midway between London and Cambridge. Main Line Railway from Liverpool Street)
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER (Surgical)
Salary £670 per annum, less £130 per annum in respect of residential emoluments. The appointment is due to commence April 1 for a period of one year. Applications, stating nationality, age, qualifications and experience, with copies of recent testimonials, or the names of referees, should be sent to the Secretary, Hertford Group H.M.C., Hertford County Hospital, Hertford, Herts. (9573)

BLACKBURN, QUEEN'S PARK HOSPITAL
(650 beds)
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgery)
Salary £670 per annum, less deduction in respect of board, lodging, etc. Post tenable for one year. Applications, with names of two referees, to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (9371)

CARLISLE, CUMBERLAND INFIRMARY
(322 beds)
East Cumberland Hospital Management Committee
Applications are invited for the undermentioned resident posts, vacant April 1, 1952, and tenable for six months:
THREE SENIOR HOUSE OFFICERS
(General Surgery)
Applications, giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (9702)

GATESHEAD, 9, QUEEN ELIZABETH HOSPITAL, Sheriff Hill (192 beds)
Gateshead and District Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
Post vacant now. Apply, with copy testimonials, stating age, nationality, and full details of previous service, to the Medical Superintendent at the above hospital. (9467)

ISLE OF MAN, NOBLE'S HOSPITAL (180 beds)
Applications invited for the post of
SENIOR HOUSE SURGEON
at above hospital, an acute general hospital with a busy surgical practice and specialist visiting staff. Salary £670 per annum, with a deduction of £100 per annum for board, lodging, etc., if resident. Suitable post for man preparing for a higher surgical qualification. Applicant should previously have held a house-surgeon appointment, preferably at a teaching hospital. Post vacant at the end of March, 1952. Applications, giving all relevant particulars, with copies of two recent testimonials, or names and addresses of two referees, should be forwarded to the Secretary, Noble's Isle of Man Hospital, Douglas. (9231)

LEICESTER ROYAL INFIRMARY and HINCKLEY AND DISTRICT HOSPITAL
Applications are invited for the post of
RESIDENT SURGICAL OFFICER
of Senior House Officer status
to undertake alternate three monthly tours of duty at the above hospitals commencing at Hinckley Hospital on May 1, 1952. The successful candidate will act as Resident Surgical Officer while at Hinckley and deputy R.S.O. while at the Leicester Royal Infirmary. Applications, stating age, qualifications and experience, with copies of three recent testimonials, should be forwarded to reach the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester, not later than March 28, 1952. (9796)

LEIGH INFIRMARY, Leigh, Lancs
Wigan and Leigh Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE SURGEON
at the above hospital, which is a busy general hospital of 102 beds. The person appointed will be attached to the surgical and orthopaedic wards and will be required to undertake some duties in the casualty department along with other members of the resident staff. Applications, stating age, nationality, qualifications and previous hospital appointments, together with the names of two referees, should reach the undersigned as soon as possible.—T. W. Hurst, Secretary, Knowsley House, Wigan. (9458)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence as soon as possible. Salary £670 per annum and conditions of service in accordance with the conditions published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (6969)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified registered medical practitioners for appointment of
RESIDENT SURGICAL OFFICER
(Senior House Officer)
Post vacant immediately. The appointment will be for a period of twelve months and is renewable. The hospital is recognized for the Fellowship of the Royal College of Surgeons. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9814)

REDRUTH, CAMBORNE-REDRUTH HOSPITAL
(159 beds, 4 residents)
West Cornwall Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Post now vacant. Salary £670 per annum, less £100 per annum for residential emoluments. Applications, stating age, experience and nationality, together with names of two persons to whom reference can be made, should be submitted to the Administrative Assistant. (8011)

ROTHERHAM, MOORGATE GENERAL HOSPITAL (368 beds, 38 cots)
SENIOR HOUSE OFFICER (Surgery)
Salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham, Yorks, as soon as possible. (9332)

SCARBOROUGH HOSPITAL (163 beds)
Scarborough, Bridlington, Malton and Whitby Group Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Terms and conditions of service in accordance with those prescribed for medical and dental staffs. The post, which is recognized by the Royal College of Surgeons for the F.R.C.S., will be for a period of one year. The position will be non-resident and a flat is available near to the hospital if required. Applications, giving age, qualifications, details of present and previous appointments (with dates), and the names of three referees, should be forwarded to the Group Secretary, Scarborough Hospital, Scalby Road, Scarborough. (9509)

SCUNTHORPE, WAR MEMORIAL HOSPITAL
(269 beds)
Scunthorpe Hospital Management Committee
Immediate vacancy for
HOUSE SURGEON (S.H.O. grade)
with duties in general surgery, gynaecology and some radiotherapy. Applications, with full details of qualifications, experience and naming two referees, to Secretary, War Memorial Hospital, Scunthorpe, Lincs. (9373)

Surgery—contd.

STOCKTON AND THORNABY HOSPITAL
Stockton-on-Tees
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for either of the following appointments:
SENIOR HOUSE OFFICER (Surgeon)
HOUSE SURGEON
to be attached to Surgical Team No. 3. The Senior House Officer post is recognized for the F.R.C.S. examination. Salary in accordance with national scales. The post offers an excellent experience and is tenable for a period of at least six months. Applications, stating age, qualifications, experience, and accompanied by copies of three testimonials, should be addressed to the Secretary-Superintendent. (9097)

STOKE-ON-TRENT, BURSLEM, HAYWOOD and TUNSTALL WAR MEMORIAL HOSPITAL
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent. —Thornburrow Gibson, Secretary. (9797)

STOURBRIDGE, CORBETT HOSPITAL (106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER (Resident, Surgical)
Post now vacant. Applicants should have held house appointments and have had surgical experience. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (9745)

BATTERSEA GENERAL HOSPITAL
Battersea Park, S.W.11
RESIDENT HOUSE SURGEON/CASUALTY OFFICER (House Officer Grade)
Required immediately for six months. Apply, enclosing copies of two recent testimonials, to Administrative Officer. (9195)

PRINCE OF WALES'S GENERAL HOSPITAL
The Green, N.15 (218 beds)
Tottenham Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT JUNIOR HOUSE SURGEON
vacant March 29, 1952, for a period of six months. Application form from the Secretary. (9856)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

ABERYSTWYTH GENERAL HOSPITAL
Mid-Wales Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
RESIDENT HOUSE SURGEON
(First, second or third post)
Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned. Salary in accordance with terms and conditions of service published by the Ministry of Health.—J. P. Thomas, Secretary, Mid-Wales Hospital Management Committee, Administrative Office, General Hospital, Aberystwyth. (9902)

ACCRINGTON, VICTORIA HOSPITAL
(112 acute beds)
HOUSE SURGEON
Post tenable for six months. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for board residence. Applications, giving age, nationality, qualifications, etc., accompanied by copies of two testimonials, to be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (9700)

BATLEY, GENERAL HOSPITAL (102 beds)
Carlinghow Hill, Batley, Yorks
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This general hospital will shortly provide all the in-patient treatment for the Group in the specialties of orthopaedics, E.N.T., and ophthalmology in addition to some general surgery, together with the usual out-patient clinics. Applications, stating age, qualifications and experience, together with recent testimonials, should be submitted immediately to the Secretary, 20, Oxford Road, Dewsbury. (7971)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Surgical)
Required to commence duties as soon as possible. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid-Cheshire H.M.C., The Hospital, Sinderland Road, Altrincham, Cheshire. (9340)

AYLESBURY, TINDAL GENERAL HOSPITAL
TWO HOUSE SURGEONS (Male or female)
(First or second posts)
Vacant June 1 and 11. The posts offer wide experience of general surgery with operative practice, and are recognized for F.R.C.S. The acute surgical unit consists of 95 beds. No casualty department. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Administrative Officer. (9771)

BEXHILL HOSPITAL, Bexhill-on-Sea (62 beds)
Hastings Group Hospital Management Committee
HOUSE SURGEON
National scales of salary. Apply to Administrator at the hospital. (9772)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
for the General Surgery and Orthopaedic Departments of the above hospital. These departments of this hospital provide interesting and active traumatic experience. Resident. The post, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex (8341)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for a
RESIDENT HOUSE OFFICER (Surgical)
(First or second post held)
Salary £350 to £400 per annum, plus special grant of £50 per annum, less £100 per annum for residential emoluments. Appointment to commence immediately. Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent as soon as possible to the Administrative Officer. (9903)

BLACKBURN ROYAL INFIRMARY (244 beds)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
to the General Surgical Unit
The appointment will be for a period of six months in the first instance, and the salary, etc., will be in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, giving age, nationality, qualifications, etc., with copies of two testimonials, to be sent to the Secretary, Blackburn and District H.M.C., Royal Infirmary, as soon as possible. (9701)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (General)
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary. (9904)

BRIDGE OF EARN HOSPITAL
Board of Management for the County and City of Perth General Hospitals
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
in the General Surgical Unit
Applications, giving details of experience, together with the names of three referees, should be submitted to the Medical Superintendent, County and City of Perth General Hospitals, Perth Royal Infirmary, Perth. (9857)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. Applications, with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley (8759)

BURTON-ON-TRENT, GENERAL INFIRMARY
(Acute General Hospital, 235 beds)
Burton-on-Trent Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
to General Surgical and Gynaecological Units offering excellent general experience. Applications, with all details and copies of recent testimonials, to the undersigned.—J. E. Smith, Secretary to the Hospital Management Committee. (9858)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEONS
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (9869)

CHORLEY AND DISTRICT HOSPITAL, Lancs
RESIDENT HOUSE OFFICER (Surgical)
Post tenable for six months. Applications, with copies of testimonials, to be sent to the undersigned at the Royal Infirmary Preston.—John Gibson, Secretary (9617)

DEWSBURY, GENERAL HOSPITAL (119 beds)
Moorlands Road, Dewsbury
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy modern general hospital, with a large out-patient department and the usual ancillary services. The hospital is recognized for the F.R.C.S. and provides excellent experience. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (7972)

DEWSBURY, YORKS, STAINCLIFFE GENERAL HOSPITAL, Healds Road (316 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy general hospital with the usual out-patient and ancillary services. It is recognized for the F.R.C.S., and provides excellent experience. Salary and conditions of service in accordance with the national scales. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent to the Secretary, 20, Oxford Road, Dewsbury (7973)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
Salary at the rate of £350, £400 or £450 per annum, according to experience, from which a deduction at the rate of £100 per annum will be made for board, residence, etc. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (9773)

DORCHESTER, DORSET COUNTY HOSPITAL
(113 beds)
HOUSE SURGEON (Male or female)
Post now vacant. Tenable for six months. Recognized by the Royal College of Surgeons. Applications, giving details of age, experience, qualifications and nationality, together with copies of testimonials, to be sent to the Secretary, West Dorset Group H.M.C., Damers Road, Dorchester, Dorset, immediately. (9813)

DORKING GENERAL HOSPITAL
Horsham Road, Dorking, Surrey
(256 beds—3 Resident Medical Officers)
Redhill Group Hospital Management Committee
HOUSE OFFICER (Surgery and Obstetrics)
Required to commence duties as soon as possible. Salary £350 to £450, according to previous posts held. Apply to the Medical Superintendent of the hospital. (9774)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
JUNIOR HOUSE SURGEON
at the above hospital. The post will become vacant at the end of March. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, "Ash-Eton," Radnor Park West, Folkestone. (9905)

DUDLEY, GUEST HOSPITAL (154 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Surgical)
Post now vacant, tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (6561)

Surgery—contd.

EAST GRINSTEAD, QUEEN VICTORIA HOSPITAL
Tunbridge Wells Group Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
(Male or female) to General Hospital
Appointment tenable for six months from May 1, 1952. Post recognized for examination for Fellowship of Royal College of Surgeons. Applications, in writing, with three references, to Senior Administrative Officer. (9193)

GLOUCESTERSHIRE ROYAL HOSPITAL
(Southgate Street Unit) (245 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
HOUSE SURGEON
Salary £350 to £450 per annum. Post recognized for F.R.C.S. Applications, naming two referees, to the Secretary. (9775)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON (with opportunity for experience in obstetrics and gynaecology)
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, nationality, qualifications and experience, to be addressed to the Administrative Officer. (9527)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant April 1, 1952. Apply to Administrative Officer, Grimsby General Hospital. (9376)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)
Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
for a term of six months. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator. (9144)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds—5 residents)
Applications are invited for two vacancies as
RESIDENT HOUSE SURGEON
at the above busy acute general hospital. Busy casualty and out-patient departments. Applications, stating age, qualifications and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (9776)

HOUNSLOW HOSPITAL (General acute, 81 beds)
Staines Road, Hounslow, Middlesex
Staines Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
(with duties in the Casualty Department)
Post vacant March 25, 1952. Salary £350, £400 or £450 per annum, according to experience, less £100 for residence. Six months' appointment. Applications to Assistant Sec. of hospital. (9513)

HOVE GENERAL HOSPITAL, Sussex
(75 beds, 3 Resident Medical Officers)
Brighton and Lewes Hospital Management Committee
Applications are invited for the following resident post, vacant immediately.
HOUSE SURGEON
for casualty and with charge of surgical beds. Salary and conditions of service in accordance with national scale (£350 to £450, less £100 per annum for residential emoluments). Applications, with full details of experience, etc., and enclosing names and addresses of two referees, should be sent to the Administrative Officer at the hospital as soon as possible. (7782)

HUNTINGDON COUNTY HOSPITAL
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (General Surgery)
to the above hospital. This is a busy hospital staffed by Consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (9574)

IPSWICH BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)
HOUSE SURGEON
Required for General Surgeon, with casualty duties. Hospital recognized for the F.R.C.S. and D.A. examinations. Post in accordance with National Health Service Regulations. Applications to the Administrative Officer. (9461)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (First, second or third post)
(Resident) (General Surgery)
Applications, stating age, nationality, qualifications, and experience, with copies of up to three recent testimonials, to Secretary of the Committee, West Middlesex Hospital, Isleworth, Middlesex, by March 28, 1952 (9935)

LEAMINGTON SPA, WARNEFORD GENERAL HOSPITAL (207 general beds)
HOUSE SURGEON (General Surgery)
Salary £350 per annum, less £100 residential emoluments. Terms and conditions of service in accordance for hospital medical staff. Apply as soon as possible to Miss V. Wells, Hospital Secretary. (9687)

LEEDS, 9, ST. JAMES'S HOSPITAL
Leeds (A) Group Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for appointment of
THREE HOUSE SURGEONS (General Surgery)
which are recognized by the Royal College of Surgeons for Fellowship. The appointments, which are tenable May 1, 1952, for a period of six months, are subject to the terms and conditions of service as issued by the Ministry of Health, with salary according to number of posts previously held. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be forwarded to the Administrative Medical Officer, St. James's Hospital, Leeds, 9, not later than April 5, 1952. (9777)

LOUGHBOROUGH GENERAL HOSPITAL
(120 beds)
Applications are invited for the vacancy of
HOUSE SURGEON
commencing April 1, 1952. Applications, stating age, qualifications and experience, together with copies of recent testimonials, to the Secretary, Leicester No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8344)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Applications are invited for the post of
HOUSE SURGEON
now vacant The appointment will be for six months in the first instance. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (9408)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL Cheetham, Manchester, 8 (105 beds)
(Non-sectarian)
Applications are invited for the post of
HOUSE SURGEON
(House Officer grade)
now vacant. Applications, together with copies of not less than two recent testimonials or names of two referees, to the Hospital Administrator forthwith. (7363)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy general hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications, together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A. Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (9038)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds)
(Base hospital for the Newport and East Monmouthshire Group—10 residents)
Applications are invited for the posts of
HOUSE SURGEON
There are two posts vacant both in mid-March and both recognized for the Fellowship of the Royal College of Surgeons. The first covers 37 surgical beds. The second comprises 33 surgical and 12 gynaecological beds and both offer an excellent opportunity of gaining extensive experience. National salary scales and conditions. Apply, in writing, with the names of two persons for reference, and stating post preferred, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (9322)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for three posts of
HOUSE SURGEON
vacant on April 1, 1952. Recognized for the F.R.C.S National Health Service salary scale and conditions of service for House Officers. Six months' appointments. Applications, giving particulars, enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Superintendent. (9378)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence immediately. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

NUNEATON, GEORGE ELIOT HOSPITAL
(289 beds)
HOUSE SURGEON
Required for general duties (54 surgical beds). Applications to the Medical Superintendent. (9481)

PENZANCE, WEST CORNWALL HOSPITAL
(General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (Male or female)
Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6702)

POOLE GENERAL HOSPITAL, Poole, Dorset
Bournemouth and East Dorset Hospital Management Committee
TWO HOUSE SURGEONS
One post vacant on April 16 and the other on May 3. This hospital is recognized for the F.R.C.S. and F.R.C.S.E. Applications to the Assistant Secretary of the hospital. (9710)

PORTSMOUTH, SAINT MARY'S HOSPITAL
Milton Road
Portsmouth Group Hospital Management Committee
TWO HOUSE SURGEONS
Required at the above general hospital, which has 150 acute surgical beds and is recognized for the F.R.C.S. Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to the Medical Superintendent. (9798)

PRESTON ROYAL INFIRMARY (400 beds)
GENERAL HOUSE SURGEON
(House Officer Grade)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9618)

RUGBY, HOSPITAL OF ST. CROSS
HOUSE SURGEON
Required for General Surgical Department (including some accidents and orthopaedics). Applications, stating age, qualifications, together with copy testimonials, should be addressed to the Assistant Secretary. (9236)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid-Herts Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON (House Officer grade)
for one of the two surgical teams. Recognized for the F.R.C.S. Post vacant immediately and tenable for six months. Applications, together with the names of two referees, should be sent to the Sec., Osterhills, Normandy Rd., St. Albans. (9711)

ST. HELENS HOSPITAL
Marshalls Cross Road, St. Helens (189 beds)
St. Helens and District Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
Six months' appointment. Salary in accordance with the terms and conditions of service for medical staffs. Applications, stating age, qualifications, and experience, and giving two names for reference, should be forwarded to the undersigned as soon as possible.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (9575)

SALISBURY GENERAL HOSPITAL
Salisbury Group Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE SURGEON
for a period of six months. Post vacant at present. Apply immediately, naming two referees, to Secretary, H.M.C., Odstock Hospital, Salisbury. (9514)

SHREWSBURY, ROYAL SALOP INFIRMARY
(241 beds)
Shrewsbury Group 15 Hospital Management Committee
Applications are invited from general registered practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON
(Second or third post)
to a General Consulting Surgeon. The post is vacant immediately and tenable in the first instance for a period of six months. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (3249)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
HOUSE SURGEON
Required immediately. Post tenable for six months. Applications, with copies of testimonials, to be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8866)

SOUTHEND-ON-SEA, GENERAL HOSPITAL
Applications are invited for the post of
RESIDENT HOUSE SURGEON
(House Officer grade)
vacant April 12, 1952, for six months, for general surgical duties, including certain duties in the Orthopaedic and Fracture Departments. Applications, etc., to reach the undersigned at the hospital by March 25, 1952.—J. C. Field, Sec. (9576)

Surgery—contd.

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 32 beds)
Stafford Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
HOUSE SURGEON
now vacant. First, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Secretary to the Committee, 13, Foregate Street, Stafford. (7365)

STOKE-ON-TRENT, BURSLEM, HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Surgical)
vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (9799)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Surgery)
vacant immediately. Post recognized for F.R.C.S. Applications, with copy testimonials, to be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent. (9412)

SWINDON HOSPITAL GROUP (536 beds)
Swindon and District Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE SURGEON
for General Surgical Unit (80 beds)
Excellent accommodation available. Post recognized by Royal College of Surgeons under paragraph 23 of the Fellowship regulations for six months of requisite year's surgical training. Applications, giving full details and not more than three referees, to Secretary, Swindon and District Hospital Management Committee, 7, Okus Road, Swindon, as soon as possible. (9703)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
at the above hospital. Resident. The appointment will be for six months in the first instance, and the post is now vacant. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (7966)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL (350 beds)
Tunbridge Wells Group Hospital Management Committee
Applications invited for post of
RESIDENT HOUSE SURGEON (Male or female)
vacant April 12, 1952, for six months in first instance, or locum duties. Applications, stating age, qualifications, with copies of recent testimonials, to Administrative Officer. (9936)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY, North Shields
South-East Northumberland Hospital Management Committee
Applications are invited from registered medical practitioners for posts of
HOUSE SURGEON
Applications, with two testimonials, should be sent to the Secretary, South-East Northumberland H.M.C., Preston Hospital, North Shields, as soon as possible. (9875)

WARRINGTON INFIRMARY (172 beds)
Applications are invited for a vacancy at the above hospital for a
RESIDENT HOUSE SURGEON
Salary will be £350 to £450 per annum, less a deduction of £100 for full residential emoluments. Applications should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8584)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointments:
TWO RESIDENT HOUSE SURGEONS
(vacant April 1, 1952)
Post is/are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

WESTON-SUPER-MARE GENERAL HOSPITAL (110 beds)
Applications are invited from registered medical practitioners for the resident appointments of
TWO HOUSE OFFICERS (House Surgeons)
Duties to commence as soon as possible. Salary at the rate of £350 to £400 per annum, according to previous posts held, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be addressed to the Secretary, Weston-super-Mare Hospital Management Committee, c/o The General Hospital, Weston-super-Mare. (8268)

WHISTON, COUNTY HOSPITAL (882 beds)
St. Helens and District Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
Six months' appointment. Salary in accordance with the terms and conditions of service for medical staffs. Applications, stating age, qualifications, and experience, and giving two names for reference, should be forwarded to the undersigned as soon as possible.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (9577)

WIGAN ROYAL ALBERT EDWARD INFIRMARY
TWO HOUSE SURGEONS (Male or female)
Required at the above hospital. Posts, which are House Officer grade, and are recognized for F.R.C.S. examinations, are now vacant. Applications, stating age, qualifications, etc., together with the names of two referees, should be received by the undersigned as early as possible.—T. W. Hurst, Secretary, Wigan and Leigh H.M.C., Knowsley House, Wigan. (9464)

WOLVERHAMPTON, NEW CROSS HOSPITAL
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (General Surgery)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (9886)

WREXHAM, MAELOR GENERAL HOSPITAL (513 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant now. The appointment is recognized for the Diploma of F.R.C.S. (Eng. and Edin.). Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (9039)

YORK, CITY HOSPITAL
(Modern general hospital of 265 beds, with full Consultant staff)
TWO RESIDENT HOUSE SURGEONS
Salary £350, £400 or £450, less £100 for residence. Both posts recognized under F.R.C.S. regulations and vacant from April 17, 1952. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to the Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (9906)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
at the above hospital, to commence immediately. Salary will be at the rate of £350, £400 or £450 per annum, according to experience, less £100 per annum for full residential emoluments. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be addressed to William Jones, Secretary, Wrexham, Powys and Mawddach Hospital Management Committee, Maelor General Hospital, Croesnewydd Road, Wrexham. (9040)

CASUALTY

WARRINGTON INFIRMARY (172 beds)
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident Casualty Officer)
The commencing salary is in accordance with the scale £700 by £50 to £1,000, less a deduction of £130 for residential emoluments. Applications, stating age, experience and qualifications, should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8585)

WREXHAM, WAR MEMORIAL HOSPITAL (170 beds)
Wrexham, Powys and Mawddach Hospital Management Committee
JUNIOR HOSPITAL MEDICAL OFFICER
Required for the Casualty Orthopaedic Department of the above hospital. Post vacant now. Salary £700 by £50 to £1,000 per annum (for an officer appointed not less than two years after registration). Application forms may be obtained from the undersigned and should be returned as soon as possible to William Jones, Secretary, Wrexham, Powys and Mawddach H.M.C., Maelor General Hospital, Wrexham. (9379)

EAST HAM MEMORIAL HOSPITAL
Shrewsbury Road, London, E.7
Applications are invited from registered medical practitioners, male or female, for appointment of
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
combined with the post of Deputy Resident Surgical Officer (Senior House Officer) at the above hospital for six months commencing May 1, 1952. Candidates should send applications, together with copies of recent testimonials, to the undersigned by March 31, 1952.—M. J. Huntley, Secretary, West Ham Group Hospital Management Committee, Stratford, London, E.15. (9145)

HACKNEY HOSPITAL, E.9 (783 beds)
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
for Casualty Officer duties
Post tenable for twelve months. Salary is at the rate of £670 per annum, less £130 per annum for residential emoluments. Applications, together with copies of three testimonials, should be sent to the Secretary, Hackney Group Hospital Management Committee, Hackney Hospital, E.9, by not later than March 31, 1952. (9836)

MILE END HOSPITAL, Bancroft Road, E.1 (475 beds)
CASUALTY OFFICER (Senior House Officer)
Required for duty on April 21, 1952. Application forms may be obtained from Physician Superintendent, and should be returned, together with copies of not more than three testimonials, by April 2, 1952. (9907)

CARLISLE, CUMBERLAND INFIRMARY (322 beds)
East Cumberland Hospital Management Committee
Applications are invited for the undermentioned resident post, vacant April 1, 1952, and tenable for six months.
SENIOR HOUSE OFFICER (Casualty)
Applications giving the names of two referees, should be sent to the undersigned as soon as possible.—A. Pickering, Secretary, Cumberland Infirmary, Carlisle. (9705)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

Chairman: James Fenton, CBE, MD.

MEDICAL INSURANCE AGENCY

Hon. Secretary: Henry Robinson, MD, DL, JP.

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BIRMINGHAM: 154 Great Charles Street.

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Telephone: Euston 5561-2-3.
EDINBURGH: 6 Drumsheugh Gardens.
NEWCASTLE-UPON-TYNE: 16 Saville Row

GLASGOW: 234 St. Vincent Street.
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.

Casualty—contd.

BECKENHAM HOSPITAL
Croydon Road, Beckenham, Kent
CASUALTY OFFICER
Required immediately for the Casualty Department of this general hospital of 100 beds, with duties in the orthopaedic and fracture departments. Salary £670 a year, less £150 a year for residential services. The appointment is tenable for one year in the first instance. Applications, stating age, qualifications and experience, together with names and addresses of three referees, should be sent to the Administrative Officer. (9528)

CHERTSEY, SURREY, ST. PETER'S HOSPITAL
(Late Botleys Park War Hospital) (430 beds)
CASUALTY OFFICER (Senior House Officer)
(Resident or non-resident)
The appointment is mainly that of out-patient sorting officer, and gives excellent time and opportunity for reaching a higher qualification. Salary in accordance with terms and conditions of National Health Service. Applications, together with names and addresses of referees, should be sent to the Physician Supt. as soon as possible. (9335)

CHESTERFIELD ROYAL HOSPITAL
(322 beds)
Chesterfield Hospital Management Committee
CASUALTY OFFICER (Senior House Officer)
Apply M. H. Boone, Secretary. (9380)

CROYDON GENERAL HOSPITAL (200 beds)
Croydon Group Hospital Management Committee
Applications are invited for the appointment of
CASUALTY OFFICER (Either Sex)
for period of six months in first instance. Salary £670 per annum, less £100 for residential emoluments. Form of application, obtainable from George A. Paines, Secretary, H.M.C., General Hospital, Croydon, to be returned immediately. (9409)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be forwarded to the Administrative Officer. (9870)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary. (5418)

LLANELLY HOSPITAL (164 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident post of
SENIOR HOUSE OFFICER
for work in the Casualty Department of the above hospital. Full particulars, stating age, qualifications, and experience, should be addressed to the undersigned.—O. C. Howells, Secretary, Glantawe Hospital Management Committee, St. Helen's Road, Swansea. (9580)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of either
RECEIVING ROOM OFFICER
Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or
CASUALTY OFFICER
Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant.
Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

MIDDLESBROUGH GENERAL HOSPITAL
(350 beds)
Tees-side Hospital Management Committee
SENIOR HOUSE OFFICER (Casualty)
Applications are invited for the above appointment. Salary and conditions in accordance with national scales. Applications, stating age, qualifications and experience, together with names for reference should be forwarded to the Secretary-Superintendent, Middlesbrough General Hospital, Middlesbrough. (9583)

NORTHAMPTON GENERAL HOSPITAL
(487 beds)
Northampton and District Hospital Management Committee
Applications are invited for the post of
CASUALTY SENIOR HOUSE OFFICER
vacant on April 1, 1952. National Health Service salary scale and conditions of service for Senior House Officers, with a deduction at the rate of £100 a year for residential emoluments. Six months' appointment in the first instance. Applications, giving particulars and enclosing copies of three recent testimonials, should be sent as soon as possible, addressed to S. G. Hill, Supt. (9381)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
Medway and Gravesend Hospital Management Committee
CASUALTY OFFICER
Applications are invited from registered medical practitioners for above post, vacant now. Post offers good experience with fractures and emergency surgery, and is tenable for twelve months. Salary £670 per annum. Applications, stating age, nationality, qualifications, and experience, together with recent testimonials, to be addressed to the Administrative Officer. (9525)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
SENIOR HOUSE OFFICER
(Casualty Officer/House Surgeon)
Required immediately. Applications, with copies of testimonials, to be submitted as soon as possible to the Secy., Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8879)

SOUTHEND-ON-SEA, GENERAL HOSPITAL
RESIDENT CASUALTY OFFICER
(Senior House Officer Grade)
Post vacant April 28, 1952. Applications, etc., should reach the undersigned, at the hospital, not later than March 28.—J. C. Field, Secretary. (9584)

SUNDERLAND, ROYAL INFIRMARY (300 beds)
SENIOR HOUSE OFFICER (Casualty)
(Male or female)
Required to act as Deputy Surgical Officer. Post recognized for F.R.C.S. examination. Period of appointment is for six months with possibility of transfer to another S.H.O. appointment at termination of period. Salary £670 per annum, less emolument value. Apply immediately to Secretary, Sunderland Area Hospital Management Committee, General Hospital, Sunderland. (9872)

SWINDON HOSPITAL GROUP (536 beds)
Applications are invited from registered medical practitioners for appointment of
RESIDENT CASUALTY HOUSE OFFICER
(in grade of Senior House Officer)
The work of the accident and orthopaedic department, which is associated with the Wingfield-Morris Orthopaedic Hospital, Oxford, includes a large number of industrial injuries. Residential emoluments £120 per annum. Applications, giving full details and not more than three referees, to Secretary, Swindon and District H.M.C., 7, Okus Road, Swindon, as soon as possible. (9704)

WALSALL GENERAL HOSPITAL (181 beds)
Walsall Hospital Management Committee
CASUALTY OFFICER (S.H.O. grade)
Required immediately. Apply Secretary. (7527)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the post of
CASUALTY OFFICER
The post is of Senior House Officer status, becomes vacant on May 23, and is tenable for one year. Conditions are in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of three testimonials, to be sent, as soon as possible, to the Secretary, from whom further particulars can be obtained. (9585)

PRINCE OF WALES'S GENERAL HOSPITAL N.15 (218 beds)
Tottenham Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT CASUALTY OFFICER
(House Officer grade)
for a period of six months. Application form from the Secretary. (9483)

ST. NICHOLAS HOSPITAL
Tewson Road, Plumstead, S.E.18
CASUALTY OFFICER
Vacant now. Six months' appointment. Salary £350 to £450 per annum, according to experience, less £100 per annum for residence. Apply to Secy., Memorial Hospital, Woolwich, S.E.18. (9837)

CHESTERFIELD ROYAL HOSPITAL
Chesterfield Hospital Management Committee
CASUALTY OFFICER (House Officer)
Required immediately. Apply in detail to M. H. Boone, Secretary. (9717)

HASTINGS, ROYAL EAST SUSSEX HOSPITAL
(150 beds)
Hastings Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Post now vacant. National scales of salary. Apply to the Administrator at the hospital. (9778)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and 'bus services)
Applications are invited for the appointment of
CASUALTY OFFICER AND SECOND HOUSE PHYSICIAN (Male) (Joint post)
(First or second post held)
Six months' appointment. Salary at the rate of £350 to £400 per annum, less £100 per annum residential emoluments. Duties to commence immediately. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (9838)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN (Busy Casualty Department)
Applications immediately to the Secretary, Hospital Management Committee. (9859)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Casualty and Orthopaedic)
Applications are invited from registered medical practitioners for the above post, which is vacant now. The post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another specialty at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8076)

OXFORD, UNITED, HOSPITALS
Applications are invited for the post of
HOUSE SURGEON to the Accident Service at the Radcliffe Infirmary
for six months commencing April 1. Applications, stating age, qualifications and experience, together with the names of two referees, should be sent as soon as possible to the Administrator, Radcliffe Infirmary, Oxford. (9822)

PRESTON ROYAL INFIRMARY (400 beds)
CASUALTY OFFICER (House Officer grade)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9619)

STOCKTON AND THORNABY HOSPITAL
Stockton-on-Tees (131 beds)
Tees-side Hospital Management, Committee
Applications are invited for the vacant post of
HOUSE OFFICER
(Casualty/Orthopaedic Department)
The post offers excellent experience in surgery of trauma, and in assisting at large orthopaedic clinics. Applications, stating age, qualifications, experience, and accompanied by copies of testimonials, should be addressed to the Secretary-Superintendent. (9937)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL, Watford, Herts
(189 beds)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
The Traumatic and Orthopaedic Department consists of 24 beds, and is integrated with the Royal National Orthopaedic Hospital. Salary according to N.H.S. scale. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent to undersigned.—Cyril Hopkinson, Administrator. (7573)

WOLVERHAMPTON, ROYAL HOSPITAL
(An Associated Hospital of the University of Birmingham Medical School)
Wolverhampton Hospital Management Committee
Group No. 16, Birmingham Region
HOUSE OFFICER (Junior Casualty Officer)
Applications, with copies of three recent testimonials, to be sent to W. Cockburn, Group Secretary, The Royal Hospital, Wolverhampton. (9884)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 23

PUBLIC HEALTH

(See Important Notice page 25)

BIRMINGHAM, CITY OF
Health Department
ASSISTANT ADMINISTRATIVE MEDICAL OFFICER (M. and C.W.)
Duties include work in connexion with Children's Department. Experience essential with mothers and children, including six months' resident post in maternity and children's hospitals. D.P.H. or D.C.H. and any administrative experience additional qualification. Salary £1,050 by £50 to £1,250, according to qualifications and experience. Pension scheme (including widows and orphans); medical examination. Form obtainable from undersigned. Applications, with three testimonials, to be returned by March 31, 1952.—Medical Officer of Health, Council House, Birmingham, 3. (9620)

Public Health—contd.

BOLTON, COUNTY BOROUGH OF

Two vacancies (one male and one female) exist for

ASSISTANT MEDICAL OFFICERS OF HEALTH and ASSISTANT SCHOOL MEDICAL OFFICERS OF HEALTH

and applications are invited from suitably qualified registered medical practitioners for such vacancies. The duties will be mainly in connexion with the maternity and child welfare service and the school health service, but the persons appointed will be expected to carry out such duties as may be allotted to them by the Medical Officer of Health. The possession of a D.P.H. or a D.C.H. is desirable but not essential. The salary will be on the appropriate step of the scale, £850 rising by annual increments of £50 to £1,150 per annum, according to experience and qualifications. The appointments will be subject to the provisions of the Local Government Superannuation Acts, and the successful candidates will be required to pass a medical examination. Appointments will be terminable by one month's notice on either side. There are no forms of application, but further particulars can be obtained from the Medical Officer of Health, Civic Centre, Bolton. Applications, giving full particulars of age, qualifications and experience, and the names and addresses of three referees, should be forwarded to the undersigned not later than April 18, 1952.—Philip S. Rennison, Town Clerk, Town Hall, Bolton. (9815)

HALTEMPRICE URBAN DISTRICT COUNCIL EAST RIDING COUNTY COUNCIL

Applications are invited from duly qualified medical practitioners possessing a Diploma in Public Health or similar qualification for the mixed appointment of

MEDICAL OFFICER OF HEALTH for the Urban District of Haltemprice (population 35,649) and DIVISIONAL MEDICAL OFFICER for the County Council within the same area

The offices will be held as a joint full-time appointment. The total commencing salary will be £1,568 15s., rising to a maximum of £1,843 15s. The salary scale of the Medical Officer of Health will be £1,162 10s., rising by four annual increments of £37 10s. to £1,312 10s., and that of the Divisional Medical Officer £406 5s., rising by eight annual increments of £15 12s. 6d. to £531 5s. The officer will be required to provide a motor car for the purpose of his duties and will receive a travelling allowance appropriate to Class "B" of the scales adopted by the Medical Council for Public Health Medical Officers in England and Wales. Office accommodation and necessary clerical assistance will be provided. The appointment will be subject to the provisions of Section 110 of the Local Government Act, 1933, the Sanitary Officers' (Outside London) Regulations, 1935 and 1951, and the Local Government Superannuation Act, 1937. Applications must be made on forms to be obtained from the Clerk of the County Council, County Hall, Beverley, and must be forwarded, together with copies of not more than three recent testimonials, so as to reach the Clerk of the County Council not later than Thursday, April 10, 1952.—A. B. Glasspool, Clerk of the Urban District Council. T. Stephenson, Clerk of the County Council, County Hall, Beverley. (9861)

LINDSEY COUNTY COUNCIL
Public Health Department

Applications are invited from registered medical practitioners with mental health qualifications and experience for the post of

SENIOR MEDICAL OFFICER in the Mental Health Services

Salary scale £1,250 per annum, rising by annual increments of £50 to £1,650 per annum. The person appointed will be required to provide a car for the use of which an allowance on the County Councils' scale will be paid. Forms of application can be obtained from the undersigned, to whom they should be returned not later than March 29, 1952.—W. S. H. Campbell, County Medical Officer of Health, County Offices, Lincoln. (9484)

MIDDLESEX COUNTY COUNCIL
County Health Department
DEPUTY AREA MEDICAL OFFICER

Required initially in Area 2 (Friern Barnet, Potters Bar Southgate and Wood Green) for administrative and clinical duties mainly in connexion with National Health Service and Education Acts. Must be prepared, if required, to undertake also duties of Medical Officer of Health or Deputy of one or more of County Districts in area, in which case, salary would be amended in accordance with appropriate nationally negotiated scale. Degree or Diploma in State Medicine or Public Health and practical experience in public health administration essential. Whole-time, established. Subject to medical assessment and prescribed conditions. Salary £1,200 by £50 to £1,500 per annum inclusive. Applications, stating age, qualifications, experience, two referees, to Joint Area Medical Officer, Town Hall, Palmers Green, London, N.13, by April 5 (quoting K.548 B.M.J.). Canvassing disqualifies.—C. W. Radcliffe, Clerk of the County Council. (9487)

LANCASHIRE COUNTY COUNCIL
ASSISTANT DIVISIONAL MEDICAL OFFICERS

Applications are invited from registered medical practitioners for above appointments. Possession of D.P.H. desirable. Salary £850 by £50 to £1,150 per annum. Travelling and subsistence allowances where applicable. Posts superannuable and subject to medical examination. Application forms and further particulars obtainable from County Medical Officer of Health, East Cliff County Offices, Preston, to whom they must be returned not later than Saturday, April 12, 1952. (9485)

MIDDLESBROUGH, COUNTY BOROUGH OF

Applications are invited for the appointment of

DEPUTY MEDICAL OFFICER OF HEALTH, DEPUTY SCHOOL MEDICAL OFFICER AND DEPUTY PORT MEDICAL OFFICER

Applicants should have a Diploma in Public Health or an equivalent, and previous public health administrative experience. Preference will be given to candidates who have experience in port health work. Salary and conditions of service (with the exception of the scheme of motor car allowances) in accordance with the recommendations of the Whitley Councils for the Health Services and the Industrial Court Award No. 2285, as adopted. Salary will be £1,166 13s. 4d. by £50 to £1,416 13s. 4d. per annum, plus a car allowance of £60. The appointment is whole-time, permanent and superannuated. Applications, accompanied by copies of not more than three recent testimonials, to the Town Clerk, Municipal Buildings, Middlesbrough, by March 31, 1952. (9860)

MIDLOTHIAN AND PEEBLES, COUNTY COUNCILS OF

Applications are invited for the post of

ASSISTANT MEDICAL OFFICER OF HEALTH

Salary £850 by £50 to £1,150 per annum. Duties will consist of school health service and general public health work. Preference will be given to applicants holding the D.C.H. or D.P.H. The post is superannuable and the successful applicant may require to undergo a medical examination. Applications should be lodged with the subscriber within fourteen days from the date of the appearance of this advertisement.—James McBoyle, County Clerk of Midlothian, County Buildings, George IV Bridge, Edinburgh. (9955)

NORWICH, CITY AND COUNTY OF MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER

Applications are invited for the above whole-time appointment from medical practitioners possessing the appropriate qualifications and experience. The salary, calculated in accordance with Award 2285 of the Industrial Court, will be at the rate of £1,900 per annum, rising by annual increments of £50 to a maximum of £2,150 per annum, and, in addition, a car allowance will be paid. The appointment will be subject to three months' notice on either side and superannuable. The successful candidate will be required to pass a medical examination and to take up duty on or about October 21, 1952. Applications, stating age, full particulars of qualifications and experience, and accompanied by the names and addresses of three referees, should reach the undersigned not later than March 31, 1952.—Bernard D. Storey, Town Clerk, City Hall, Norwich. (8989)

NOTTINGHAM, CITY OF
Health Department

Applications are invited from qualified medical practitioners for the post of

ASSISTANT MEDICAL OFFICER OF HEALTH

The duties will be chiefly in connexion with maternity and child welfare, together with any other duties allocated by the Medical Officer of Health. Preference will be given to candidates possessing higher qualifications, and the salary attached to the appointment will be £850 by £50 to £1,150 per annum. The post will be subject to three months' notice on either side at any time. The successful candidate will be required to pass a medical examination under the provisions of the National Health Service (Superannuation) Regulations or the Local Government Superannuation Act, 1937. Conditions of appointment and forms of application may be obtained from the undersigned, to whom they must be returned, together with the names of two persons to whom reference may be made, not later than April 4, 1952.—T. J. Owen, Town Clerk, The Guildhall, Nottingham. (9342)

INDUSTRIAL APPOINTMENTS

IMPERIAL CHEMICAL INDUSTRIES LIMITED, Biological Laboratories, Wilmslow, Cheshire, invite applications from graduates in medicine, veterinary science or zoology for a post concerned with research on the chemotherapy of diseases caused by protozoal or metazoan parasites. The successful candidate will work under the general direction of Dr. D. G. Davey, and preference will be given to one with some research experience. Applicants should detail their experience and published papers, if any. Salary according to qualifications and experience. Applications in writing to Staff Dept., Hexagon House, Blackley, Manchester, 9.

FACTORY DOCTORS
FACTORIES ACTS, 1937 and 1948

The following appointments as Appointed Factory Doctor under the Factories Acts, 1937 and 1948, are vacant: Barnet, in the County of Hertford; Holywell, in the County of Flint. Applications, to be received not later than April 5, 1952, should be sent to the Chief Inspector of Factories, 8, St. James's Square, London, S.W.1.

MOTOR CAR MANUFACTURERS REQUIRE full-time **Medical Officer** immediately for a number of factories in the Birmingham area. Previous industrial experience or D.I.H. essential. Age about 30. Commencing salary within B.M.A. scale for Industrial Medical Officers, and dependent on experience and qualifications. The appointment is superannuable and the successful applicant will be required to undergo a medical examination. Apply in confidence to the Medical Officer as soon as possible, giving full details of qualifications, experience, and names of two referees.—Box 1137, B.M.J.

EIRE

AN COMHLACHAS NAISIUNTA SLUA-RADIOGHRAFACHTA TEORANTA
(The National Mass-Radiography Association Ltd.)
37-39, Tara Street, Dublin
ASSISTANT RADIOLOGIST

Salary £1,200, inclusive per annum. Essential qualifications: Candidates must be registered medical practitioners and must possess the D.M.R. or the D.M.R.E. (or any equivalent qualification). Desirable qualification: Experience of interpretation of mass-miniature X-ray films. Duties: To interpret, and report on, mass-miniature X-ray films. The appointment will be whole-time and temporary for a period not less than six months and may be renewed for such further period as the Association may decide. Further particulars and application forms obtainable from the Secretary, National Mass-Radiography Association, Ltd., 37-39, Tara Street, Dublin, to whom completed application forms should be forwarded to reach him not later than April 2, 1952. (9972)

COMHLACHAS AILSE NA H-EIREANN
(The Cancer Association of Ireland)

Applications are invited from registered medical practitioners for the post of

RADIOTHERAPEUTIC REGISTRAR

Salary £700 by £50 to £1,000 per annum. Applicants should be qualified at least three years and have hospital experience. Copies of three recent testimonials should be enclosed with application. The successful applicant will be required to undertake one year's training at the Holt Radium Institute, Manchester, commencing April 15, 1952. During training £500 per annum will be paid in respect of salary and allowances. Applications should reach the Secretary, Comhlachas Ailse na h-Eireann (The Cancer Association of Ireland), "Oakland," Highfield Road, Rathgar, Dublin, not later than first post on Monday, March 24. (9969)

GALWAY COUNTY COUNCIL

Applications are invited for the following posts in the Central Hospital:

ORTHOPAEDIC HOUSE SURGEON

for a period of six months in the first instance as from May 1, 1952. Remuneration at the rate of £200 per annum plus temporary bonus of £41 18s. per annum, together with rations, apartments, fuel, light, laundry and attendance. Applicants must not be less than 24 years of age on April 1, 1952, and must have had twelve months' experience as Resident Medical Officer in a hospital. It is also desirable that candidates should have had six months' experience in an orthopaedic hospital.

JUNIOR HOUSE SURGEON
to act as Casualty Officer

for a period of six months as from May 1, 1952. Remuneration at the rate of £150 per annum, plus temporary bonus of £41 18s. per annum, together with rations, etc. Applicants must not be less than 23 years of age on April 1, 1952.

Applications, stating date of birth, together with certificate of registration, testimonials and certificates of experience, should be lodged with the Secretary, County Council, County Buildings, Galway, on or before April 8, 1952. (9968)

ROSCOMMON COUNTY COUNCIL
RESIDENT SURGICAL OFFICER (Whole-time)
St. Patrick's Regional Chest Hospital, Castlerea

Applicants for the above-mentioned position must since registration as medical practitioners have had in the aggregate at least two years' experience of surgery as a resident officer in a health institution. Previous experience in thoracic surgery is desirable but not essential. Salary £530 per annum plus temporary bonus at 11.6 per cent, with a deduction at the rate of £160 per annum in lieu of residential emoluments provided in kind. The appointment shall be tenable for a period not exceeding one year and may be renewed. Applicants should communicate with the undersigned, giving the following information: date and place of birth, particulars of education and qualifications, with full details of experience, giving dates. Latest time for receipt of applications is 5 p.m. on Friday, April 4, 1952.—T. D. Wyer, County Secretary, Courthouse, Roscommon. (9971)

Eire—contd.

NATIONAL B.C.G. COMMITTEE
St. Ultan's Hospital, 37, Charlemont Street, Dublin
Applications are invited for posts of
VACCINATORS
to the above Committee. Applicants must be medical practitioners registered in Ireland, under forty years of age, and must have had special experience in tuberculosis work as assistant Tuberculosis Officer and as assistant Resident Medical Officer in a Sanatorium. Salary from £750 to £900 a year, according to experience, and travelling expenses. Applications, which must be accompanied by details of qualifications and experience, and the names of three referees, should reach the Medical Director at the above address on or before Monday, March 31, 1952. (9970)

OVERSEAS

MOOSE JAW GENERAL HOSPITAL
Moose Jaw, Saskatchewan
ASSISTANT PATHOLOGIST
Applications invited for the above position from qualified medical practitioners of the British Empire. Applicants should have good experience in all branches of pathology, and be prepared to serve large area. Salary $7,500 per annum, not including travelling expenses. Applications, giving full details, and accompanied by two recent testimonials, should be sent to Director, District Laboratory. (9938)

DEPARTMENT OF PUBLIC HEALTH
Saskatchewan
REGIONAL MEDICAL HEALTH OFFICER
Salary range: $5,760 to $6,660 per annum, including cost-of-living bonus, with two additional annual increments of $300 for certification as a specialist in public health. Requirements: Registrable qualification in medicine for province of Saskatchewan, diploma from a recognized school of public health, some medical and administrative experience, and under 50 years of age; to do professional medical and administrative work in developing preventive health services and a general health programme in the Regina Rural Health Region with population of 80,000. Benefits: Three weeks holiday and three weeks sick leave annually with pay and a good pension scheme. For application forms and additional information apply to Public Service Commission, Legislative Building, Regina, Saskatchewan. Closing date for receipt of applications April 5, 1952. (9974)

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY
For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month (5763)

ALBANY HOSPITAL, Albany, N.Y.
Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

BALL MEMORIAL HOSPITAL, Muncie, Indiana
Three hundred bed hospital fully approved Pathology Fellowships. First-year stipend $200 monthly. July 1 vacancies. Clinical pathology and/or morbid anatomy. (9973)

AUCKLAND HOSPITAL BOARD, New Zealand
Applications are invited from medical practitioners eligible to qualify under the Hospital Employment Regulations, 1948, as a Junior Specialist for the position of
JUNIOR SURGICAL SPECIALIST
Green Lane Hospital
The appointment is a full-time one for a period of twelve months from date of commencing. If desired an extension of the term for a limited period would be considered by the Board. It is desirable that applicants be Fellows of a recognized College of Surgeons of the British Commonwealth. Salary scale, £N.Z.1,100 per annum, rising to £N.Z.1,400 by annual increments of £N.Z.50, plus £N.Z.160 general wage increase. The commencing salary will be according to qualifications and experience in the specialty. Living accommodation is not provided. Conditions of appointment and forms of application may be obtained from the office of the High Commissioner of New Zealand, 415, Strand, London, W.C.2, England. Applications close with the undersigned at the office of the Board, Kitchener Street, Auckland, New Zealand, at noon on Tuesday, April 29, 1952. —R. F. Galbraith, Secretary. (9816)

TOWNSVILLE GENERAL HOSPITAL
Applications are invited for the position of
PART-TIME EAR, NOSE AND THROAT SPECIALIST
Appointee will be required to conduct three sessions of three hours each per week. Salary at the rate of £270 per annum per session of three hours. Private practice is allowed. Applications should be addressed to the Secretary, Townsville Hospitals Board, Townsville, North Queensland, Australia. Applicants should state age, whether married or single, and set out full details of qualifications and experience. The Board will not undertake to incur any expense in bringing any appointees to North Queensland, Australia. (9263)

TOWNSVILLE GENERAL HOSPITAL
Applications are invited for the position of
PART-TIME PHYSICIAN
Appointee will be required to conduct four sessions of three hours each week, which includes one session during which the applicant is required to act as Supervising Officer of tuberculosis cases. Salary at the rate of £270 per annum per session of three hours. Private practice is allowed. Applications should be addressed to the Secretary, Townsville Hospitals Board, Townsville, North Queensland, Australia. Applicants should state age, whether married or single, and set out full details of qualifications and experience. The Board will not undertake to incur any expense in bringing any appointees to North Queensland, Australia. (9264)

UNIVERSITY COLLEGE HOSPITAL OF THE WEST INDIES, Jamaica, B.W.I.
Applications are invited for two vacancies for
REGISTRARS (one Surgical, one Anaesthetics)
Duties to commence on June 1, 1952. The appointments will be for one year in the first instance. Salary will be in the scale of £700 to £1,000 per annum, depending on experience and qualifications, and is subject to a deduction of £100 per annum in respect of board, residence, etc. Return first-class passages by sea will be paid. Further information may be obtained from the Hospital Manager and Secretary. Applications, with full details and two recent testimonials, should reach the Hospital Manager and Secretary, University College Hospital of the West Indies, Mona, Jamaica, B.W.I., before April 30, 1952. (9817)

HER MAJESTY'S COLONIAL SERVICE,
Barbados
Medical Officers required for general duties (medical and surgical, obstetrics, theatre, ward work, out-patients, casualty, etc.) in Barbados General Hospital (336 beds). Appointment will be on agreement for three years, renewable if desired. Salary scale ranges from $3,600 to $4,800 (£750 to £1,000) per annum. (One Barbados dollar equals 4s. 2d.) A cost-of-living allowance at varying rates is payable, subject to a maximum of $156 (£65) per annum. Free quarters are provided, or an allowance in lieu is payable at the rate of 10 per cent of salary. Passages are provided in both directions for officer, wife and children, up to a maximum of $1,440 (£300) each way. Generous home leave is granted. Income tax at low rates. Social and recreational amenities are good. Candidates should possess medical qualifications registrable in the United Kingdom. Application forms can be obtained from the Director of Recruitment, Colonial Service, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/281/52). (9910)

HER MAJESTY'S COLONIAL SERVICE,
British Guiana
Radiologist required for the Medical Department, British Guiana, to perform general work of Radiologist and to supervise and control X-Ray Department in the Public Hospital at Georgetown. He may be required to visit and supervise the working of X-Ray units in other hospitals, and to perform some other medical duties as the Director of Medical Services may request. Appointment can be made on a permanent basis with pension (non-contributory) at the age of 55, or on short-term agreement for three years in the first instance. Doctors in the National Health Service may resign from the National Health Service but retain their superannuation rights during their time in British Guiana (up to six years), and receive a resettlement grant of 20 per cent of the aggregate of their British Guiana salary on leaving British Guiana at the end of their engagements. Salary scale ranges from £1,000 to £1,200 per annum. Pension is earned at the rate of 1/600th of the final pensionable emoluments for each completed month of service. Income tax at local rates. Quarters are not provided, but a house allowance of £100 per annum is payable. Local leave is permissible, and generous home leave is granted after each tour of two to three years. On appointment free passages are provided for officer, wife and children under 18 years, not exceeding five persons in all. Free passages on leave are provided for the officer only. Candidates must possess medical qualifications registrable in the United Kingdom; have obtained a Diploma in Medical Radiology, and have had not less than two years' experience of radiological work. Application forms can be obtained from the Director of Recruitment, Colonial Service, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/346/52) (9911)

HER MAJESTY'S COLONIAL SERVICE,
Tanganyika
Medical Officers are required for general medical duties in Tanganyika. Appointments can be made on a permanent basis with pension (non-contributory) at the age of 45 to 55 or on short-term contracts with gratuity on satisfactory completion of service. Candidates in the National Health Service may resign from the National Health Service but retain their superannuation rights during their time in Tanganyika (up to six years), and receive a resettlement grant of 20 per cent of the aggregate of their Tanganyika salary on leaving Tanganyika at the end of their engagements. Salary scale ranges from £865 to £1,590 per annum. A temporary allowance at the rate of 20 per cent of salary is also payable, subject to a maximum of £200 per annum. Starting salary will be determined according to age, qualifications, and experience. Special increments are given for approved higher qualifications. Quarters provided at low rental. Free passages provided in both directions for officer, wife, and children up to the cost of three adult fares. Income tax at local rates. Tour of service is from 24 to 36 months. Local leave is permissible, and generous home leave is granted. Education facilities up to higher school certificate are available in East Africa. Social and recreational amenities are good. Candidates must possess medical qualifications registrable in the United Kingdom, and, in addition to the performance of general medical duty (including, in most instances, personal control of a hospital and responsibility for the public health of a district), must be prepared to go on tour and to train subordinate African medical and health staff. Medical officers in Tanganyika are eligible for promotion to administrative super-scale posts, and also, on acquiring specialist qualifications and experience, for numerous specialist appointments in their own or other territories. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/149) (9912)

HER MAJESTY'S COLONIAL SERVICE, Malaya
Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom with one or more years' experience after qualification are required for appointment as
MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH
for General Medical and Health duties
Appointment is available (a) on probation for permanent establishment; (b) on employment from the National Health Service; and (c) on short-term contract with gratuity. (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in Her Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g., F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malaya salary on leaving Malaya at the end of their engagements. Emoluments as under (a), including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a), including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment the rates of salary and gratuity refer to doctors eligible for expatriate terms under Malayan Regulations (i.e., those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/242/51). (5187)

Overseas—contd.

HER MAJESTY'S COLONIAL SERVICE, Kenya
Medical Officers are required for general medical duties in Kenya. Appointments can be made on a permanent basis with pension (non-contributory) at the age of 55, or on short-term contract with gratuity on satisfactory completion of service. Salary scale is from £865 to £1,590 per annum. Starting point in this scale is determined by the candidate's age, experience and war service. A temporary cost-of-living allowance at varying rates, subject to a maximum of £160 per annum, is also payable. Quarters are provided at a rental of 10 per cent of salary. Free passages in both directions for officer and wife, and up to the cost of one adult fare for children. Income tax at local rates. Tour of service is from 40 to 48 months. Annual local leave is permissible and generous home leave is granted after each tour. Social and recreational amenities are good. Educational facilities for children are available. Medical officers in Kenya are eligible for promotion to administrative super-scale posts, and also, on acquiring specialist qualifications and experience, for numerous specialist appointments in Kenya and other Colonial territories. Candidates must possess medical qualifications registrable in the United Kingdom. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/152/52). (9909)

UNIVERSITY APPOINTMENTS

CHARING CROSS HOSPITAL MEDICAL SCHOOL, 62, Chandos Place, London, W.C.2
There are vacancies in the Anatomy Department for a

LECTURER
(minimum salary £800 per annum) and for an
ASSISTANT LECTURER
(minimum salary £600 per annum).
The appointments are whole-time. Further details and forms for application may be obtained from the Secretary. (9839)

INSTITUTE OF UROLOGY
(In association with St. Peter's, St. Paul's, and St. Philip's Hospitals)
TWO SENIOR RESEARCH ASSISTANTS
Applications are invited from registered medical practitioners holding a higher qualification, and of consultant status, for research into malignant disease of the urinary tract. Appointment, part-time for one year in the first instance, renewable annually. Salary £500 per annum. Applications to the Secretary, Institute of Urology, 10, Henrietta Street, Covent Garden, W.C.2, to be received by April 5. (9818)

NUFFIELD FOUNDATION DOMINION TRAVELLING FELLOWSHIPS
The Nuffield Foundation offers a Travelling Fellowship in Medicine to nationals of New Zealand, preferably between the ages of 25 and 35 years. The purpose is to enable medically qualified persons to obtain in the United Kingdom such postgraduate training and experience as may be necessary to prepare them to undertake medical teaching and research work in New Zealand. Applicants should possess high intellectual and personal qualities. A Fellow will be required to carry out, at an approved institution, a programme of work and training approved by the Nuffield trustees. A Fellow will not be permitted to prepare for, or to take examinations for, higher degrees or diplomas awarded by bodies in the United Kingdom. The Fellowships are normally tenable for one year and provide for return travelling expenses of a Fellow and, if he is married, for his wife. The total value of an award, including travelling expenses, varies with the needs and family responsibility of the holder, but will in no case be less than £900. Applications, for Fellowships to begin in 1952, should be submitted not later than April 26, 1952, to the undersigned. Copies of the conditions, and forms of application, are also available at the Nuffield Foundation, 12, Mecklenburgh Square, London, W.C.1.—R. E. Corbett, Department of Chemistry, University of Otago, Dunedin, New Zealand. (9939)

UNIVERSITY OF ABERDEEN
RADIOGRAPHER in the Department of Anatomy
Applications are invited for the above post. Salary £520 per annum with F.S.S.U. Applications to be lodged with the undersigned before April 14, 1952.—H. J. Butchart, Secretary, University of Aberdeen. (9819)

UNIVERSITY OF SHEFFIELD
Applications are invited for a post of
LECTURER IN ANATOMY
to begin duties as soon as possible, and in any case not later than October 1, 1952. Salary scale: Lecturer, £700 by £100 to £1,500. Commencing salary (in range £700 to £1,000), according to qualifications and experience, with superannuation provision under the F.S.S.U., and a family allowance. Applications (four copies), together with the names and addresses of referees, and, if desired, copies of testimonials, should reach the undersigned (from whom further particulars may be obtained) not later than April 19, 1952.—A. W. Chapman, Registrar (9913)

PERSONAL

DANGEROUS TO LEAVE VALUABLE BUT UN-wanted articles of jewellery and silver in the house. Why not dispose of them now? Hayes, the famous Hatton Garden jewellers, offer the following record prices: £5-£2,500 for Diamond Rings, Bracelets, Brooches, and Ear-rings; £5-£105 Cultured Pearl Necklaces; £10-£100 Gold Cigarette Cases and Solid Silver Tea Sets and Trays; £20-£500 Diamond Watches and Eternity Rings; £5-£55 Gold Pocket Watches and Chains; £3 to £25 Solid Silver Sports Cups and Trophies. Valuations by qualified expert (Fellow, Gemmological Association). If you cannot call personally send your parcel by registered post, it will be quite safe and you will receive an immediate cash offer with no obligation to sell.—M. Hayes & Sons, Ltd., 106, Hatton Garden, London, E.C.1. HOLborn 8177.

TRAVEX. THE TRAVEL/THEATRE SERVICE catering especially for doctors and dentists. Theatre, rail, sea or air tickets without trouble. Just 'phone LANgham 6941/5. Travex, Ltd., 17, Wigmore Street, W.1.

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

EDUCATIONAL

F.R.C.S. POSTAL COURSES FOR PRIMARY AND FINAL EDIN. and ENG. RECIPROCAL EXAMS. Full details also of Private Tuition.—H. C. Orrin, F.R.C.S., Surgeons' Hall, Edinburgh.

GENERAL SURGERY (F.R.C.S.) EVENING COURSE. March 31 to April 4; 7 to 9 p.m. daily. Clinical cases. Connaught Hospital, Walthamstow. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

M.R.C.O.G. COURSE OF LECTURES FOR THE July exam. commencing London early April.—Box 1102, B.M.J.

UNIVERSITY OF EDINBURGH
Faculty of Medicine
DIPLOMA IN PUBLIC HEALTH
DIPLOMA IN TROPICAL MEDICINE AND HYGIENE
Courses of instruction for the Diplomas in Public Health, and Tropical Medicine and Hygiene, will be given in the University during the Academic Year, 1952/53, as follows: Diploma in Public Health, October, 1952, to July 1953; Diploma in Tropical Medicine and Hygiene, October, 1952, to March, 1953. Regulations governing the diplomas, together with forms of application for admission to the Courses, can be obtained from the Dean of the Faculty of Medicine, The University, Edinburgh, 8. The closing date for the receipt of applications is April 30, 1952. (9941)

TUNSTALL HALL COLLEGE
Market Drayton, Shropshire
Girls' Country Boarding School, beautifully situated in lovely parks and woodlands. Within easy access of railway station. Full curriculum for Certificate of Education. All extras. Own riding school, 14 horses. Fees 48 guineas a term. For illustrated prospectus apply Principal.

INSTITUTE OF UROLOGY
In association with St. Peter's, St. Paul's, and St. Philip's Hospitals
Intensive Course in "Genito-Urinary Surgery" for students studying for the higher examinations, April 16 to 30, 1952. The practice of the hospitals will be open to all students attending the Course. As far as possible, lecturers will illustrate their subjects with material from the out-patients, wards, and museums. The use of the library and reading room at the Institute's premises are available to all students attending the Course. The fee for the Course is 10 guineas, payable in advance. Applications to be made to the Secretary, Institute of Urology, 10, Henrietta Street, Covent Garden, London, W.C.2. (9914)

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE
MEDICAL SCIENCES
A three months' course in Applied Anatomy, Physiology, Pathology, Bacteriology, and Biochemistry will begin on June 30, 1952. This course is suitable for postgraduates wishing to take the Primary Fellowship examination, as a final preparation in these subjects. Considerable basic knowledge is highly desirable prior to taking this course Fee £31 10s

REFRESHER COURSE FOR GENERAL PRACTITIONERS
The nineteenth Fortnight General Refresher Course for N.H.I. practitioners will start on May 5, 1952. Fee for graduates not claiming expenses from Government sources, 10 guineas.
Applications for enrolment should be addressed to Director of Postgraduate Studies, Surgeons' Hall, Edinburgh 8. Applicants for courses, except general practitioners, should supply particulars of qualifications and postgraduate experience.

FACULTY OF RADIOLOGISTS
D.M.R.D. and D.M.R.T. (R.C.P.Lond., R.C.S.Eng.)
Comprehensive courses for candidates for the D.M.R.D. or D.M.R.T. (R.C.P.Lond., R.C.S.Eng.) will be organized in London by the Faculty, in co-operation with Medical Schools and Hospitals of the University of London, Metropolitan Regional Hospitals, and the British Postgraduate Medical Federation The courses will commence in October, 1952, and will normally be full-time (fee 85 gns.), but in certain circumstances selected portions of the course only may be taken. Application forms and further particulars may be obtained from the Assistant Director, British Postgraduate Medical Federation, 2, Gordon Square, London, W.C.1, to whom all inquiries should be addressed. The closing date for applications from overseas is May 30, 1952. (9841)

INSTITUTE OF LARYNGOLOGY AND OTOLOGY
(University of London) and
THE ROYAL NATIONAL THROAT, NOSE AND EAR HOSPITAL
Gray's Inn Road, London, W.C.1 (Close to King's Cross Stations)
CLINICAL MEETINGS AND DISCUSSIONS
ESPECIALLY ARRANGED FOR GENERAL PRACTITIONERS

FRIDAY, MARCH 28		
4.30 p.m.	Cancer of the Larynx	PROFESSOR F. C. ORMEROD
FRIDAY, APRIL 25		
4.30 p.m.	Deafness and Hearing Aids	MR. F. W. WATKYN-THOMAS
FRIDAY, MAY 30		
4.30 p.m.	Diseases of the Nose and Nasal Sinuses	MR. C. GILL-CAREY
FRIDAY, JUNE 27		
4.30 p.m.	Stuffy Nose	DR. H. A. LUCAS
FRIDAY, OCTOBER 31		
4.30 p.m.	Naso-pharyngeal Tumours	MR. G. H. HOWELLS
FRIDAY, NOVEMBER 28		
4.30 p.m.	The Use of Sulphonamides in Otitis Media	MR. A. R. DINGLEY

There is no fee for attendance. (9915)

EMPIRE RHEUMATISM COUNCIL
The Spring week-end course will be held at THE ARTHUR STANLEY INSTITUTE, Middlesex Hospital, Peto Place, Marylebone Road, N.W.1 (Great Portland Street and Regents Park Underground Stations), on FRIDAY and SATURDAY, APRIL 25 and 26, 1952.
LECTURE-DEMONSTRATIONS

FRIDAY, APRIL 25		
4.30 p.m.	Recent Advances in the Rheumatic Diseases	W. S. C. COPEMAN, O.B.E., F.R.C.P. (London)
5.30 ,,	Rheumatoid Arthritis	OSWALD SAVAGE, O.B.E., M.R.C.P.(London)
SATURDAY, APRIL 26		
10.15 a.m.	Gout	G. R. FEARNLEY, M.R.C.P. (London)
11.30 ,,	Orthopaedic Aspects of the Rheumatic Diseases	NORMAN CAPENER, F.R.C.S. (Exeter)
2.0 p.m.	Pathology of the Rheumatic Diseases	H. J. GIBSON, M.D. (Bath)
3.0 ,,	One Aspect of Non-articular Rheumatism	DORIS BAKER, M.R.C.P. (London)
4.0 ,,	Tea	
4.15 ,,	Ankylosing Spondylitis	H. F. WEST, M.R.C.P. (Sheffield)

The fee for the course will be two guineas, limited to 60 entries, to be received with remittance, at least one week before by: The General Secretary, Empire Rheumatism Council, Tavistock House (N), Tavistock Square, W.C.1. (9148)

Educational—contd.

MEDICAL CORRESPONDENCE COLLEGE, 19, Welbeck Street, London, W.1, provides COACHING for all Medical Examinations. D.A., D.P.M., D.O.M.S., D.L.O., D.C.H., D.M.R.D. and D.M.R.T., M.R.C.P., F.R.C.S., M.D. thesis, and all qualifying exams by a staff of highly qualified Tutors, Honoursmen and Gold Medallists. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested.

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes, 1938-1951: M.D.Lond., 65; M.B., B.S.Lond., Final, 152; F.R.C.S.Eng., Primary, 197; F.R.C.S.Eng., Final, 185; M.R.C.P.Lond., 204; M.R.C.S., L.R.C.P., Final 331; D.A., 181; D.C.H., 139; M. and D.Obst.R.C.O.G., 221; D.O., C.P.H., D.P.H., D.L.O., D.P.M., F.R.C.S.Edin., many successes. Assistance with M.D. Thesis. Prospectus, list of tutors, etc., on application to Dr. G. E. Oates, University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

ROYAL FREE HOSPITAL GROUP

General practitioners are invited to attend a course of

CLINICAL DEMONSTRATIONS AND DISCUSSIONS

to be held at the Hampstead General Hospital by members of the medical and surgical staff of the Group. Further particulars may be obtained from the Administrative Officer, Hampstead General Hospital, The Green, N.W.3. (9840)

THE ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE

The Certificate, and the Diploma, in Public Health and the Diploma in Industrial Health

The next bi-annual Course of Instruction for the Certificate in Public Health (C.P.H.) will commence on March 21, 1952. This leads to Courses both for the Diploma in Public Health and for the Diploma in Industrial Health. All Courses may be taken either whole-time or part-time. Prospectuses, enrolment forms, and full details may be obtained from the Secretary, 28, Portland Place, London, W.1. (Telephone: Langham 2731-2). (9108)

UNIVERSITY OF EDINBURGH
Faculty of Medicine
DIPLOMA IN PSYCHIATRY

An intensive five-weeks' Postgraduate Course, as part of the requirements for the Diploma in Psychiatry, will be held during the Autumn Term, 1952, from Monday, October 6, to Saturday, November 8. The course will include instruction in psychiatry, psychology, neurology, neuro-anatomy, neurophysiology, neuro-pathology, mental deficiency, etc., and will occupy the full time of those attending. While primarily intended for medical graduates or licentiates who have been registered as candidates for the Diploma in Psychiatry of the University, the Course is open to other medical practitioners who may wish to attend. The fee for the Course is 25 guineas, and a matriculation fee of £1 11s. 6d. (or £2 12s. 6d. in the case of candidates for the Diploma) is also payable. The course will be held only if a sufficient number of enrolments are received, and application for admission to the Course should be sent to the Dean of the Faculty of Medicine, University New Buildings, Edinburgh, 8, not later than June 30, 1952.—Sydney Smith, Dean of the Faculty of Medicine. (9940)

UNIVERSITY OF EDINBURGH
Faculty of Medicine
D.M.R.D. and D.M.R.T. (Univ. Edin.)

The Courses of instruction for the Diploma in Medical Radiodiagnosis and the Diploma in Medical Radiotherapy, which are offered by the University of Edinburgh, will commence on October 7, 1952. The Courses, which are open to practitioners holding recognized medical qualifications, include lectures and practical instruction, and extend over a period of two years. They are held in the University, the Royal Infirmary, and other approved hospitals. The cost of the Courses is: For the D.M.R.D. £70 7s.; For the D.M.R.T. £80 17s. Full particulars can be supplied by the Dean of the Faculty of Medicine, The University, Edinburgh, 8. For both Courses there is available a limited number of S.H.O. appointments. Preference will be given to candidates holding higher medical qualifications. Applications for the Courses, and for the S.H.O. appointments, should be submitted, in the first instance, to the Dean of the Faculty of Medicine as soon as possible, and not later than April 30, 1952. (9942)

UNIVERSITY OF EDINBURGH
Faculty of Medicine
COURSE OF INSTRUCTION IN MEDICAL ILLUSTRATION

Applications are invited for the new session of the above course of instruction commencing in October, 1952. This course extends for a period of three years and is particularly suited to those who are considering medical illustration as a profession. Applications should be made on the prescribed form, which is obtainable from the Dean of the Faculty of Medicine, University New Buildings, Teviot Row, Edinburgh, 8. Candidates must be not less than 18 years of age, and must have a good secondary education with a knowledge of general art.—Charles H. Stewart, Secretary to the University. (9820)

LECTURES

ROYAL EYE HOSPITAL
(King's College Hospital Group)

A Course of Lectures will be held during the Spring Term on clinical subjects and refraction. Further particulars are obtainable on application to the Secretary, Royal Eye Hospital, St. George's Circus, S.E.1. (9943)

UNIVERSITY OF GLASGOW
NOAH MORRIS MEMORIAL LECTURES

Dr. William N. Pickles, M.D., D.Sc., M.R.C.P., will deliver a lecture on "Epidemiology in Country Practice" in the lecture theatre of the Chemistry Department on Wednesday, April 16, at 4.30 p.m. The lecture is open, without ticket, to all interested. (9908)

SITUATIONS VACANT

North Devon Hospital Management Committee.—Pathological Laboratory, Bouipport Street, Barnstaple. Applications are invited for the post of **Technician** or **Junior Technician** in a new laboratory serving the North Devon District. Considerable experience in haematology is essential. Salary and conditions in accordance with Whitley Council scales. Applications, stating age, qualifications and experience, together with the names of two referees, to the Pathologist at the above address. (8108)

PHARMACISTS, DIETITIANS, DISPENSERS, NURSES

VACANT

Dispenser required for country practice. Single flat available unfurnished.—Box 942, B.M.J.

Dispenser Bookkeeper required in old established mixed practice 40 miles from London. Immediate vacancy.—Box 1138, B.M.J.

AVAILABLE

Dispenser, Hall certificate, car driver, seeks Locums. May to August.—Box 1115, B.M.J.

Lady dispenser (Hall), fifteen years' experience with doctors, available for holiday relief.—Box 1123, B.M.J.

S.R.N. with Canadian obstetrics, late P.M.R.A. F.N.S., touch typist, some shorthand, 32 years old, seeks post West London area.—Box 1122, B.M.J.

RECEPTIONISTS, SECRETARIES, TYPISTS, HOUSEKEEPERS, ETC.

AVAILABLE

The Notification of Vacancies Order, 1952, provides that the services of any advertiser under this heading may be engaged only through the medium of the Local Employment Exchange or approved Employment Agency, unless he or she is over the age of 64 or 59 respectively, or otherwise excepted from the provisions of that Order.

Educated lady (35), requires post as Receptionist/ Clerk to doctor or dentist, S.W.1, 3 or 7 districts preferred. No shorthand.—Box 1139, B.M.J.

Elderly lady, pleasant personality, reliable, hard working, active, is highly recommended and seeks post as Receptionist/Secretary to London doctor/specialist. Trained nursing sister, has also managed large airways hotel overseas and more recently a large country estate in U.K. Business and secretarial experience. Typing.—Box 1124, B.M.J.

Secretary/Receptionist, quick, accurate, shorthand typist, good medical experience, requires full- or part-time position, London. Highest references.—Box 1114, B.M.J.

Applicants requiring testimonials, theses, copied or duplicated should communicate with Manton Secretarial Service, Ltd., 98, Victoria Street, S.W.1 (Victoria 0141), who are specialists.

General Practitioners. Your tedious paper work, correspondence, accounts, etc., dealt with at economic hourly rates by fully experienced reliable Secretary specializing medical work. Available at your convenience for occasional/regular, short/longer periods, also evenings and Saturdays. Own typewriter.—Mary Simon, 58, Heath Street, N.W.3. Telephone mornings: HAM 5216.

Thoroughly trained Medical Secretarial staff may be engaged through Brook Street Bureau, Ltd., 59, Brook Street, W.1, Gro. 6666, and 2, George Street, Croydon. Phone: 3363.

CONSULTING ROOMS, ETC.

AVAILABLE

Queen Anne Street, well furnished, bright consulting room for part-time or occasional use, now available, moderate rent.—Box 1155, B.M.J.

Wimpole Street, Attractive ground-floor Consulting Room, partly furnished, use of waiting-room. Accommodation for Secretary, usual service. Box 1035, B.M.J.

HOLIDAY ACCOMMODATION

Modern farmhouse, farm attached, on the South Cardiganshire coast, would welcome family of four to six, own dining-room and sitting-room, and bathroom. Excellent food, every comfort. Not far from all the bays on the coast. Prettiest spot in Wales. Box 1116, B.M.J.

South Cornwall.—On seafront. Comfortable holiday accommodation in doctor's house.—Box 1126, B.M.J.

HOUSES FOR SALE

For sale. Long lease of house. Pleasant town in Eire. Suit doctor.—Apply William Golden, Auctioneer, Mallow, Eire.

HOTELS

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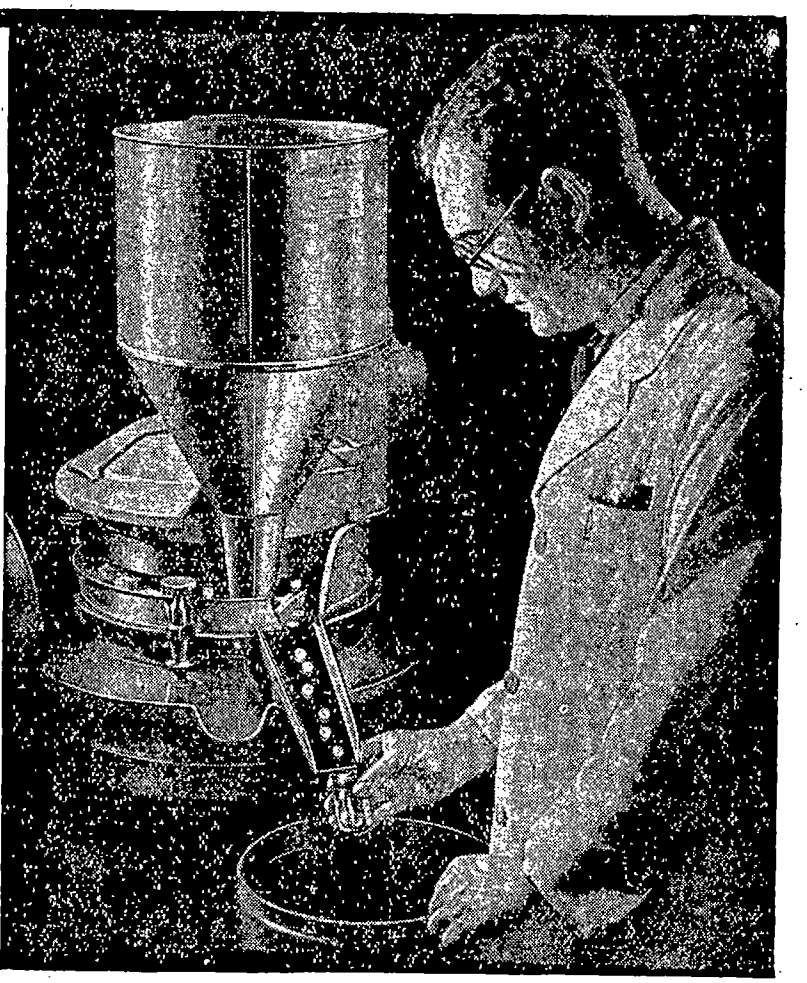

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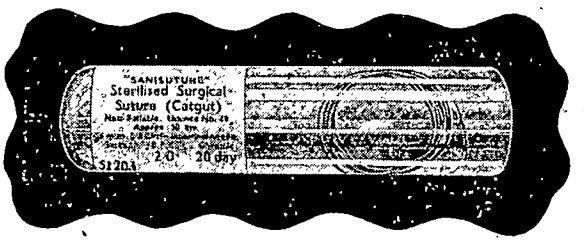

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY MARCH 29 1952

SOME MEDICAL ASPECTS OF TOBACCO-SMOKING*

BY

RONALD BODLEY SCOTT, M.A., D.M., F.R.C.P.

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Of all the imports for which the Old World is indebted to the New, none equals in medical interest two which anticipated the Lease-Lend Act by nearly 450 years—syphilis and tobacco. It is of the second, the only drug to which addiction is universally considered respectable, that this paper treats.

Historical

So far as Western civilization is concerned, the history of tobacco begins on October 13, 1492, when Christopher Columbus landed on the island he named San Salvador. The natives sought to propitiate their visitors with rare gifts, including among them some dried leaves, which the Spaniards later threw away with smiles of condescension at the artless generosity of the savages. Nevertheless, within fifty years these leaves were eagerly sought in Europe, and were recommended for their medicinal properties by the French Ambassador at Lisbon, Jean Nicot, who later gave his name to nicotine. A century later the habit of pipe-smoking had firmly established itself in England. It survived the fulminations of James I, who published his *Counterblaste to Tobacco* within a year of coming to the throne, stigmatizing smoking as a "custome loathsome to the eye, hatefull to the nose, harmfull to the braine, dangerous to the lungs, and, in the black stinking fume thereof, nearest resembling the horrible Stygian smoke of the pit that is bottomlesse." The milder strictures of Charles II, who forbade Cambridge men to "wear periwigs, smoke tobacco or read their sermons," were equally ineffective. In Continental countries, where deterrents were more vigorous, the habit spread less rapidly: in Russia, smokers were discouraged by amputation of the nose, and in the Swiss Canton of Berne the offence was ranked as only one degree less odious than adultery. A prohibition against smoking in the streets was rigidly enforced by the police in Berlin up to 1848.

The habit has now become so universal that the occasional non-smoking compartment in railway carriages, which has long since replaced that formerly labelled "smoker," seldom contains more than one old lady. The increase has been due to the cigarette, a South American invention of the 1750's, which reached Europe through the Peninsula and was made fashionable by Louis Napoleon after the Crimean War. So vast has the consumption of tobacco become that the duty paid on it affords the Chancellor of the Exchequer one of his main sources of revenue, providing him in 1950 with £601,651,432. The moralist will find matter for reflection in the thought that over one-quarter of the country's income is now derived from the addiction of its inhabitants to tobacco and alcohol.

Much ingenuity has been expended in efforts to explain the attraction of tobacco-smoking. "I cannot imagine what pleasure they derive from this practice," wrote Oviedo in 1526, "unless it be the drinking which invariably precedes the smoking." He continues: "I am aware that some Christians have already adopted the habit, especially those who have contracted syphilis, for they say that in the state of ecstasy caused by the smoke they can no longer feel their pain." Of recent years less naive reasons have been postulated: the atavistic lure of fire worship, a pleasurable stimulation of the vagal nerve endings, and a rise in the blood-sugar level have all had their champions (Finnegan, Larsen, and Haag, 1945). The psychiatrists have made their characteristic contribution to the problem. "Getting something orally," one asserts (Bergler, 1946), "is the first great libidinous experience in life"; first the breast, then the bottle, then the comforter, then food, and finally the cigarette. More mundane, but perhaps better founded, is the suggestion that a true addiction to nicotine is at least part of the explanation (Finnegan, Larsen, and Haag, 1945; Johnston, 1942).

The Pharmacology of Smoking

The pharmacology of tobacco-smoking is more complex than at first appears; nicotine is the only alkaloid of importance in the leaf, but at least eleven others are recognized, although their biological actions are uncertain. Estimates of the quantity of nicotine entering the mouth during smoking vary: earlier reports claimed amounts as great as 3.6 mg. per cigarette, of which 90% was said to be absorbed (Pierce, 1941). More dependable assays are in the region of 1 mg. per cigarette weighing 1 g., 2.69 mg. per gramme of pipe tobacco, and 0.7–1.6 mg. per gramme of cigar (Ling and Wynn Parry, 1949). The proportion absorbed varies directly with the "wetness" of the smoker and inversely with the length of the cigarette-holder or pipe-stem. In the case of a cigarette smoked without a holder, it is estimated at about 0.5 mg., and this is borne out by comparing the antidiuretic effect of one cigarette with that of 0.5 mg. of nicotine given by injection (Burn, Truelove, and Burn, 1945). After smoking 20 cigarettes in seven hours the quantity of nicotine in the blood reaches an average of 0.14 mg. per litre; lower levels result from pipe or cigar

* A lecture delivered to the Bournemouth Medical Society on January 9.

smoking. It is remarkable that traces of nicotine can still be found in the blood ten hours after the last cigarette has been smoked (Wolff, Hawkins, and Giles, 1949).

Doses of 1–6 mg. of nicotine, by subcutaneous injection, are enough to produce such symptoms as sweating, faintness, tachycardia, nausea, and vomiting in non-smokers; much larger doses are tolerated by the habitué (Johnston, 1942). Nicotine's main effect is on the sympathetic nerve endings, first stimulating and later paralysing them. Cigarette smoke, however, contains a large number of other products, such as hydrocyanic acid, ammonia, carbon monoxide, pyridines, aldehydes, and tars. It is possible that the nausea and vomiting which occasionally assail the neophyte may be due to some of these substances. A man who habitually smokes 20 cigarettes a day absorbs enough carbon monoxide to maintain 5% of his haemoglobin in the carboxy form (Dixon, 1921).

Some observations on the mechanics of smoking are of interest. The average smoker consumes one cigarette in 17 puffs, with each of which he draws into his mouth 33 ml. of air; every 66 seconds he inhales the smoke, but by the time it has reached his lungs it has been diluted fifteenfold by the air in his respiratory passages (Fabricant, 1946).

The Physical Effects of Smoking

It is clear that the uses of tobacco and the effects of smoking upon the healthy and upon the diseased body must be a matter of close concern to our profession. The herb has, in fact, aroused medical interest ever since its introduction to Europe. It was for its medicinal virtues that it was cultivated in the sixteenth century, when, for a time, it enjoyed the reputation of a panacea. Application of tobacco leaves would heal a cancerous ulcer, it was claimed, and the apparently drowned were rapidly revived by insufflation of tobacco smoke into the rectum when they were suspended by the heels. It was widely used as a prophylactic against infection, and in 1665 the boys at Eton were given instruction in smoking, that they might ward off the plague; one pupil has recorded that he was never flogged so severely as when he refused his pipe.

Gradually attention shifted from the beneficent to the malignant effects of tobacco. The Victorian attitude accorded well with the view that any custom so enjoyable as smoking must of necessity be harmful; and in 1856 Mr. Samuel Solly was thundering at the students of St. Thomas's Hospital: "Now don't be frightened, my young friends, I am not going to give you a sermon against smoking, that is not my business; but it is my business to point out to you all the various and insidious causes of general paralysis, and smoking is one of them. . . . I know of no single vice which does so much harm as smoking."

Much of the writing on the medical aspects of tobacco-smoking has come from the pens of non-smokers or of those who have renounced the habit and are basking in the sunshine of their own righteousness. For these reasons the appeal is often to the emotions rather than to the intellect. As recently as 1937, an English physician (J. D. Rolleston, 1937) wrote: "The three greatest statesmen of our time, Mussolini, Hitler, and Mr. Gladstone, did not smoke"; his paper closed with a plea to join the National Society of Non-Smokers and to subscribe to its journal, *Clean Air*.

This approach to the problem has made it difficult for us to offer our patients rational advice on the question, and I turn now to the consideration of some of the established facts regarding the effects of this habit. It has been proved that non-smokers live longer than smokers (Pearl, 1938), and that the decrease in survival is greater for heavy than for moderate smokers. Once the age of 70 years has been passed the harmful effects are no longer apparent. In another series (Short, Johnson, and Ley, 1938–9) the effect of smoking was investigated in 2,031 persons proposing for life assurance; 63.7% of these were habitual smokers and 24.4% had never smoked; the two groups were homogeneous in respect of age and sex. No differences in weight, blood pressure, or pulse frequency existed between them, but the smokers were more prone to colds in the head and complained more frequently of cough, palpitation, dyspnoea and dyspepsia.

Its Effects upon the Cardiovascular System

It will be more profitable, however, for our present purpose to consider the various systems of the body and the effects tobacco is said to have on them. I begin with the cardiovascular system. Tobacco has a well-defined pharmacological action on the heart and blood vessels; the blood pressure shows a transient rise, averaging 15 mm. for the systolic and 10 mm. for the diastolic pressures; the pulse frequency increases by an average of 8 beats a minute; changes in the electrocardiogram, consisting of lowering or even inversion, of the T waves, are frequent (Graybiel, Starr, and White, 1938; Stewart, Haskell, and Brown, 1945; Levy, Mathers, Mueller, and Nickerson, 1947). These disturbances are ephemeral and disappear when the cigarette is finished. Significant alterations occur also in the peripheral circulation: the skin temperature falls and the volume of the hand, as measured by the plethysmograph, diminishes (Lampson, 1935). These changes are undoubtedly the result of arterial narrowing, but it has been pointed out that a reflex peripheral vasoconstriction takes place whenever a deep breath is drawn and that inhalation alone might be responsible for the decrease in limb volume (Mulinos and Shulman, 1940). However, it has now been established that a progressive reduction in the volume of the limb occurs while cigarettes are being smoked, as well as the transient decrease which accompanies each inhalation (Shepherd, 1951). It must therefore be accepted that cigarette-smoking does lead to constriction of peripheral vessels, although it is possible that these effects are brought about by nicotine stimulating the release of adrenaline from the suprarenal glands (Short and Johnson, 1938–9).

These phenomena are, as I have stressed, manifestations of the pharmacological action of tobacco; it will be obvious that symptoms due to pre-existing cardiovascular disease may be aggravated by them, but there is no proof that tobacco initiates such disease. Nevertheless this contention is often made, and one or two specific instances must be considered. "Smoker's heart," an expression more familiar to our fathers than to us, was applied to a state in which premature contractions occurred in heavy smokers; it seems possible that this causal sequence is to be observed in some patients, but it is decidedly rare. It was regarded more seriously 45 years ago: tobacco might, it was said, "increase vascular tension and lead to tumultuous and forcible cardiac action"; persistence in the habit after these warnings might cause dilatation of the heart with very much more serious symptoms, which might even be fatal (Essex Wynter, 1907).

Attempts have been made to incriminate smoking as a cause of coronary artery disease, but in one series of 750 patients with angina the percentage of smokers was considerably lower than the percentage of non-smokers (White and Sharber, 1934). In another group of 1,000 men above the age of 40 years with evidence of coronary artery disease, 69.8% were smokers, while the figure for a control group without heart disease was 66.3%. Nevertheless, between the ages of 40 and 49 years 1% of non-smokers were found to have evidence of coronary artery disease, while in mild to moderate smokers the incidence was 4.6%, and in heavy smokers 5.9% (English, Willius, and Berkson, 1940). It is hardly necessary to point out that these observations do not imply a causal relationship: everyday experience suggests that the kind of man who has a coronary thrombosis before he is 50 is the kind of man one expects to smoke 25 cigarettes a day.

In some patients tobacco undoubtedly provokes anginal pain. In the majority there are convincing signs of disease of the coronary arteries, and smoking produces its effects by its action in raising the blood pressure and increasing the heart rate (Pickering and Sanderson, 1944–5). Very

occasional instances are recorded of what may with accuracy be called "tobacco angina": in one of these pain was provoked by smoking but not by exertion, there was no rise in blood pressure or heart rate, but transient changes in the ST segments of the electrocardiogram were noted. It was suggested that spasm of the coronary arteries induced by tobacco was responsible (Bryant and Wood, 1947).

The therapeutic deduction seems to be that patients in whom anginal pain follows smoking should be advised to abstain. There is not sufficient reason for forbidding all patients with angina to smoke, although a period of abstinence as a therapeutic trial is justifiable.

In the genesis of peripheral vascular disease tobacco has long been regarded as important. Every medical student reads in his textbooks that thrombo-angiitis obliterans occurs predominantly in chain-smoking Russian Jews. There is now dispute over the very existence of this disease; it is suggested that the name covers a multitude of pathological processes and that it is not to be distinguished from the senile variety of obliterative arterial disease (Boyd, Ratcliffe, Jepson, and James, 1949). It is still, however, the general belief that thrombo-angiitis obliterans is a specific morbid entity and that smoking is more dangerous in it than in senile obliterative arteritis. It has been claimed that occlusive vascular disease is more common in diabetics who smoke than in those who do not; in one series it was noted in 58% of smokers and in only 37% of non-smokers (Weinroth and Herzstein, 1946).

Although skin-sensitivity tests with extracts of cigarette smoke were reported as positive in 83% of patients with thrombo-angiitis obliterans and in only 10% of normals (Harkavy, Hebald, and Silbert, 1932–3), and although allergy to tobacco has been postulated as the basis of this complaint (Sulzberger, 1934), no evidence exists which convincingly incriminates smoking as a cause of this or any other peripheral vascular disease. Injections of nicotine into growing rats do not increase the incidence of arterial change (Thienes and Butt, 1938). The danger is due to the vasoconstrictor effects of tobacco, and there is unanimous agreement that sufferers from peripheral vascular disease should not smoke. It is not clear how much difference this interdiction makes to the elderly man with intermittent claudication; but when there is gangrene or the vitality of the skin is in doubt the ban should be absolute. The additional vasoconstriction may be enough to prevent healing or to precipitate death of tissue. One observer followed up 100 patients with thrombo-angiitis obliterans, who had ceased to smoke, over a period of ten years; in every case the disease was arrested (Silbert, 1945).

Its Effects upon the Respiratory System

In the respiratory system the irritant action of tobacco smoke might reasonably be expected to overshadow any systemic effects. We are all familiar with the patient who replies to our query with, "Just a smoker's cough, doctor," and, although he may have bronchiectasis, carcinoma of the lung, or pulmonary tuberculosis, a "smoker's cough" must be admitted. Tobacco smoke has a considerable local irritant action; a method of measuring this by the effect of six "standard puffs" of cigarette smoke in producing oedema of the rabbit's conjunctiva has been devised (Finnegan, Fordham, Larsen, and Haag, 1947). Researches show that different brands vary greatly in their irritant action, probably owing to substances added in the manufacture. Persistent heavy cigarette-smoking will certainly lead to a chronic pharyngitis and will keep alight chronic bronchitis in those predisposed. Apart from these obvious irritant effects, recent observations, showing that it reduces vital capacity and chest expansion, provide scientific justification for the belief that it is "bad for the wind" (Whitfield, Arnott, and Waterhouse, 1951).

Asthma due to tobacco must be very rare, although the case is recorded of a Turkish lady who was sensitive to cigars and was afflicted by asthma when she walked in the grounds of her estate, which adjoined a tobacco plantation (Urbach and Gottlieb, 1946).

In the past few years interest has been focused on the importance of smoking as a cause of carcinoma of the bronchus. The recorded mortality from this tumour in England and Wales increased fifteenfold between 1922 and 1947; it is now probably the commonest form of malignant disease met by the general physician. This increase has been noted in all countries of the Western World, with the exception of Iceland (Dungal, 1950); records show that bronchial carcinoma provides 27% of all malignant tumours in the post-mortem rooms of London (Bryson and Spencer, 1951) but only 2.9% in those of Reykjavik (Dungal, 1950). Cigarette-smoking has long been suspected as a cause, and some recent statistical investigations have proved this suspicion true. It is of interest, moreover, that the cigarette consumption in Iceland has been negligible until the last few years. In a series of 684 patients with bronchial carcinoma in the United States, only 1.3% were non-smokers and 51.2% had smoked more than 20 cigarettes a day for 20 years; the figures for these classes in the general hospital population without cancer were 14.6% and 19.1% (Wynder and Graham, 1950). Independent observations made in this country have led to the conclusion that after the age of 45 years those who smoke 25 or more cigarettes a day are fifty times more likely to develop carcinoma of the bronchus than non-smokers of the same age. No such correlation with pipe-smoking could be found (Doll and Hill, 1950).

The only known carcinogen in cigarette smoke is arsenic, but there is not enough evidence to inculpate it. It seems clear that some cause other than, or additional to, the increase in cigarette consumption must be sought to explain the increasing frequency of bronchial carcinoma, because the second has risen more rapidly than the first. It is difficult, moreover, to understand why there has been no parallel rise in the incidence of cancer of the upper respiratory tract, although carcinoma of the larynx and pharynx is significantly more frequent in smokers than in non-smokers (Schrek, Baker, Ballard, and Dolgoff, 1950).

The moral we should draw is obscure: perhaps we should caution all young men and women not to smoke more than 20 cigarettes a day. The popular reaction is illustrated by the subscriber to the *Readers' Digest* who was so upset by an article on smoking and cancer that he decided to give up reading magazines.

Its Effect upon the Alimentary Tract

To turn now to the alimentary tract: there is good reason for thinking that cancer of the lip is commoner in pipe and cigar smokers than in the general population, but this predisposition does not extend to cigarette smokers (Levin, Goldstein, and Gerhardt, 1950). Presumably local irritation must be held responsible.

The effect of smoking upon the stomach is of importance, because it has long been traditional to urge the patient with peptic ulcer to abstain. Smoking one cigarette has been shown to diminish hunger contractions and gastric motility as well as to decrease the volume and acidity of gastric secretion; in only one of twenty patients was there an increase in acidity. These effects are probably reflex, because they do not occur after injection of nicotine in dogs (Schnedorf and Ivy, 1939; Ivy, Grossman, and Bachrach, 1950). Wolf and Wolff (1943) were able to watch the behaviour of the stomach in their patient Tom, who had had a large gastric fistula for over forty years. When smoking was pleasurable no change took place in the gastric contractions, vascularity, or acid secretion; when he had no taste for it a cigarette induced slight nausea, contractions ceased, the mucosa became pale, and acid secretion failed; these changes were common to the sensation of nausea however evoked. The increase in appetite, which many who renounce smoking notice, may be due to the removal of the inhibitory influence of tobacco on gastric motility.

These physiological observations provide no theoretical justification for advising the patient with peptic ulcer to stop smoking, yet many physicians are convinced that tobacco has a deleterious effect on this disease. It is always said that the patient with peptic ulcer is a heavy smoker (Hurst and Stewart, 1929; Bockus, 1944), but in a careful survey it was found that men with chronic duodenal ulcer do not smoke, on an average, more than healthy men of the same age, although twice as many of them inhale (Trowell, 1934). Many experienced clinicians have noted dyspepsia, resembling that of ulcer, to disappear on abstinence from tobacco (Wagner, 1924; Bockus, 1944; Schindler, 1947). On the other hand, a careful follow-up of a group of patients with peptic ulcer (Jamieson, Illingworth, and Scott, 1946) revealed no correlation between alterations in tobacco consumption and variations in the severity of symptoms. Some figures suggest that the response to treatment with antacids is better if smoking is discontinued (Batterman and Ehrenfeld, 1949).

It seems fair to conclude that smoking plays no part in the genesis of peptic ulcer. That notoriously dangerous guide, "clinical impression," has led many to believe that it may aggravate symptoms. The sensible advice is to recommend patients to try a period of abstinence and decide for themselves whether they are better without their cigarettes.

There is some gastroscopic evidence that smoking may lead to changes in the gastric mucosa. In one series the appearances were normal in only 8% of heavy smokers, there was hypotrophic gastritis in 44%, and atrophic gastritis in a like proportion (Annis, 1944).

Cigarette-smoking has been observed to increase the motility of the large bowel in normal subjects (Schnedorf and Ivy, 1939), and this finding provides a physiological justification for Ryle's view (1928) that it is of importance in the causation of spastic colon. A period of abstinence is worth a trial in this disorder.

Its Effect upon the Nervous System

Many curious nervous disorders have been attributed to the use of tobacco. The French journals, in particular, contain numerous case reports: an officer's wife, afflicted with vertigo and signs of pyramidal tract disease, who recovered in two weeks after renouncing the 25 cigarettes she had smoked daily for fifteen years (Barré and Verdier, 1949); a myasthenic and polyneuritic syndrome in chewers of tobacco (Coulonjou, Prévot, Salaun, and Nicolet, 1946); a boy of 13 years who fell victim to the manic-depressive psychosis after smoking 20 cigars a day (Pel, 1911). These instances could be multiplied indefinitely; there are records of fleeting cerebral attacks, of neuralgic pains, of headaches, of fits, all lending support to Calverley's contention of

> How they who use fusees
> All grow by slow degrees,
> Brainless as chimpanzees,
> Meagre as lizards;
> Go mad, and beat their wives;
> Plunge (after shocking lives)
> Razors and carving knives
> Into their gizzards.

There was, however, one condition in which the role of tobacco seemed to be authentic. This was tobacco amblyopia, a disturbance of vision occurring chiefly in men between the ages of 35 and 55 years, starting as a paracentral scotoma for colours at the blind spot and gradually spreading to the point of central vision (Wilson, 1940). It was said to afflict particularly those who smoked strong shag (Moore, 1925). It was more common in the United Kingdom than in France or the United States, where alcohol had long been regarded at least as important as tobacco in its cause (Walsh, 1947). In one American series of 1,100 patients over the age of 50 years with this form of amblyopia, the average consumption of tobacco was less than in 500 healthy persons of the same age (Usher, 1927).

A correlation between malnutrition and the incidence of tobacco amblyopia has long been noted; de Wecker (Schepens, 1946) commented on its frequency during the siege of Paris in 1870, and a tenfold increase was observed under the German occupation of Belgium between 1940 and 1945. Carroll (1944) has reported complete or partial recovery in 25 patients with what he terms "tobacco–alcohol amblyopia" when their diets were supplemented with the vitamin-B complex or vitamin B_1 itself, although they continued to smoke and drink.

In this country alcohol lacks the importance accorded to it elsewhere (Evans, 1939), and tobacco is generally believed to be the essential cause, although malnutrition is allowed a predisposing role. The suggestion has been made that some unknown toxic substance is formed by fermentation in the heavier and darker tobaccos; this substance is rendered harmless by the healthy liver, but, when malnutrition impairs hepatic function, detoxication fails and the retina suffers (Evans, 1939; Schepens, 1946).

The similarity between amblyopia attributed to tobacco and that noted in malnourished prisoners of war (Denny-Brown, 1947) is obvious, but the resemblance is not exact. Proof that "tobacco" amblyopia is purely of nutritional origin is still lacking, and it remains wise to recommend patients with the complaint to abstain from smoking.

Its Effects upon the Genito-urinary System

The effects of tobacco on the genito-urinary system are not of great moment. In the normal man it has an antidiuretic action (Burn, Truelove, and Burn, 1945), due to nicotine provoking liberation of the antidiuretic hormone (Cates and Garrod, 1951). It was at one time believed to decrease libido and a Franciscan monk, Fra Giuseppe da Convertino, recommended it from personal experience as a safeguard for chastity. In more recent years it has been said to lead to abortion and infertility (Mgalobeli, 1931), although another authority asserts that he had found a group of pipe-smoking Frenchwomen, whose habits he had studied, to be of exceptional fertility (Chiasson, 1929).

It has been proved that nicotine is secreted in the milk in proportion to the number of cigarettes smoked; in heavy smokers the quantity may rise to 0.5 mg. per litre. Infants fed on this milk thrived normally, although they must have received 0.1–0.25 mg. of nicotine a day (Perlman and Dannenberg, 1942).

Conclusion

The public library in New York is said to contain more than 4,000 books on tobacco in more than 20 languages (Bishop, 1949). It will be appreciated, therefore, that a short paper can only touch the fringe of the subject. It is, however, a matter which closely concerns us as doctors, for patients are constantly asking our advice about smoking. Most of us are prepared to give it without deep reflection, for the view the doctor takes is dictated rather by the number of cigarettes he smokes himself than by a profound knowledge of the pharmacology of tobacco. It is, however, well to remember that some facts have now been established, and it should no longer be said that those of us who are heavy smokers impose no restrictions, while the non-smokers

> Compound for sins they are inclined to
> By damning those they have no mind to.

REFERENCES

Annis, J. W. (1944). *Gastroenterology*, 2, 85.
Barré, M. J. A., and Verdier (1949). *Rev. neurol.*, 81, 958.
Batterman, R. C., and Ehrenfeld, I. (1949). *Gastroenterology*, 12, 575.
Bergler, E. (1946). *Psychiat. Quart.*, 20, 297.
Bishop, W. J. (1949). *Brit. J. Addict.*, 46, 49.
Bockus, H. L. (1944). *Gastro-Enterology*. Saunders, London.
Boyd, A. M., Ratcliffe, A. H., Jepson, R. P., and James, G. W. H. (1949). *J. Bone Jt Surg.*, 31B, 325.

Bryant, J. M., and Wood, J. E. (1947). *Amer. Heart J.*, **34**, 20.
Bryson, C. C., and Spencer, H. (1951). *Quart. J. Med.*, **20**, 173.
Burn, J. H., Truelove, L. H., and Burn, I. (1945). *British Medical Journal*, **1**, 403.
Carroll, F. D. (1944). *Amer. J. Ophthal.*, **27**, 713, 847.
Cates, J. E., and Garrod, O. (1951). *Clin. Sci.*, **10**, 145.
Chiasson, M. J. (1929). *J. Amer. med. Ass.*, **93**, 1909.
Coulonjou, Prévot, Salaun, and Nicolet (1946). *Rev. neurol.*, **78**, 227.
Denny-Brown, D. (1947). *Medicine, Baltimore*, **26**, 41.
Dixon, W. E. (1921). *British Medical Journal*, **2**, 819.
Doll, R., and Hill, A. Bradford (1950). Ibid., **2**, 739.
Dungal, N. (1950). *Lancet*, **2**, 245.
English, J. P., Willius, F. A., and Berkson, J. (1940). *J. Amer. med. Ass.*, **115**, 1327.
Evans, P. J. (1939). *Trans. ophthal. Soc. U.K.*, **59**, 241.
Fabricant, N. D. (1946). *Amer. J. med Sci.*, **211**, 505.
Finnegan, J. K., Fordham, D., Larsen, P. S., and Haag, H. B. (1947). *J. Pharmacol.*, **89**, 115.
—— Larsen, P. S., and Haag, H. B. (1945). *Science*, **102**, 94.
Graybiel, A., Starr, R. S., and White, P. D. (1938). *Amer. Heart J.*, **15**, 89.
Harkavy, J., Hebald, S., and Silbert, S. (1932-3). *Proc. Soc. exp. Biol., N.Y.*, **30**, 104.
Hurst, A. F., and Stewart, M. J. (1929). *Gastric and Duodenal Ulcer.* Oxford Univ. Press, London.
Ivy, A. C., Grossmann, M. I., and Bachrach, W. H. (1950). *Peptic Ulcer.* Churchill, London.
Jamieson, R. A., Illingworth, C. F. W., and Scott, L. D. W. (1946). *British Medical Journal*, **2**, 287.
Johnston, L. M. (1942). *Lancet*, **2**, 742.
Lampson, R. S. (1935). *J. Amer. med. Ass.*, **104**, 1963.
Levin, M. L., Goldstein, H., and Gerhardt, P. R. (1950). Ibid., **143**, 336.
Levy, R. L., Mathers, J. A. L., Mueller, A. A., and Nickerson, J. L. (1947). Ibid., **135**, 417.
Ling, H. W., and Wynn Parry, C. B. (1949). *Brit. J. Pharmacol.*, **4**, 313.
Mgalobeli, M. (1931). *Mschr. Geburtsh. Gynäk.*, **88**, 237.
Moore, R. Foster (1925). *Medical Ophthalmology.* Churchill, London.
Mulinos, M. G., and Shulman, I. (1940). *Amer. J. med. Sci.*, **199**, 708.
Pearl, R. (1938). *Science*, **87**, 216.
Pel, P. K. (1911). *Berl. klin. Wschr.*, **48**, 241.
Perlman, H. H., and Dannenberg, A. M. (1942). *J. Amer. med. Ass.*, **120**, 1003.
Pickering, G. W., and Sanderson, P. H. (1944-5). *Clin. Sci.*, **5**, 275.
Pierce, I. H. (1941). *J. Lab. clin. Med.*, **26**, 1322.
Rolleston, J. D. (1937). *Med. Pr.*, **195**, 443.
Ryle, J. A. (1928). *Lancet*, **2**, 1115.
Schepens, C. L. (1946). *Trans. ophthal. Soc. U.K.*, **66**, 309.
Schindler, R. (1947). *Gastritis.* Heinemann, London.
Schnedorf, J. G., and Ivy, A. C. (1939). *J. Amer. med. Ass.*, **112**, 898.
Schrek, R., Baker, L. A., Ballard, G. P., and Dolgoff, S. (1950). *Cancer Res.*, **10**, 49.
Shepherd, J. T. (1951). *British Medical Journal*, **2**, 1007.
Short, J. J., and Johnson, H. J. (1938-9). *J. Lab. clin. Med.*, **24**, 590.
—— —— and Ley, H. A. (1938-9). Ibid., **24**, 586.
Silbert, S. (1945). *J. Amer. med. Ass.*, **129**, 5.
Solly, S. (1856). *Lancet*, **2**, 641.
Stewart, H. J., Haskell, H. S., and Brown, H. (1945). *Amer. Heart J.*, **30**, 541.
Sulzberger, M. B. (1934). *J. Amer. med Ass.*, **102**, 11.
Thienes, C. H., and Butt, E. M. (1938). *Amer. J. med. Sci.*, **195**, 522.
Trowell, O. A. (1934). *Lancet*, **1**, 808.
Urbach, E., and Gottlieb, P. M. (1946). *Allergy*, Heinemann, London.
Usher, C. H. (1927). *Ann. Eugen., Camb.*, **2**, 245.
Wagner, F. (1924). *Med. Klin.*, **20**, 262.
Walsh, F. B. (1947). *Clinical Neuro-Ophthalmology.* Williams & Williams, Baltimore.
Weinroth, L. A., and Herzstein, J. (1946). *J. Amer. med. Ass.*, **131**, 205.
White, P. D., and Sharber, T. (1934). Ibid., **102**, 655.
Whitfield, A. G. W., Arnott, W. M., and Waterhouse, J. A. H. (1951). *Quart. J. Med.*, **20**, 141.
Wilson, S. A. K. (1940). *Neurology.* Arnold, London.
Wolf, S., and Wolff, H. G. (1943). *Human Gastric Function.* Oxford Univ. Press, London.
Wolff, W. A., Hawkins, M. A., and Giles, W. E. (1949). *J. Pharmacol.*, **95**, 145.
Wynder, E. L., and Graham, E. A. (1950). *J. Amer. med. Ass.*, **143**, 329.
Wynter, W. Essex (1907). *Minor Medicine.* Appleton, London.

During recent years industry has paid increasing attention to colour coding of danger points in factories to indicate high voltage lines, toxic gases, and obstructions such as low doorways and steps; the British Standards Institution considered the possibility of preparing a uniform "safety" colour code. However, following an inquiry by the Royal Society for the Prevention of Accidents it has now been decided to abandon the idea. Examination showed that a distinction must be made between a *safety* colour code and an *identification* code—the one being broadly to classify and give warning of types of hazard by colour and the other primarily to identify the contents of cylinders and so on. It was found that many colours had traditional meanings which were not reconcilable with their identification value—for instance, green CO_2 containers are not consistent with the concept of red for danger. Also, since anything up to 8% of the population is thought to be to some degree colour-blind, the application of a colour system can in no way be universally effective.

RETROLENTAL FIBROPLASIA

A PROBLEM OF PREMATURITY

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Retrolental fibroplasia may lead to blindness in infancy, and it is the gravity of this possible outcome that makes its study so urgent a problem. The disease has been the subject of a large number of papers in the American literature since Terry's first report (1942), in which he recognized it as a condition occurring in premature babies, leading to the formation of an opaque vascularized membrane behind the lens of both eyes, usually with gross visual defect and searching nystagmus. The subject has as yet received little attention in the medical press of this country, but there is reason to believe that the disease is making its appearance here in the same curiously uneven and unpredictable manner as in the United States and, more recently, in other countries.

A team drawn from the Oxford Eye Hospital, the paediatric department of the United Oxford Hospitals, and the Nuffield Laboratory of Ophthalmology has been concerned in a joint investigation since June, 1950.

Diagnosis of Cases

Early in 1950 we started routine ophthalmic examination of all premature babies of low birth weight born in Oxford, in the hope that some clue to the nature of the disease might be gained from observation of the condition as it developed, and later because of the possibility of treatment.

It is unlikely that retrolental fibroplasia occurs in infants weighing over 5 lb. (2.3 kg.) at birth, so this was our dividing line. All infants weighing 5 lb. (2.3 kg.) and under at birth are examined at the discretion of the paediatricians, larger and healthier children within a few days of birth, and small weakly babies, unable at first to tolerate the handling involved in an ophthalmic examination, after several weeks. After the first examination infants are seen every week while in hospital. They are usually discharged on reaching a weight of 5 lb. (2.3 kg.) and are then followed up at special clinics at the Eye Hospital. Generally a baby will be seen fortnightly until it is between 3 and 4 months old, and then monthly until 6 months of age, when it is discharged from supervision if no signs of the disease have appeared. If any suspicious feature is seen in the eyes, particularly retinal vascular dilatation of marked degree, the infant may be examined at shorter intervals.

The examinations are all made by an ophthalmologist, and the infant is held by a nurse experienced in this work. General anaesthesia is unnecessary, though a comforter is invaluable. The pupils are dilated with

homatropine 1% combined with cocaine 2% instilled into the eyes half to one hour before examination, and repeated if necessary. It is almost always possible to see far out to the retinal periphery; on two occasions only have we found it necessary to steady the eye with conjunctival fixation forceps, after using a drop of local analgesic.

There are certain differences between the ophthalmological appearances of the infantile and the adult eye. Unless these are appreciated confusion is likely. The infantile optic disk is always extraordinarily pale and the central fundus often has a patchy distribution of pigment. The retinal periphery constantly has a peculiar oedematous-looking greyness, gradually merging into the pinkness of the posterior fundus. These appearances have been seen in both full-term and premature babies, and they gradually disappear during the first weeks of life.

Early diagnosis of the disease is not easy. Many of the preliminary stages seem to develop gradually from conditions which are apparently normal in the infant. The grey zones in the retinal periphery appear to be a constant feature of the infantile eye. Only observation week by week, or even from day to day, makes it possible to be sure that this appearance is normal and not increasing.

The periphery of the infant lens is often doubly refractile, and this may lead one to suspect a detachment of the retina when in fact there is none. We are sure that diagnosis of the disease cannot be made without the presence of a retinal detachment or thickening, or of some retrolental mass near the periphery. In addition to these signs engorgement of the retinal vessels and formation of "fans" of new vessels from the retinal vessels, often coming forward into the vitreous in front of the thickened or detached retina, are important diagnostic points. We do not regard retinal vascular dilatation alone as sufficient to warrant a diagnosis of retrolental fibroplasia.

Treatment with A.C.T.H.

Reports of the results of treatment with A.C.T.H. and cortisone show no general agreement. The small number of cases in the series treated and the unpredictable course of the disease make evaluation of treatment difficult. The organization of vitreous opacities is probably responsible for the final cicatricial changes, and it is in preventing the formation of this fibrous tissue that A.C.T.H. may be expected to exert its effects. In Woods's (1950, 1951) experience with 10 treated cases, the results of the use of A.C.T.H. were unfavourable. Fitzgerald *et al.* (1951) treated three cases with A.C.T.H., with unfavourable results, and three cases, in the late glaucomatous stage of the disease, with cortisone locally, with results of doubtful significance. On the other hand, the experience of Reese and Blodi (1951a) has encouraged them to continue the use of A.C.T.H. In 14 of their treated cases the disease either regressed or was arrested, while the disease progressed in six out of the eight untreated cases under their care during the same period. Scheie *et al.* (1951) treated five cases, and concluded that treatment with A.C.T.H. is worth further trial.

In a personal communication from Dr. Perera and Dr. Day, of New York, in November, 1950, we learned of their early experience with A.C.T.H. We were fortunate in obtaining a supply of the drug for treatment of a case in December, 1950. Since then five further cases have been treated.

We gave A.C.T.H. by intramuscular injection to the six cases in four doses daily, totalling 20–25 mg. When reactions caused anxiety, each dose was divided and given in two parts with a 10-minute interval. In three cases the drug was discontinued temporarily when the baby's condition was unsatisfactory, and treatment was restarted without causing any further ill effects. When the ophthalmologist considered the disease to be quiescent the dose was usually halved for two or three days before discontinuing treatment. The infant was then kept in hospital for a further period of at least eight days under the closest supervision, and subsequently followed up in the out-patient department. In no case has there been any relapse after discharge from the ward.

In our first case we were afraid of the possibility of relapse with rapid development of blindness on stopping the drug, and continued it very much longer than we would now consider necessary, giving a total of 1,025 mg. over 76 days. In the other five cases the duration of treatment varied from 22 to 39 days and the total dosage of A.C.T.H. was 300 to 620 mg.

Complications Arising During Treatment

Intercurrent Illness.—Hospitalization of these small premature infants is a serious responsibility, and strict barrier nursing in isolation cubicles is essential if they are to be treated in a children's ward. Three babies remained well throughout treatment, and the other three were ill at some time.

Immediate Reactions.—Transitory blanching of the infant may occur within one or two minutes of the injection, the condition passing off in less than 10 minutes.

Hypertension.—There has been moderate or severe hypertension in five of the six cases treated, and the systolic pressure has been extremely labile. The degree of hypertension has not followed the dose of A.C.T.H. closely, and in cases in which the drug has been stopped temporarily the hypertension has not necessarily returned on resuming the original dose. In three cases the pressure has reached 180–200 mm. Hg, and in two it has risen to 280–300 mm. Hg, on one or two occasions without any apparent change in the infant's condition. Hypertension is presumably due to impurities in the A.C.T.H., but we have not found it vary with the batch of drug in use. Our colleagues in New York had not mentioned it as a complication. We found some consolation in the fact that the infant's vessels are elastic and in the well-recognized observation that the small infant with pink disease can support a moderate degree of hypertension for several months with no apparent after-effects. Since treatment was stopped the blood pressure in all cases has returned to normal.

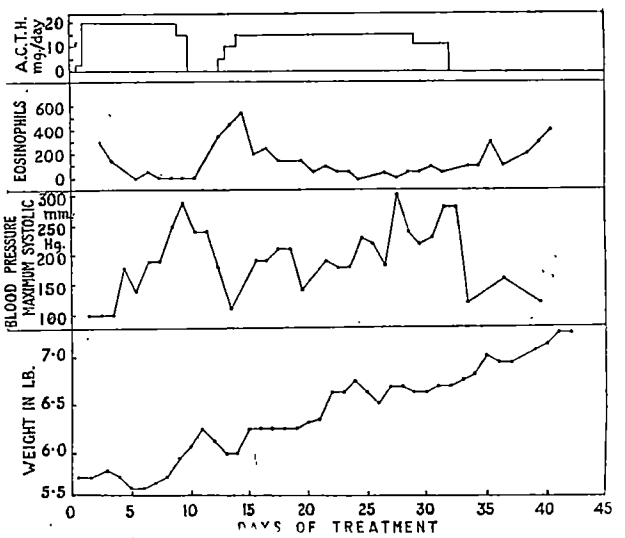

FIG. 1.—Records of A.C.T.H. dosage, eosinophil count, blood pressure, and weight in Case 4.

Electrolyte Balance.—As Dr. Day led us to expect, we have had remarkably little trouble and have not been able to ascribe any symptoms to changes in the electrolyte balance. In our first case blood was taken at frequent intervals for sodium and potassium estimation, but this was abandoned as causing unnecessary trauma. In subsequent cases we have relied upon electrocardiograms taken at weekly intervals. When the E.C.G. suggested a potassium deficiency we have given potassium in the form of potassium chloride, 0.5 g. daily in four divided doses by mouth.

Weight.—A rapid gain in weight may indicate water retention, but in only one of our cases did a transitory retention seem likely. Several infants gained little during treatment and rapidly improved immediately the drug was discontinued. The only infant who made a very satisfactory gain throughout was the one in whom hypertension never developed. In no case have we as yet encountered any complication which has persisted after treatment has been discontinued. Fig. 1 shows A.C.T.H. dosage in detail and its effect on the eosinophil count, blood pressure, and weight in one of our cases.

Case Histories

Case 1.—A boy, weighing 3 lb. 2½ oz. (1.4 kg.) at birth, was the first child of a 38-year-old mother who had severe toxaemia of pregnancy superimposed on chronic renal disease. Delivery was by caesarean section at 37 weeks. When the child was 2 months old many small retinal haemorrhages were seen. At 3 months there were retinal detachments in both nasal and temporal quadrants of the right eye, with new-vessel formation on the surface of the retina, and a vitreous opacity in front of this. The left eye seemed normal. During the next few days the condition of the right eye worsened rapidly and the baby was admitted to hospital for treatment with A.C.T.H. Next day the left eye showed an early detachment of the retina, and this progressed despite treatment. The right eye developed bands, or folds, in front of the detached retina, somewhat similar to the appearance of retinitis proliferans. Eventually the right retina became completely detached and a dense retrolental membrane developed. The left eye showed a grey mass of retina in the temporal quadrant, with a vitreous veil in front of it. There was nystagmus and the child did not follow a light. As the condition in the left eye seemed stationary, treatment was stopped after 76 days. We now consider this period too long, and it has been reduced in later cases. Six months after treatment ended the condition was unchanged, though the anterior chamber in the right eye was shallow. Nystagmus was less marked and the child picked up small objects, had a useful visual field, and was developing normally.

Case 2.—A girl, one of non-identical twins, the other child being normal, was born by spontaneous labour at the 33rd week and weighed 3 lb. 10 oz. (1.6 kg.). The neonatal period was complicated by bronchopneumonia, which responded to penicillin and streptomycin. At 6 weeks of age retrolental fibroplasia was diagnosed. Both eyes showed gross arterial and venous dilatation spreading out to the periphery, with many visible capillaries and a few small haemorrhages, and there was a retinal detachment on the left. Treatment by subconjunctival and oral administration of cortisone was tried. After a week of this treatment, when the child had received 1.5 mg. cortisone by injection and 150 mg. by mouth, the retinal condition showed no sign of diminishing activity and the right eye developed a peripheral detachment. A.C.T.H. was then substituted for cortisone. At this time there was gross vascular engorgement in each eye, with a few small retinal haemorrhages and peripheral detachments of the retinae. These vascular changes were more marked in the left eye. Vitreous opacities appeared in the right eye. When the stage of active vascular dilatation was over, a retinal fold developed, running from the retinal detachment to the optic disk and obliterating the right macular region. The retina in the left eye became completely detached. When the child was seen at 9 months of age the left eye showed a complete retrolental membrane, and the right eye a retinal fold, but the child takes an interest in her surroundings and can see small objects.

Case 3.—A girl, birth weight 4 lb. 6½ oz. (2 kg.), 33 weeks' gestation. The mother had severe toxaemia a week before the child was born after induction of labour. At 3 weeks of age the child was found to have engorged retinal vessels, but the peripheral grey areas were within normal limits. At 5 weeks a small detachment had appeared in the right eye and treatment with A.C.T.H. was begun. Within the next 10 days, despite treatment, the detachment had become more definite in the right eye and there were signs of activity in the left. The vascular engorgement lessened and the detachment did not increase after the child was 8 weeks old. Treatment was stopped, and the ocular condition has remained unchanged. When the child was 8 months old the central fundi of both eyes were normal; in the left eye there was marked greyness in the temporal periphery. She has good vision.

Case 4.—A boy, birth weight 3 lb. 15 oz. (1.8 kg.), gestation 36 weeks, labour spontaneous. A diagnosis of retrolental fibroplasia was made when the child was 6 weeks old because of a typical vitreous opacity and dilated vessels, with an apparent retinal detachment, in the temporal half of the right eye. Treatment was begun and for the next few days no change occurred. At 8 weeks of age a tongue of vitreous haze was seen on the extreme nasal side of the right eye and there was vascular dilatation behind this. In the left eye there was increased tortuosity of vessels and new-vessel formation on the edge of the temporal grey zone. At 9 weeks there seemed to be a definite detachment behind the vitreous haze in the right eye, whilst the left eye had a suspicious area in the inferior quadrant of the globe. There was no nystagmus, and the child seemed to follow a light. At 11 weeks all that could be seen to be abnormal was a small tongue of detached retina in the extreme nasal periphery in the right eye, whilst in the left there was no detachment or dilated vessels. Treatment was stopped when the child was 13 weeks old, as there had been no further changes in the retinae for the previous few days. The vitreous opacity in the right eye has remained much as it was, but the retinal detachment seemed to have become less. The changes in the periphery of the left eye consisted of the presence of a large grey zone in the retina. When 9 months old the child could obviously see well; in the right eye the detachment was still present but flat, and no gross abnormality was seen in the left eye.

Case 5.—A boy, birth weight 3 lb. 4 oz. (1.5 kg.). His mother was a primipara aged 17; she had toxaemia of pregnancy, and surgical induction was performed for this; normal labour followed. An upper respiratory infection in the child was treated by chemotherapy. At 5 weeks the upper temporal vessels were dilated and tortuous in the left eye and many vessels were dilated at the edge of the grey zone; at least one haemorrhage was seen. The right eye showed similar but less obvious changes. Three days later a detachment in the left temporal periphery could be seen and the grey zones of the right eye had become more extensive. Because of these changes a diagnosis of retrolental fibroplasia was made and treatment with A.C.T.H. begun. The condition remained active in both eyes and a vitreous haze appeared, partly hiding the detachment in the right eye; the detachment in the left eye became more extensive and the vessels very dilated; there was a fresh haemorrhage in the right eye. Two weeks later the disease appeared stationary. A curious feature observed at this stage was a red patch in the middle of the detached area; this appeared to be a hole through which one could see the choroid. In another week the vasodilatation had disappeared and treatment was stopped. When last seen (at 13 weeks old) no further change had taken place, but the retinal detachments were flatter. The central areas appeared to be normal. At 7 months scarring was present in the

peripheral retinae of both eyes, and the left eye was probably becoming myopic. The child takes an interest in his surroundings and picks up objects.

Case 6.—A girl, birth weight 2 lb. 6 oz. (1.1 kg.); born by caesarean section. Apart from a scalp laceration during the operation and an attack of vomiting and abdominal distension which responded to chemotherapy, the neonatal period was uneventful. At 10 weeks, on routine ophthalmological examination it was noticed that there was vasodilatation, more marked on the following day, and that a shallow retinal detachment was present in the periphery of both eyes. The infant was given A.C.T.H. for 10 days. The disease made no further progress and the detachments became flatter. She has been examined several times since, and, apart from a shallow retinal detachment or thickening in the periphery of the upper temporal quadrant of the right eye, the eyes appeared normal; there was a large grey zone in the left eye, but no detachment. When 10 months old this child proved difficult to examine, but both fundi appeared to be within normal limits, and the child could see well.

Comment on Untreated and Treated Cases

Untreated Cases.—The early cases were all in a late stage of the disease when first seen. In one of them the process had apparently been confined to one eye, but in 15 it was bilateral. The degree of visual defect varied. In those children in whom there was a complete retrolental membrane with total detachment of the retina, gross nystagmus was present and there was no perception of light. In others, useful vision has been retained, despite the presence of peripheral retinal detachment. Such vision as has been retained is not commonly central, but is adequate to enable the child to avoid obstacles. On the other hand, central visual acuity may be good. This frequent preservation of useful vision makes it essential that these eyes should not be removed simply in order to confirm the diagnosis. The clinical picture, taken in conjunction with the history, is characteristic.

A further six cases were seen early enough to permit A.C.T.H. treatment, and they are described in some detail below.

Cases 1 and 2 had a florid active type of the disease, which we should have expected to proceed to the full development of retrolental membrane and complete retinal detachments in both eyes. Our impression was that after treatment the disease was arrested at an earlier stage than would have been expected without treatment. We are aware, however, that this is often a self-limiting disease, and have seen two untreated cases in which one eye did not develop the disease to the full extent.

Cases 3, 4, 5, and 6 were diagnosed earlier than the first two, and treatment started immediately. The disease settled fairly quickly, and after the eyes became quiet no further deterioration occurred. It may be that we were dealing with a milder form of the disease, as variation in the severity is known to occur, but it is a fact that these cases showed fairly steady improvement after the use of A.C.T.H.

Though no definite conclusion can be drawn from this small series, the following comparison can be made between the results of the disease in babies born during the year preceding the use of A.C.T.H. and the results of treatment with A.C.T.H. In the former group three children were totally blind; three were partially blind, retaining sufficient vision to avoid large objects; and another child, who has now left this area, is expected to have good vision in one eye. In the latter group only two complete retrolental membranes developed, and no child was totally blind.

Pathology

We agree with those (Reese, 1948; Kinsey and Zacharias, 1949) who believe that the increased incidence of retrolental fibroplasia cannot be completely explained by the recent improvement in survival rate among infants of low birth weight. Confusion has been caused by the suggestion that we may be dealing, not with one disease, but with several, the final result of each of which is the formation of opaque tissue behind the lens. Another possibility is that the disease itself is changing in character, for the description by Terry (1948) differs widely from more recent ones (Owens and Owens, 1949; Hepner, Krause, and Davis, 1949; Reese and Blodi, 1951a).

Vascular Basis

Terry (1948) described the first evidence of the disease as a dot-like opacity occurring behind the lens and spreading outwards towards the periphery. This spread, in Terry's view, is associated with a reopening of the hyaloid vessels and consequent vascularization of the retrolental membrane.

The hyaloid vessels were also thought to be involved in the disease by Reese and Payne (1946), who described cases

FIG. 2.—Fibrovascular connective tissue membrane behind lens. Complete retinal detachment extending beyond ora serrata Subretinal exudate.

of "hyperplasia of the primary vitreous with persistence of the tunica vasculosa lentis." These authors considered the condition to occur antenatally in either premature or full-term babies. They also state that the retina in these eyes may or may not be in position. This does not agree with our experience and that of many others, in which the condition of retrolental fibroplasia as it now occurs is of post-natal development and associated, in the fully developed case, with a totally detached retina; these eyes are ophthalmoscopically normal at birth and for a variable period afterwards. Unsworth (1948) also concluded that the disease was post-natal and suggested that the anaemia of prematurity was the cause. Reese (1949) and Klien (1949) reported further cases, reiterating their belief that the matrix of the disease was present at birth and angiomatous in nature.

Lately the part the retinal vessels themselves play in the development of the disease has been increasingly stressed, and our experience supports this change of emphasis. Owens and Owens (1949) and Reese and Blodi (1951a) have described the early stages of the disease as characterized by vascular dilatation on the retina, exudation into the vitreous, and the development of a peripheral detachment of the retina. Others (Laupus and Bousquet, 1951) regard the

occurrence of retinal haemorrhages as an essential part of the picture, but these have occurred in only a few of our cases. Reese and Blodi (1951a) have convincingly shown the early involvement of the retinal vessels in the disease process.

It is possible that an exudative choroido-retinitis causes a retinal detachment, which sets up a cyclitis with the formation of a retrolental membrane (Fig. 2). The retinal detachment may be due to a developmental defect (Wolff, 1950; Dixon and Paul, 1951). These authors have put forward evidence that a retinal separation has occurred in the pars ciliaris retinae of eyes in which the disease develops.

Associated Abnormalities.—Whether or not retrolental fibroplasia represents a generalized abnormality of neuro-ectodermal structures is a question which still remains to be answered. Krause (1946) was convinced that this was so and that the ocular changes were merely a part of what he called "encephalo-ophthalmic dysplasia" which led to mental retardation as well as gross visual defect.

It is difficult to assess the mental development of a very young child handicapped by blindness, but mental abnormality in these children has not been stressed by most writers. In some of our cases mental development has been slow, but we feel it is too early yet to assess the ultimate intellectual capacity of the children.

Sex Incidence and Multiple Births.—Speert, Blodi, and Reese (1950) analysed a series of 104 cases and found the sex incidence approximately equal. In Oxford 9 out of 22 cases were twins, but Kinsey and Zacharias (1949), in their larger series, could find no correlation between multiple births and the incidence of retrolental fibroplasia.

Antenatal and Post-natal Factors

American workers have concluded that the mother's age, race, parity, and rhesus group are not related to the development of the disease. There is no evidence that toxaemia of pregnancy, antenatal bleeding, drugs used in pregnancy or labour, or the cause of the premature labour are significant. It has not been possible to correlate the incidence of any chronic disease in the mother with the development of retrolental fibroplasia. Speert, Blodi, and Reese (1950) report two cases in which the disease had followed maternal rubella in the first three months of pregnancy, but no other known bacteria or virus has been implicated.

One of the first post-natal factors to be investigated was the effect of light on the immature retina. Hepner, Krause, and David (1949) covered the eyes of five babies weighing 3 lb. (1.4 kg.) or under at birth, for up to 60 days of life. Four babies developed retrolental fibroplasia, while the fifth remained normal.

Owens and Owens (1949) state that vitamin E is deficient in the newborn rat, and that the deficiency might be enhanced by a reduced fat diet and by the administration of vitamin A and iron. They gave 150 mg. of α-tocopherol acetate orally each day, and reduced amounts of vitamin A and iron, to 23 infants of 3 lb. (1.4 kg.) or less at birth. Of these, only one baby developed retrolental fibroplasia. In a control series of 78 infants of 3 lb. (1.4 kg.) or less, 17 babies developed the disease. In nine early cases vitamin E was given and the lesion was arrested in five of them. Unfortunately this work has not been confirmed. In Oxford during 1950–1 five infants developed retrolental fibroplasia while having vitamin E in the form and dosage suggested by Owens and Owens.

No known post-natal infections play a part in the aetiology of retrolental fibroplasia, but it is possible that some unknown infective agent may be responsible.

In looking for a recent change in treatment which might be held responsible, oxygen was considered, for modern oxygen cots and tents permit a very high concentration of the gas. Kinsey and Zacharias (1949) found that babies developing retrolental fibroplasia had been treated for a significantly longer period in oxygen than those who remained normal. Campbell (1951) found a significantly higher number of cases in a hospital where oxygen was freely used than in a second hospital where the use of oxygen was limited. It is doubtful, however, whether the two series are comparable. One baby in our series who had received no oxygen developed the disease, and in other centres where oxygen is used freely no cases have occurred. The importance, if any, of delayed feeding in the handling of small babies is obscure.

Incidence

Retrolental fibroplasia was reported in the United States 10 years ago, but so far as can be assessed it has appeared in England more recently. Reese and Blodi (1951b) report 272 cases studied at the Institute of Ophthalmology in New York; 236 of these were diagnosed during and after 1944. In Boston also the increase has been considerable. The disease is unevenly distributed amongst the various American centres. Exline and Harrington (1951), from New Orleans, report 80 infants under 3 lb. 5 oz. (1.5 kg.) at birth over a two-year period ending December, 1948, amongst whom no case of retrolental fibroplasia was found: 80% of these children were negroes.

From Paris, Lelong (1951) reported 44 cases during the period 1948–50. Campbell (1951) reported 27 cases from Melbourne. In England the first cases were reported by Martin and Franklin (1949), Moffatt (1950), Crosse (1950), and Minton and Cole (1951). It is known that cases are being diagnosed in other centres in England and that the number of cases is increasing.

In Oxford eight cases were diagnosed in 1949, representing 3.8% of surviving premature babies. In 1950 there were five new cases, and up to the end of June, 1951, four babies had developed the disease.

During 1950, Dr. Alison Webb, of the Children's Department, investigated the causes of blindness among pre-school-children in Oxfordshire, Berkshire, and Buckinghamshire. Although the numbers are very small, in 1950 retrolental fibroplasia was the largest single cause of blindness among these children.

An attempt was made to examine all babies weighing 4 lb. (1.8 kg.) or under at birth born or treated in the Oxford hospitals over the period from 1946–50. Of these children, 88% were traced and no signs of the disease were found in these.

Summary

Retrolental fibroplasia is a disease of recent appearance in Great Britain. It is confined to premature infants of low birth weight, is of post-natal appearance, and may lead to gross visual defect or blindness of both eyes.

Since 1947, 22 cases have appeared in Oxford. Their diagnosis is discussed.

The method, results, and side-effects of treatment of six cases with A.C.T.H. are given. It is considered that the disease was restrained by this treatment.

Despite gross intraocular damage, many of the eyes retain sufficient vision to enable the child to avoid obstacles and to walk about unaided. Excision of the eye is unnecessary, and is to be avoided in view of this possibility.

The aetiology and pathology of the disease are briefly discussed. Its cause remains unknown.

We should like to thank Mr. J. P. F. Lloyd and Mr. Victor Purvis, of Oxford, and Mr. R. C. Williams, of Aylesbury, for permission to publish the details of some of these cases; also the obstetricians of the United Oxford Hospitals for their constant and ready help, and Mrs. A. Pirie for advice. Our thanks are also due to the sisters and nursing staff of the United Oxford

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REFERENCES

Campbell, K. (1951). *Med. J. Aust.*, 2, 48.
Crosse, V. M. (1950). *Proc. roy. Soc. Med.*, 43, 232.
Dixon, J. M. and Paul, E. V. (1951). *Amer. J. Ophthal.*, 34, Special No. 5, pt. 2, p. 182.
Exline, A. L., and Harrington, M. R. (1951). *J. Pediat.*, 38, 1.
Fitzgerald, J. R., Bellows, J. G., Donegan, J. M., Gamble, R. C., Krause, A. C., Mann, W. A., Pearlman, M. D., and Zekman, T. N. (1951). *Arch. Ophthal., Chicago*, 45, 320.
Hepner, W. R., Krause, A. C., and David, M. E. (1949). *Pediatrics*, 3, 824.
Kinsey, V. E., and Zacharias, L. (1949). *J. Amer. med. Ass.*, 139, 572.
Klien, Bertha A. (1949). *Arch. Ophthal., Chicago*, 41, 553.
Krause, A. C. (1946). Ibid., 36, 387.
Laupus, W. E., and Bousquet, F. P. (1951). *Amer. J. Dis. Child.*, 81, 617.
Lelong, M. (1951). Unpublished lecture.
Martin, J. K., and Franklin, A. W. (1949). *Proc. roy. Soc. Med.*, 43, 235.
Minton, J., and Cole, P. (1951). *British Medical Journal*, 1, 450.
Moffatt, P. McG. (1950). *Proc. roy. Soc. Med.*, 43, 223.
Owens, W. C., and Owens, E. U. (1949). *Amer. J. Ophthal.*, 32, 1, 1631.
Reese, A. B. (1948). Ibid., 31, 95.
—— (1949). *Arch. Ophthal., Chicago*, 41 527.
—— and Blodi, F. C. (1951a). *Amer. J. Ophthal.*, 34, 1.
—— —— (1951b). In A. Sorsby's *Systemic Ophthalmology*, p. 14. Butterworth, London.
—— and Payne, F. (1946). *Amer. J. Ophthal.*, 29, 1.
Schele, H. G., Tyner, G. S., Buesseler, J. A., and Alfano, J. E. (1951). *Arch. Ophthal., Chicago*, 45, 301.
Speert, H., Blodi, F. C., and Reese, A. B. (1950). *Amer. J. Obstet. Gynec.*, 59, 246.
Terry, T. L. (1942). *Amer. J. Ophthal.*, 25, 203, 1409.
—— (1948) *Advanc. Pediat.*, 3, 55.
Unsworth, A. C. (1948). *Arch. Ophthal., Chicago*, 40, 341.
Wolff, E. (1950). *Proc. roy. Soc. Med.*, 43, 227.
Woods, A. C. (1950). *Amer. J. Ophthal.*, 33, 1325.
—— (1951). Ibid., 34, 945.

DEPRESSION OF TUBERCULIN SENSITIVITY IN GUINEA-PIGS BY CERTAIN ANTITUBERCULOUS SURFACE-ACTIVE AGENTS

BY

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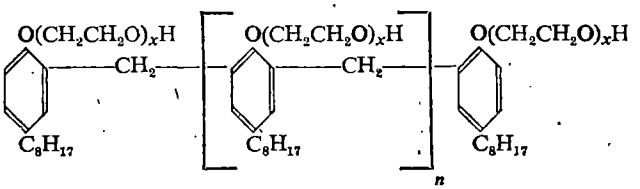
Substances known to depress skin sensitivity to tuberculin are few in number (Long and Miles, 1950; Fisher, Harington, and Long, 1951; Long, Miles, and Perry, 1951c), and when such depression is associated with anti-tuberculous action the question arises whether the chemotherapeutic mechanism is the same as, or is allied to, the anti-allergic.

The development of experimental tuberculosis in mice was shown by Cornforth, Hart, Rees, and Stock (1951) to be markedly inhibited by the injection of non-ionic, water-soluble, surface-active polyoxyethylene ethers of



n=0, 1, 2, 3, and higher integers. x=10, 20, or 60 (average value).

low toxicity, having the general formula given here, and obtained by polymerization of ethylene oxide with condensation products of formaldehyde with *p-tert*-octyl phenol. The antituberculous effect of these detergents has since been confirmed in the guinea-pig, in which a substantial curative action was shown in an established (three-weeks-old) infection. Routine quantitative tuberculin tests made at the end of a 60-day course of treatment showed a marked reduction in hypersensitivity in the detergent-treated animals as compared with their controls. The desensitization appeared to be specific rather than due merely to suppression of tuberculosis, since it was more evident than in a parallel group of streptomycin-treated animals with somewhat greater suppression of disease. This unexpected observation has led us to a more precise study of the depression of tuberculin sensitivity by these agents in B.C.G.-sensitized guinea-pigs, using the method of Long and Miles (1950). We hoped to see whether this action resembled that of other substances known to diminish tuberculin allergy, and whether it was related to antituberculous activity.

Materials and Methods

Surface-active Agents.—Representative members of the series (see formula) were used (average of 20 units of ethylene oxide per phenolic nucleus, unless otherwise stated). These were D2, a mixture of compounds having various values of n from 0 upwards; D2a, a similar mixture but with a smaller proportion of the lower members of the series; D9a, an isolate with n=1 ("triplet"); D14, a mixture like D2 but with 10 units of ethylene oxide per phenolic nucleus, and therefore less hydrophilic; D22, a mixture like D2 but with an average of 60 units of ethylene oxide per phenolic nucleus, and therefore more hydrophilic. Compounds D2, D2a, and D14 were chemotherapeutically active in the tuberculous mouse; D9a and D22 were inactive. The compounds were synthesized by our colleagues, Dr. J. W. Cornforth and Mr. J. A. Stock. They were given intravenously in 0.5 ml., or subcutaneously in 1 ml., saline.

Cortisone was given as the acetate (Merck), subcutaneously in 1 ml. normal saline.

Guinea-pigs.—The Hampstead strain of albinos was used, the animals weighing about 350 g. They were fed on a pelleted diet (Bruce and Parkes, 1947) supplemented, unless otherwise stated, with unlimited cabbage. B.C.G.-sensitization was carried out as described by Long and Miles (1950).

Tuberculin Sensitivity.—This was tested by intracutaneous injections of 32 and 320 international units of O.T. in 0.2 ml. saline.

Effect on Tuberculin Sensitivity

The intravenous route was considered most likely to reveal any differences between the surface-active agents, since variations in absorption would be excluded. Intravenous injection of the chemotherapeutically active preparations D2, D2a, and D14 in doses of 10 mg. in the B.C.G.-sensitized guinea-pigs, immediately before tuberculin injections, produced a significant though limited diminution of sensitivity as compared with untreated sensitized controls; the diminution was of the same order as that produced by cortisone 2 mg. given subcutaneously six hours before the tuberculin. On the other hand, the chemotherapeutically inactive D9a and D22 were without appreciable effect in these intravenous doses, and even at 25 mg. (this dose, in the case of D22, being chosen so as to contain the same weight of phenolic nuclei as 10 mg. of D2—see above).

The desensitizing properties of D2a were further examined, choosing the more convenient subcutaneous route, injections being given in groups of ten B.C.G.-sensitized guinea-pigs two hours before the tuberculin. Under these conditions D2a gave its maximal effect on tuberculin depression, in comparison with the controls, at doses of 100 to 10 mg., there being no significant difference from the effect of cortisone 2 mg.; D2a had no effect at 1 mg.

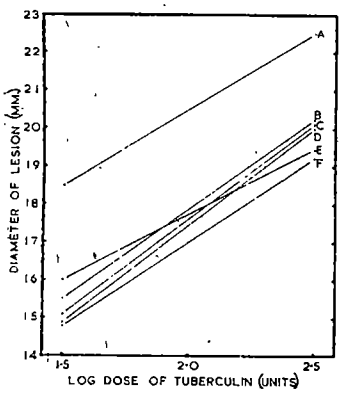
Cortisone has no direct effect on tuberculin allergy; its desensitizing action depends on dietary factors (Long, Miles,

TABLE I.—*Comparison of the Effect in Individual Treatment Groups with that in the Control Group (Same Experiment as Illustrated in Chart)*

Treatment	Potency Ratio*	Variance Ratio†	P
Pelleted diet+			
D2a	0·23‡	20·28	<0·001
Cabbage and D2a	0·22§	17·42	<0·001
Ascorbic acid and D2a	0·24§	20·02	<0·001
Cabbage and propylthiouracil and D2a	0·14‡	41·99	<0·001
Cabbage and cortisone	0·18	22·49	<0·001

* Ratio of dose of tuberculin required to produce a reaction of given diameter in the controls (fed on pellets+cabbage), to corresponding dose in the treatment group.
† Ratio of "between treatments" variance to error variance.
‡ When cortisone was used instead of D2a the effect was not significant.
§ When cortisone was used instead of D2a the effect was significant.

and Perry, 1951a). It does not desensitize in guinea-pigs fed upon an ascorbic-acid-deficient diet, or on a diet supplemented with synthetic ascorbic acid, but only in animals provided with ascorbic acid in raw cabbage. Repetition of these experiments with D2a (10 mg. subcutaneously two hours before tuberculin), instead of cortisone (2 mg.), in B.C.G.-sensitized animals showed that the desensitizing action of the detergent, unlike that of cortisone, was independent of all these factors (see Table I and Chart). Furthermore, the desensitizing action of cortisone in cabbage-fed guinea-pigs is prevented by propylthiouracil and restored by minimal doses of thyroxine (Long, Miles, and Perry, 1951b). On the other hand, propylthiouracil administered under similar conditions did not influence desensitization by D2a (see Table I and Chart). The effect of D2a on tuberculin allergy may therefore be more direct than that of cortisone, since its action is linked neither with ascorbic acid metabolism nor with the activity of the thyroid.



Dose response to 32 and 320 i.u. tuberculin in sensitive guinea-pigs. A=controls; B=ascorbic acid+D2a; C=D2a; D=cabbage+D2a; E=cabbage+cortisone; F=cabbage+propylthiouracil+D2a.

Effect on Tuberculin Sensitivity and Antitoxic Immunity in the Same Animal

Three groups, each of ten guinea-pigs, were immunized by the subcutaneous injection into the left leg of 5 LF of diphtheria toxoid in 1 ml. normal saline; at the same time they were sensitized by the intramuscular injection into the right leg of 1.5 mg., dry weight, heat-killed virulent tubercle bacilli in 0.5 ml. liquid paraffin. Twenty-one days later the animals were immunized with a second dose of 5 LF diphtheria toxoid into the left leg. On the 23rd day one group was injected with 10 mg. of cortisone, a second with 50 mg. of D2a, while the third group, serving as controls, received 1 ml. normal saline alone; all injections were subcutaneous. The injections were repeated daily until the 31st day, when both flanks of the animals were depilated, and intracutaneous sensitivity to tuberculin estimated on the left side and to diphtheria toxin on the right side (Miles, 1949; Long, 1950). Both cortisone and D2a produced a comparable depression of tuberculin sensitivity, whereas neither influenced significantly skin sensitivity to diphtheria toxin in these immunized animals (see Table II).

TABLE II.—*Comparison of the Effect in Individual Treatment Groups with that in the Control Group*

Skin Response	Treatment	Potency Ratio*	Variance Ratio*	P
Bacterial allergy	Cortisone	0·33	23·19	<0·001
	D2a	0·46	18·39	<0·001
Antitoxic immunity	Cortisone	0·68	1·20	>0·2
	D2a	0·87	<1·0	—

* See Table I

All these animals were then bled by heart puncture, the serum was separated, and individual titrations of diphtheria antitoxin were carried out by the technique of Römer and Sames (1909). In addition, 1 ml. amounts of the sera of each of the three groups were pooled, and the antitoxin contents of the groups compared by passively immunizing guinea-pigs and testing their skin sensitivity to toxin, as described by Miles (1949). By neither method was it possible to detect differences in the antitoxin titre of the three groups. Thus it appears that under the conditions of this experiment neither cortisone nor D2a, in the heavy dosage employed, depressed antitoxin levels, nor did either prevent neutralization of intracutaneously injected toxin; nevertheless, both depressed tuberculin sensitivity to a similar degree, as previously observed.

Discussion

The present series of polyoxyethylene ethers represents a new type of antituberculous agent, with surface-active properties. Their mechanism is obscure, for, apart from producing submerged dispersed growth, they appear to have no direct action on the tubercle bacillus in the test-tube, even at 1% concentration, while there is no evidence of any antibacterial derivative in the blood taken from animals given large doses. Moreover, phagocytosis of tubercle bacilli is not increased, either *in vivo* or *in vitro*, by these agents (Rees and Hart, 1952).

The present work, by demonstrating a depression of skin sensitivity to tuberculin in the guinea-pig, shows that these surface-active agents have an effect on the host. This observation naturally invites comparison with other tuberculin-desensitizing substances, the most notable of which is cortisone (Long and Miles, 1950). The desensitizing effect of the present detergents is comparable in degree to that of cortisone, and, like the latter, does not affect antitoxic immunity in the guinea-pig; but there the analogy ends. For, first, the mechanism of the present effect is different, since it is independent of the dietary and hormonal influences that control the response to cortisone (cf. Long *et al.*, 1951a, 1951b, 1951c). Secondly, the detergents under study are antituberculous, whereas cortisone aggravates tuberculosis in mice (Hart and Rees, 1950). It is less certain that this steroid does so in the guinea-pig, which in resistance to cortisone, ascorbic acid metabolism, and ease of sensitization to allergens is more closely analogous to man than are the mouse and such creatures (Long, 1952). Nevertheless, dramatic effects in cortisone-sensitive animals, such as the mouse, rat, and rabbit, may indicate the trend of less obvious effects in cortisone-resistant creatures such as the guinea-pig and man.

The important role of cellular immunity, and of mononuclears in particular, in resistance to tuberculosis (Lurie, 1939a, 1939b, 1942) is virtually undisputed. On the other hand, repeated attempts to link humoral immunity and resistance to tuberculosis have failed (see, for example, Wilson and Miles, 1946). Cortisone causes lymphopenia and lymphoid atrophy in sensitive creatures (Wells and Kendall, 1940). Such effects are slight and inconstant in the guinea-pig, but, nevertheless, it is possible that cortisone-induced mesenchymal depression grossly outweighs the benefits of desensitization in cortisone-sensitive creatures, and cancels them in resistant ones. Thus only in animals treated with these detergents might anti-allergic activity exist without depression of the local cellular defence mechanism. This interpretation must remain hypothetical until further studies elucidate the problem.

However, we cannot overlook the most interesting observation that, whereas the chemotherapeutically active representatives of the present detergent series desensitized under the

conditions of our experiments, the inactive representatives did not. This association suggests that the mechanism of the chemotherapeutic action and that of the depression of sensitivity may have some common factor. Nevertheless, it must be admitted that there is at present little evidence in favour of the closer relationship of cause and effect—i.e., that the antituberculous effect is in fact due to desensitization. For although the many previous attempts to desensitize tuberculous guinea-pigs have had to be made with tuberculin, the results, taken as a whole, suggest little, if any, advantage to the host. Moreover, the present surface-active agents are equally effective in mouse and guinea-pig tuberculosis, in spite of the very different levels of allergy in these two species. Thus a tuberculin skin reaction cannot be elicited in the tuberculous mouse; and, although this animal can manifest a systemic reaction when tuberculin is given intravenously, much larger doses are required than in the guinea-pig (Smith, 1928; Rees and Hart, 1952). The influence on experimental tuberculosis of a number of other substances that depress tuberculin sensitivity, such as N-acetylsphingosine (Fisher *et al.*, 1951), dehydroascorbic acid and alloxan (Long *et al.*, 1951c), will be investigated. If these anti-allergic substances should also prove antituberculous, the hypothesis of a causal connexion between desensitization and chemotherapeutic activity would be strengthened.

Summary

The development of experimental tuberculosis in guinea-pigs is markedly inhibited by injection of certain surface-active polyoxyethylene ethers. Using the response to intracutaneous tuberculin as a measure of allergic hypersensitivity in albino guinea-pigs infected with B.C.G., we find that:

(1) Single subcutaneous or intravenous injections of these drugs diminish sensitivity to a degree comparable to that of cortisone.

(2) The chemotherapeutically active representatives of the series diminish tuberculin sensitivity, whereas the inactive members fail to do so.

(3) Their mode of action differs from that of cortisone, since it is independent of dietary factors and of thyroid activity.

(4) Neither D2a, a chemotherapeutically active detergent, nor cortisone, in heavy continual dosage, depressed skin sensitivity to diphtheria toxin, or antitoxin levels, in guinea-pigs immunized with diphtheria toxoid (in this experiment the animals were sensitized with dead tubercle bacilli). Both drugs depressed tuberculin sensitivity.

(5) The possible mode of action of these surface-active agents is discussed.

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REFERENCES

Bruce, H. M., and Parkes, A. S. (1947). *J. Hyg., Camb.*, 45, 70.
Cornforth, J. W., Hart, P. D'Arcy, Rees, R. J. W., and Stock, J. A. (1951). *Nature, Lond.*, 168, 150.
Fisher, N., Harington, C. R., and Long, D. A. (1951). *Lancet*, 2, 522.
Hart, P. D'Arcy, and Rees, R. J. W. (1950). Ibid., 2, 391.
Long, D. A. (1950). *Brit. J. exp. Path.*, 31, 183.
—— (1952). *Bull. schweiz. Akad. med. Wiss.*, 8, 194.
—— and Miles, A. A. (1950). *Lancet*, 1, 492.
—— —— and Perry, W. L. M. (1951a). Ibid., 1, 1085.
—— —— —— (1951b). Ibid., 1, 1392.
—— —— —— (1951c). Ibid., 2, 902.
Lurie, M. B. (1939a). *J. exp. Med.*, 69, 579.
—— (1939b). *Cyclopedia of Medicine, Surgery and Specialities*, p. 480. Davis, Philadelphia.
—— (1942). *J. exp. Med.*, 75, 247.
Miles, A. A. (1949). *Brit. J. exp. Path.*, 30, 319.
Rees, R. J. W., and Hart, P. D'Arcy (1952). Unpublished.
Römer, P. H., and Sames, Th. (1909). *Z. ImmunForsch.*, 3, 344.
Smith, M. I. (1928). *Publ. Hlth Rep., Wash.*, 43, 2817.
Wells, B. B., and Kendall, E. C. (1940). *Proc. Mayo Clin.*, 15, 133.
Wilson, G. S., and Miles, A. A. (1946). Topley and Wilson's *Principles of Bacteriology and Immunology*. Arnold, London.

TUBERCULOSIS IN FAMILIES WITH B.C.G.-VACCINATED AND NON-VACCINATED CHILDREN*

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Since the introduction of B.C.G. vaccination 25 years ago much has been written to prove or disprove its value. In the Scandinavian countries, in particular, investigators gradually became convinced that the Calmette-Guérin vaccine had a very important part to play in the prevention of primary tuberculosis in both children and adults.

Many workers all over the world have reported surveys demonstrating the protective value of the vaccine. Others found little evidence to support this view. The problem of carrying out controlled investigations to cover all possible variables has made it very difficult to assess its true value. The report of an outbreak of tuberculosis in a school in Denmark in 1943, investigated by Hyge (1947), fulfilled many of the conditions necessary for a true analysis of the protective value of B.C.G. vaccination. The reports of Heimbeck (1929, 1932), Rosenthal, Blahd, and Leslie (1945), and Aronson (1948) are examples of investigations with different types of control groups.

Another approach to the problem is to examine those families in whom some children have been vaccinated and others not. The number of reports of such families in the literature are few. In France, Bertoye (1936) described a family of four children. The second child was vaccinated at birth because it was customary to vaccinate all infants at the maternity hospital where the child was born. In June, 1935, a domestic servant had an unexpected haemoptysis. She was immediately removed to hospital and the diagnosis of tuberculosis confirmed. The following month the three non-vaccinated children (aged 8, 5, and 1½ years) each developed a fever with hilar adenitis and a positive tuberculin reaction. The youngest child later died of tuberculous meningitis. The vaccinated child (aged 6 years) remained quite well.

Selection of Families

A search was made in the records of the Norrtull's Hospital, the Samariten Hospital, and the Central Tuberculosis Dispensary, Stockholm, for families satisfying all the following conditions:

1. That some children in the family had been vaccinated with B.C.G. and some not.

2. That every child said to have been B.C.G.-vaccinated was actually vaccinated and had been negative to 1 mg. of old tuberculin at the time of vaccination. (All B.C.G. vaccinations and the post-vaccinal tests are notified to the Central Tuberculosis Dispensary, and the records were consulted.)

3. That the tuberculin reaction was positive at the time of the check test (at about three months in infants and six weeks in older children).

4. That the tuberculin test had become positive following the vaccination before the time of exposure to an active case of adult tuberculosis.

*This work was carried out at the Paediatric Clinic of the Karolinska Institute, Norrtull's Hospital, Stockholm, during the period of tenure of a Cow and Gate Travelling Scholarship from the Department of Child Health, Queen's University, Belfast.

5. That all the children in the family (and, in this series, in all the families) had been vaccinated with vaccine made in the one laboratory—the Bacteriological Laboratory in Gothenburg.

6. That there was a definite confirmed case of active tuberculosis as the source of infection.

7. That all the children in the family had been in contact with the source of infection.

8. That the duration and time of contact with that case of tuberculosis (the source of infection) was the same for all the children.

In general, it may be stated that all families with B.C.G.-vaccinated and non-vaccinated children exposed to a known source of infection, and irrespective of whether or not there was any case of tuberculosis among the children, are included.

Family 1 (4 Children, 2 Adults)

One of twins, a girl aged 2 years, developed erythema nodosum in July, 1946. She was found to have *x*-ray evidence of primary tuberculosis, and a tuberculin-jelly test was positive. She was known to have been tuberculin-negative in February, 1946. She had not been vaccinated with B.C.G. When the family was called for a check-up it was found that the other twin, a boy, had an active hilar adenitis and was tuberculin-positive. He also had never been B.C.G.-vaccinated, but was known to have been tuberculin-negative in November, 1945.

The other two children had been B.C.G.-vaccinated—the 17-year-old girl in April, 1944, and the 16-year-old girl a year later. When examined on September 2, 1946, both had normal chest *x*-ray films and were Mantoux-positive. Repeat examinations in September, 1947, and September, 1948, showed normal chest *x*-ray films and positive Mantoux reactions.

In August, 1946, the mother was Mantoux-positive and had a normal chest *x*-ray film. Repeat yearly chest *x*-ray films up to 1951 remained normal. (She was also known to have had a normal chest *x*-ray film in March, 1934.) In August, 1946, the father was found to have active tuberculosis, with a positive sputum.

Family 2 (3 Children, 2 Adults)

The mother was discovered to have active tuberculosis with a positive sputum in April, 1949. On follow-up the same month the father's chest *x*-ray film was clear.

The three children were examined early in May, 1949. One, a 7-year-old girl who had not previously been B.C.G.-vaccinated, was discovered to have active primary tuberculosis with a positive tuberculin-jelly reaction. No previous tuberculin tests were known. At the time of examination she was found to have a pyrexia, which lasted two weeks. This was considered to be the initial fever.

The other two children had been B.C.G.-vaccinated—the 8-year-old boy in November, 1948, and the other boy, aged 10, the previous year. Both had normal chest *x*-ray films and were positive to tuberculin-jelly tests.

Family 3 (4 Children, 2 Adults)

The mother of this family had pleurisy in 1942 and developed lupus vulgaris in November, 1946. At this time her chest *x*-ray film showed nothing very definite—there was just a suspicion of a slight interlobar effusion. A year later her chest *x*-ray film was normal. However, in May, 1948, she was found to have pulmonary tuberculosis. On follow-up the same month (May, 1948) the father's *x*-ray film was normal, but a 14-year-old boy was found to have a raised temperature (considered the initial fever), persisting for some weeks. His *x*-ray film showed primary tuberculosis and his Mantoux reaction was positive. There was no knowledge of previous tuberculin tests and he had not been B.C.G.-vaccinated.

Two boys, aged 4 and 5 years, were B.C.G.-vaccinated in 1944 and 1943 respectively. The 15-year-old girl had been B.C.G.-vaccinated in 1941. These three children had normal chest *x*-ray films and were positive to tuberculin tests in May, 1948.

Family 4 (3 Children, 2 Adults)

A 4-year-old boy was found to be positive to the tuberculin-jelly test and to have a hilar adenitis in October, 1948. His E.S.R. was 34 mm. in one hour. The previous June he was known to have had a rise in temperature lasting about three weeks. This may have been the initial fever. There was no knowledge of previous tuberculin tests and he had never been B.C.G.-vaccinated.

At a follow-up examination in November, 1948, a second boy, aged 6 years, was found to have primary tuberculosis. His tuberculin-jelly reaction was positive and his E.S.R. 41 mm. in one hour. Tubercle bacilli were isolated from his gastric washings. This boy also had a history of a rise in temperature in June, 1948. Again there were no known tuberculin tests, and he had not been B.C.G.-vaccinated.

The third child, a boy aged 14, had been vaccinated with B.C.G. in November, 1945. On follow-up examination in December, 1948, he was positive to tuberculin jelly and his chest *x*-ray film was normal.

The parents were examined in December, 1948. The father's chest *x*-ray film showed active tuberculosis. He also gave a history of an attack of pneumonia the previous May. At this time the mother's *x*-ray film showed some suspicious changes, and these progressed to obvious active disease within a year. Her Mantoux reaction was positive.

Family 5 (2 Children, 2 Adults)

A 2-year-old boy was negative to the tuberculin-jelly test in May, 1946. In June, 1946, this test was strongly positive, and he was found to have an active hilar adenitis. He ran a high temperature—the initial fever—for a fortnight. He had not been B.C.G.-vaccinated.

At a follow-up examination in June, 1946, his 5-year-old brother, who had been vaccinated with B.C.G. in the autumn of 1945, had a positive tuberculin-jelly reaction and a normal chest *x*-ray film.

The mother was examined the same month. She was tuberculin-positive and an *x*-ray film of her chest was normal. Yearly repeat examinations for the next four years were clear. The father was examined in July, 1946. His chest *x*-ray film showed active tuberculosis and his sputum contained tubercle bacilli.

Family 6 (4 Children, 2 Adults)

On Christmas Eve, 1947, three of the children (girls aged 3, 4, and 6 years) developed erythema nodosum. All were positive to tuberculin-jelly tests and suffering from primary tuberculosis. There were no known previous tuberculin tests, and none of them had been vaccinated with B.C.G.

At a follow-up examination the 2-year-old girl, who had been B.C.G.-vaccinated shortly after birth in November, 1945, was found to have some suspicious enlargement of the hilar glands and to be tuberculin-positive. She had a history of having just recovered from whooping-cough. Her hilar shadows were considered to be within normal limits in three months and again a year later.

The follow-up examination showed that chest *x*-ray films of both parents were normal. It was then found that an uncle had arrived on November 21, 1947, and stayed with them for three weeks; during this time he had become ill. He was admitted to a sanatorium on January 4, 1948, with cavitation and a positive sputum.

Family 7 (3 Children, 2 Adults)

A boy aged 4 years was first seen in October, 1949, and there was a history of his "not being well" since the previous July, when he was known to have had a rise in temperature for some weeks. He was found to be positive to tuberculin jelly and had a primary complex. On looking

back it was thought that his initial fever may have occurred in July. He had never been vaccinated with B.C.G. and he was not known to have had any previous tuberculin tests.

At a follow-up examination in October, 1949, the 11-year-old boy was also found to have a positive tuberculin reaction. At first his chest *x*-ray film was suspicious. His E.S.R. was 7 mm. in one hour. Further *x*-ray films did not show any change and there was little evidence of active disease at any time. He had not been B.C.G.-vaccinated and he was not known to have had any previous tuberculin tests.

The 8-year-old girl, who had been vaccinated with B.C.G. the previous year, had a normal chest *x*-ray film and was Mantoux-positive (1 mg.).

Both parents were examined in October, 1949. Their chest *x*-ray films were normal and both were positive to 0.05 mg. of old tuberculin.

It was then found that the three children had been staying with their grandmother during the summer. She was examined in the local tuberculosis clinic in October, 1949, and evidence of old changes was found on the chest *x*-ray film. During this investigation a suspicion arose that a friend of the family with whom the children had been in contact might be the source. He was called for examination and was found to be Mantoux-positive (0.05 mg.). His chest *x*-ray film showed active tuberculosis, and tubercle bacilli were isolated from his sputum during the first week of November, 1949.

Family 8 (2 Children, 2 Adults)

The mother's sister was found to have tuberculosis in 1947. Tubercle bacilli were present in her sputum, and she died two years later. She was known to have had a chest lesion in 1941.

At a follow-up examination in April, 1947, the 6-year-old boy was found to be positive to the tuberculin-jelly test and to show radiological evidence of primary tuberculosis. Besides the recent contact with his aunt, he had lived with her for a period in 1943. However, his chest *x*-ray films were normal in October, 1945, and June, 1946. He had not been vaccinated with B.C.G.

His 5-year-old sister was B.C.G.-vaccinated in 1941. There is some doubt about the post-vaccinal tuberculin test. The case records showed her to have been positive then, but the mother could not recall it. She was now tuberculin-positive. She had normal *x*-ray films between January, 1945, and April, 1947. In November, 1947, there was some degree of hilar enlargement, but an *x*-ray film six weeks later was normal. Her E.S.R. in April and December, 1947, was 5 mm. in one hour, and in March, 1948, 10 mm. in one hour.

A third child*, a boy, was born in September, 1946, and vaccinated with B.C.G. a short time after birth. He was kept in a children's home for his first year of life and never had any contact with his tuberculous aunt. Six *x*-ray films between November, 1947, and January, 1951, were normal. Yearly tuberculin tests up to January, 1951, remained positive.

The parents' *x*-ray films did not show any evidence of tuberculosis, but the mother did have a lesion in 1942. She never had any tubercle bacilli in her sputum.

Family 9 (2 Children, 2 Adults)

The father of this family was found to have active tuberculosis in November, 1948, and a positive sputum. His Mantoux reaction (0.05 mg.) was positive. His wife had been B.C.G.-vaccinated in November, 1947. On follow-up she was still Mantoux-positive (0.05 mg.) and had a normal chest *x*-ray film.

*This child is excluded from the investigation as he had no contact with the source of infection. The other two children had three possible times of infection—from the aunt in 1941, their mother in 1942, and again their aunt in 1947. In view of the *x*-ray findings it seems likely that these children were infected just before the aunt was discovered, in April, 1947, to have become active again.

The 2-year-old girl was examined in the first week of January, 1949. She was positive to the tuberculin-jelly test and had an active hilar adenitis. A few weeks later her E.S.R. was 40 mm. in one hour. There was also a history of a rise in temperature just before Christmas, 1948, and it was thought possible that this may have been the initial fever. She had not been vaccinated with B.C.G., and there were no known previous tuberculin tests.

An 11-months-old boy had been B.C.G.-vaccinated at birth. His chest *x*-ray film was normal and a tuberculin-jelly test was positive.

Family 10 (2 Children, 2 Adults)

An uncle of these children was known to have had tuberculosis in 1944 and to be Mantoux-positive. The two children were in contact with him off and on from the spring of 1946 to the beginning of 1947. He was then discovered to have tubercle bacilli in his sputum.

At a follow-up examination in March, 1947, the 4½-year-old girl was positive to the tuberculin-jelly test and had active primary tuberculosis. She had not been vaccinated with B.C.G., but was known to have been tuberculin-negative three months before.

The 15-year-old boy had been B.C.G.-vaccinated in 1944. His Mantoux (0.05 mg.) was positive and his chest *x*-ray film normal.

Both parents, when examined in March, 1947, were Mantoux-positive (0.05 mg.) and their chest *x*-ray films normal.

Family 11 (4 Children, 2 Adults)

A 4-year-old girl was found to be positive to the tuberculin-jelly test in the second week of January, 1950, and to have primary tuberculosis. No previous tuberculin tests were known, and she had not been B.C.G.-vaccinated.

At a follow-up examination the same month the 7-year-old boy was found to be positive to the tuberculin-jelly test and to have active hilar adenitis. It was considered that a rise in temperature he had had in December, 1949, may have been the initial fever. There were no known previous tuberculin tests and he had not been vaccinated with B.C.G.

The 1-year-old boy had been B.C.G.-vaccinated at birth and the 11-year-old boy over two years previously. Both were tuberculin-positive and had normal chest *x*-ray films.

When the father was examined he was found to have evidence of active tuberculosis. There was no record of the mother having been *x*-rayed.

Family 12 (2 Children, 2 Adults)

After the discovery of active pulmonary tuberculosis in their aunt this family was investigated in October, 1944. This aunt had also had tuberculosis of a foot bone and erythema nodosum twice. No tubercle bacilli had ever been found in her sputum.

The 3-year-old boy was tuberculin-positive and had an active hilar adenitis. There was no knowledge of previous tuberculin tests and he had not been B.C.G.-vaccinated.

The 9-months-old boy had been B.C.G.-vaccinated at birth. His chest *x*-ray film was normal and he was tuberculin-positive.

The mother's chest *x*-ray film was clear and she was Mantoux-positive (1 mg.). The father was never traced, as he had deserted the family.

Family 13 (2 Children, 2 Adults)

The 3-year-old boy developed phlyctenular conjunctivitis in October, 1947. He was Mantoux-positive (0.05 mg.) and had active hilar adenitis. There were no known previous tuberculin tests and he had not been vaccinated with B.C.G.

At a follow-up examination in November, 1947, the 2-year-old boy, who had been B.C.G.-vaccinated at birth, was found to be positive to the tuberculin-jelly test and to have a normal chest *x*-ray film.

The parents were also examined in November, 1947. The mother was Mantoux-positive (0.05 mg.) and had a clear chest *x*-ray film. The father was also Mantoux-positive (0.05 mg.), but he had a positive sputum, and a tuberculous cavity was shown on the chest *x*-ray film.

Family 14 (2 Children, 2 Adults)

A 1½-year-old boy was admitted to hospital with erythema nodosum at the end of October, 1945. His tuberculin-jelly test was positive and he had an active primary tuberculosis. There were no known previous tuberculin tests and he had not been vaccinated with B.C.G.

The 4-year-old boy had been B.C.G.-vaccinated in November, 1942. In November, 1945, he was tuberculin-positive and his chest *x*-ray film was clear.

Both parents were Mantoux-positive and had clear *x*-ray films. An aunt with whom the children had been in contact was now suspected. She had a positive sputum, and multiple cavities were shown on an *x*-ray film. She died seven months later.

Family 15 (2 Children, 2 Adults)

A 2½-year-old boy was found on routine examination to be positive to a tuberculin-jelly test in April, 1948, and to have a hilar adenitis. There were no known previous tuberculin tests and he had not been vaccinated with B.C.G.

The 4½-year-old boy had been B.C.G.-vaccinated in April, 1946. His tuberculin-jelly test was positive and his chest *x*-ray film clear on follow-up examination in April, 1948.

The mother's chest *x*-ray film was clear and she was Mantoux-positive (0.05 mg.). The father was known to have had tuberculosis in 1940. He was examined twice yearly from then on, but was never regarded as infectious. He was at work all this time. Their maid, who was found to have active bilateral tuberculosis towards the end of 1947, was considered the source of infection.

Family 16 (3 Children, 2 Adults)

A 6-year-old boy developed chicken-pox in 1948. He did not quite recover, but remained "out of sorts." During the first few days of January, 1949, he was found to be tuberculin-positive and to have primary tuberculosis. There was no knowledge of previous tuberculin tests and he had not been vaccinated with B.C.G.

Twin girls aged 1½ years had been B.C.G.-vaccinated in July, 1947. They were both tuberculin-positive (jelly and 0.05 mg. old tuberculin) and both had normal chest *x*-ray films.

Both parents were also Mantoux-positive (0.05 mg.) in January, 1945, and their chest *x*-ray films were clear.

It was then discovered that the family had visited their grandfather between October and Christmas, 1948. (Their grandmother had died 25 years previously with tuberculosis.) The grandfather was examined in February, 1949. He was found to be tuberculin-positive and to have active tuberculosis.

Comment on Cases

The diagnosis of primary tuberculosis was confirmed by the head of each hospital. (Families 1–10 by Professor A. Wallgren at Norrtull's Hospital and families 13–16 by Professor N. M. Malmberg at the Samariten Hospital. In family 11, one child was admitted to Norrtull's and the other to the Samariten. Family 12 was seen only at the Central Tuberculosis Dispensary.) All the children not admitted to hospital, the parents, and other relatives, etc., were examined by tuberculosis medical officers in the Central Dispensary, except those, sometimes the sources of infection, living in country districts, who were examined by local tuberculosis officers and admitted to local sanatoria.

Tubercle bacilli were isolated from the gastric washings of some of the children with primary tuberculosis, but no gastric washings were carried out in the vaccinated children. Hence this part of the investigation is of no value.

Discussion

In all there were 16 families, with 22 vaccinated and 22 non-vaccinated children, and each family satisfied all the given conditions. There is therefore a group of children some of whom act as controls and the others as tests of the protective value of their B.C.G. vaccination. The source of infection for all the children, while not the same, is at least similar. Within each family the familial susceptibility to tuberculosis is probably the same, although the resistance may be influenced by the age composition of the family.

When the source of infection lies in the home, it may be assumed that each child was exposed to the maximum possible risk. The social conditions, especially overcrowding, will vary between each family, but the children in each individual family will live under the same conditions and their standard of nutrition will tend to be the same.

Why some children should have been vaccinated and others not is not very clear. It seems most likely that the mother was offered vaccination for some of the children on one particular occasion—for example, at a school medical examination, at a child welfare centre, or at a maternity hospital—but did not trouble to have the remaining children vaccinated.

One criticism might be that the non-vaccinated children were left because they were known to be tuberculin-positive. In most of the non-vaccinated children there were no known previous tuberculin tests. This, coupled with the presence of active primary disease, would make it unlikely that they had been tuberculin-positive when the other children were vaccinated with B.C.G. One possible exception might be the boy aged 11 in family 7.

There is no reason to believe that any form of selection (such as not vaccinating a child with a chronic illness) occurred among either group of children. It is often said that only the most careful and intelligent mothers will have their children vaccinated, and that this in itself is a great source of selection when using non-vaccinated children in other families as controls. This does not apply to the present series.

The question of race does not arise so far as comparison between each group is concerned, as all the children were Swedish. The possibility of an occupational risk has to be considered in the older children. All the non-vaccinated were 14 years or under (20 of the 22 were under 9 years). There can be no question of an occupational risk in this group. Four of the vaccinated children were 15 years or over; three of them were girls. Despite the known increased risk at puberty and during adolescence, especially in females, and despite a known intimate contact with a source of infection, all these four children (and a 14-year-old boy) were completely protected. Indeed, it must be expected that these older children will have a greater circle of acquaintances outside the immediate family circle and will have the added risk of a casual infection.

It is very unlikely that the question of sex is important before puberty. Age, however, is most important. It is generally accepted that children under 5 years have a much more severe reaction to a primary tuberculous infection than older children. Two of the B.C.G.-vaccinated children had suspicious *x*-ray films at first (families 6 and 8). Both were under 5 years old, and were the youngest in the family. This probably occurred by chance, because suspicious lesions may occur in B.C.G.-vaccinated children at any age. It is worth noting that the mother of family 6 volunteered the information that, of all her children, the youngest (aged 2) had played continuously with the source of infection for days before his tuberculosis was suspected. In neither of the cases did definite primary tuberculosis develop. On the other hand, a non-vaccinated boy aged 11 (family 7) was under suspicion at first, while his younger brother, aged 4, had a typical infection and his sister, aged 8, who was vaccinated with B.C.G., was completely protected.

Table I shows the classification of the children into four age groups, according to whether they were B.C.G.-vaccinated or not. It is seen that, in general, the vaccinated children

TABLE I

Age	Non-vaccinated			Vaccinated		
	Obvious Primary Tuberculous Complex	Suspect Primary Tuberculous Complex	Total	No Evidence of Primary Tuberculous Complex	Suspect Primary Tuberculous Complex	Total
0– ..	14	0	14	9	1	10
5– ..	6	0	6	4	1	5
10– ..	1	1	2	3	0	3
15+ ..	0	0	0	4	0	4
	21	1	22	20	2	22

were in the minority in the two lowest groups and in the majority in the highest. This is of importance, as it is likely that the young children were more at home than the older children and therefore more exposed to any source of infection within the family. It is of interest, however, to look separately at the different age groups. One child among the vaccinated in each of the two lower age groups had some clinical evidence of primary infection—that is, one of the 10 B.C.G.-vaccinated children under the age of 5 years had some evidence of primary infection, whereas all 14 of the non-vaccinated became clinically ill. Similarly, only one of the five vaccinated children between 5 and 10 years developed some evidence of primary disease, compared with obvious infection in the six non-vaccinated. The other two groups are too small for any conclusions to be drawn.

Family 1 contains two adolescent girls protected, and twins aged 2 years who developed erythema nodosum and primary tuberculosis. In family 16, twins aged 1½ years were protected and a boy of 6 years was infected. Family 3 shows a 14-year-old boy infected and a girl of 15 years and two boys aged 4 and 5 years protected. Families 9 and 12 have two children under 1 year protected, while the other children were infected. In family 11, the two protected children were aged 1 year and 11 years and the two infected children were in between (aged 4 and 7 years). Even in such a small group, then, there is evidence of protection at all ages of childhood. No cases of tuberculous meningitis or miliary tuberculosis occurred in either group.

Table II shows the distribution of the children, by families, in each group and the source of infection. In 8 of the 16 families the source was either the father or the mother; in 5 an aunt or an uncle; and in the rest a grandfather, a maid, and a friend of relatives whom that family had visited. The mother of family 8 had had tuberculosis five years before, but was not considered likely to be infectious at the time. The children had, however, been in contact with an aunt who was found to have active tuberculosis and who died two years later.

TABLE II.—*Distribution of the Children in Each Group According to Families with Source of Infection*

Family	Non-vaccinated Primary Tuberculosis	B.C.G. vaccinated Tuberculin-positive but no Evidence of Active Tuberculous Infection	Source of Infection
1	2	2	Father
2	1	2	Mother
3	1	3	,,
4	2	1	Father
5	1	1	,,
6	3	1†	Uncle
7	2*	1	Friend of relatives
8	1	1†	Aunt
9	1	1	Father
10	1	1	Uncle
11	2	2	Father
12	1	1	Aunt
13	1	1	Father
14	1	1	Aunt
15	1	1	Maid
16	1	2	Grandfather

* One boy with no definite clinical disease.
† Each child had a suspicious *x*-ray film at first.

B.C.G. vaccination offers a relative rather than a complete protection against primary tuberculosis—that is, it raises the resistance to a subsequent superinfection with virulent organisms. It is most likely that all the vaccinated children in this series were superinfected, but only two showed a possible hilar reaction of short duration.

The incidence of tuberculosis in vaccinated and non-vaccinated children admitted to Norrtull's Hospital between 1945 and 1949 inclusive is interesting. Of 625 cases of primary tuberculosis, 26 had been vaccinated with B.C.G. (excluding 9 who had been vaccinated during the incubation period); 12 of these 26 cases were mild and 14 more or less typical, but some of the latter had been vaccinated so long before that it is very likely the immunity had disappeared. In addition, there were 137 cases with spontaneous positive tuberculin reactions. During this five-year period 1,352 vaccinated children were admitted and 7,279 non-vaccinated; and 26 (1.9%) of the vaccinated children had tuberculosis, compared with 599 (8.2%) cases among the non-vaccinated children. There were 28 cases of tuberculous meningitis and/or miliary tuberculosis in the non-vaccinated group and none in the vaccinated group. These figures are not representative of the children of Stockholm, and apply only to the hospital admissions.

The difference in the number of vaccinated and non-vaccinated is surprisingly great. This is partly explained by the fact that in the non-vaccinated group are included infants under 3 months who were vaccinated at birth but were not yet tuberculin-positive, and partly because there has been a very great increase in the number of vaccinations in recent years, so that the proportions for 1949 are quite different from those of 1945. Parallel with this rise in the number of vaccinated children there has been a fall in the number of cases of primary tuberculosis—from 183 admissions in 1945 to 88 in 1949, with an average of 123 in the intervening years.

Summary

A description is given of 16 families in which some children were vaccinated with B.C.G. and others not, and in which all had been exposed to a known source of infection. Reasons are put forward for considering the two groups comparable. Among the 22 children in the non-vaccinated group 21 developed primary tuberculosis. In the B.C.G.-vaccinated group, two at most showed some evidence of superinfection.

The protective value of B.C.G. vaccination is striking, both when the source of infection is within the family (with the maximum risk for each child) and when it is outside.

The difference in the incidence of tuberculosis in the vaccinated and non-vaccinated children admitted to Norrtull's Hospital is recorded and a brief description of the fall in the number of cases of primary tuberculosis from 1945 on is given. The absence of tuberculous meningitis and miliary tuberculosis in the vaccinated group is noted.

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REFERENCES

Aronson, J. D. (1948). *Amer. Rev. Tuberc.*, 58, 255.
Bertoye, M. P. (1936). *Lyon méd.*, 157, 77.
Heimbeck, J. (1929). *Ann. Inst. Pasteur*, 43, 1229.
—— (1932). *Arch. intern. Med.*, 49, 957.
Hyge, T. V. (1947). *Acta tuberc. scand.*, 21, 1.
Rosenthal, S. R., Blahd, M., and Leslie, E. I. (1945). *J. Pediat.*, 26, 470.

HEAD-DROPPING TEST

BY

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This test serves, first of all, in the early diagnosis of paralysis agitans and post-encephalitic Parkinsonism. The latter term is an awkward one, and has already led to such a stylistic horror as "Rombergism," to which "Babinskiism," it is hoped, will not be added. Therefore the generic term "Parkinson's syndrome" is used here, and the terms "idiopathic," "post-encephalitic," etc., are used to distinguish the varieties.

It is easy to diagnose a fully developed case of Parkinson's syndrome of any variety. Often there is an immediate impression of the condition which later proves to be correct, although at the time the impression was gained no adequate proof could be offered. However, it is sometimes difficult to diagnose cases that are just beginning to manifest themselves, or abortive cases, the so-called "formes frustes." The beginning and the course of Parkinson's syndrome of any variety is usually insidious and slow, and this makes the diagnosis particularly difficult.

In post-encephalitic Parkinson's syndrome it may be impossible to obtain a clear history of encephalitis, or the encephalitis may have occurred as long as 15 or 20 years previously, rendering some histories unreliable. The long so-called pseudo-neurasthenic stage of post-encephalitic Parkinson's syndrome, with its manifold and vague symptoms, particularly contributes to the diagnostic confusion. Many and varied morbid conditions must be considered in the differential diagnosis in such cases: diverse degenerative and non-degenerative diseases of the brain, multiple sclerosis, exophthalmic goitre, senile tremor, familial tremor, arthritis, as well as psychoneurotic, neurasthenic, and hysteric states and various intoxications.

How difficult to some clinicians the diagnosis may be is drastically demonstrated by the fact that I have seen patients with unmistakable Parkinson's syndrome who previously had been subjected to encephalography and angiography in the search for a tumour.

Tests in Early Diagnosis of Parkinson's Syndrome

The early diagnosis of this condition has long engrossed investigators, and many tests have been devised for this purpose. Some of these are: (1) Abnormal position of hand and fingers, particularly of the thumb. (2) Easy exhaustibility of fine finger movements. (3) Positive push test: on a sudden push backward, the patient, standing erect, does not involuntarily dorsiflex the foot and toes on the affected side. (4) Arm-deviation test: When the patient, with his eyes closed, stands with arms outstretched in front of him there is a tendency for the arms to move inward and downward. (5) Overestimation of weight of objects placed in the affected hand. (6) Cogwheel rigidity of muscles: On quick passive stretching, the examiner feels short jerks in the stretched muscles of the patient. (7) Fixation of position test (a so-called postural reflex): The examiner places his thumb on the biceps tendon, and with the other hand passively flexes the forearm of the patient; on every movement the thumb feels that the biceps tendon tightens so as to fixate the forearm in every given position. (8) Paresis of convergence of the eye muscles. (9) Hypometria, micrographia. All these tests have a sound physiological basis, and are useful. However, it cannot be said that they become manifest early in the disease.

For many years I have been accustomed to base the diagnosis of early Parkinson's syndrome on the following tests: (1) Exaggeration of the orbicularis oculi reflex: closure of the eyes on tapping the glabella (Wartenberg, 1945). (2) Diminution of pendulousness of the arms in walking, and diminution of pendulousness of the legs. For the latter test the patient sits on the table with his legs hanging freely. The examiner lifts the legs, lets them swing freely, and appraises their swinging time. This time is conspicuously shorter in Parkinson's syndrome, particularly when only one side is affected (Wartenberg, 1951). (3) Increased resistance in the neck muscles as felt by the examiner when he moves the head of the patient in different directions.

This third test, based on the rigidity of the neck muscles, has seemed particularly useful, though the method is somewhat crude. However, its physiological rationale is sound.

Tremor and Rigidity

The fundamental motor disturbances in Parkinson's syndrome can be traced to two main factors—tremor and rigidity. Which of these is the more important? The first observers stressed tremor. This is understandable, since, both for the patient and for the doctor, it is the more conspicuous, the more striking manifestation of the disease, especially so since the tremor affects predominantly the distal parts of the extremities, and is more obvious and disturbing to the patient. I have seen many such patients with both tremor and rigidity who complained only of the tremor.

Later investigators stressed rigidity at the expense of tremor. The tendency has now become to regard tremor as the non-essential, secondary feature, and to emphasize the existence of paralysis agitans *sine agitatione*. "I for my part," said Lewy (1932), "reject paralysis agitans *sine rigiditate*." This is in accordance with my own experience. I have seen patients with Parkinson's syndrome of any variety showing rigidity without tremor. For me the more significant element of the pallidal syndrome is rigidity, which is always present. Wilson (1940, p. 799), however, said: "Examples of paralysis agitans *sine rigiditate* are seen once in a while; they include akinesis, tremor, sometimes Parkinsonian postures, but not hypertonia." Though there is certainly Parkinson's syndrome without tremor, I doubt very much that there is Parkinson's syndrome without rigidity. In cases in which allegedly there was no rigidity the technique of examining for tonus has probably been faulty.

What comes first in the syndrome, tremor or rigidity? Many textbooks assert that in most cases tremor is the first sign. But it is admitted that occasionally tremor may appear some years after rigidity. Gowers (1893) found that rigidity may constitute "the first symptom of the disease." According to Wilson (1940, p. 791), "slowness and rigidity precede visible shaking in a considerable number." It is the post-encephalitic condition, particularly, that may show marked rigidity in the early stages, and only later may the tremor become apparent.

Where does rigidity in Parkinson's syndrome start? It is generally assumed that it starts in the proximal muscles of the limbs, particularly the upper. It is my belief that the rigidity starts in the neck and shoulder muscles, particularly in the flexors of the head. This leads to the sustained flexor position of the head, an early sign. As the disease advances and spreads this rigidity still remains more pronounced in the flexors of the head than in any other muscles of the body.

The textbooks point out the occurrence of the hemiparkinson syndrome. I would also like to stress the occurrence of a cervico-brachial type. This type is seen particularly in the idiopathic variety. In such cases the rigidity affects the muscles of the neck and shoulders predominantly or exclusively. The leg muscles are much less affected, or not affected at all.

Neck Rigidity

My long-held view that rigidity in Parkinson's syndrome affects the muscles of the neck first and foremost I found also to be held by Vujic (1927). He speaks of "pronounced extrapyramidal hypertonia of the neck muscles," in cases of post-encephalitic Parkinson's syndrome. "The same hypertonia," says Vujic, "is often found in the limbs in less pronounced degree, sometimes much more distinctly in the arms than in the legs, and especially in the proximal parts.... Hypertonia is ascertained by means of passive movement of the head and limbs."

In photographs of some cases the prominence and tension of the sternocleidomastoid muscles which produce the forward bending of the head are conspicuous. "In the recumbent posture sternomastoids do not slacken" (Wilson, 1940, p. 794). How strongly this position of forward bending of the head is can be demonstrated convincingly by the following. When a patient with advanced Parkinson's syndrome is asked to lie supine, his occiput does not touch the supporting surface on which he lies. He keeps his head up from the surface indefinitely, even if he is admonished to relax (see illustration).

Advanced Parkinson's syndrome. Typical posture of head of patient lying supine: the head is kept flexed indefinitely and off the surface.

Professor Robert Bing has drawn my attention to the fact that Steck (1926, 1927) apparently was the first to describe this *oreiller psychique* (psychic pillow), which was seen in his patients with psychosis accompanied by extrapyramidal syndromes. Steck graphically illustrated this "psychic pillow." While the phenomenon was found by him in psychotic patients who had extrapyramidal signs, none of my patients was in any way psychotic, and the "psychic pillow" was due here exclusively to the extrapyramidal rigidity of the neck muscles. The term "psychic pillow" certainly cannot be applied to cases of Parkinson's syndrome. The "pillow" here is not "psychic" but grossly "organic." It is hardly correct to call it "psychic," even in Steck's cases with psychosis, since these show extrapyramidal syndromes to which this position of the head must be attributed in the first place.

From a physiological standpoint this early bending position of the head in Parkinson's syndrome is easy to understand. The postural factor is considered to be determined by the "loss of righting reflex" (Brock and Wechsler, 1927), fundamental for this disease. In Parkinson's syndrome there is a "dissolution of erectness" (Kraus, 1924), a disintegration of the erect posture in man. The forward bending of the head is the very first expression of this disintegration.

If this be so, if indeed rigidity of the neck muscles is an early sign of Parkinson's syndrome, then the best test for this rigidity would be a test which demonstrates the rigidity of the flexors of the head. This, in fact, is the basis for the head-dropping test.

Technique of the Head-dropping Test

The patient lies supine on a horizontal examining table, without a pillow. The surface should not be hard, but padded. He is made to relax completely and should not try to raise his head, as he is always inclined to do. He is asked to close his eyes, his attention is diverted, and he is engaged in conversation. His head rests on the table surface. The examiner places his left hand under the patient's occiput, the dorsum resting on the table and the occiput lying in the examiner's palm. Then, with his right hand, the examiner suddenly, unexpectedly, and briskly lifts the patient's head and allows it to drop.

In normal persons the head drops back on to the left hand of the examiner with force, like a dead weight. It is as if there were no tonus of the neck muscles at all, as if the head were attached to the body by a string. This complete lack of tonus is in gross contradistinction to the marked tonus the neck muscles exhibit when the patient is erect. One is amazed at the sharp impact with which the head falls heavily and inertly backwards, an impact felt distinctly by the examiner. The fall is so heavy that, were it to occur on a hard surface, the patient could sustain an injury. It even might hurt him if his head should happen to fall on a ring the examiner was wearing. It is essential that the patient be completely relaxed. In the rare instances where complete relaxation cannot be achieved the test must be given up for the time being. In any case it is advisable to repeat the test. If after several examinations varying results are obtained the heaviest drop counts; in all others it must be assumed that some active interference has taken place on the part of the patient.

The test can also be performed on the patient lying prone, or on either side, but it is much more easily performed and its results are less difficult to evaluate when the patient lies supine. The rigidity of the neck muscles is evidently greater in the flexors than in the retractors of the head. It must be assumed, therefore, that the dropping of the head is slower when the patient lies supine than when he lies prone. However, this is difficult to prove.

The most striking change from the normal in this head-dropping test is seen in Parkinson's syndrome even in the earliest stages. Here the head drops slowly and gently; the downward movement is, so to speak, reluctant, hesitant, and lazy. The slow dropping of the head shows that, though the rigidity of the muscles in Parkinson's syndrome is generally diminished when the patient assumes a recumbent position, the rigidity of the neck muscles still remains considerable. In character this movement is the same as that felt by the examiner when he passively stretches a rigid extremity. The downward movement of the head maintains an even flow, is smooth, and is uniform from beginning to end. There is no sudden "give," no erratic unevenness. The smoothness and evenness of the movement are clearly seen in slow-motion pictures. If the patient interferes voluntarily and makes a movement with his head, this immediately can be distinguished as such.

The examiner is able to appraise the character of the motion not only by sight but by touch as well. In the palm of his hand he can feel the degree of impact of the dropping head. Compared with the violent impact in normal subjects, in Parkinson's syndrome the head drops softly and smoothly. The difference between the normal and the pathological is unmistakable, even in the earliest stages of the syndrome. I have seen quite a number of patients with Parkinson's syndrome who did not complain of rigidity anywhere, yet in whom the head-dropping test proved to be typical for this disease. In advanced cases the test is not necessary. Here the rigidity of the neck muscles is too obvious to need any special tests. As shown above, this rigidity is strikingly illustrated by the fact that the patient with advanced Parkinson's syndrome lying supine keeps his head bent and off the surface (see illustration). This is, so to speak, a "frozen" head-dropping test. In Parkinson's syndrome the test has

been found abnormal so regularly, and this abnormality has been so clear and unequivocal, that I dare state that if the head-dropping test is normal the syndrome can be excluded.

The Test in Differential Diagnosis

The test is of great importance in differential diagnosis: Parkinson's syndrome *versus* senile tremor.

I have seen cases of tremor diagnosed by authorities as Parkinson's syndrome in which the head-dropping test was later found to be normal. This led to further clinical investigation which proved beyond doubt that the patient suffered from senile tremor and not Parkinson's syndrome. Again and again I have found that the latter diagnosis is made too often. The differential diagnosis between these two conditions may be very difficult, since they have many clinical features in common. It is true that there is a difference between senile and parkinsonian tremor, yet tremor *per se* gives no decisive clue for differential diagnosis. The outstanding characteristic of senile tremor—involvement of the head—may occur also in Parkinson's syndrome. It is therefore understandable that many authors, even quite recently, have maintained that the senile tremor is just a "forme fruste" of paralysis agitans. However, a differential diagnosis is of importance particularly with regard to prognosis, since senile tremor is a benign, non-progressive lesion, while Parkinson's syndrome is not. In this differential diagnosis, parkinsonian tremor *versus* senile tremor, the head-dropping test is of decisive importance.

The outstanding sign of the senile tremor is the invariable absence of rigidity. The head-dropping test, being the most sensitive test for rigidity, decides the issue. It is always unmistakably and completely normal in senile tremor.

Dr. Charles Kunkle tried this test on a 70-year-old woman who had had a typical essential heredofamilial tremor for 30 years. In a personal communication he states: "When put to the test her head dropped in entirely normal fashion, like a true dead weight."

Other Tests

Next to the head-dropping test, the following have proved to be helpful in the early diagnosis of Parkinson's syndrome:

(*a*) *Shoulder-shaking Test.*—The examiner places his hands on the patient's shoulders, shakes them briskly by alternating movements to and fro, and observes the passive swinging of the arms thus produced. On the side affected by Parkinson's syndrome the range of the swinging is less than on the healthy side. When both sides are affected the diminution of swinging runs parallel to the rigidity. However, quite the opposite prevails in a cerebellar affection. Here the range of the swinging is greater on the affected than on the healthy side.

(*b*) *Arm-dropping Test.*—The examiner, standing in front of the patient, puts his hands on the sides of the patient's trunk, dorsum outward, at the level of the wrists. The patient is made to relax. With a sudden, quick, outward movement the examiner thrusts the patient's arms up and allows them to fall and strike the dorsum of his own hand. The examiner sees, feels, and hears that the impact of the falling arm on the side affected with Parkinson's syndrome is slowed up and not as heavy as that on the healthy side. The more the side is affected the softer and more retarded is the impact of the falling arm.

(*c*) *Pendulousness of the legs* (as described above).

A tremor may show the greatest similarity to Parkinson's syndrome, but when the head-dropping test and these three tests are normal then the syndrome can certainly be excluded. Thus far I have not seen any case of Parkinson's syndrome of any degree, of any variety, in which the head-dropping test was normal.

Head-dropping Test in Extrapyramidal Diseases

Since the neck muscles are a place of predilection in many other affections of the extrapyramidal system, it is understandable that an abnormal head-dropping test is found in such extrapyramidal conditions as Wilson's disease, torsion dystonia, striatal torticollis, and pallidal degeneration. Thus the dropping of the head as seen in Parkinson's syndrome indicates involvement of the neck muscles in extrapyramidal affections and even the degree of this involvement. It has proved helpful in cases of cortico-striato-spinal degeneration belonging to the group of spastic pseudosclerosis, and of olivo-ponto-cerebellar atrophy, pointing to the existing extrapyramidal component in these diseases. Generally speaking, a pathological head-dropping test in any complicated morbid condition indicates concomitant involvement of the extrapyramidal system.

We have thus far learned *one* outstanding characteristic of the head-dropping test: it shows striking changes in affections of the extrapyramidal system. There is another feature of this test which makes it valuable for differential diagnosis of extrapyramidal and pyramidal affections; it is that the head-dropping test does *not* show any marked or substantial change in pyramidal affections, not even in those in which both pyramidal tracts are affected intracranially.

A completely or nearly completely normal head-dropping test has been observed in patients with bilateral pyramidal lesions, which include an involvement of the pyramidal cortico-cervical tracts. These were cases of spastic tetraplegia with positive snout reflex, positive head retraction reflex, and markedly exaggerated jaw reflex. Some cases showed marked supranuclear bulbar ("pseudobulbar") signs and pathological laughing and crying. The common hemiplegia, of course, also shows a normal head-dropping test, and so does any affection of the cerebellum.

This being so, a pathological head-dropping test in diffuse affections of the brain points to extrapyramidal involvement. In diffuse hypertensive encephalopathy and in multiple sclerosis there may be such an extrapyramidal component. This can be ascertained and appraised by means of the head-dropping test.

The statement just made, that affections of the pyramidal tracts do not influence the head-dropping test, must be modified somewhat by saying that they do not essentially affect the head-dropping test. Though it is true that cases of marked pyramidal involvement have been seen in which this test was normal, occasionally some modification of it has been seen in pyramidal lesions. But here the downward movement of the head never assumes the same character as that seen in Parkinson's syndrome. It is only somewhat uneven, jerky. However, the problem of the head-dropping test in pyramidal lesions requires further investigation. The minor deviation in the test as seen in pyramidal lesions is infinitely less evident than that seen in Parkinson's syndrome, in which it is so obvious as to be unmistakable. Therefore if in a brain lesion with pyramidal signs the head-dropping test is found as in Parkinson's syndrome, this points to concomitant involvement of the extrapyramidal nervous system.

To sum up: In the head-dropping test, the head of the patient lying supine is suddenly and briskly lifted and dropped by the examiner. A slow hesitant movement or a soft fall, a gentle hitting of the surface, is indicative of a lesion of the extrapyramidal system and constitutes a valuable diagnostic sign in Parkinson's syndrome.

REFERENCES

Brock, S., and Wechsler, I. (1927). *Arch. Neurol. Psychiat., Chicago*, 17, 12.
Gowers, W. R. (1893). *A Manual of Diseases of the Nervous System*, 2nd ed., 2, 646. Churchill, London.
Kraus, W. M. (1924). *Ann. Méd.*, 15, 67.
Lewy, F. H. (1923). *Die Lehre vom Tonus und der Bewegung*, p. 9. Springer, Berlin.
Steck, H. (1926). *Schweiz. Arch. Neurol. Psychiat.*, 19, 195.
—— (1927). Ibid., 20, 92.
Vujic, V. (1949). *Acta med. Iugoslav.*, 3, 133.
Wartenberg, R. (1945). *The Examination of Reflexes*, p. 30. Year Book Publishers, Chicago.
—— (1951). *Neurology*, 1, 18.
Wilson, S. A. K. (1940). *Neurology*, 2, 791, 794, 799. Arnold, London.

SIDE-EFFECTS OF A PREPARATION OF VITAMIN B_{12}

BY

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During the course of an investigation involving large numbers of intramuscular injections of a proprietary preparation of vitamin B_{12} (Bedford, 1951a) side-effects were noticed which warranted further inquiry. This preparation was a vitamin-B_{12} "concentrate" derived from *Streptomyces griseus* fermentation liquors, and, being both effective and inexpensive, was assuming increasing prominence in the treatment of pernicious anaemia. It was of interest to determine whether the vitamin B_{12} itself or a contaminant was responsible for these side-effects, and to investigate some factors which may have predisposed to their occurrence.

Method

Three preparations were available for trial: (1) "A" was the proprietary vitamin-B_{12} preparation referred to above, containing 20 μg. per ml. It is described as a concentrate, being in fact a solution of vitamin-B_{12} factors derived from streptomyces fermentation liquors by a combination of customary extraction procedures, and is no longer in general issue (J. T. Marsh, 1951, personal communication). (2) "B" was a proprietary preparation of vitamin B_{12} derived from liver and contained 10 μg. of B_{12} per ml. (3) "C" was a solution of vitamin B_{12c} containing 20 μg. per ml., derived, like A, from streptomyces culture liquors, but "purified by crystallization and therefore likely to contain a smaller proportion of any impurity" (J. T. Marsh).

At the time of this investigation the proprietary preparation which has replaced A in general issue was not available for trial. It is, like C, a streptomyces derivative purified by crystallization, but is a solution of vitamin B_{12} (not B_{12c}), and its impurities are stated not to exceed 1 part in a million millions (J. T. Marsh, 1951; H. M. Walker, 1951: personal communications).

One hundred people (27 women and 73 men) between the ages of 21 and 90 were injected intradermally with 0.1 ml. of A, 0.2 ml. of B, and 0.1 ml. of C—that is, equal doses of vitamin B_{12}—on the flexor surface of the forearm, and the results recorded at 15 minutes, 30 minutes, and 24 hours. Positive reactors were arbitrarily assessed as those with persistent wheals 5 mm. and more in diameter.

Results

The results are set out in Table I. There were 14 positive reactions to A, none to B, and two to C (both of these being also positive to A).

TABLE I.—*Positive Intradermal Tests*

		0·1 ml. A	0·2 ml. B	0·1 ml. C
Men	73	9	0	1
Women	27	5	0	1
Total ..	100	14	0	2

Of the 100 people under test, 52 had received one or more antibiotics within the past five years (49 penicillin, 7 streptomycin, 4 "aureomycin," and 2 chloramphenicol), while 48 denied previous contact with mould products. Table II illustrates the relationship between skin-test positive reactions and previous treatment with antibiotics. Of those

TABLE II.—*Relation Between Positive Intradermal Reactions and Previous Antibiotics*

	Previous Antibiotics	A-positive	C-positive	No Previous Antibiotics	A-positive	C-positive
Men ..	43	6	1	30	3	0
Women ..	9	4	1	18	1	0
Total ..	52	10 (19%)	2	48	4 (8%)	0

who had previously received antibiotics, 19% were skin-test-positive to A, whereas only 8% of those who had *not* previously received antibiotics were A-positive.

As the relationship between positive intradermal reactions and general sensitivity phenomena is not absolute, it was decided to estimate directly the proportion of people who might be expected to exhibit side-effects to A, B, and C when these were administered, as is usual, by deep intramuscular injection. Two groups of people were selected, group 1 being the 14 skin-test A-positive reactors, and group 2 being 14 skin-test A-negative reactors. They were injected with 2 ml. of A, 4 ml. of B, and 2 ml. of C—that is, 40 μg. of vitamin B_{12} in each case—as follows:

Experiment 1: 2 ml. of A to group 1, and 2 ml. of A to group 2; followed two days later by *Experiment 2:* 4 ml. of B to group 1, and 4 ml. of B to group 2; followed two weeks later by *Experiment 3:* 2 ml. of C to group 1, and 2 ml. of C to group 2; followed after a further two days by *Experiment 4:* 2 ml. of A to group 1, and 2 ml. of A to group 2.

The results are set out in Table III. As experiments 2 and 3 yielded no reactions they are omitted from the table; the results of experiments 1 and 4 were identical and so are not set down separately. There were no side-effects to B

TABLE III.—*Side-effects to A in Positive and Negative Skin Reactors*

Side-effect of 2 ml. A Intramuscularly	A-positive	A-negative
Moderate	2	0
Mild	2	2
Nil	10	12
Totals ..	14	14

or C, but six cases reacted adversely to A. There were two moderately severe reactions (both in group 1), consisting of considerable pain and tenderness at the site of injection, with fever, shivering, and malaise beginning six hours after the injection and lasting 24 hours. Four mild reactions occurred (two in group 1, and two in group 2), consisting of pain and tenderness at the injection site lasting 24 hours.

Table IV illustrates the relationship between previous antibiotic treatment and the occurrence of side-reactions, and is based on experiments 1 and 4 above—that is, on 28

TABLE IV.—*Relation Between Side-effects to A and Previous Antibiotics*

	Previous Antibiotics		No Previous Antibiotics	
	No.	Side-effects	No.	Side-effects
Men	13	3	6	1
Women	6	2	3	0
Total ..	19	5 (26%)	9	1 (11%)

people. Of those who had previously received antibiotics 26% developed side-effects to intramuscular injection of A, whereas only 11% of those who had *not* previously received antibiotics reacted adversely.

Conclusions.—Although the numbers involved in these experiments are too few to be statistically evaluated, the following inferences may be drawn: (1) It is clear that the factor responsible for both the sensitivity reactions and the

side-effects was not vitamin B_{12} but an impurity present in A, absent in B, and present in traces in C. This substance was therefore probably a carry-over impurity from the streptomyces fermentation liquor (Tables I and III). (2) People who had previously received penicillin or other antibiotics were more than twice as likely to be skin-sensitive and to develop side-effects to the "mould impurities" as those who had not been so treated (Tables II and IV).

Discussion

There is increasing evidence that unusual responses to antibiotic therapy are nearly always the result of acquired sensitivity (*Lancet*, 1951), and that non-specific hypersensitivity to fungi or mould-products may be responsible for a significant proportion of these unusual responses. The conclusions above imply an antigenic relationship between antibiotics and carry-over impurities in certain vitamin-B_{12} preparations derived from streptomyces: it is a reasonable corollary that the converse relationship is valid.

In themselves, the side-effects and skin reactions described above, being trivial, would be scarcely worthy of mention were it not that they indicate yet another way in which idiosyncrasy to antibiotics may be acquired. Deaths directly due to this cause are very rare, but it may prove a serious handicap in the management of infections, since people who are idiosyncratic to one antibiotic may be sensitive to all the others (Bedford, 1951b) and reactions may be so severe that antibiotic therapy becomes impossible.

This investigation does not exclude the possibility that preparations of vitamin B_{12} derived from liver may also contain impurities capable of producing sensitivity phenomena (nor, indeed, that the pure vitamin itself may be capable of doing so); but there is no evidence that sensitivity to liver derivatives implies idiosyncrasy to antibiotics.

Cogent reasons for preferring any preparation of vitamin B_{12} to liver extracts were low price, greater purity, relative freedom from side-effects, and the trivial nature of these when they did occur. As, however, there are now available highly purified vitamin-B_{12} preparations from both liver and streptomyces, against which no evidence of liability to promote idiosyncrasy to antibiotics has been adduced, the use of the cruder mould-derivatives is unjustified.

Summary

Of 100 people 14 were skin-test-positive to a vitamin-B_{12} concentrate derived from *Streptomyces griseus*, and six suffered side-effects after intramuscular injection.

Two were skin-test-positive to a purer preparation of vitamin B_{12} derived by crystallization from streptomyces cultures, and none developed side-reactions to intramuscular injection.

None reacted adversely to a preparation of vitamin B_{12} derived from liver.

Impurities carried over from the mould fermentation liquor are regarded as responsible for the sensitivity phenomena.

Both cutaneous reactions and side-effects were more than twice as common in people who had previously been treated with antibiotics.

The possibility of inducing idiosyncrasy to antibiotics is advanced against the use of impure preparations of vitamin B_{12} derived from mould cultures.

It is with great pleasure that I express my gratitude to Mr. J. T. Marsh and Dr. H. M. Walker, of the Medical Department of Glaxo Laboratories Ltd., for supplies of vitamin-B_{12} preparations and for information concerning them; and to the patients and staff of the Cowley Road Hospital for their co-operation in this investigation.

REFERENCES

Bedford, P. D. (1951a). *Lancet*, 1, 1232.
—— (1951b). *British Medical Journal*, 1, 1428.
Lancet, 1951, 2, 24.

"EPIDEMIC" ABDOMINAL COLIC ASSOCIATED WITH STEATORRHOEA

BY

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Many specimens of faeces from cases of gastro-enteritis and diarrhoea suspected of being infective in origin are sent to the laboratory for examination. Often a known bacterial or protozoal pathogen is found, or food-poisoning organisms are incriminated; but a number of sporadic cases and a few epidemics remain for which no satisfactory explanation is found. We have observed the occurrence of pale stools and steatorrhoea among some of these unexplained cases, and an outbreak of gastro-enteritis of this kind is described here because it suggests the occurrence of a syndrome of infective intestinal disorder which is not generally recognized.

The Outbreak

In December, 1950, a number of cases of diarrhoea occurred in a day nursery accommodating 50 children under the age of 5. The course of events is summarized in the Table. After the tenth day no further cases of

Day of Outbreak	Case No.	Sex	Onset of Symptoms
1	1	M	Diarrhoea during night
2	2	F	,, and vomiting in morning
	3	M	,, ,, ,, ,,
	4	F	,, at midday
	5	M	Severe stomach-ache in afternoon
3	6 to 16		Diarrhoea beginning at various times during the day. Case 13 had also severe vomiting
4	17	F	Diarrhoea
5	18	M	Diarrhoea.
	19 to 22		Four of the staff complained of abdominal pain and flatulence with a sensation of "churning up" in the intestines.
6	23	F	Diarrhoea
	24	M	Diarrhoea.
	25 to 26		Two more of the staff felt ill
7	27	M	Diarrhoea and vomiting
	28	F	,, ,, ,,
	29	M	Diarrhoea
8	30	M	,,
9	31	M	Vomiting
			Case 6 suffered from vomiting. She had been well for the three previous days
			Case 8 had diarrhoea again. He had been well for the five previous days
10			Case 3, who had been ill for four days and better for four days, developed a second bout of diarrhoea

diarrhoea or vomiting occurred. It will be seen that fresh cases developed over a period of nine days. In all, 25 children aged from 1 to 4 years and six staff were affected—just under half the number of persons at risk. In addition four household contacts of three children (Cases 2, 3, and 6) were affected. These secondary cases developed from two to four days after the onset in the child concerned.

Clinical Picture.—The clinical picture was characteristic. The affected children showed a striking pallor with the onset of symptoms, and pain in the abdomen or vomiting (five cases) was the first complaint. The urgency of the call to stool and the apparent straining were severe, out of proportion to the degree of the diarrhoea; and a few children who cried for their pots failed to pass any faeces. The adults who were affected suffered from abdominal pain, flatulence, and nausea, and felt ill; but no adult had frank diarrhoea.

No case was ill for longer than four days, but three cases relapsed and had a second bout of diarrhoea or vomiting a week after the onset of their first attack. Six of the children had slightly raised temperatures. One child had jaundice a fortnight after his diarrhoea.

Laboratory Findings

Stool specimens from 24 of the 25 affected children were sent to the laboratory on the first or second day of illness. It was noticed at once that 17 of these were unusually pale in colour, and most were fluid. Fourteen were given careful microscopical study as well as a bacteriological examination; 10 were examined bacteriologically only. The bacteriological examination included a special search for heat-resistant strains of *Cl. welchii*, and for *Bact. coli* of the possibly pathogenic D 433 and "Aberdeen beta" types; but these organisms were not found; nor were shigellae or salmonellae. All organisms isolated were recorded; but not one organism of any kind was common to even a majority of cases. It thus appeared that no help could be obtained from the bacteriological examination; and attention was redirected to the microscopical findings. No cysts, worms, ova, or protozoa had been found, and no leucocytes or red cells; but globules of neutral fat (staining with Sudan) had been seen in 9 of the 14 cases examined microscopically. These globules were mostly from 10 to 30 μ in diameter, and were numerous in every microscopical field.

Castor oil, paraffin oil, and cod-liver oil were considered; but the first two had not been given; and faeces specimens from children from another nursery, in which a similar diet and the same amount of cod-liver oil were being given, did not show this undigested fat.

It therefore seems that steatorrhoea was an abnormality associated with the outbreak of gastro-enteritis described, and that the characteristic stool was pale or putty-coloured, fluid, and acellular, with, in most cases, much undigested fat recognizable microscopically.

Discussion

A great deal of gastro-enteritis occurs in the community, and often no attempt is made to obtain an explanation. When multiple cases occur within an institution, however, a single cause is reasonably suspected and it is usual for some investigation to be made.

In the majority of such outbreaks referred to this laboratory shigellae, salmonellae, or Giardia have been incriminated; but in four recent incidents of the kind, including that described above, no pathogen was isolated from the faeces and the circumstantial evidence did not suggest food-poisoning. An additional search for heat-resistant *Cl. welchii* and for *Bact. coli* of types associated with infantile enteritis was without result. It was noticed, however, that the stools of these patients were often of a pale putty colour, and that on *microscopical examination* leucocytes were almost always absent, however fluid the faeces, while globules of undigested fat were quite often present in specimens from children.

The occurrence of multiple cases of this condition, some of which exhibited fever over periods of four days, suggested an infective agent, but the negative results of many bacteriological examinations imply that the organism, if it exists, is not easily cultivated, and perhaps a virus aetiology should be considered.

The disorder would seem to have affected the digestion of fat in the small intestine, since it started as central abdominal colic with flatulence and was often followed by the passage of pale fatty stools. The absence of leucocytes indicated that there could not have been much inflammation of the large bowel mucosa.

In addition to the minor epidemic incidents referred to, sporadic cases of gastro-enteritis with similar features have been encountered, but in these isolated cases many explanations are possible, and such conditions as subicteric infective hepatitis, idiopathic steatorrhoea, and unsuitable diet have to be considered in diagnosis. It would be of value in such cases, and especially when they occur in outbreaks, to have a biochemical analysis of the stools, and to examine blood and urine for bile factors. Bile has not been found so far in a few urine specimens from similar cases.

The syndrome can be recognized. Further observations are needed to determine whether it is rare or common, and to throw light on its cause or causes.

DEATH FOLLOWING A BARIUM ENEMA IN A CHILD WITH HIRSCHSPRUNG'S DISEASE

BY

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It is generally recognized that barium enemata must be given with caution in cases of megacolon, because of the danger of precipitating intestinal obstruction. The following is an account of a case in which a child suffering from megacolon died after a barium enema, but from a different cause.

Case Report

The patient, a boy aged 3 years and 10 months when he was admitted to hospital on November 28, 1949, was the third child of healthy parents. The family history revealed nothing of any significance. There was no previous history of fits in the patient or in the family. He had been constipated since birth and had regularly been given soap suppositories. With this stimulation a hard brown stool was passed every three or four days.

Examination showed that the abdomen was grossly distended and tympanitic. In contrast, his limbs were wasted. His weight was 35 lb. (15.9 kg.). No other abnormalities were discovered. Before a barium enema he was given soap enemata daily. Less than 1 pint (570 ml.) of fluid was given on each occasion without ill effect. His bowel appeared to have been satisfactorily cleared of faeces on the day of the investigation, although the abdomen was still distended.

Four pints (2.3 litres) of barium emulsion was introduced and the *x*-ray films showed the typical appearance of Hirschsprung's disease with a short aganglionic segment. An attempt was made to siphon back the emulsion without result, and on return to the ward it was noticed that the child's condition was unsatisfactory. He was cold, collapsed, and sweating. In an effort to retrieve the enema emulsion, a soap enema of 1½ pints (850 ml.) was introduced, but this too was retained. The sweating persisted and he began to vomit dark-coloured fluid. About seven hours later he lapsed into coma, became cyanosed, and began to have generalized convulsions. This condition persisted through the night and sedatives were given repeatedly. It was noticed that large quantities of very dilute urine (S.G. 1001) were being passed. Examination of the central nervous system at this stage showed no abnormal physical signs apart from the unconsciousness, dilated pupils which reacted sluggishly to light, and bilateral Babinski reflexes. He eventually died in a convulsion 20 hours after the enema had been given.

Permission for necropsy was not obtained, so the cause of this sudden death cannot be proved with certainty, but it seems probable that it was due to water intoxication.

Discussion

In this connexion Rowntree (1926) demonstrated certain phenomena in man and in experimental animals. If a patient with diabetes insipidus began treatment with pituitrin but did not at the same time limit his excessive water intake

he developed weakness and vomiting. If large amounts of water were given to normal dogs by stomach tube they developed retching, vomiting, and violent convulsions, ending in death. The only abnormality found after death was oedema around the cerebral blood vessels. Rowntree also found that the convulsions could be prevented by cerebral decompression operations.

Helwig, Schutz, and Curry (1935) reported the case of a woman aged 50 who by mistake received 9,000 ml. of water by proctoclysis in 30 hours. She became ill with sweating, vomiting, and pain in the neck. She passed into a stupor about 20 hours from the beginning of the symptoms and died 13 hours later after a series of convulsions. At necropsy the lungs and cardiovascular system were normal; the dura was very tense and the brain oedematous, with convolutional flattening. Microscopy showed perivascular oedema.

More recently, Hiatt (1951) noticed that patients with megacolon suffered from sweating, anorexia, and weakness following enemata. He showed that the rate of absorption of water from the colon was dependent on the intraluminar pressure, hence the symptoms were precipitated by straining, and investigations of the plasma electrolytes revealed that these symptoms were accompanied by a sudden marked drop in the sodium and chloride concentrations.

In the absence of any other satisfactory reason for death, it appears probable that this child died from water intoxication. The weight of Helwig and Schutz's patient is not stated, but if, for the sake of argument, it is assumed to have been 140 lb. (63.5 kg.) the lethal amount of water in her case was 9,000 ml. given in 30 hours. The equivalent amount for a child of 35 lb. (15.9 kg.) would be 2,250 ml. The child here reported received 3,124 ml. in a few hours. The symptoms and signs were those of water intoxication. The possibility of barium poisoning was investigated; no soluble barium salt could be found in the mixture that was used, and the solubility of barium sulphate is so slight that a toxic dose could not be dissolved in 4 pints (2.3 litres) of water.

The danger of water intoxication must be remembered when enemata are given to children with megacolon. The volume of the enema fluid must be limited, and every effort be made to retrieve it. Hiatt suggests using isotonic salt solution, which, if absorbed, will not tend to cause cerebral oedema; but an increase in the circulating blood volume will result, which could conceivably produce pulmonary oedema. He suggests that the fluid could be made hypertonic by adding some innocuous non-diffusible substance, say 7% gelatin.

The symptoms of water intoxication are due to the increase in interstitial and intracellular fluid. Treatment of an established case should aim at causing a shift of this fluid back into the circulatory system. The treatment recommended is the transfusion of hypertonic saline, and the amount of sodium ion that is needed can be calculated if the volume of absorbed water is known.

If circulatory failure occurred owing to a rapid increase in circulating volume a venesection would be necessary.

I wish to express my grateful thanks to Professor W. F. Gaisford for his helpful criticisms.

REFERENCES

Helwig, F. C., Schutz, C. B., and Curry, D. E. (1935). *J. Amer. med. Ass.*, 104, 1569.
Hiatt, R. B. (1951). *Ann. Surg.*, 133, 313.
Rowntree, L. G. (1926). *J. Pharmacol.*, 29, 135.

W.H.O. and the Rockefeller Foundation have sponsored a pilot survey, to be carried out in England and France, on the types of health and welfare workers best qualified to meet the needs of the family (International Hospital Federation *News Bulletin*, March, 1952). The survey has begun in Bedfordshire, and will be extended to London shortly; work is also progressing in France.

Medical Memoranda

Spontaneous Rupture of a Leukaemic Spleen

Although Kaufmann (1929) mentions that a leukaemic spleen may rupture spontaneously such cases are rare enough to warrant being placed on record.

CASE REPORT

A Sinhalese man aged 56 was admitted with the history of pain in the upper part of the abdomen of two months' duration. The pain was continuous and unrelated to meals, but he vomited occasionally after taking food.

On examination he was pale but fairly well nourished. His pulse was 76 and temperature 98.4° F. (36.9° C.). No abnormality was found in the cardiovascular and respiratory systems. There was a hard smooth mass in the left hypochondrium, reaching to the umbilicus, which appeared to be an enlarged spleen. No lymphatic nodes were palpable. *X*-ray examination after a bismuth meal did not reveal any abnormality in the gastro-intestinal tract. The stomach appeared to be in the normal position, but the left kidney was pushed downwards. The leucocytes totalled 26,200 per c.mm., and the differential count showed 16% polymorphs and 84% lymphocytes. Most of the lymphocytes were mature and belonged to the small variety. No malaria parasites were seen in the peripheral blood.

Diaphragmatic surface of spleen.

As the pain became more severe and was unrelieved by any medication, it was decided to explore the abdominal cavity. This was done two days after admission, by a left paramedian incision. There was a fair quantity of blood in the peritoneal cavity. The spleen was found to be considerably enlarged, and several ruptures exposing the splenic pulp were noticed. The lymphatic nodes at the hilum and alongside the splenic artery were also enlarged. The liver was slightly enlarged, but palpation failed to reveal any nodules. He was given 10 oz. (280 ml.) of blood, and splenectomy was carried out by Mr. R. Anthonis.

A blood count one month after the operation showed: erythrocytes, 3,595,000; Hb, 60%; leucocytes, 30,000 (polymorphs 25%, lymphocytes 69%, eosinophils 6%).

Description of Specimen.—The spleen measured 22 by 18 cm. and weighed 1,800 g. There was an extensive rupture exposing a large area of splenic pulp on the visceral surface and adjacent part of the diaphragmatic surface. Two irregular linear ruptures extended from this area towards its upper border, and a triangular-shaped rupture was seen towards its lower pole. The rupture over the diaphragmatic surface involved almost the whole breadth of the viscus (see illustration). Two linear ruptures extended from the splenic notch towards the diaphragmatic surface. The sectioned surface of the spleen appeared nodular. Localized areas of perisplenitis were found on the diaphragmatic surface. Microscopically the pulp was seen to be overrun with closely packed lymphocytes, which were uniformly distributed, obliterating the Malpighian corpuscles. Numerous mitoses were seen. The lymph sinuses were packed with lymphocytes.

COMMENT

The absence of a history of trauma suggests that this was a case of a rupture occurring spontaneously in a pathologically enlarged spleen. Although the presence of blood in the peritoneal cavity suggests that at least one of the ruptures had occurred prior to operation it is not possible to be certain about the "spontaneous" origin of all the ruptures, as even comparatively mild trauma, which is necessarily inflicted on the viscus during operative manipulation, may be sufficient to cause the rupture of a spleen which is grossly enlarged.

The enlargement of the spleen in this case exceeded that usually seen in cases of lymphatic leukaemia, but the cells in the peripheral blood were undoubtedly lymphocytes, and as they were of the small variety no difficulty was experienced in differentiating them from the cells of the myeloid series.

The absence of infarcts also points to lymphatic leukaemia as being the causative factor in the splenomegaly. The incidence of splenic infarction is much less frequent in lymphatic leukaemia. Lubarsch (1927) records infarcts in only 12.5% of lymphatic cases as against 50% of myeloid cases. There was no evidence of malaria or of kala-azar. It was concluded that lymphatic leukaemia was solely responsible for the splenic enlargement.

My thanks are due to Mr. R. Anthonis, surgeon, General Hospital, Colombo, for the case notes, and to Mr. K. M. M. Michael, of the Department of Pathology, University of Ceylon, for the photograph.

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REFERENCES

Kaufmann, E. (1929). *Pathology for Students and Practitioners*, p. 232. Philadelphia.
Lubarsch, O. (1927). Cited by H. Downey in *Handbook of Hematology*, 1938, 4, 2898. New York.

Torsion of Fallopian Tube during Pregnancy

Torsion of the Fallopian tube is in itself a rare condition; only about 120 cases having been recorded in the past 50 years. Records of this condition occurring during pregnancy are even less common. For this reason, and because of its general interest, the following case is reported.

CASE REPORT

A primipara aged 27 was admitted to hospital on April 26, 1951, complaining of abdominal pain. This pain, which was constant and dull in character, was situated in the right iliac fossa and radiated across the abdomen and round to the back. It had been present for approximately 60 hours, originally awakening her in the night. During the previous six hours it had become more severe. Vomiting occurred on two occasions on the first day of her illness. Her bowels had been constipated and she had nocturia and painful micturition for two days. No previous history was obtained of a similar pain or of any previous illness. Her last menstrual period started on September 12, and she therefore appeared to be 32 weeks pregnant. Her pregnancy up till then had been uneventful. She had been attending an antenatal clinic regularly.

On examination her tongue was furred. She was tender above the right inguinal ligament, although not markedly so. There was no tenderness in either loin. The size of the uterus appeared to be much in advance of her dates. Rectal examination, although causing discomfort, was negative. On vaginal examination a soft mass was felt in the right iliac fossa outside the uterus.

On admission the temperature was 99.4° F. (37.4° C.) and the pulse 80. In four hours her temperature had risen to 100.4° F. (38° C.) and her pulse to 100. A catheter specimen of urine revealed an acid reaction with a trace of protein. The deposit contained a few pus cells and a very occasional red cell. A provisional diagnosis of acute appendicitis was made and operation was decided upon.

The abdomen was opened through a right pararectal incision. A large mass was palpated in the right iliac fossa, and the right Fallopian tube was gangrenous in its whole extent. Its removal was impeded by the size of the uterus, and its congestion caused bleeding difficult to control. A gauze pack was inserted into the right iliac fossa.

The surgical post-operative course was uneventful and the gauze was removed on the second day. Morphine was given to prevent the onset of labour, but on the fourth night after operation labour began. The patient was transferred to a maternity unit four days after operation. At this time labour was well advanced and the membranes had ruptured. The cervix was dilated to two fingerbreadths and the head was in mid-cavity. A Danby belt was applied to give support to the abdominal wound. Labour progressed slowly, and four hours later the cervix became fully dilated. An episiotomy was performed because of delay in the second stage due to a rigid perineum, and a live male infant weighing 8 lb. 2 oz. (4.2 kg.) was delivered.

The puerperium was uneventful, and both the abdominal wound and the episiotomy healed well. When seen one month later both patient and baby were well.

Pathology.—The right Fallopian tube measured about 3 by 2 in. (7.5 by 5 cm.) and was very congested. A single twist had occurred at the proximal end of the isthmus. Sections showed complete infarction.

COMMENT

Only two cases of torsion of a normal tube in pregnancy have previously been reported in the English literature (McKerrow, 1934; Caldwell, 1949). Twisting of a hydrosalpinx or a haematosalpinx during pregnancy occurs more often. Green-Armytage (1929) and Sheldon (1936) reported cases of torsion of both the Fallopian tube and the ovary during pregnancy; but in our case the ovary was not involved. All cases reported were operated upon as acute appendicitis, and thus laparotomy is necessary for diagnosis. Pyelitis and twisted ovarian cyst are other conditions that have to be considered in the diagnosis.

It was noticed that the site of pain was low in the right iliac fossa. The pain of appendicitis in pregnancy is usually higher up in the abdomen owing to the displacement of the appendix by the enlarging uterus. Because of this an incision was made over the site of maximal tenderness.

It is obvious that the patient was mistaken in her dates. One must assume from the weight of her child that the pregnancy was considerably more advanced than had been thought. In the two cases previously referred to the condition occurred at about the sixth month and pregnancy then went on to term. Our patient was stimulated into labour. The good ultimate result in both patient and child is noteworthy.

We wish to thank Mr. S. B. Chambers, senior surgeon, Royal South Hants Hospital, for his permission to publish this case; Mr. R. W. Knowlton, obstetrician; and Dr. H. H. Gleave, pathologist, for his report on the specimen.

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REFERENCES

Caldwell, R. K. (1949). *New Engl. J. Med.*, 240, 421.
Green-Armytage, V. B. (1929). *J. Obstet. Gynaec. Brit. Emp.*, 36, 87.
McKerrow, W. (1934). *British Medical Journal*, 1, 850.
Sheldon, D. (1936). *Amer. J. Obstet. Gynec.*, 31, 682.

Reviews

UROLOGY OF CHILDHOOD

The Urology of Childhood. By T. Twistington Higgins, O.B.E., M.B., Ch.B., F.R.C.S., D. Innes Williams, M.D., M.Chir., F.R.C.S., and D. F. Ellison Nash, F.R.C.S. (Pp. 286; 136 figures. £2 5s.) London: Butterworth and Co. 1951.

The authors have indeed made an outstanding contribution to urology by presenting, in the light of the most recent advances in this specialty, the wealth of clinical and pathological material which has been collected at "Great Ormond Street." A summary of the physiology of micturition serves as an admirable introduction to the aetiology and management of incontinence and enuresis as shown by investigations into habit, by cystometry, and by electroencephalography. The account of the management of infections of the urinary tract includes much valuable information on the newest sulphonamides and antibiotics and on their side-effects. The authors then consider the association of medical and surgical diseases of the kidney jointly as they affect the renal parenchyma and hence the biochemistry of the body. The chapter on embryology not only gives information on many of the most controversial points in the development of the urinary system, but helps to explain very clearly congenital abnormalities of the upper and lower urinary tract. The effects of urinary obstruction are discussed at three levels: vesical retention due to obstruction at the bladder neck, posterior urethral valves, and abnormalities of the urethra; obstruction at the uretero-vesical level in the various types of mega-ureter; and obstruction of the upper urinary tract causing hydronephrosis. Each chapter is illustrated by photographs of specimens and by radiographs from the unique collection in the museum of that hospital. Likewise, in the chapters on urolithiasis, urinary tuberculosis, and neoplastic disease the authors make admirable use of the immense amount of pathological and radiological material at their disposal. The book is also a practical one in that the authors give detailed descriptions of the technique of investigation, management, and operative procedure.

This work will be of the greatest assistance to all who require an authoritative textbook on the urology of childhood and also to those wanting to obtain references to the more recent advances in this specialty.

J. E. SEMPLE.

CLEFT LIP

Cleft Lip and Palate. By W. G. Holdsworth, F.R.C.S.Ed., F.R.C.S. With foreword by Sir Harold Gillies, C.B.E., F.R.C.S. (Pp. 126; 87 figures. £1 15s.) London: William Heinemann Medical Books. 1951.

Textbooks of surgery tend to fall into two distinct classes—those whose aim is to help candidates through examinations, and those concerned with the actual treatment of cases. In the former it is necessary to set out all known varieties of treatment and hypotheses of pathology without recommending one or attacking others; for who can say whether the examiner will approve of a definite opinion on one side of a debated question? Because so many points of view have to be stated, such a book has to treat each one very shortly or become of an impossible length. The second type of textbook tends to be argumentative, opinionated, and detailed, confining its remarks on all theory and practice outside that of the author to pointing out how wrong they are. The dust cover of Mr. Holdsworth's book suggests the category to which it belongs by stating that "questions on these topics constantly arise in Fellowship examinations," and that the operations described in various parts of the world are described and classified. In consequence his book invites criticism from the point of view of the examinee rather than that of the operating surgeon.

In the absence of any guidance from textbooks of anatomy or physiology on the actual mechanism of closure of the palate, a dispute exists between those who maintain that the muscles admittedly existing in this region can close and open the nasopharynx and those who have discovered a hitherto overlooked sphincter of abnormal contractility which performs this function. Mr. Holdsworth evidently holds the first view, and states it alone; but anyone omitting to mention the second is running a grave risk in an examination. A similar fundamental point is how exactly the constituents of the lip join to give it the very definite shape and markings seen in the newborn infant. On this again there is no guidance from the embryologists, nor from this book; but the views of Veau and others should be stated, for it is surely logical first to identify the process that has failed before trying to complete it.

Various formulae for closing single and double clefts of the lip are set out, but the series of drawings would be rather exasperating to an actual operator. This is because the clefts are all shown before operation with a symmetrical pair of nostrils, and the results of various classical flaps and zigzags as the same unvarying normal shape of lip with a perfect cupid's bow. It is an undoubted fault of our present system of surgical education that there is no way of ensuring that (in Army parlance) "this practice will now cease"; though anyone who has to do much of this work knows that some of the formulae here reproduced without comment will set him almost insoluble problems if applied by a trusting general surgeon. The difficult and chancy Abbé operation, for instance, a fine example of which is illustrated here, is one that corrects a man-made deformity, not a congenital one. On the question of the displaced premaxilla in double clefts, there is no definite statement upon whether or not the vomer is of normal length, with a suture-line dividing it from pre-vomerine bone, though this is a question of fact and not of opinion. It is also hard to make out whether or not the premaxilla is to be finally preserved, and if so in what position.

One ends the study of this interesting book hoping that Mr. Holdsworth will abandon in subsequent editions the attempt to help candidates through examinations, in which in any event they will probably be questioned by surgeons whose experience lies in the abdomen, and that he will concentrate upon the clear statement of his own personal opinions and experience. A point on which he might well make a break with the traditions of publications on plastic surgery is to forswear lipstick, retouching, and smiles in illustrations of final results.

DENIS BROWNE.

THE XANTHOMATOSES

Les Xanthomatoses. By A. L. Froehlich. (Pp. 312; illustrated. No price.) Brussels: Les Editions "Acta Medica Belgica." 1951.

This is an important monograph on the xanthomatoses. Like Thannhauser, Dr. A. L. Froehlich, of Antwerp, divides xanthomatoses into those with and those without hyperlipaemia. The first part of the book is on the former, the second part on the latter. Then come the general conclusions (pp. 261–71), a detailed account of 25 original cases (pp. 272–311), and an iconography with 46 histological figures.

Part I is divided into chapters on (1) essential xanthomatosis; (2) essential hyperlipaemia; (3) xanthomata in the course of hypothyroidism; (4) diabetic xanthomata (with a short account of so-called "necrobiosis lipoidica"); and (5) the complicated subject of hepatic xanthomata. Part II, on the xanthomatoses without hyperlipaemia, is divided into chapters on (1) naevo-xantho-endothelioma (McDonagh); (2) intestinal lipodystrophia (Whipple); (3) disseminated xanthomata, including an account of lipoidic proteinosis (Urbach–Wiethe); (4) the Hand–Schüller–Christian disease, and its differential diagnosis including the whole subjects of lipoid-granuloma, xanthomatous changes in fatty tissue, and the xanthomatosis of granulomata and neoplastic tumours.

The author discusses all these subjects and points out that in regard to some questions further observation and the collection of clinical or experimental data are required. Naturally the work of van Bogaert, Scherer, and Epstein on a "Cerebral Form of Generalized Cholesterinosis" (1937) is specially considered. Among the extensive references to much of the older as well as the newer literature the reviewer was much interested to find a case of his own mentioned on p. 207. It was that of a man, aged 37, with diabetes insipidus, who died of pulmonary and laryngeal tuberculosis. At the post-mortem examination a xanthomatous lesion of the posterior part of the pituitary body was found, but there was no other evidence of the Hand–Schüller–Christian disease. Doubtless Dr. Froehlich is right in regarding the case as a very incomplete example of the Hand–Schüller–Christian syndrome. The original description by Parkes Weber and H. Schmidt was published in *Amer. J. med. Sci.*, 1916, **152**, 892.

Dr. Froehlich's book should be kept for reference by all those specially interested in the xanthomatoses and the various theories connected with the subject.

F. PARKES WEBER.

APPLIED ANATOMY

Angewandte und Topographische Anatomie. By Professor Gian Töndury. (Pp. 416; 369 figures. M. 70.) Stuttgart: Georg Thieme. 1951.

In this volume the author aims at combining topographical anatomy, which describes the structure and relationships of the different organs and organic systems of the human body, with applied anatomy, which describes the practical application of this knowledge. Moreover he aims at providing both a textbook for the student and a work of reference for physician and surgeon. That he succeeds in covering this vast field in a moderate compass and in a most brilliant manner is a tribute to the genius of himself and his assistants.

The author is brief, clear, and to the point, and succeeds in including details whose value has only recently appeared in the actual practice of medicine and surgery. I might mention the attention directed to the autonomic nervous system and to the precise anatomy of the intervertebral disks. Short but adequate accounts of morphology and development will be valued by the student as enabling him to understand relationships which would otherwise be incomprehensible.

But the real charm of the book is in the drawings, which are a sheer delight to study. They fall into two groups—line drawings in the text and plates on separate pages. The former are remarkable for their simplicity, appositeness, and perfect draughtsmanship, and indicate close co-operation between the author and his artist, Fräulein Emden. But the plates are supreme examples of achievement in a very specialized field. The artist, Paul Winkler, was himself a medical student, and his drawings show an understanding unattainable by a layman however great his artistic skill. They are from dissections specially prepared and admirably conceived, and are drawn with a supreme technical skill which focuses attention on essential detail while giving an adequate and harmonious background. They are all good, but two drawings of the roots of the lung, one of the posterior mediastinum, one of the abdominal oesophagus, and an enlarged drawing of the inner ear stand out as really superb examples both of representation and of production.

I would suggest that in a future edition a chapter should be added on the anatomy of the child, for the differences are important, and although many are well recognized, as in the cranium and the hip, others are not so well known. For example, the peripheral nerves in a child are almost as large as those in an adult, which is occasionally of great surgical importance. But these are small matters, and the author and his assistants must be congratulated on an achievement which is worthy of the great medical school of Zurich. It will be valued by all who have an interest in the anatomy of the human body.

HENRY SOUTTAR.

INFLAMED INDIVIDUALISM

Between Life and Death. By Harley Williams. (Pp. 288. 16s.) London: Jonathan Cape. 1951.

From John Aubrey through Samuel Johnson to Lytton Strachey the English biographical essay has a long and distinguished history. For the successful practice of this art it is essential that there should be some link between the chosen subjects and some definite plan in each essay. It is here that Dr. Harley Williams's book, good as it is, falls short of success. In a book devoted mainly to the great pioneers of medical research it is as disconcerting to discover Mrs. Eddy in the gallery ("Que faites-vous là, Mary Baker ?") as it would be to see Joanna Southcott seated on the bench of bishops; and in an essay concerned with Joseph Lister to find five pages devoted to Lawson Tait is as surprising as it would be to be offered a cigar by the local bookmaker in a meeting of the Society of Friends. Congregations should be congruous, and the flock, particularly when hand-picked, should be of one feather.

If the reader does for himself what the author has failed to do and reads successively the essays on Hunter, Pasteur, Lister, Freud, Ehrlich, and Banting, he will reflect how diverse were the personalities and how various the paths of these remarkable men. They share but one quality—an exclusive intensity of concentration—for, as Emerson wrote, "the excellence of each is an inflamed individualism which separates him the more." These essays are squarely based on the important source books, and it is their merit that they impel one to learn more of their subjects. I am grateful that the chapter on Frederick Banting introduced me to Lloyd Stevenson's biography, the unique story of a man with a mind unprepared for his moment of genius.

Harley Williams is a master of narrative, but occasionally his meaning is obscured in a flurry of words, as when he writes that his sketches are to be judged "as flashes of an old and very remarkable design which is likely to flower again in endless fecund forms." In fact, there are as extraordinary fish in the sea as ever came out of it.

D. V. HUBBLE.

ORTHOPAEDIC NURSING

Orthopaedic Nursing. By Mary Powell, S.R.N., M.C.S.P. (Pp. 400; 210 figures. £1 5s., plus 10d. postage.) Edinburgh: E. and S. Livingstone. 1951.

This book, which is dedicated to the memory of the late Dame Agnes Hunt, calls for nothing but praise, for within its covers will be found all that the nurse need know about orthopaedic nursing technique. The text is clear and concise, and the book is generously illustrated with excellent photographs. The emphasis throughout is on splintage and nursing care, and the description of surgical treatment and operations is rightly reduced to a minimum.

It is difficult to single out individual chapters for special mention, but those on plaster-of-Paris technique and on the care of the various types of bone and joint tuberculosis are particularly good. The insistence of Dame Agnes Hunt that there should be no polished floors in orthopaedic wards is noted with approval. It is a pity that all orthopaedic matrons and sisters do not follow this rule. The chapter on the preparation of the patient for examination of the various joints should be studied by nurses doing their general training. The book concludes with an excellent chapter on aftercare by Miss Mona Williams.

J. S. BATCHELOR.

For nearly half a century *Black's Medical Dictionary* (by the late John D. Comrie and Dr. William A. R. Thomson; A. and C. Black, 30s.) has endeavoured to "give information in simple language upon medical subjects of importance and general interest." Twenty editions since 1906 are proof of its reliability as a medical work for the lay public. It is more than a dictionary, for it includes much anatomical description and physiological explanation, fortified by over 400 text illustrations and 16 plates. The whole of the text-matter has been reset.

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FORTY MILLION POUNDS

On Tuesday afternoon, as the *Journal* was going to press, the Minister of Health, Mr. Harry Crookshank, announced in the House of Commons the award of Mr. Justice Danckwerts, the Adjudicator. He stated that the award would mean increases for the years previous to and subsequent to 1950–1. "While, as I say," he observed, "the full calculations have yet to be made, I feel I should inform the House that in very approximate terms this may involve an additional charge on the Exchequer of as much as £40m. in the coming financial year to cover the period back to July 5, 1948. . . . It will be necessary to seek a supplementary Vote for this additional amount."

Thus, nearly four years of discussion, controversy, and protracted negotiations on the remuneration of general practitioners have come to an end with the award of Mr. Justice Danckwerts, the adjudicator appointed by the Lord Chancellor. The medical profession decided to take part in the National Health Service on the clear understanding from Mr. Bevan that their claim for payment could be negotiated immediately after July, 1948. The outstanding point left unsettled was the "betterment" factor. The Spens Report recommended that what general practitioners should have received in 1939 should be scaled up in terms of the altered value of money and in relation to the changed earnings of other professions. In deciding the size of the central pool the Ministry of Health arbitrarily fixed on a betterment factor of 20% on net incomes (that is, after deduction of practice expenses)—something which the profession never agreed to and never accepted. As our correspondence columns have shown throughout these four years, the injustice of this situation has rankled in the minds of general practitioners, and with good cause. With much less cause, but perhaps understandably, some have laid the blame for the delay on those responsible for presenting the profession's case.

Details of the award and a report of the proceedings are given in this week's *Supplement*. Mr. Justice Danckwerts's award brings to an end one chapter in the history of the N.H.S. He has applied for the year ending March 31, 1951, a betterment factor of 100% to the 1939 figure for what general practitioners, in the view of the Spens Committee, should have been receiving then. The amount actually paid for that year was £41.533m.: Mr. Justice Danckwerts's awarded figure is £51.252m. This means that the central pool from which general practitioners were paid on a capitation basis is for 1950–1 to be increased by just under £10m. For 1948, the first year of the operation of the N.H.S., Mr. Justice Danckwerts has recommended a betterment factor of 85%. The factor for 1949–50 will presumably lie somewhere between 85 and 100%, to be determined on the basis of Mr. Justice Danckwerts's awards. Similarly, the same process will be applied to the figure for 1951–2–3. The important point is that general practitioners will receive additional payment back to 1948.

The medical profession's case has been presented so consistently and so cogently that they have gained other and considerable points of principle. First and foremost, Mr. Justice Danckwerts has based his award not on the population but on the number of doctors in the National Health Service. Though this is a logical application of the Spens Report, which sought not to determine a figure for the central pool but to recommend what ranges of income doctors should receive, it was opposed by the Ministry of Health. Another point of variance between the B.M.A. and the Ministry was the inclusion of interest on compensation in their estimate of doctors' total incomes. This again would seem to be, on common-sense grounds, untenable, and Mr. Justice Danckwerts has excluded this figure from consideration, and also the amount of the inducement fund, in his determination of the size of the central pool. As those who have followed the tortuous discussions between the B.M.A. and the Ministry know, there has been disagreement on the percentage for practice expenses. Mr. Justice Danckwerts has accepted the B.M.A. figure of 38.7%, although he adds that he has not "accepted entirely the figures to which this percentage should be applied."

Both the B.M.A. and the Ministry of Health agreed in advance to accept the award of the adjudicator, but it is Parliament which has, and must have, the control of the public purse. The amount of money to be distributed on the basis of the award is considerable, especially as payment will have to be made retrospective to 1948. There can be no doubt that during the past four years the just claims of general practitioners have received growing support both in the Press and in Parliament. It may even be argued that the long delays in negotiation, which have been no fault of the B.M.A., have turned out to be beneficial. This delay has at least allowed public opinion—always slow moving—to turn in sympathy towards the hard-working general practitioner—a sympathy which has found its echo in the House of Commons. What is fundamental to the whole case is the final acceptance of the recommendations of the Spens Report. The Spens Report laid down a standard of living for an important section of

the community, and though the Ministry of Health accepted this in the word its arbitrary decision on a betterment factor of 20% on net incomes, applied to a pool of money based on population and not on numbers of doctors, showed that it did not accept it in spirit. It must be stressed again that both sides entered adjudication on the understanding that they would accept the decision "subject to the overriding authority of Parliament." In the future the extra money awarded will be distributed according to a scheme to be agreed by the Working Party, the G.M.S. Committee's representatives on which will act on the authority of the Conference of Local Medical Committees.

No doubt there will be a few voices protesting that the B.M.A. should have got the betterment factor of 120% claimed for 1951. If such there be, they will have ignored the essential feature of arbitration, which is arbitrament on evidence given by two sides to reach a fair and just decision. But we are confident that the great bulk of the profession will acclaim the efforts of those who have conducted these negotiations on their behalf. These efforts have been brought to a successful conclusion by first-class teamwork and by the able presentation of the profession's case by Mr. Frederick Grant, Q.C., and his colleagues. The burden of the work has fallen, in particular, upon Dr. S. Wand, Chairman of the G.M.S. Committee and Chairman of the Representative Body, and upon Dr. D. P. Stevenson, Secretary of the G.M.S. Committee and Deputy Secretary of the B.M.A. Those who have joined with them in this arduous task will not hesitate to acclaim their services.

The additional money to be paid in retrospect back to 1948 can be distributed only in accordance with the then method of distribution. Future payments will be on the basis now being discussed with the Ministry of Health by the joint Working Party set up to examine the distribution of general practitioners' remuneration. The Working Party's aim is to secure the best possible medical service for the public, to safeguard the standard of practice by discouraging unduly large lists, to improve the position of those practitioners now least favourably placed, to make it easier for new doctors to enter practice, and to stimulate group practice.

Now that the controversy on finance between the B.M.A. and the Ministry of Health has come to an end with the award of the adjudicator they will be able to tackle these and other problems in a spirit, we may hope, of co-operation and mutual respect. Both, after all, have a common aim, and that is to provide the best possible general medical service for the public and to ensure that in the achievement of this those providing the service will be able to do so with freedom from financial anxiety and the feeling of contentment that arises from a just treatment of their claims. The problems to be solved are many and urgent, and towards the solution of these the General Practice Review Committee of the B.M.A. will make an important contribution. In what should be a new spirit of confidence and satisfaction the medical profession will the more easily turn its energies into fulfilling the intention of the B.M.A. as expressed by the then Chairman of Council, Dr. H. Guy Dain, in a letter to *The Times* in June, 1948, in which he said, after pointing out difficulties and deficiencies: "But in spite of all this, I believe I speak for the overwhelming majority of the medical profession when I say that there will be no shortage of good will on the part of the profession and that it will seek to make the new public service the best which is humanly possible under present circumstances. . . . Only the best is good enough for the public service, and we shall do our utmost to provide it."

RETROLENTAL FIBROPLASIA

If anyone doubts that diseases hitherto unexplained are more likely to arise from a set of interlocking factors than from a single cause let him study the literature on retrolental fibroplasia. There he will find interpretations which, though simple and at first acceptable, soon broke down under the impact of new facts. Retrolental fibroplasia was originally assumed to be a congenital defect, but this point of view was contradicted by emergence of the blindness in infants who, having betrayed no ophthalmoscopic abnormality on examination soon after birth, later developed the characteristic fundus changes. When reports of retrolental fibroplasia began to multiply, many people thought that modern advances in the care of prematurely born babies accounted for the increase. In other words, the potential victims of former times had not survived long enough to develop the disease. Such an explanation was manifestly insufficient, because very few cases appeared in Switzerland, a country in which the premature infant is tended with great vigilance. During the discussion on Reese's[1] paper at the last International Congress of Ophthalmology Franceschetti and Blum (Geneva) both testified to the rarity of retrolental fibroplasia in their country.

Hopes were raised a few years ago by the work of Owens and Owens,[2] who claimed that prophylactic administration of vitamin E had prevented retrolental fibroplasia in prematurely born babies of low birth-

[1] *Proc. XVI Int Cong Ophthal.*, 1950, 445.
[2] *Amer. J Ophthal.*, 1949, **32**, 1.
[3] Ibid., 1951, **34**, 1.

weight, whereas numerous victims were found among a series of similar subjects not receiving this substance. Several observers failed to obtain this result when they made controlled investigations in the hope of conferring protection with vitamin E, and it must be admitted that no immediately decisive cause or cure of retrolental fibroplasia has yet been identified. Prematurity and reduced birth-weight are of obvious aetiological significance, but evidently they are not the only factors, otherwise the incidence of the disease would roughly correspond in the large groups of cases which have come under scrutiny. The figures, however, show wide discrepancy, not only between different countries but also between separate regions of the same country. Nor do the results of therapy seem consistent. Some authorities have claimed remarkable success from the use of A.C.T.H., and others have found this drug ineffective. Unless the problem of aetiology is solved, it seems doubtful whether retrolental fibroplasia can ever be prevented or arrested, because the chances of discovering effective empirical remedies must surely be remote.

Meanwhile vivid clinical descriptions have been published, and premature infants have been exhaustively scrutinized to ascertain the earliest ophthalmoscopic signs. All the resources of morbid histology have been mobilized, especially by Reese and Blodi,[3] whose beautiful illustrations and clear account of the disease deserve close study. Among paediatricians and ophthalmologists retrolental fibroplasia has to some extent usurped the attention lately directed upon toxoplasmosis and rubella. General practitioners are closely concerned with the problem, although they seldom have the opportunity to see retrolental fibroplasia in its earliest stages because the sufferers are usually assembled in special units for premature infants. It is hoped that the questionary recently launched by the Medical Research Council will gather helpful information, and certainly the records of maternity departments, premature infant centres, and ophthalmic units are being sifted with care. Dr. B. A. Bembridge and the other members of a research team in Oxford have supplied a helpful review of retrolental fibroplasia elsewhere in this issue, as well as adding further observations of their own. They rightly draw attention to the differences between infantile and adult ocular fundi, and to the fallacies that may be perpetrated by those who ignore these differences. Although they have to admit that the cause of the disease remains a mystery, their work will perhaps not be in vain. Unless the problem is solved by a flash of that intuitional brilliance with which clinicians have often illuminated medicine in former times, many other paths of investigation will have to be followed before this new scourge can be understood and suppressed.

MENTAL HEALTH RESEARCH FUND

In research into mental disorder the fields of study stretch out invitingly on every side ; and in the present state of knowledge it is exceedingly difficult to forecast which would be the most profitable to explore. Speculation on these matters is rather like divination, as Professor Aubrey Lewis said at a conference in Oxford last week, but he added the warning that direct attack on problems which seem to be most urgent are not necessarily warranted if contingent knowledge and methods are not ripe. It follows that in this branch of medical research the sharing of knowledge, leading to its integration, is of exceptional importance. The pressing need for integration can be judged from the fact that "in the relatively restricted sphere of electro-encephalography alone there are now a little over three papers a day being published, and in all the subjects which are relevant to the proper orientation of a neurophysiologist in his problems there cannot be less than 12 papers a day."[1] The psychiatric research worker trying to keep up to date with all the relevant literature therefore has an enormous task, and any opportunity to take stock must seem to him particularly welcome.

Such an opportunity was most agreeably given at the important conference held at Magdalen College, Oxford, last week. It was organized by the Research Committee of the Mental Health Research Fund, being its first project. The Fund, the purpose of which is "to promote, finance, and encourage research on mental health and disease," came into being in 1949, a very tangible sign of the growing pressure of public opinion that more should be done to prevent mental ill-health—which in terms of money alone probably costs about £100m. per year. It is all to the good, therefore, that laymen and women have joined with medical men and women to administer the Fund and to consider what the aims of mental-health research should be. In fact the Research Committee of the Fund has a lay chairman, Sir Geoffrey Vickers, V.C., who also most successfully took the chair at the Oxford conference, undeterred by the abstruse and highly technical nature of some of the discussions. A certain uneasiness about the language of psychiatry was apparent. As Professor MacCalman observed, the uninitiated show justifiable irritation when they find common words being given special meanings.

The terms of reference for the Conference were wide: "What are the ignorances which to-day principally hamper our understanding of the nature, prevention, and cure of mental illness ? What advances

[1] Bates, J., in a paper presented to the Conference.
[2] The *Proceedings* of the Conference will be published this autumn by Blackwell Scientific Publications, Ltd., Oxford.

in research are most likely to remove these and so help to reduce the population of mental hospitals and institutions for delinquents?" Among those who discussed these questions were anatomists, physiologists, neurologists, neurosurgeons, neuropathologists, psychiatrists, psychologists, biochemists, pharmacologists, enzymologists, and sociologists. Broadly speaking, the psychiatrists were inclined to dwell on the enormous gaps in knowledge. Dr. Eliot Slater, for instance, remarked that psychiatry is nearly all "ignorance," and Professor MacCalman, in the opening address, emphasized that there was not yet any commonly agreed broad formulation of aetiological principles in psychiatric illness. Dr. Ström Olsen also spoke of our ignorance of the fundamental physiological and neuropathological processes in the brain, and Professor Aubrey Lewis of the neglect in this country of the vital statistics of mental illness, adding that little information is available about the history of patients with various mental disorders after they have ceased to be under medical care. The specialist research workers, on the other hand, justifiably enthusiastic about their new instruments and techniques (Professor A. Kennedy suggested that we were now in the golden age of methods and instruments), were able to show how the results of their investigations were leading to new concepts of mental health and to efforts to relate human and animal behaviour with biochemical and electrophysiological findings.

In anatomical studies designed to throw light on brain function, the so-called primitive elements in the human brain have until recently been neglected. But, as Professor Le Gros Clark told the Conference, these regions of the brain, which include the hypothalamus, are now known to be closely associated with emotional reactions of one sort or another, and further detailed research on the thalamic-reticular system should be rewarding. Dr. G. W. Harris, speaking of the nervous control of the secretions of the pituitary gland, mentioned the effects of emotional stimuli, and suggested that there might be a place for the localized application of electric stimuli to the hypothalamic region in certain psychotic patients. The forging of a link between neuro-anatomy and neurophysiology on the one hand and psycho-analysis on the other was mentioned hopefully by Dr. John Bowlby, who pleaded for neuro-anatomical studies on very young children and referred to the fact well known in embryology that the growth of cells is influenced by the particular environment in which they are at a particular phase of development. Dr. Bowlby also showed how studies of animal behaviour can throw light on man's social responses, whether normal or abnormal. It remains to be seen whether it will be possible to detect physical changes in the central nervous system when social responses go awry. But, as Dr. D. Richter reminded the Conference, the invention of new tools of research must not lead us to expect too much from the chemical and physical approaches towards the solution of psychiatric problems.

Much was said at the Conference about animal experiments, Professor R. W. Russell giving an illuminating account of experimental neurosis, but some doubt was expressed about the significance of these experiments to human behaviour—Professor Sandford, of Berkeley, California, asking the very pertinent question: What is the *normal* reaction of animals submitted to stressful situations? It was generally agreed that in the end experiments of this sort would have to be tried out on human subjects.

Many suggestions were made at the Conference about future research. There was strong support for Professor Aubrey Lewis's statement that research on the family must continue to be of prime interest. Professor T. S. Simey suggested that relationships between certain sorts of behaviour and certain sorts of family structure should be investigated, and Dr. J. M. Tanner, the honorary secretary of the Fund's research committee, pointed out how valuable would be the help of general practitioners in research on the behaviour and physiology of families. Supporting this, Professor Kennedy said there was still a need for kindly research—research in practical means of being kind to patients. In most of the fields of research into mental disorders there is no lack of material, but the neuropathologists complain of one serious shortage—brains from patients who have recovered from leucotomy and similar operations. The importance of these brains to research is obvious, and with the co-operation of general pathologists it should be possible for neuropathologists to examine many more of them than they do at present.

In an admirable and eloquent speech at the end of this encouraging and stimulating Conference[2] Sir David Henderson said it was still of the first importance to improve the status of psychiatry in the eyes of the medical profession as a whole. Fifty years ago the outlook of psychiatry was bounded by the wall of the mental hospital, but now psychiatry was entering a new era of activity —a fact which was plain to all those fortunate enough to attend the Conference. The object of research is no longer limited to finding new methods of diagnosis and treatment: the high ideal that can now be set is, as Sir David put it, to improve man in his social setting and so to obtain a saner world.

HEALTH SERVICE ESTIMATES

Once again the financial limit on the cost of the Health Service has been maintained. The estimates for 1952–3 published at the end of last week show a total net cost to the taxpayer of £402.3m., but the limit of £400m. imposed by three successive Chancellors has not in fact been exceeded. The cost of the Health Service as such has been kept down to £392m., compared with £398m. in the year just ending. The balance of £10m. is accounted for by civil defence.

The rise in prices in the last 12 months has been much greater than in the previous year. If allowance is made for this the cost of the Health Service has actually been reduced by a much greater amount than £6m. But the reduction is being imposed mainly by new raids on the patient's purse rather than by cutting the budgets of the various branches of the Health Service. Thus, instead of £392m., the estimated cost of the Health Service would have risen to about £420m. in the coming financial year had it not been for the savings effected by the proposed charges.

The prescriptions charge is estimated to bring in £7½m., and the charge for dental treatment, including the existing charge for dentures, about £11m. The existing charge for spectacles is estimated to bring in nearly £5. This, incidentally, is only slightly higher than the estimated receipts in the present financial year, when the charge was in force for only nine months.

It has been said that the introduction of a charge had a deterrent effect on the demand for spectacles, and the new estimates of the cost of the supplementary ophthalmic service seem to bear this view out. In any case, demand was falling from the high levels of the first two years of the Service. The gross estimate is now only £11m., compared with about £28m. in 1950–1. Unfortunately this is not true of the pharmaceutical service, the cost of which according to Mr. Crookshank is at the moment running at the rate of over £50m. a year. Here again the charge will probably act as a deterrent, for the estimates show a gross cost, before allowing for the proposed charge, of £47½m.

By keeping the net total cost of the Health Service down to £392m. Mr. Butler has a slightly bigger margin in hand than Mr. Gaitskell a year ago. On the other hand, the Bill introducing the new charges has been considerably delayed, and will now not come into force as soon as had been intended when the estimates were drawn up. This means that the receipts from the charges will be less than these estimates. It has also been reported that during the delay the Bill has been modified and further exemptions from the charges proposed. As the Bill was due to have its Second Reading on Thursday after we had gone to press, these reports have presumably been confirmed or denied, and if true the effect on the estimates explained.

In any case, slightly bigger as this year's margin is, it still leaves very little balance if prices continue to rise as rapidly as they have done. And the hospitals, which have come off best in the new estimates by obtaining an increase of about £20m. in their budgets, are nevertheless far from satisfied. In a time of rising prices they are hard put to it to maintain their existing services, much less expand them. Inflation hits them in the higher prices for food, fuel and power, drugs, and equipment, and in the increases that may be granted in wages and salaries to offset the higher cost of living.

How long can the uneasy financial stability of the Health Service continue? If prices continue to rise, can the Chancellor repeat his policy of allowing the Service roughly the same amount of resources at the new prices by imposing more, or heavier, charges on patients? The proposed charges are unpopular, and it will not be easy for him to maintain the hospitals by mulcting still further the patients who need a bottle of medicine or dental treatment.

On the other hand, if he does not do this, he will have to spread the burden of the higher financial cost on the general body of taxpayers; and heavier taxation would be contrary to the policy proclaimed in this year's Budget of restoring incentives to harder work and higher output. Nor would taxation be such an efficient method of paying for the higher cost of the Service, since the deterrent effect would be absent. The choice is not easy; and it appears that until inflation is checked the finances of the Health Service, though under control, will still be precariously balanced from year to year.

THE NATIONAL FORMULARY AND "PRESCRIBERS' NOTES"

The 1952 edition of the *National Formulary* is now published, and, for the purposes of the National Health Service, will take the place of the 1949 *Formulary* from June 1. All doctors and pharmaceutical chemists participating in the Service will shortly be supplied with a copy. The Joint Formulary Committee, appointed by the medical and pharmaceutical professions under the chairmanship of Professor Wayne, has been responsible for the revision of the 1949 *Formulary* and has effected numerous improvements.

Freedom to prescribe what a doctor considers best for his patient has always been a jealously guarded prerogative of the medical profession, and many doctors have regarded official formularies with some suspicion as tending towards regimentation, and even direction, in prescribing. The issue of the *Formulary*, of course, in no way limits the prescriber to the preparations contained therein or to the form in which they are prescribed. There can be few occasions in practice, however, which demand the use of preparations not included in this work, even though it retains its pocket size, nor is it likely that the prescriptions of many doctors could compete with those in the *Formulary* in efficiency. Further, the general adoption of the preparations suggested would go far towards economizing on the national bill for drugs—a crucial necessity at the present time.

Twenty-seven pages are devoted to "Notes for Prescribers"; this was an acceptable feature of the 1949 *Formulary*, and it has been enlarged in the present one to include a number of new monographs. These compress a remarkable amount of essential information on therapeutics into a very small space. The practical, yet critical and scientific, approach to the problems discussed in these notes contrasts a little strangely with some of the preparations which appear later in the general section of the *Formulary*. For example, the scepticism shown in the "Notes for Prescribers" about the value of stimulant expectorants makes it surprising to find so many expectorant preparations among the mixtures listed. It would be inconceivable, however, for any formulary to satisfy completely all its medical users. There will be those who will consider that the committee has not been sufficiently drastic in deleting from the *Formulary* certain drugs believed to have had their day and been found wanting—such as bromides, potassium chlorate, colocynth, and jalap—while others will nostalgically regret the disappearance of grey powder, A.B.C. liniment, and creosote. On the whole the committee must be congratulated on having steered a safe course between the Scylla of scientific nihilism on the one hand and the Charybdis of reactionary empiricism on the other.

The compilers of the *Formulary* have given much thought to making the mixtures for infants more palatable. There are difficulties in getting a wide range of fruit flavours for mixtures and linctuses, because no standards exist for most of the commercial fruit flavours, but good use has been made of syrup of raspberry, and, to a less extent, of syrup of blackcurrant, for which standards are available.

Another important innovation is the introduction of English headings for the subsections of the *Formulary*, which leads to a more rational grouping—for example, eye drops, eye lotions, and eye ointments now occur together, whereas guttae, collyria, and oculenta were widely separated in the first edition. Coming events cast their shadows before, and the day may not now be far distant when the dog Latin of prescribing may be dropped altogether. However much we might regret such a change on sentimental grounds, it must be realized that Latin is no longer the common language of scholars—far less of doctors—and that its continued use in prescribing has far more disadvantages than advantages. No benefit is gained by adding the suffix "um" to the name of new drugs, and the difficulty of giving them Latin titles is well illustrated by Injectio Procainae Benzylpenicillini Confirmata. Indeed, these difficulties have already proved insurmountable in the monographs devoted to "Preparations of Human Blood" in the *Addendum* to the *B.P.* in 1948. Apparently no member of the Pharmacopoeia Commission was sufficiently versed in the humanities to turn "Concentrated Human Red Blood Corpuscles" into Latin.

Another aid to prescribing has appeared this week. Under the title "Prescribers' Notes" the Ministry of Health and the Department of Health for Scotland are issuing to all N.H.S. doctors a loose-leaf folder giving information on the use and cost of drugs and dressings. The first number begins by pointing out that the estimated cost of the general pharmaceutical services in Britain in 1951–2 was over 20s. a head. The purpose of the notes is to offer examples of prescriptions "which might have been more economically done if information such as is included in these notes had been available to the doctor concerned." But there is no intention of interfering with the doctor's treatment of his cases. A week's treatment with chloramphenicol is shown to cost about £11, while treatment for about the same time with sulphonamides or penicillin costs about 10s. The indications for and against using chloramphenicol are listed.

The notes draw attention to the possibilities of using smaller packs of various dressings than are sometimes prescribed, and cellulose tissue is said to be cheaper than absorbent cotton-wool by 4s. 1½d. per lb. Figures at the end show that in 1950 18% of all prescriptions in the N.H.S. in England and Wales were for proprietary preparations, while in Scotland the proportion was 26%. The proportionate cost of ingredients in England and Wales was 44%, and in Scotland 47%. The notes are designed for filing in an ordinary record cabinet. They have been compiled with the guidance of nominees of the General Medical Services Committee.

CHEMOTHERAPY, ALLERGY, AND TUBERCULOSIS

The general question whether allergy to bacteria or their products is a reaction useful to immunity or merely an unfortunate side-effect of certain types of infection has divided immunologists for years. The subject has been critically reviewed by Hadfield and Garrod,[1] who consider that the weight of evidence favours the latter view. This is evidently the opinion of Long and

1 *Recent Advances in Pathology*, 1947, London.
2 *British Medical Journal*, 1951, 2, 37.
3 Long, D. A., *Bull. schweiz. Akad. med. Wiss.*, 1952, 8, 194.
4 Cornforth, J. W., Hart, P. D'Arcy, Rees, R. J. W., and Stock, J. A., *Nature, Lond.*, 1951, 168, 150.
5 Hart, P. D'Arcy, and Rees, R. J. W., *Lancet*, 1950, 2, 391.
6 Ibid., 1951, 2, 522.

his colleagues at the National Institute for Medical Research, since their work, to which we have referred in these columns[2] and which has recently been recapitulated in a single paper,[3] is based on the assumption that rheumatic fever is essentially due to a hypersensitivity reaction to streptococcal allergens, analogous to tuberculin hypersensitivity. In an attempt to elucidate the pathology of rheumatic fever, they studied the sensitivity of guinea-pig skin to tuberculin and the effect upon it of mild ascorbic-acid deficiency, and of treatment with thyroxine, A.C.T.H., and cortisone. It is suggested, on the basis of such experiments, that the action of cortisone in the tissues of guinea-pigs sensitized by injections of B.C.G. is to facilitate the oxidation of ascorbic acid to dehydroascorbic acid, a process associated with a diminution in sensitivity to tuberculin, linked with sulphydryl metabolism, and requiring thyroxine.

The theoretical justification for such an approach might be disputed and the analogy to rheumatic disease prove unacceptable, but the use of these methods to investigate the mode of action of antituberculous agents upon experimental tuberculosis in guinea-pigs needs no defence. Elsewhere in this issue, Drs. P. D'Arcy Hart, D. A. Long, and R. J. W. Rees show that the polyoxyethylene ethers (a group of detergents used commercially in the United States), previously shown to exercise an antituberculous effect in mice,[4] exert a similar effect in guinea-pigs—an effect which in the latter species is invariably associated with diminished sensitivity to tuberculin. This desensitization is comparable in degree to that of cortisone, but differs from it in being independent of dietary and hormonal factors. Attempts to explain the antituberculous effect in terms of antibacterial action, increased phagocytosis, or exaggerated antibody response proved unsuccessful. The chief stumbling-block to attributing the antituberculous effect of these drugs to their desensitizing power is that cortisone, with its comparable desensitizing power, has proved pro-tuberculous, at least in mice.[5] It is suggested that cortisone may differ from the detergents by depressing the mesenchymal cellular immune response to tuberculosis, and that this outweighs the benefits of desensitization; such an interpretation is in keeping with the facts, but must remain hypothetical until further studies elucidate the problem.

Fortunately other desensitizing agents are at hand. Fisher, Harington, and Long,[6] have recently shown that the action of N-acetylsphingosine in causing a diminution in sensitivity to tuberculin resembles that of these detergents. Dehydroascorbic acid and alloxan also possess comparable desensitizing power.[3] Hart and his colleagues intend to test these compounds for antituberculous activity, which, if proved, would strengthen the hypothesis of a causal connexion between desensitization and chemotherapeutic activity. Whatever the outcome of these experiments, the introduction of this group of antituberculous and desensitizing agents has provided a new approach to an important subject, and with it the idea of a chemotherapeutic agent exerting its effect, not upon the tubercle bacillus, but upon the host.

FELLOWS OF THE ROYAL SOCIETY

Three medical men and one medical woman were among the new Fellows of the Royal Society elected on March 20—Professor Bernhard Katz, Professor J. S. Mitchell, Dr. R. R. Race, and Dr. Marthe Louise Vogt.

Professor Katz is distinguished for his contributions to neurophysiology, and particularly for his work on nervous impulses and muscle end-plate potentials. He is at present professor of biophysics at University College, London. He graduated in medicine at the University of Leipzig in 1934. After holding a Beit Memorial Research Fellowship at University College he went as a Carnegie Research Fellow to Sydney, where he was also honorary lecturer in physiology at the University. He returned to University College, London, in 1946 as an honorary research associate and Henry Head Research Fellow of the Royal Society. Professor Mitchell has been professor of radiotherapeutics in the University of Cambridge since 1946, when this chair was established. He is also director of the radiotherapeutic centre at Addenbrooke's Hospital. Graduating in medicine in 1934, he was elected a Fellow of St. John's College two years later. Professor Mitchell's contributions to knowledge about the mechanism of the therapeutic action of radiations have been of outstanding importance. He was appointed C.B.E. last June. Dr. R. R. Race is the director of the Medical Research Council's Blood Group Research Unit at the Lister Institute. Qualifying in medicine in 1933, he was at one time assistant serologist at the Galton Laboratory, University College. His work on the rhesus and other factors capable of causing haemolytic disease has helped to complete one of the most remarkable of recent medical advances. Dr. Marthe Vogt has been lecturer in pharmacology in the University of Edinburgh since 1947. She graduated in medicine at the University of Berlin in 1928, and is well known for her work on the regulation of the secretion of the cortical hormones of the suprarenal gland.

Some of the other newly elected Fellows of the Royal Society have made important contributions to medical science. Dr. Honor Fell, who is Foulerton Research Fellow of the Royal Society and director of the Strangeways Research Laboratory, Cambridge, has greatly advanced the study of living tissues, particularly the mechanisms governing cartilage and bone formation. She is one of the editors of *Experimental Cell Research*. Dr. Rudolf Lemberg is director of the biochemical department of the Institute of Medical Research, Royal North Shore Hospital, Sydney. He has published many papers on the subject of metabolism of pigments derived from haemoglobin. Dr. D. D. Woods, reader in microbiology at Oxford University, played a major part in working out the explanation of the antibacterial action of the sulphonamides and has made many important contributions to bacterial chemistry.

We announce with regret the death on March 21, at the age of 79, of Professor Edwin Bramwell, formerly professor of clinical medicine in the University of Edinburgh.

REFRESHER COURSE FOR GENERAL PRACTITIONERS

EMPYEMA

BY

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Many pneumonias are cured by antibiotics; the more pneumonias cured, the fewer the empyemas. This accounts for the considerable reduction in the frequency of pleural infection at the present time as compared with, say, eight or ten years ago. Nevertheless, the distressing picture of an established chronic empyema, with toxaemia, loss of lung function, and a deformed chest, should always be kept in mind as a warning of what may happen if the early stages are not recognized, or are improperly treated.

Pathology

Infection of the pleural cavity is commonly secondary to inflammation of the underlying lung. There are other causes, such as penetrating wounds, which must include the incautious use of the aspiration needle in search of a subphrenic abscess, but for practical purposes the lung can be regarded as the primary focus. Tuberculous empyema should be regarded as a separate problem.

The earliest stage of pleural inflammation is the formation of an exudate, usually clear and containing bacteria, but rapidly becoming turbid as the cellular content of the fluid increases. This stage is conveniently referred to as "diffuse suppurative pleurisy," since, in the absence of pleural adhesions, the whole cavity is potentially infected. The characteristic shape of the effusion is the result of gravity opposed by the subatmospheric pressure of the pleural cavity; the usual basal position can be altered by changing the patient's position. The lung is collapsed and pushed aside as the fluid collects, and if a large volume accumulates the mediastinum will be displaced. The amount of fibrin in the effusion varies with different organisms; it is small with streptococcal infections, which are slow to localize, and is much more massive in the presence of the pneumococcus. Within a few days of onset the fluid is frankly purulent and fibrin is being deposited on the chest wall and over the lung surface; flakes, and even masses, of fibrin float loose in the effusion. At this stage lung and chest wall become adherent at the margins of the fluid and a "localized pleural abscess" can be said to be forming. An abscess with appreciable walls develops in 10 to 14 days, and if not treated the fibrin walls become firmly organized and rigid, progressively binding down the lung and preventing the chest wall from moving. This fibrin capsule is three or four times as thick over the chest wall as over the lung surface.

Diagnosis

The early signs of fluid over a consolidated lung are not always easy to make out. Dullness is more marked and breath sounds are more distant or absent with aegophony towards the thin margins of the fluid, but it is often difficult to be certain that a thin layer of fluid is or is not present when the signs in the lung are still well marked. This applies particularly to children. Later, increasing loss of movement and absence of air entry make the diagnosis more certain, and radiology can give considerable help so long as the film taken is a good one. Too often the use of indifferent or portable apparatus fails to give the necessary help. There is only one certain method of diagnosis: that is, aspiration of infected fluid.

The diagnosis should be easily established when there is enough fluid to produce pressure on the mediastinum. In such cases marked shortness of breath and even cyanosis are added to the clinical signs, which include shifting of the apex beat and angulation of the trachea from the midline in the suprasternal notch.

Principles of Treatment

The principles that underlie treatment are twofold: (1) the toxaemic element must be eliminated and the products of inflammation moved from the pleural cavity, and (2) the lung must be re-expanded at the earliest possible moment, before it has become pinned down by fibrous tissue. This second factor is too often lost sight of because in other parts of the body drainage of an abscess (in the pelvis, for example) is followed by spontaneous obliteration of the cavity as the soft walls come together. In the thorax, however, the rigid chest wall and the collapse of the lung produce a firm-walled space which, if not treated correctly, may persist.

Treatment starts from the moment the diagnosis is made certain. Aspiration not only proves the presence of fluid or pus, but enables bacteriological examination to be carried out. In the early stages, as has been indicated, during the process of diffuse suppuration the fluid may be thin and almost clear even though loaded with organisms, but more commonly by the time aspiration is initiated frank pus will have formed. When the nature of the fluid and its bacteriological character have been established energetic measures should be undertaken without delay to empty the pleural cavity.

Aspiration

Drainage and aspiration should not be looked upon as separate procedures. Aspiration is the equivalent of intermittent drainage, and if it is carried out properly it is of inestimable value, since it removes pleural fluid by a closed system—that is, one which does not admit air from outside. Unfortunately it is often used perfunctorily and inadequately, with unfortunate results on the course of the empyema.

Thorough aspiration may take a considerable time and must be performed with a needle of adequate size fitted with a two-way tap to a large syringe. The habit of using an ordinary 10-ml. syringe with an ordinary needle is fraught with potential danger because disconnexion from the syringe may allow air to seep into the space, and if the empyema is not firmly localized the bubble of air will rise to the top of the chest and allow the lung to fall away from the apex. In other words, a collection of a small amount of fluid in the base of the chest may be turned into a pyopneumothorax with a fluid level and a collapsed lung. A localized empyema is converted into a total pleural infection.

Martin's syringe and needles make a convenient form of apparatus, consisting of a 20-ml. Luer syringe fitted to a two-way tap and with lock fittings to prevent accidental disconnexion. A selection of needles is required, and though a wide-bore needle may be needed if the pus is thick a fairly fine needle can be used for a start. The whole apparatus should be tested for patency and for absence of leak before the operation.

The patient sits up in bed and leans over a pile of pillows or a bed table; he may be even more comfortable sitting sideways with the legs over the edge of the bed. A preliminary sedative is an advantage in most cases. The skin is cleaned over the site, which has been previously determined by percussion and radiology, and is usually about four fingerbreadths from the midline posteriorly in the

eighth or ninth space (if the twelfth rib is difficult to palpate it is useful to remember that the scapula lies over the seventh space). A wheal of local analgesic is produced in the skin, and 5–7 ml. of the analgesic is injected into the chest-wall tissues, particularly into the immediately subpleural layer. If a wide needle is being used a tiny incision through skin only, made with a tenotomy knife, makes the introduction of the needle easier. Some fluid—for example, local analgesic—should always be present in the aspirating syringe to prevent bursting of the barrel if the piston flies back suddenly on being released.

Aspiration must be as complete as possible, and the operation may take 20 to 30 minutes. If fluid is removed too quickly the patient will feel uncomfortable and develop bouts of coughing, but if the procedure is carried out slowly and, above all, with the needle rigidly still the contents will be evacuated and the lung at the same time encouraged to re-expand. If bacteriology is indefinite, as may well be the case if antibiotics have been used, aspiration must still be performed in just as complete a manner. If, on the other hand, there are active organisms in the fluid an injection of the appropriate antibiotic should follow. Penicillin is the usual agent, and 500,000 units in 10 ml. of saline can be introduced at the end of the aspiration.

The next important step is to ensure that further complete aspirations are carried out as often as any fluid collects; and this does not mean that one should wait three to four days, or even longer, to see what is going to happen. If treatment is to be effective the pleural cavity must be emptied, if necessary, on consecutive days, and aspiration should be abandoned only if the fluid becomes too thick to flow through the needle or, as more commonly happens, flakes of fibrin obstruct the flow. This is probably the most important point in treatment, and one which is often found at the first aspiration. When this occurs it can safely be assumed that the pus is localized, and indeed the thickening of the pleura may be easily obvious on *x*-ray examination or felt during the passage of the aspirating needle.

Surgical Drainage

When aspiration has become impracticable the decision on the next move depends on the bacteriological findings. If there are still active organisms the abscess should be drained by rib resection at the lowest possible point, accompanied by thorough toilet of the inside of the cavity and wide-tube drainage.

The operation can be carried out under local or general anaesthesia. The patient should be in the sitting position in order to avoid the formidable risk of pus pouring into the lung through an unsuspected broncho-pleural fistula. The lowest point of the cavity is determined by previous aspiration or, in cases of difficulty, after study of two-plane radiographs following injection of 10–15 ml. of radio-opaque oil into the cavity. A vertical skin incision is made. The usual site is the ninth rib, 2 to 4 in. (5 to 10 cm.) from the midline, closer to the spine than might be expected. The rib is stripped of periosteum before removing 2 to 3 in. (5 to 7.5 cm.) of its length, and complete haemostasis obtained before the pleura is opened. A piece of pleura is routinely taken for section to exclude tuberculosis, neoplasm, and so on, and, after the pus and fibrin masses have been removed, the interior of the empyema is inspected and freed from all loose tissue. A wide tube is then inserted: the tube must be placed so as to avoid intercostal vessels and nerves, with its interior opening inside the empyema but not so far as to impinge on lung. Its distal end should not project more than a few millimetres beyond the skin—merely enough, in other words, to hold a safety-pin which, in turn, is attached to the skin by pieces of adhesive plaster. The tube is covered with a simple dressing held in place by a "corset" of strapping, which avoids the discomfort of bulky dressings so common in the past.

The control of drainage tubes is the surgeon's problem, and not one to be left casually to students or nurses. When a tube is used a number of common errors must be guarded against. In the first place the tube may not be large enough; if the tube is not placed at the bottom of the cavity, drainage will be incomplete. If the tube is changed frequently the contracting skin incision will sooner or later necessitate a smaller tube, and if this happens more than once or twice the drainage opening may become completely inadequate. Many cases of comparatively large chronic empyemas with pin-point sinuses intermittently discharging quantities of pus have been seen in the past. The time for removal of the drainage tube can be summarized by saying that the *tube is never removed from the pleural space but only from a track in the chest wall.* In other words, internal healing must be confirmed by pleurograms (two-plane radiographs taken after filling the space with radio-opaque oil) at 10- to 14-day intervals until the space is finally obliterated.

Breathing Exercises

Even with the most efficient treatment by drugs and surgery the result will be valueless unless at the same time the collapsed lung expands again. The lung must be induced to re-expand, not only to obliterate the empyema space, but to restore pulmonary function. Left to his own inclinations the patient will not move the affected part of the chest more than he can help; the instinct is to immobilize the area. But recovery is complete only when the chest walls are moving freely, and for practical purposes the movement of the chest wall is an index of lung expansion and function. A flattened rigid chest wall is almost certain to conceal an inactive area of lung.

The answer lies in the concentrated application of special breathing exercises which aim at producing a powerful and localized inspiratory excursion over the damaged area. Expiratory exercises, represented by puffing and blowing, should be ignored. The patient is instructed to breathe in deeply and forcibly against the light pressure of the physiotherapist's hand without arching or bowing the spine. After a few days he should be able to concentrate the effort in any part of the chest and he must then practise without fail for 10 to 15 minutes every waking hour, with a check once or twice a day by the physiotherapist. It is the conscientious patient who benefits and reduces his convalescence to a minimum.

The actual exercises are quite simple, but one must repeat that it is persistence and concentration that count. They are begun almost from the day of diagnosis and are continued with increasing intensity until complete recovery results, with the bad side of the chest moving even better than the normal side. The activities of the patient are encouraged by having him ambulant as soon as the grosser signs of toxaemia have been eliminated. The practice of keeping a patient in bed during the whole period of aspiration or drainage is detrimental to early recovery. During the final stages of closure of the empyema patients benefit by active exercise, and many of our patients are walking 8 to 10 miles (12.9 to 16 km.) a day as part of their convalescent treatment.

The Sterile Empyema

A difficult decision on treatment arises when a sterile empyema is encountered. The fluid has been sterilized by the action of penicillin, and the problem is that of a sterile abscess with thick fibrin walls. This poses the question of differentiating this form of empyema from one of tuberculous origin in which, in the absence of acid-fast organisms, a high proportion of lymphocytes in the pus may be the only clue, apart from the clinical history. A sterilized pyogenic abscess usually contains numerous broken-down polymorphonuclear leucocytes, and the shadowy forms of dead bacteria may be seen though bacteriological culture remains sterile. Indeed, a smear film often gives more satisfactory and certainly quicker information in all stages of pleural infection. The fibrin deposit in sterile cases is

even thicker than usual, because with the destruction of bacteria fibrinolytic enzymes are also destroyed. These enzymes are actually manufactured, under the names of "streptokinase" and "streptodornase," and can be introduced with the object of dissolving fibrin. There is a natural reluctance to drain a sterile cavity, with the result that many of these "penicillin empyemas" are left alone, and the thick walls of the persistent cavity prevent healing. Nearly all these cases can be attributed to faulty handling in the form of tardy diagnosis or inadequate aspiration.

In some cases breathing exercises and proper aspiration will start the closure of the cavity, but some do not respond because of the thickness of the contents, as well as the rigidity of the walls, and here two courses of action are open. The cavity can be opened and evacuated through a rib-resection incision, but drainage is not used; instead the skin only is sutured and breathing exercises are intensified. If this fails it is a simple matter to open the skin and insert a drainage tube. The second more radical and severe operation is that of decortication or pleurectomy, which in its best form entails complete excision of the empyema through a thoracotomy incision. The parietal pleura is removed from the chest wall and the lung is freed from its casing. Closed suction drainage and active physiotherapy encourage re-expansion of the lung and obliteration of the dead space. Pleurectomy should not be undertaken for at least six to eight weeks from the onset, and then only if other methods have failed. It can produce excellent results, but it is an operation of some severity and should not be performed if improvement is occurring under more simple measures. Where there is efficient physiotherapy it is not often indicated.

Prognosis

A properly treated empyema of moderate size and severity should be cured in 8 to 10 weeks at the outside. Beyond this period cavity healing is slow and the empyema is well on the way to becoming chronic. A chronic empyema is a formidable disability which may take months to cure, and a useful aphorism to remember is "a week's delay in the early stages means a month's longer convalescence."

Common Causes of Delayed Resolution

There are still many errors in treatment that could be remedied. In the first place diagnosis is not always made early enough, and thoracic surgeons commonly see cases of empyema which are at least a month or six weeks old and which have not been previously treated. Sometimes a collection of fluid that is awkwardly placed may be responsible for the failure to recognize the condition, but usually it is because the lung signs have dominated the picture and the question of pleural infection has been ignored. There may have been failure to start treatment even when the condition has been suspected. Diagnostic aspiration may be put off for a day or so and complete aspiration may be delayed for two or three days while awaiting bacteriological reports and so on. Even when aspiration has been carried out there is sometimes no attempt at any further aspiration, even though the fluid re-collects. Aspiration is often suspended because the pus is sterile. The formal aspiration itself may fail because of faulty apparatus or obstruction of the needle by fibrin flakes. Admission of air is a danger already mentioned. Frequently, once 200 to 300 ml. has been withdrawn, the patient or operator tires and the evacuation of fluid is incomplete. Again, there is too often marked delay between the aspirations and the failure to recognize that complete removal of the fluid will help the re-expansion of the lung. Too much dependence is placed on antibiotics, particularly if these have resolved the infection and signs of toxaemia in the patient. There is also a tendency to delay consultation with the surgeon until some days after aspiration has started to be difficult. There should be complete continuity in the treatment from the original recognition of fluid until the space is completely and finally obliterated.

There are atypical forms of empyema which are admittedly difficult to diagnose and treat. The discussion has been concerned so far with a limited collection of pus at the bottom of the chest, but the infection can be total or localized to some unusual site. A total empyema requires the most energetic and early treatment if the lung is to re-expand readily, and suction drainage or continuous aspiration can be used with advantage before too much fibrin has been deposited. The lung expands more readily at the base, and may shut off an apical pocket which requires individual treatment. Interlobar collections are more usually placed anteriorly and can easily be missed if good lateral radiographs are omitted. The same applies to pockets placed well above the diaphragm. Mediastinal empyema, which is often mentioned in textbooks, is very rare.

The differentiation between basal empyema and subphrenic abscess, lung abscess, and infected cysts is difficult, particularly if the empyema is complicated by a bronchopleural fistula. An empyema may heal spontaneously by rupturing through the chest wall or into a lung, but the dangers of the latter range from immediate drowning to chronic pulmonary infection. When empyema is secondary to carcinoma of lung it is possible that it may not heal, and the same applies if a tuberculous infection of the pleura is present. An actinomycotic empyema may heal, but will persist if the lung disease is progressive.

There are few examples in medicine in which early and prompt treatment can pay such dividends as in pleural infection. Antibiotics have reduced its incidence, but diagnosis and treatment have not kept pace, with the result that the spectre of chronic empyema still remains to be finally exorcized.

Next Refresher Course Article.—"The Psychiatric Case and the Law," by Professor Alexander Kennedy.

Nova et Vetera

PIONEERS OF ANAESTHESIA

The English Pioneers of Anaesthesia (Beddoes, Davy, and Hickman). By F. F. Cartwright. (Pp. 338; 20 figures. 21s.) Bristol: John Wright and Sons. 1952.

Dr. Cartwright has told us much of the lives of three men of extremely different mentality, character, and fate. There results a valuable and instructive picture of the conditions of experimental investigation in the late eighteenth and early nineteenth centuries in England, where laboratories hardly existed. In the whole of Britain it was only at Edinburgh and Glasgow that scientific university training was available. Of the three men with whom the book is concerned, only Davy is generally remembered. Beddoes is known to a few, though rather for his associations than for himself, while Hickman is recalled only by a handful of historical specialists. Here Fame must be adjudged to have distributed her favours justly.

From the earliest times attempts have been made to procure unconsciousness during operations by drugs, both ingested and inhaled. "God caused a deep sleep to fall upon Adam, and He took one of his ribs and closed up the flesh thereof" (Genesis ii. 21).

> "I'll imitate the pities of old surgeons
> To this lost limb, who, ere they show their art,
> Cast one asleep, then cut the diseased part."
> (Thomas Middleton, *Women Beware Women*, c. 1620.)

Between the dates when these two passages were written, and indeed both before and after, this idea has been in the

minds of thousands of surgeons. The *spongia somnifera* was a commonplace of surgery for ages. Therefore, for having attempted to produce anaesthesia neither Beddoes, nor Davy, nor Hickman deserves any credit at all, and it is only by the means that they adopted that they can be judged. Nevertheless these men were so diverse in temperament and scientific approach that their consideration within the covers of one book gives special interest to Dr. Cartwright's narrative. For truly the psychology of discovery is an absorbing theme; it is a pattern not only intricate in itself but susceptible of endless variation.

Thomas Beddoes (1760–1808) was a member of a trading and farming family in Shropshire. He was educated at Oxford, took an interest in languages, and translated some important scientific works into English. He turned early to chemistry and geology. After a time at Edinburgh he took his M.D. in 1786, visited Paris, and in 1787 became reader in chemistry at Oxford. By temper restless and by opinion radical, he had no easy position in that conservative centre. After trying London and Birmingham, he settled in Bristol, where he started practice and a laboratory. In 1793 he founded an institute for "Pneumatic Medicine." It was the age of the "new chemistry" of Black, Lavoisier, and Priestley. "Gases"—by your leave—were in the air and were a general subject of scientific conversation. Beddoes had a real genius for intellectual friendship and absorbed much on gases—interpreting some of it wrongly and some of it even fantastically. He was bursting with ideas but was weak in designing experiments, far from strong in performing them, and persistent in misinterpreting them. He had no clear notion either of controls or of limitation of variables—the two sheet anchors of those who would embark on the experimental way. He was convinced, against the evidence, of the beneficial effect of inhaling "factitious airs"—that is, of the simpler gases that were then the subject of much investigation. He achieved nothing scientifically important, and his wayward genius turned to other fields. His institute rightly came to an end, but not before his perceptiveness of human qualities had distinguished the genius of his brilliant assistant, Humphry Davy. Dr. Cartwright's treatment of the intricate personality of Beddoes is a real addition to our knowledge of the scientific scene of the time.

Of Davy less need be said here, for so much more is known. Undoubtedly he is responsible for the effective knowledge and action of nitrous oxide and so, at some remove, for its use in surgery. His own many experiments with it, including many on himself, resulted in the phenomena which gave it the name of "laughing gas." He was not a doctor nor was he particularly physiologically minded, but he was, nevertheless, the effective founding father of modern anaesthesia.

Henry Hill Hickman (1800–30) is a peculiar and pathetic figure. He died untimely. It is impossible to say what a young man of 30, of an experimental disposition, might have done. Such young men are rare. What he did, in sober fact, was to show how *not* to anaesthetize. In a series of experiments on animals he used carbon dioxide as an inhalant. Unconsciousness ensued. It was then possible to remove a part without sign of pain. It was also possible, under experimental conditions, to revive the creature afterward, a fact long known from demonstrations to tourists at the "dog's grotto," near Naples. This scene had formed a high spot in the Grand Tour as organized for young sprigs of the nobility and gentry since the sixteenth century. Hickman showed persistence, experimental talent, enthusiasm, good faith, and good will. It is easy to see now that he was on the wrong line. Who shall say whether, given time, he would have had the flexibility and open-mindedness to shift to a more hopeful approach? It might have been. It might have been. A sad story well told. But it may not be generally known—it was not to the reviewer—that the late C. J. S. Thompson, of the Wellcome Historical Medical Museum, was a grandson of this unfortunate young man.

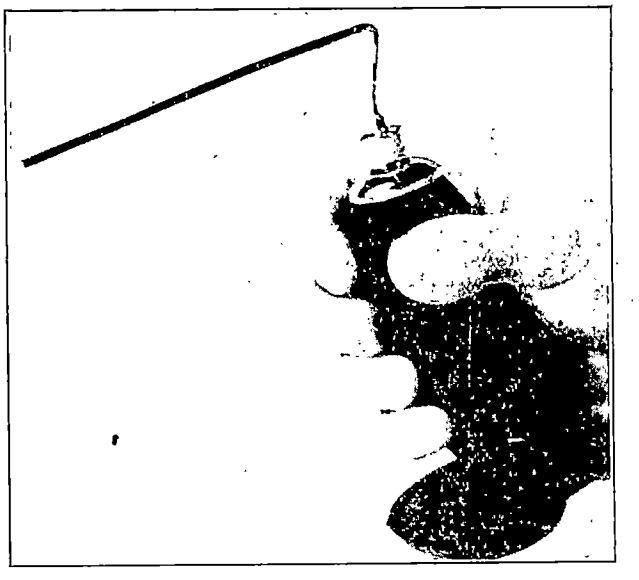
CHARLES SINGER.

Preparations and Appliances

AN AID TO ANALGESIA OF THE LARYNX AND TRACHEA

Dr. T. DINSDALE, anaesthetist, Manchester Royal Infirmary, writes: In 1949 I described a technique of topical analgesia for bronchoscopy. This involves three steps—namely, spraying the mouth and pharynx; swabbing the pyriform fossae; and injecting 2 ml. of analgesic solution through the cords, using a laryngoscope and a syringe with a cranked nozzle.

There have been many reports (Thomas and Fenton, 1943; Titche, 1947; Richards, 1947; Jackson, 1949; Weisel and Tella, 1951) of toxic reactions following the use of 2% amethocaine solution, but our experience with a 1% solution is that it is both effective and safe when used carefully. Nevertheless, when using such crude nebulization as is pro-



vided by the average throat spray and injecting a further 2 ml. of liquid directly into the trachea, it is easy to appreciate that a considerable quantity of amethocaine may be absorbed. I discussed this aspect of local analgesia with Mr. James Juby, of Messrs. A. C. King Ltd., and he has designed a spray which overcomes most of the difficulties. It consists of a one-piece bulb and base with a concentric anaesthetic container holding 3 ml. This can be operated with one hand. To it is attached any of the standard nebulizers—for example, Magill's, Rowbotham's, etc. In addition there is a straight nebulizer, with the same angle as Magill's endotracheal-tube-holding forceps, for spraying the glottis when using an orthodox laryngoscope (see illustration). It is long enough to be applied through the cords to the upper end of the trachea. The tip should not be curved for use with a Macintosh laryngoscope, as this latter advantage is then lost. The fine spray provided by these nebulizers allows a much smaller total quantity of solution to be used: 3 ml. of 1% amethocaine is quite enough, if the pyriform fossae are swabbed, to provide perfect analgesia down to the carina in the adult.

I must thank Mr. Juby for the excellence of his design and the high standard of workmanship. The spray, to be known as the "multicaine spray," is obtainable from Messrs. A. C. King Ltd., 27, Devonshire Street, London, W.1, and can be supplied with the nebulizer described above or with any other standard pattern.

REFERENCES

Dinsdale, T. (1949). *Brit. J. Anaesth.*, 21, 193.
Jackson, C. A. (1949). *British Medical Journal*, 1, 99.
Richards, R. (1947). Ibid., 2, 51.
Thomas, J. W., and Fenton, M. M. (1943). *J. Allergy*, 14, 145.
Titche, L. L. (1947). *Dis. Chest*, 13, 452.
Weisel, W., and Tella, R. A. (1951). *J. Amer. med. Ass.*, 147, 218.

Correspondence

Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.

Family Planning

SIR,—The Family Planning Committee of the Medical Women's Federation is to be congratulated on its memorandum (March 15, p. 595). The recommendations are both timely and courageous, especially the final one "that advice on family planning should be available to women who require it on medical grounds, and also to women who ask for it for the purpose of family spacing. . . ."

No one would disagree with the suggested groups in the profession who should give this advice. But I would add that every maternity hospital or department should have a contraceptive clinic attached to it; if medical students are in obstetric training there they should be allowed to attend this clinic. The time when contraceptive advice should be given is at the first visit to the post-natal clinic, usually at the sixth week after delivery. Many recently delivered mothers begin to worry before they leave the lying-in wards about future marital relationship and pregnancy.

It should be an obligation on the part of those—doctor or midwife—who have been responsible for the care of a woman during her delivery to see that she is given facilities for receiving contraceptive advice if she wishes this.—I am, etc.,

London, W.C.1. W. C. W. NIXON.

SIR,—The interesting and thoughtful report on family planning produced by the Medical Women's Federation (March 15, p. 595) inevitably leaves many difficult questions still unsolved. In the first place it seems desirable to clarify the position of the Catholic practitioner. If he or she is holding a public appointment, the old-established ruling of the Ministry of Health that no one should be required to give advice on birth control contrary to his religious belief still holds good and presumably is applicable to all medical practitioners under the National Health Service. I take it that if a non-Catholic patient of a Catholic doctor required birth-control advice on *medical* grounds and is not satisfied to accept such methods as the Catholic doctor feels able to recommend (i.e., safe period and abstinence), she should be instructed to apply at the Town Hall, where she will be directed to a clinic or to a general practitioner willing to meet her needs. This could easily be organized.

The problem of the woman who desires contraceptive advice "for the purpose of spacing her family" raises much broader issues. If the very sensible recommendation of the report of the Medical Women's Federation is accepted and a fee is collected for this service, the patient can of course go to any doctor or clinic she prefers without causing administrative confusion. But there are aspects of this matter which affect all of us without distinction of religion. It would have been helpful if the report (which shows a sensitive social outlook) had included a word of warning about the dangers inherent in a general policy of "spacing." We all know that such demands vary from the tragic to the merely frivolous. It would be only too easy in organizing a comprehensive service to create a "climate of opinion" in which the postponement of childbirth to a convenient period became the expected thing, and as life becomes progressively harder the convenient time for the second or even the first child might never come. Parenthood without prolonged sacrifice is a dangerous myth which enthusiasts for family planning may unwittingly foster. It is surely worth discussing whether the medical profession is to drift into a position of handing out contraceptive advice on demand or to maintain that it has some responsibility for seeing that the patient (and the nation) is not being encouraged in a disastrous policy.—I am, etc.,

London, S.W.3. LETITIA FAIRFIELD.

Soviet Genetics

SIR,—One would not venture to accuse a reviewer of prejudice did he not confess to it himself. Professor S. C. Harland (March 1, p. 472), in reviewing *Soviet Genetics*, by Morton, ends by saying: "All books by Russians or about Russians are exasperating, and this one is no exception to the rule. Russian genetics may be described as a mixture of the blatantly fraudulent, the naive, the nationalistic, the obvious, and perhaps, in rare cases, the interesting and novel." It seems from the context of the review that the Russian cotton geneticists have achieved results somewhat different from those obtained by Professor Harland, a not unusual circumstance in the history of scientific research. But the book contains a great deal of information far more important than this, and surely it might have had some mention in the review, "exasperating" though it probably is to the reviewer.—I am, etc.,

London, W.C.2. F. WOOD JONES.

SIR,—Perhaps I can make my position a little clearer to Professor F. Wood Jones. First, the work now being put out in Russia violates all the agreed rules for the writing of scientific papers. The methodology is not described in such a way that the experiments can be repeated and the results verified. Conclusions are consequently drawn from the data which the reader is not able to draw for himself. In rare cases when it has been possible to repeat Russian experiments the results have never been confirmed. Perhaps a few of the latest claims made by the Russians may be cited as causes of exasperation. In a recent paper Lysenko says that in 1949 200 rye grains were found in ears of wheat. These gave mostly rye plants. Mention is made of barley plants obtained from seed of the branching wheat. Finally, to work on biology in the Soviet Union you have to believe in the inheritance of acquired characters because the Party has made this doctrine official, and you have to agree with the designation of Mendel as a "reactionary cleric."

My prejudice is merely against shoddy work and slipshod hypotheses.—I am, etc.,

Manchester, 13. S. C. HARLAND.

Carcinoma of the Stomach

SIR,—I have read with interest Dr. C. P. Petch's letter (March 1, p. 492) on diagnosis of carcinoma of the stomach and his statement that he has seen seven patients dying of gastric carcinoma in the last four years, and that in each case early diagnosis had been missed by barium meal. Final diagnosis rested on laparotomy or necropsy, and he asks for more reliable means of confirming clinical suspicions.

May I suggest that clinical evidence is often not obtained with sufficient care, as I know from experience? I always take the patient's history myself, especially when dealing with hospital patients. Even if careful radiology fails there is often a reliable means—namely, gastroscopy—and laparotomy is definitely justified if clinical symptoms are strongly suggestive, and in the hands of a good physician and surgeon I would gladly avail myself of this if the occasion arose; and surely gastric secretion investigation is not obsolete.—I am, etc.,

London, W.1. G. E. VILVANDRE.

Addison's Disease and Pregnancy

SIR,—I was very interested in the medical memorandum on this subject by Dr. T. A. Richards (February 23, p. 421). I had a case recently of a woman aged 25 who had been treated for Addison's disease for seven years. I will not

enter into details of the case, except to say that throughout the later part of the antenatal period the woman stated she was better than she had been for years. Her maintenance dose of "eucortone" was 5 ml. daily intramuscularly. She had had a D.C.A. implant of 300 mg. in January, 1951. The baby weighed 7 lb. 12 oz. (3.5 kg.) at birth, was alive, and appeared normal in every way. Although the woman gave a history that she had had a crisis in 1947 when she had been in coma for four days, also a crisis in March, 1950 (coma for three days), she went through the pregnancy, labour, and puerperium without any crisis. I was grateful to Dr. G. E. F. Sutton for the supervision of her medical care.

Dr. Richards omitted to record the most recent review of 39 cases by Dr. Florence Brent, of Brooklyn (*Amer. J. Surg.*, 1950, **79**, 645). Of her 22 full-term pregnancies 12 patients developed crises after delivery and seven patients died. She believes that patients with Addison's disease are very susceptible to barbiturates and morphine, and sedation throughout labour should be kept at a minimum. An interesting point she recorded was that none of the patients in the series had developed toxaemia of pregnancy. Spontaneous delivery at term was followed by the best results.

The association of pregnancy with Addison's disease is possibly becoming more common with greater improvement in the medical care of the Addison's disease. But as long ago as 1922 Dr. Gilbert Fitzpatrick, of Chicago (*Surg. Gynec. Obstet.*, 1922, **35**, 72), reported a case and reviewed the reports of 11 such cases already published. It was he who stated that lactation should be forbidden, "as it renders the patient weaker." Dr. S. L. Simpson (*Proc. roy. Soc. Med.*, 1946, **39**, 511) recorded two successful pregnancies in a case of Addison's disease.—I am, etc.,

Bristol. G. GORDON LENNON.

Goat's Milk and Infantile Eczema

SIR,—I feel that it is worth drawing the attention of your readers to some recent experiments in the treatment of infantile eczema. This condition, which first appears when the child is being fed primarily on cow's milk, has been considered to be due to an allergic reaction, and some cases have responded to a diet which contains no cow's milk. A diet of this type is, however, difficult to arrange and may result in other undesirable symptoms.

Two years ago it was decided to substitute goat's milk for cow's milk in the diet of two babies undergoing treatment for infantile eczema at a Midland hospital. Within three days the inflammation round the eczema patches had subsided, and in 33 days all signs of eczema had disappeared. The treatment was extended to five more babies with equally good results. Attempts to return to a diet of cow's milk, pasteurized or unpasteurized, and to patent baby foods all resulted in fresh outbreaks of eczema within 48 hours. The treatment is now being extended to older children and adults, and the results are promising, but not yet conclusive, in these long-standing cases.

If eczema is an allergic condition it is probable that the protein fraction of goat's milk is an important factor in the cure; but it is also important to remember that the fat in goat's milk is in a much more finely divided condition than in cow's milk and so can be more easily assimilated.—I am, etc.,

Salcombe. PHYLLIS G. CROFT.

Pink Disease and Infections

SIR,—Dr. W. J. M. McLeod (March 15, p. 605) makes appropriate comment on two cases of pink disease, reported by Dr. A. S. Cook (February 16, p. 383), which appeared to respond satisfactorily to antibiotic (chloramphenicol) therapy. Dr. McLeod's case of pink disease developed pertussis, and after three weeks all symptoms of pink disease had disappeared; and this was before the advent of antibiotics. He was able to refer to a case of pink disease cured by measles.

Because of his express interest in a possible relationship between pink disease and the common infections of infancy may I refer him to a recent paper on mercury and pink disease (*Lancet*, March 1, 1952, p. 441) by Dr. A. Holzel and myself? We mention a fact that "five children with severe pink disease showed simultaneous recovery from an intercurrent infection and the acrodynia. The intervening illnesses were measles in three cases; chicken-pox, and tonsillitis."—I am, etc.,

Manchester, 19. THEODORE JAMES.

What Doctors Prescribe

SIR,—On reading the article by Professor D. M. Dunlop and others (February 9, p. 292) I was assailed by a strong sense of guilt. I felt that something had to be done about it, so, picking up the textbook of medical treatment of which he is joint editor, I opened it at the preface.

I noted with satisfaction that in this book "the number of drugs advised are considerably fewer than in some books of therapeutics." Thus encouraged, I turned to the section on respiratory diseases, as I was rather uneasy about a couple of proprietary expectorants I am in the habit of prescribing for some of my many chronic bronchitics. I was taken aback to discover that I had neglected to give gargles, sprays, vitamins, and iron for prevention. I am certain that I have neglected to ensure an adequate protein intake in some of my cases and had almost completely ignored mixed anti-catarrhal stock vaccines. My crime in ordering an effective proprietary seemed less heinous when I discovered that had I followed the book I should have had to employ an expectorant combined possibly with an antispasmodic, and "sedative drugs separately." Nor was I to forget inhalations of medicated steam, digitalis in certain cases, and the control of obesity in others—by diet alone, no doubt, to save on the dextro-amphetamine—still keeping up the patient's resistance without recourse to any more vitamins, I suppose.

Still, I have no doubt that in practice Professor Dunlop and his learned colleagues know just how to combine all the excellent advice one finds in the best textbooks, cheaply and efficiently. One only hopes that in the future as in the past some of the experts will actually join the ranks of general practitioners and see the work at first hand. Misunderstandings arise when people seek to understand our job by browsing over prescriptions.—I am, etc.,

Scarborough. DAVID MCGILL.

SIR,—Psyche, soma, and surroundings mix, and the result is old Mrs. Brown, and only her G.P. knows what works with her. The expert, with usually only one ingredient to experiment on, gets a different result. Both are right: the expert writes an article explaining the errors of the G.P., and so it has always been. The trouble now is that the State leaps to believe the one receiving the salary of an expert and comes blundering in on the more complex triad—poor old Mrs. Brown.

A lecturer of old said to my Year, "It is quite ridiculous to give a cough mixture containing an expectorant and a sedative. But, gentlemen, it works!" And that is our operative word.—I am, etc.,

Cromer. A. H. GREGSON.

Medical Treatment of Hypertension

SIR,—In your leading article (March 15, p. 587) appears the statement: "There is now little doubt that surgical treatment has materially lowered the fatality rate of hypertension." It is to be regretted that a section of your journal which usually carries the weight of authority should include so dogmatic a statement. There are many who consider surgery a justifiable procedure for the relief of symptoms, but there is certainly more than a little doubt that it has materially lowered the rate of mortality.—I am, etc.,

Horley, Surrey. T. W. PRESTON.

Chicken-pox Repeated

SIR,—As second attacks of chicken-pox are of rare occurrence I thought that the following account of two cases in the same family would be of interest and worth reporting.

On November 12, 1951, I was called to see a boy aged 5 years, one of monovular twins. He had a pyrexia of 100° F. (37.8° C.), and had a well-developed papulo-vesicular eruption having the typical distribution of chicken-pox and which had first appeared the evening before I saw him. He had lesions in the scalp and on the soft palate, and I had no hesitation in diagnosing the condition as that of chicken-pox, as he had not long commenced to attend school and there was an epidemic of chicken-pox in the district at the time.

A few days later his twin brother developed a similar eruption with a moderate pyrexia and was obviously another case of chicken-pox.

Both boys had the normal course of the disease and were clear of the eruption and quite recovered in three weeks from the commencement of the disease in the second boy.

On December 28 I was again called to the house to see the first twin, who had broken out in another papulo-vesicular eruption that same morning. This time he had no fever, and at first I was inclined to think that he had a lichen urticatus, on account of the severity of second attacks of the chicken-pox and also because of the very recent attack which he had had.

However, the rash was again so characteristic, both in the individual lesions and in their distribution, that I was forced to accept this as another attack of chicken-pox, and when, three days later, his twin brother also broke out again in a typical eruption there was no possible doubt about it.

Both boys continued with the eruption for about ten days and were clear in a little under three weeks on this occasion.

The most remarkable feature about these two cases is the extraordinarily short interval between the two attacks, and apparently the boys became reinfected almost as soon as they returned to school after their first attack.—I am, etc.,

Birmingham. C. SPENCER WHITEHOUSE.

Proctalgia Fugax

SIR,—In notes and correspondence on the subject of proctalgia fugax (see "Any Questions?" March 22, p. 669) I have not (so far as I remember) seen it suggested that a predisposing factor for the occurrence of the painful cramps in question may in certain individuals be an unnatural condition of emptiness in the lower bowel brought about by ordinary purgatives or otherwise. I remember, though I cannot lay my hands on it, an elaborate paper published in France some years ago in which the writer stated that in certain patients by frequent *x*-ray examinations he had found that spontaneous cramp-like contractions were more likely to occur when the bowel was empty. This might help to explain occasional attacks of proctalgia fugax in relatively young persons as well as more frequent attacks in older individuals in whom other conditions such as senile constipation or abdominal atheroma are more likely to be present.—I am, etc.,

London N.W.1. F. PARKES WEBER.

Experiment in Peacemaking

SIR,—Dr. R. L. Kitching (March 8, p. 548) is asking the B.M.A. to act in a very high-minded and desirable manner. The Association consists of members who, like other members of our community, are very concerned with the prevailing social insecurity. This insecurity expresses itself as a driving concern to increase the size of one's income, which is reflected in B.M.A. thought and policy. In times past the Association was able to devote much of its time to higher things which were in keeping with the dignity of a humanitarian profession. The language used was on an equally high plane. This language is still used, but as a guise for less dignified proceedings, such as the distribution of secret awards. It is hardly likely that the state of mind in which this was done is also capable of contemplating an idea such as that which Dr. Kitching suggests, let alone the decline in social organization which makes such an idea imperative.

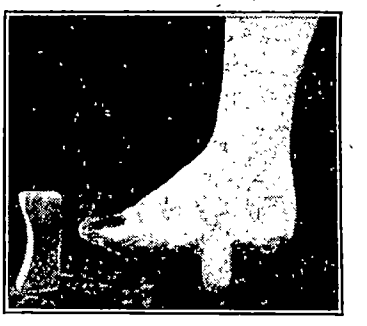
The financial and technical supremacy of the present Western civilization is rapidly drawing to a close. Within that supremacy were many fine ideas which alone can prevent our complete eclipse. Ideas are man's most precious attribute, and they will flourish wherever there is human life; bombs destroy both ideas and life. It is the duty of everyone to try to see through the present social fog and to cultivate the ideas which alone ensure survival. Military strength is, regrettably, an important factor in national policy, but by itself it is universally lethal. It must be controlled by sound ideas and ideals.

I very much doubt if the B.M.A. will be able to help in this matter.—I am, etc.,

Liverpool. H. E. VICKERS.

Wooden Heel for Walking Plasters

SIR,—I have found this wooden heel for walking plasters superior to the conventional Böhler iron and think it may be of general interest. It is fashioned from a piece of wood 3½ in. (8.8 cm.) by ½ in. (1.25 cm.) by 1½ in. (3.8 cm.) and is given a concave upper surface so that it fits closely to the underside of the plaster. It is placed in line with the anterior border of the tibia and held in place by turns of a 4-in. (10-cm.) plaster bandage.



With this heel one obviates the pivoting so common with the Böhler iron, and by being raised above the ground the base of the plaster is protected and does not tend to crack as it may when a sandal is worn. This device does not obscure a lateral *x*-ray of the tibia and fibula, and as the foot is raised only 2 in. (5 cm.) from the ground it is unnecessary to raise the heel of the other shoe. A further advantage is that it is economical.—I am, etc.,

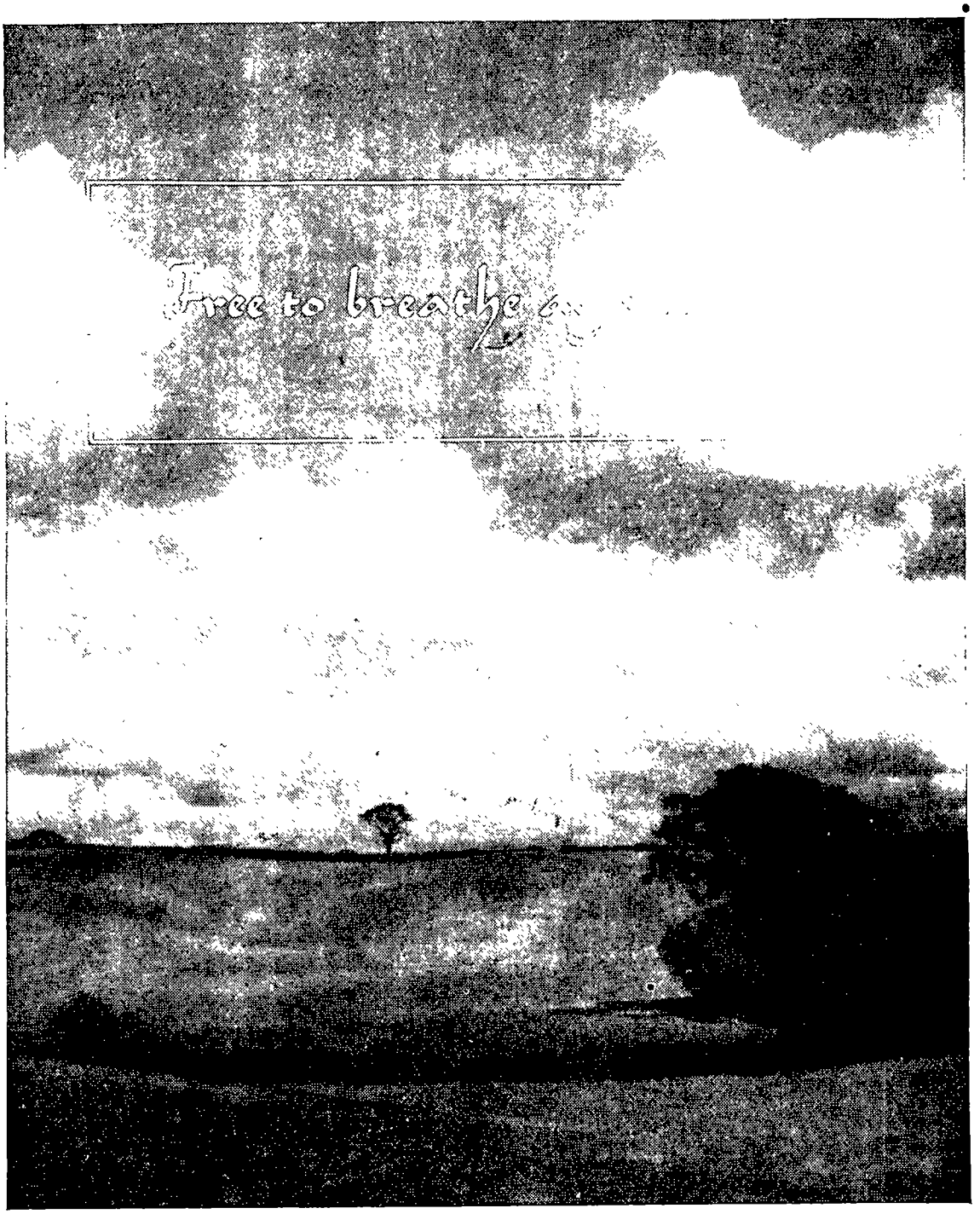
Birmingham, 16. DONALD POTTINGER.

Ryle's Tube in Trachea

SIR,—Mr. Eric Coldrey's reference to a stomach tube in the trachea (February 16, p. 382) is interesting, but I suggest the implications are more important than is at first apparent. In Mr. Coldrey's case no ill result ensued, but it is easy to imagine a more unfavourable outcome had the tube remained undiscovered, as the following case illustrates.

Following drainage of an advanced peritonitis due to a gastric perforation, a middle-aged man was receiving intermittent suction. A radiograph to check for subphrenic abscess showed the Ryle's tube in place. Twenty-four hours later several successive aspirations were negative, but the patient soon proved the inadequacy of the suction and vomited. Afterwards he appeared no worse and was alert, complaining of no discomfort, with the nasal tube apparently still in place. During the following hour aspiration was negative and the patient became mildly dyspnoeic and cyanosed. Oxygen was given and a house-surgeon informed. On the latter's arrival he found a very apprehensive, blue, collapsed patient, complaining of intense pain in the chest and throat. Pulmonary embolism was diagnosed, but when a radiograph showed the end of the Ryle's tube in the right lower bronchus a shocked ward sister associated the patient's collapse with her attempted resuscitation before the resident's arrival: a quantity of diluted brandy had been injected into the bronchus, not, as was thought, into the stomach. The patient's failing constitution did not survive this additional setback.

In this case, no doubt general debility led to the partial suppression of the laryngeal reflexes, but this can also occur following simple catarrh, over-use of the voice, and less obvious general weaknesses such as anaemia. Patients vary in their ability to control their involuntary reflexes, and they can be exhausted by repeated or prolonged stimulation. I



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have seen a resolute though uncomfortable nurse who had undergone thyroidectomy bravely tolerating an endotracheal tube several hours after recovering consciousness. The staff had instructions not to remove it until she coughed.

Galley (*Modern Practice of Anaesthesia*, 1949, p. 355) states, "It is well known that even in the conscious patient the larynx has a greater tolerance for foreign bodies which do not move." This is confirmed by Mr. Coldrey's case and an exactly similar one which occurred here recently.

It should be stressed to nurses that difficulty, coughing, straining, and retching are not normal reactions to the passage of a Ryle's tube. When these occur to excess in any patient, particularly in the exhausted, toxic, or otherwise debilitated, the tube should be under suspicion until proved, by positive gastric aspiration, to be in the stomach. Too frequently a negative aspiration is taken to mean that the stomach is empty. How often, if ever, is a stomach really dry? Tranquillity after the correct length of tubing has disappeared is in no way proof of correct position. How many emergency procedures have ended fatally from inhalation of vomitus, in spite of a Ryle's tube carefully strapped to one cheek? Not infrequently it may be too short, too fine, too soft (easily collapsed by negative pressure), or otherwise inadequate in itself. Where the distal end may be is apparently anyone's guess. Coiled in the throat is commonplace, doubled in the oesophagus frequent, and on rare occasions it may be in the trachea. I have known it carefully and purposefully concealed in the cheek—the latter the final attempt of a resourceful patient to escape from his tormenter.—I am, etc.,

Portsmouth. R. J. HAMER HODGES.

Vomiting during Anaesthesia

SIR,—In his article on "Anaesthesia for Minor Procedures" (February 23, p. 431), Dr. W. W. Mushin writes, "If the patient is known to have had a meal within three hours of the anaesthetic, it is better to postpone the operation rather than to risk the very grave dangers of regurgitation and inhalation of vomit." This statement would seem to imply that a lapse of three hours following the last meal will eliminate the danger of inhaled vomitus. In my experience, this is certainly not the case, and I fear this teaching may give the unwary a dangerous and false sense of security. To give a safe margin the interval should be much longer, for I have learnt by alarming, though happily not fatal, experiences that the stomach may not empty for as long as 12 hours after a heavy meal, especially if the patient has been the victim of trauma and shock, as in road and industrial accidents. In such circumstances, it seems to me, the stomach may empty very tardily. It may empty slowly in other conditions also, since I anaesthetized at midnight an adult male for operation for acute appendicitis, when he vomited copiously the contents of a heavy meal taken at 12.30 p.m.—i.e., 11½ hours before operation. I have had other instances of vomiting long after the accepted interval of three hours, and I feel it is a mistake to teach the occasional anaesthetist he is safe after so short an interval.

Dr. Mushin also states, "In cases of emergency, it is justifiable to empty the stomach by passing a large stomach tube just before the anaesthetic is begun." Here again I feel the inexperienced may be misled, in that, having passed his large tube and failed to aspirate any stomach contents, he may assume the stomach to be empty. Meanwhile it may be heavy-laden, and his tube blocked by a solid portion of stomach content. Such an instance demonstrates the great importance of an accurate history regarding a preceding meal. One should inquire exactly what has been partaken of—then one will know precisely what to expect.

I am myself still unhappy in anaesthetizing the unprepared emergency with, possibly, a full stomach. It is now my practice

To take a precise history of the preceding meal.

To pass a large stomach tube if this history suggests the necessity.

Not to induce with thiopentone.

Not to use relaxants unless certain the stomach is empty.

To induce by inhalation methods in order to have a quick return of the cough reflex in case of vomiting.

To induce on an operating table with shoulder rests *in situ*, to facilitate rapid assumption of a steep Trendelenburg position.

To have efficient suction apparatus ready and at hand.

To delay operation as long as possible, consistent with the interests of the patient.

—I am, etc.,

Tiverton, Devon. R. E. J. PEMBREY.

Chilblains and Hypothyroidism

SIR,—In the course of an investigation concerned with vasomotor (vegetative) endocrine disturbances and their possible influence on serum cholesterol and proteins, six female members (aged 22 to 52 years) on the staff of this hospital suffering from chilblains were examined as normal controls. Surprisingly, they all had a definite increase of cholesterol, ranging from 265 to 400 mg.%. Two were more of the athletic type, the other four more of the pycnic type. Five of them had a very delicate skin, particularly of the face. None of them showed any obvious signs of hypothyroidism, except their tendency to develop vasomotor disturbances. Their blood pressure was normal, but in three of them the pulse rate was slightly raised. Three of them had scarcely been free from chilblains during last summer and two of these had been treated unsuccessfully with vitamin K.

When the high cholesterol level was discovered, and no other reason for this fact could be seen, the increase in this substance was attributed to hypothyroidism, and a therapeutic experiment was initiated. Two persons (aged 24 and 52) were used as controls and not treated. Subsequently one of them developed chilblains and those of the other, already present, became worse with the progress of the cold season.

The other four persons (aged 22 to 48), including the two who had been treated unsuccessfully with vitamin K, were put on small doses of thyroid (½ gr. (32 mg.) twice daily). Three or four weeks later there was scarcely any influence on the pulse rate, but their cholesterol values had come down to 240–300 mg.%, and their chilblains began to disappear, although by this time the weather had become colder and more damp.

It is interesting to note that quite a number of textbooks I consulted on endocrinology do not mention chilblains among the signs of myxoedema, although attention is always drawn to the fact that very often the first signs of hypothyroidism are hypersensitivity to low temperatures and the development of vasomotor disturbances in the skin. So possibly in outspoken myxoedema the state of the tissues, of metabolism and of vegetative-vasomotor reactivity are such as not to favour the formation of chilblains.

With regard to treatment, only few textbooks of dermatology mention thyroid as an often but apparently not always successful means of improving or curing chilblains. Gourlay (*British Medical Journal*, 1948, **1**, 336), reviewing some of the conflicting papers on the role of the thyroid and the results of thyroid treatment in chilblains, refers also to an observation of Embden (*Münch. med. Wschr.*, 1922, **69**, 201). This author, in a short note, mentions that he saw chilblains in a patient suffering from slight hypothyroidism. Treatment with thyroid proved successful. Some patients suffering from chilblains, on whom this form of therapy was subsequently applied, would benefit from it, while others would not. The author was unable to find any differences in the clinical appearances of the condition in his patients; he thought that an examination of the metabolism might help to clear the problem. A few years later, however, Barber (*Lancet*, 1926, **2**, 1180) differentiated between two main types of persons suffering from chilblains and their respective treatments: (1) the fat subjects of acrocyanosis, usually women, who react well on thyroid and iodine; and (2) the thin subjects of acrocyanosis, men and women, who react better on calcium, parathyroid, and cod-liver oil.

Thus it would appear that, among the many causes which predispose to the formation of chilblains, one is a certain form or degree of hypothyroidism (primary or secondary) found particularly in women. This may or may not be displayed together with other signs and features of sub-myxoedema. An examination of serum cholesterol with a reliable technique and at an appropriate time (blood should be taken when fasting and not about or during menstruation time; and, of course,

when other factors giving rise to an increase of cholesterol can be excluded) will usually disclose easily the presence of hypothyroidism. In such circumstances the application of thyroid hormone appears to be of value in the constitutional treatment of this condition, alone or together with other more local or symptomatic forms of therapy. It should be borne in mind that the doses I gave were very small, and also that thyroid or thyroxine treatment may not be effective during the first weeks.

—I am, etc.,

Shenley, near St. Albans. H. H. FLEISCHHACKER.

Plantar Warts in Children

SIR,—Dr. L. Forman's lucid article (March 1, p. 480) is a reminder of the heavy incidence of warts at the present time. Probably well over 50,000 cases of plantar warts in children are occurring annually. New lines of treatment or modifications of well-established procedures are being tried by dermatologists. Children can readily be approached with a stick of carbon-dioxide snow because they understand the implication of freezing. The stick can be utilized not only to produce a blister but also to provide sufficient analgesia to allow for the rapid curettage of a plantar wart.

The following technique has been employed. The child rests prone, and the carbon-dioxide snow stick, of a diameter twice the surface diameter of the wart, is applied firmly for about a minute and a half. With a sharp curette the frozen wart is immediately enucleated and the collar of hyperkeratotic skin cut away with scissors. When vasoconstriction from cold ceases there is brisk haemorrhage, and firm pressure for 15 minutes or more is necessary to stop it. The child walks home, well padded with felt. The advantage of this method is that it deals with the wart at one sitting, that no general anaesthetic is employed, and that the injection of local analgesic into the sole, which may be very painful, is avoided. The "operation" lasts only two minutes and a carbon-dioxide snow stick is quickly prepared.

The practicability of the technique was tried out in 100 successive children who presented themselves at one hospital, and who had one or at the most three plantar warts. The reactions of the children were observed and a questionary was sent to the mothers later in which they were asked about pain experienced by the children at the time of operation and afterwards. Ninety-three parents replied. Clinical results were good, two patients returned with a relapse during the investigation, one relapse was elicited from the questionary; otherwise "no trace" or a "tiny scar" was recorded. In about 50% of cases no pain at all was experienced at the time of operation, and little pain afterwards. In another 25% though there was some pain the child did not seem to mind. In the remaining 25% there was pain at the time of curettage and after, and a few children were considerably upset; 24 out of 93 mothers stated that they would have preferred a general anaesthetic for the children.

The conclusions reached were: carbon-dioxide snow freezing followed by immediate curettage provides a speedy and effective form of therapy in about three-quarters of cases of plantar warts in children. But when the wart is very large, or extremely painful and tender from previous use of caustics or through undergoing spontaneous inflammatory change, or when the child is very nervous and apprehensive, the procedure is too upsetting; in Dr. Forman's phraseology, it is "best to forbear."—I am, etc.,

London, S.W.2. MICHAEL FEIWEL.

Congestive and Simple Glaucoma

SIR,—I have read with admiration and interest Mr. S. J. H. Miller's article entitled "Symptomatology of Congestive and Simple Glaucoma" (March 1, p. 456), and would like to congratulate both him and his colleagues on their beautiful studies of ocular tension behaviour and other clinical features in chronic glaucoma both in this paper and elsewhere. These, I think, may well emerge in the future as being of far-reaching and fundamental importance. For some time, however, I have been most unhappy about this classification into congestive and simple glaucoma in the particular sense used by Mr. Miller, which appears to be taken for granted.

Corneal oedema is well known as a frequent though not constant companion of very high intra-ocular pressure. Unfortunately its appearance has become linked with the word "congestive" and appears, in orthodoxy, to compel the labelling of a case as "congestive." Study of large numbers of cases soon shows us, however, that corneal oedema without actual congestion is in fact a common occurrence. To say that corneal oedema is a warning of a congestive phase sounds rather like the statement that the passage of a Morris Eight down the street is a warning of the approach of an articulated lorry. The fact that one frequently does follow the other seems irrelevant.

For instance, were Mr. Miller's case (Fig. 1) of "simple glaucoma" to develop corneal oedema during a subsequent phase of high tension similar to that shown, is it to be relabelled "congestive."? Alternatively, if it should pass into a true congestive phase (as is possible in experience), should it be relabelled "acute simple glaucoma"? Again, if a case showing the tension curve features said to be those of congestive glaucoma (Figs. 4 and 5) shows, in a subsequent tension curve, a peak at 6 a.m. (as many of mine have done), have we to do more relabelling? The trouble, Sir, is that the closer one examines this distinction the less valid it becomes. It seems that we may safely speak of high tension chronic glaucoma (with or without corneal oedema, and sometimes passing into a congestive phase), of moderate tension, and possibly of low tension chronic glaucoma. But our detailed clinical observations do not at present support the classification into congestive and simple. Nor does our fundamental knowledge yet enable us to adjudicate on this point. Chronic congestive glaucoma is in my opinion probably a categorical misconception. The use of the appellation "simple" for one of the greatest enigmata in ophthalmology seems deplorable.

Space does not permit of a detailed discussion of presenting features (Table III), say to say that I think that periodic or constant aching of the eyes, difficulty with near work, and temporary blurring of vision are such common eye symptoms that in practice they can hardly be useful as indications of a rare disease such as glaucoma. My experience in practice and in clinical research is that the commoner presenting features are:

1. The discovery of cupping of the disk in the course of routine examination.

2. Manifestations of very high tension such as corneal oedema or even a true congestive phase.

3. Approaching blindness—that is to say, the all too common case first seen with one eye blind and the other with extensive field loss.

Only if tonometry becomes practicable on a far wider scale than at present shall we see our cases at a really early stage. This has been abundantly shown by the recent survey undertaken by the National Society for the Prevention of Blindness in the United States of America (see *Amer. J. Ophthal.*, 1948, **31**, 1324). But, of course, the future may reveal some more easily and more widely practicable diagnostic procedure.

Finally, Sir, may I plead with Mr. Miller to differentiate between "increased intra-ocular pressure" and "raised ocular tension"? "Raised intra-ocular tension" is a solecism to which, incidentally, my attention was drawn 14 years ago rather forcibly by the late Mr. Harrison Butler.—I am, etc.,

Oxford. J. P. F. LLOYD.

Cost of Treatment

SIR,—I should like to point out an apparent error in the letter of Dr. R. McL. Todd (March 8, p. 546). In the discussion of the cost of treating infections with antibiotics, he states the approximate cost of treating an infant weighing 6.8 kg. for a five-day period with "aureomycin," using the accepted dosage (25 mg./kg.), is 27s. 9d. This is not so. The figure should read 6s. 2d., which is the delivered cost of 1 g. of aureomycin to Ministry of Health hospitals which are served directly.

Recent trends clearly show that in infections in which aureomycin is indicated a dosage based on 12.5 mg./kg. body weight is effective.[1-4] The further saving in the cost of treatment is therefore considerable.—I am, etc.,

Lederle Laboratories Division,
Cyanamid Products, Limited. A. T. MENNIE.

REFERENCES

1 Wright, L. T., *et al.*, *Surg. Gynec. Obstet.*, 1951, **94**, 661.
2 Flippin, H. F., *et al.*, *J. Amer. med. Ass.*, 1951, **147**, 918.
3 Douglas, R. G., *et al.*, *Med. Rec.* (*Houston*), 1951, **45**, 482.
4 Basu, A. K., *Lancet*, 1951, **2**, 909.

Spontaneous Pneumothorax from Secondary Sarcoma

SIR,—The report by A. B. Shaw (*British Medical Journal*, 1951, 1, 278) of a case of spontaneous pneumothorax from secondary sarcoma of the lung, and the apparent rarity of this combination, prompt me to report a further similar case. A single secondary growth appeared six years after amputation of the right leg for synovial sarcoma, with collapse of the opposite chest wall due to an old pleural effusion and pleural fibrin bodies which showed a superficial radiological resemblance to other secondary growths.

The patient, aged 29, had his right leg amputated in 1941 for a sarcoma of the synovial membrane of the right ankle-joint. He remained well following this until four months before admission, when for 10 days he had a fever of unknown origin.

Although he then returned to work he lost weight, but had no other symptoms until eight days before his final admission, when he became rapidly more breathless until dyspnoea occurred at the slightest exertion. He had no cough. On admission he was a pale, extremely ill man, with severe orthopnea. The left chest was collapsed, but with normal air entry and no adventitious sounds. The right upper lobe was hyperresonant, with absent air entry. The right base was dull to percussion, some crepitations were present, and the air entry was diminished. There were no enlarged glands; the liver was not palpable. The urine and the blood count were normal. A radiograph showed a right pneumothorax involving the upper half of the chest. In the right lower lobe there was a shadow about the size of a cricket ball. The mediastinum was displaced to the left. The left chest was collapsed, with gross pleural thickening; two rounded shadows about the size of a penny were present, one adjacent to the diaphragm and the other in the mid-zone.

Temporary improvement followed the aspiration of 700 ml. air from the right pleural cavity. The dyspnoea returned, and 48 hours later a further 1,300 ml. was withdrawn. Aspiration three days later from the same space produced a blood-stained fluid. Several radiographs showed a rapidly increasing fluid level. Attempts at aspiration were unsuccessful, and 18 days after admission thoracotomy was performed, about two pints of clotted blood removed from the pleural cavity, and a large mass of hyperaemic friable growth found to occupy the lower part of the right lower lobe and pleura. Transpleural spread had occurred and the diaphragm was also involved. It was considered impossible to remove the growth. The patient died the following day. At necropsy there was no macroscopic evidence of secondaries elsewhere in the body. Histology of the growth showed degenerate tissue with the appearance of sarcoma, but the type could not be determined. Histology of the bodies from the left lung showed fibroblastic tissues, without evidence of malignancy.

—I am, etc.,

Plymouth. G. R. STEED.

Notification of Disease

SIR,—May I make some comments and suggestions on the subject of notification of disease, discussed in your leading article (March 1, p. 474)?

1. Statutory notification covers only infectious diseases or conditions possibly due to an infectious cause. For various reasons not all infectious diseases are notifiable.

2. The notification of the first case in the family over a prescribed period should be sufficient for measles. The health department should follow up the family for the further record, in the course of its inquiries. If whooping-cough was not likely to be the subject of an "immunization" campaign I would say the same for it.

3. Similarly, only the first case of dysentery or any acute streptococcal throat infection in a family should be notified, unless the sufferer is a food (including milk) worker, who should in every case be notified.

4. Any case of acute enteritis of uncertain cause should be notified if it occurs in a food worker or within a family in which there is a food worker.

5. Carriers of the intestinal diseases for a period exceeding a prescribed time, differing for different organisms, should be notifiable.

6. The notification of acute primary pneumonia should be abandoned. The notification of erysipelas should be abandoned. Puerperal pyrexia should be redefined—the regulations are too stringent. In any event, the practitioner should be required to state the believed cause.

7. Notification by telephone should be accepted and encouraged. Speed and accuracy are both important

8. Medical laboratory workers should be required to notify when their findings point to infectious disease (I except venereal disease).

9. Many of us feel it was a grave mistake to divorce the isolation hospitals from the public health departments.

10. Notification of a disease is used (*a*) to ascertain its incidence (rate and location), (*b*) as a basis for control, (*c*) as a basis for further inquiry into the disease. It is the only way all the cases of a disease in the community can be ascertained, and it is necessary even to secure a random sample. It is difficult to justify statutory notification for the purpose (*c*) above, although very grave diseases susceptible to control could reasonably be held to do so.

11. The M.O.H. is the person statutorily charged with the duty of ascertaining and remedying, so far as practicable, circumstances prejudicial to the health of the inhabitants. Therefore all statutory notifications should go to him, *without exception*. If he does his duty he cannot "play the part of postman" as you suggest. He now regards all disease which may be shown to have as a substantial cause, if indirect, social or environmental factors as susceptible to some degree of control. This outlook has replaced the former, then quite essential, view that his main job was to control the infections. If general practitioners, consultants, and medical officers would work together discussing not only the notifiable but also the non-notifiable infections in the area (and family epidemics might be a fruitful field), and indeed other diseases where social and environmental factors are believed to be significant, further advances, not so spectacular as in the recent past, but very important, might indeed be possible.

—I am, etc.,

Public Health Department, Exeter. E. D. IRVINE.

Is Penicillin Dangerous?

SIR,—I read with considerable interest Mr. J. B. Oldham's letter (March 8, p. 545) on the subject of penicillin cream. It is encouraging to read from a surgeon's pen a conclusion which the dermatologists of this country arrived at some five years ago and which they have been consistently preaching ever since, both to their colleagues in general practice and also in surgery and general medicine. I have always held that the indications for the local use of penicillin in dermatology were few, and with the increasing number of resistant strains of organisms they are becoming fewer.

I had occasion recently to suggest in a letter to a senior medical officer of the Ministry of Health that the greatest single economy in dermatology would be the discontinuance of the use of local penicillin. The economy attained thereby would derive not only from saving of the cost of the penicillin, but also from the saving in time and effort on the part of practitioners spent in treating the resulting sensitization eruptions, and also of a considerable number of man-hours in industry and elsewhere.

It is to be hoped that the voice of the surgeons will carry further than that of the dermatologists.—I am, etc.,

Wolverhampton. D. E. OAKLEY.

Sulphamerazine Still Dangerous

SIR,—I feel at this time of year it may be opportune to draw attention to the frequent use of sulphamerazine in the treatment of respiratory infections, and the relatively small margin of safety afforded by this preparation against the development of urinary complications. Having just relieved a fifth case of sulphamerazine anuria, and having been called to see two instances of ureteric obstruction due to the drug within the last month, I am prompted to reiterate that extreme care is needed to ensure an adequate urinary output during treatment.

It is generally conceded that, despite its low solubility, sulphamerazine when given in the recommended dosage is reasonably safe provided that a copious water intake is maintained. Supervision of the latter, however, is sometimes difficult, particularly in the patient's home, and vomiting and surface loss, especially in children, may deplete the fluid reserves. In such circumstances the risk of urinary obstruc-

tion is ever present, and, while many doubtless relieve themselves spontaneously with the aid of additional fluid and alkalis, others less fortunate may develop complete ureteric obstruction and anuria requiring urgent instrumental relief. It seems, therefore, that the advantage gained by the more widely spaced dose of this drug should be jointly considered with the absolute necessity for maintaining close observation of the fluid intake and loss throughout treatment. Should the latter present any difficulty the choice of a more soluble sulphonamide may then be well advised.—I am, etc.,

Institute of Urology, W.C.2. J. D. FERGUSSON.

Xylocaine

SIR,—Some time ago I showed in the experimental laboratory that when given by various routes to various species of animal "xylocaine" was twice as toxic as procaine (*Brit. J. Anaesth.*, 1951, **23**, 153). On the basis of the clinical evidence then available, however, the two drugs were of approximately equal toxicity when used in the human subject. At the time no apparent satisfactory explanation of this seeming contradiction was available.

For the past few months xylocaine, 0.5% with 1:160,000 adrenaline, has been used for local analgesia in the department of neurosurgery in Manchester. This mixture has produced manifestly better vasoconstriction than the 1% procaine and 0.1% amethocaine used previously with the same amount of adrenaline. It has been known since Braun first used a vasoconstrictor in local analgesia that the effect of such drugs is to reduce the toxicity of the analgesic agent by delaying absorption. Better vasoconstriction therefore means greater reduction in toxicity. The difference in the maximum tolerated dose of xylocaine with and without adrenaline will therefore be greater than the corresponding difference when procaine is considered. It is thus possible to use amounts of xylocaine with adrenaline which by themselves would be dangerous. There are, therefore, very good grounds for Mr. C. Grimshaw's suggestion (March 1, p. 489) that the omission of the adrenaline was to some extent responsible for the fatality reported earlier in your medico-legal columns (February 2, p. 280). Also there is at last a credible explanation of the apparent contradiction that xylocaine is twice as toxic as procaine in experimental animals but about equally toxic in clinical practice.

—I am, etc.,

Manchester. A. R. HUNTER.

SIR,—We have followed the correspondence on "xylocaine" with considerable interest, as we have used it extensively for the last year. We have found that its rapidity of action, the intensity and duration of its effects, far exceed those of procaine or amethocaine and that there has been no significant toxic effects in the dosage employed (up to 1 g.) other than those attributable to the adrenaline (1:80,000) added to the 2% dental preparation. Consequently we now use it as a routine for surface application, local infiltration, and regional and epidural blocks.

For urethral instrumentation a 2% (plain) solution will rapidly produce effective analgesia, thus avoiding the 15-minute wait which is customary with other agents. By local infiltration its action develops within a few seconds and rapidly diffuses: it is effective for at least an hour with the plain solution and up to four hours with the adrenaline added.

In particular, we have found it of special value in abdominal emergencies occurring in feeble aged patients. Regional nerve block using 0.5% (plain) xylocaine solution gives rapid analgesia and muscular relaxation, and we confirm the observation that several patients have fallen asleep once the actual operation started: in each case they could be roused by the voice. The effect was reinforced, and after-pain prevented, by the use of intravenous pethidine in doses of 25 to 100 mg. The post-operative condition of these patients was incomparably better than that following orthodox general anaesthesia; shock, respiratory depression, and post-anaesthetic vomiting were absent.

In our opinion the introduction of xylocaine marks a definite advance in anaesthetic and surgical technique.—We are, etc.,

JAMES ROCHFORD.
Barnet, Herts. HENRI ROUALLE.

Whooping-cough Immunization

SIR,—Whooping-cough immunization has had such a chequered career that it was refreshing to read Professor Robert Cruickshank's views in the second part of his article on the pros and cons of immunization (February 2, p. 268). I have unwaveringly inoculated babies of 3 months old for the last six years, in the face of prejudice and opposition from some mothers and the local public health authorities, provided the baby was over 12½ lb. (5½ kg.). The weight is the main consideration after all, for one must have sufficient tissue in the upper lateral quadrant of the buttock to inject ½ ml. and also the antibody response is adequate at that weight.

Having inoculated hundreds of babies, I can say that Glaxo's "combined diphtheria pertussis vaccine" is safe and effective, and that I nowadays treat very few cases of pertussis. The latter are either suppressed pertussis in 3- and 4-year-olds who have not had a booster dose, or else children who have escaped my attentions.

I contend that post-inoculation poliomyelitis was never really proved. Some of the reported cases were wrist-drop, which may have been caused from inoculation into or near the radial nerve. If there were genuine cases they might be coincidental, and, anyway, why should not vaccination produce similar sequelae? As this piece of research was done through my local clinic I heard several different points of view.

Lastly, the local authorities should be induced to pay more than they do for the work of immunization, because it often involves a call on the mother.—I am, etc.,

Hampton Hill, Middlesex. I. E. D. MCLEAN.

Complications of Arsenotherapy

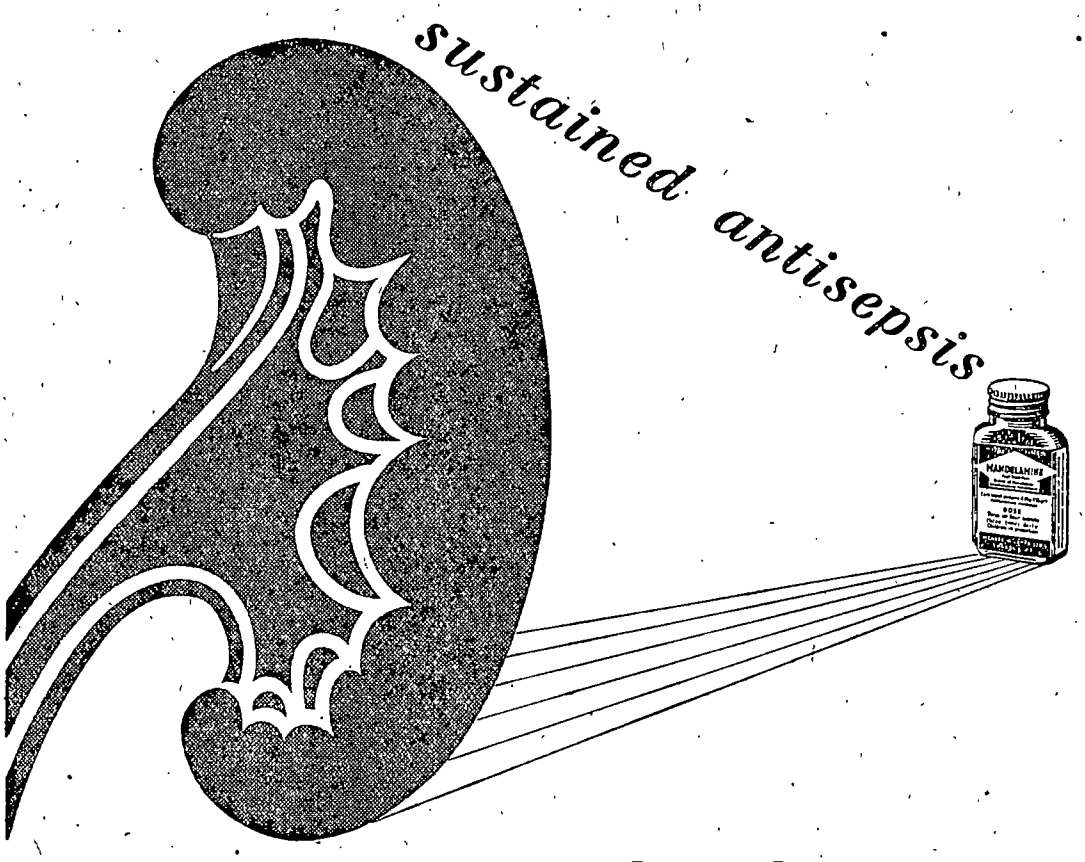
SIR,—The interesting article by Dr. M. G. Nelson (February 9, p. 300) prompts me to record a similar case of agranulocytosis and spontaneous bruising complicating arsenotherapy. In my case, however, there was no thrombocytopenia or other clotting abnormality.

The patient was a woman of 44 who, following an attack of acute bronchitis, lapsed into a state of subacute pulmonary congestion which persisted for many months. All investigations proved negative and it was difficult to account for the condition, which was resistant to all forms of antibiotic and other therapy. There was no evidence of left ventricular failure. As a last resort it was decided to give her a course of intravenous neoarsphenamine, which was successful in resolving the condition. However, following the last injection (2.4 g. total) she developed a moderately severe generalized dermatitis, which cleared up with antihistamine treatment. One month later she complained of painful and swollen knees and ankles, associated with the appearance of spontaneous bruises. The latter were numerous, measuring 1–2 in. (2.5–5 cm.) in diameter and occurring mainly on the limbs. There was no actual purpura, but the capillary-fragility test was positive. Blood investigation revealed: Hb, 13.4 g. per 100 ml. (90%); erythrocytes, 6,160,000 per c.mm., leucocytes, 3,700 per c.mm. (polymorphs 64%, lymphocytes 25%, monocytes 6%, eosinophils 5%); platelets, over 240,000 per c.mm. Clotting time (Dale and Laidlaw) 2 min. 5 sec.; bleeding time 2 min. 15 sec., prothrombin time normal compared to control.

No specific treatment was given and two weeks later the leucocyte count was down to 3,000 per c.mm. (polymorphs 50%, lymphocytes 46%, monocytes 4%). Four weeks after this the symptoms had resolved, the leucocyte count being 4,200 per c.mm. (69% polymorphs). Four months later severe spontaneous bruising recurred. It was difficult to be certain whether this was prior to or following a week's treatment with vaginal acetarsol for leucorrhoea. The white cell count was now 4,500 per c.mm., with 28% polymorphs, 68% lymphocytes, 2% monocytes, and 2% eosinophils. A course of pentose nucleotide, 10 ml. intramuscularly daily for two weeks, was then administered. On conclusion the leucocytes numbered 4,100 per c.mm. (63% polymorphs). Spontaneous bruising is considerably improved at the present date, although still occurring to a small extent.

—I am, etc.,

Twickenham. DAVID WHEATLEY.



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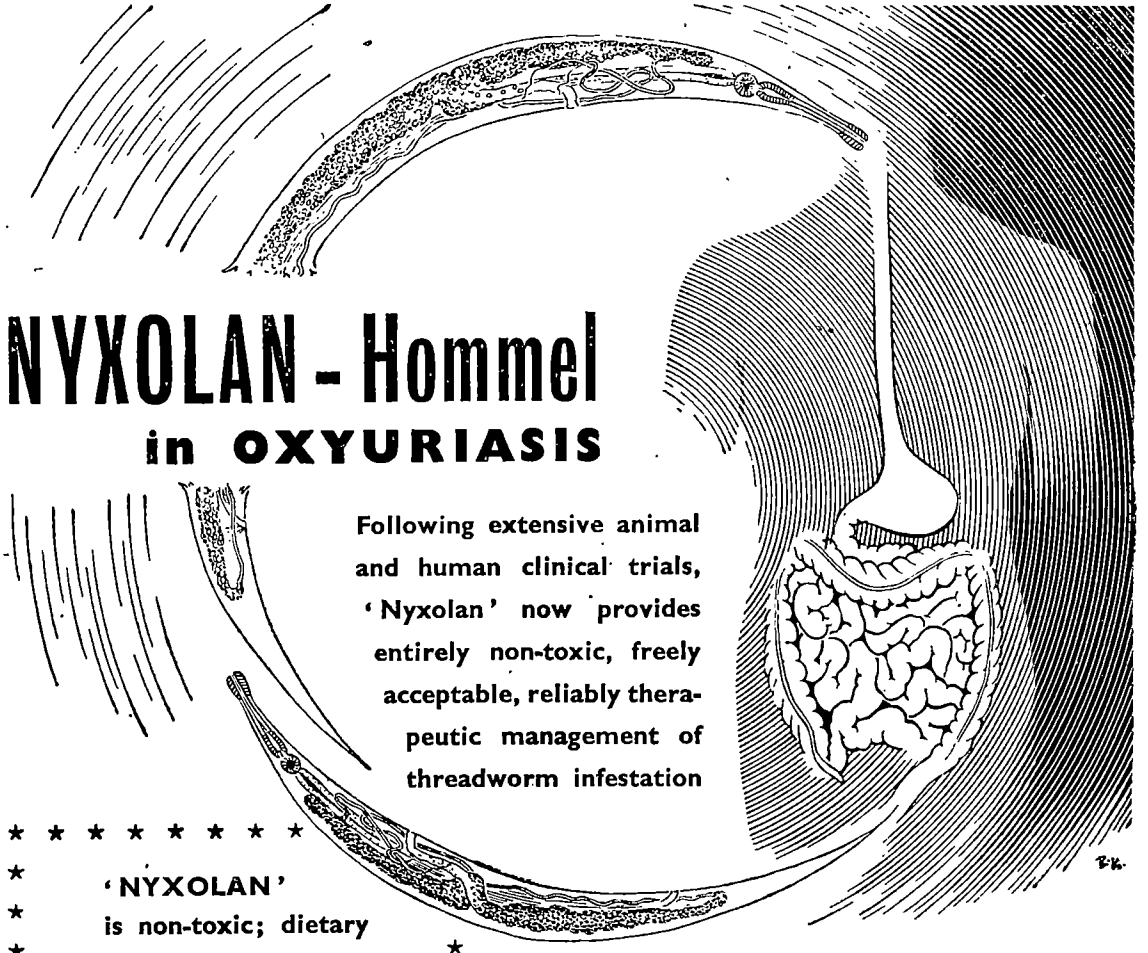

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Daily dosage of 'Nyxolan' is:—Children under 6 years, 1 dessertspoonful thrice daily; Children over 6 years, 1 tablespoonful four times daily; Adults, 2 tablespoonfuls thrice daily.

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Funnel Chest

SIR,—With reference to the operation for this condition which has been developed in America and described in your annotation (February 16, p. 370), let us pause and marshal the facts before adding another scalp to the victims of medical mythology. This is an occasion for co-operation between all branches of medicine. The paediatrician sees only young and healthy children, careless of the deformity and unaffected physically by any displacement of the heart, possessors perhaps of systolic murmurs, but fortunately not now made into invalids on that account. He can only regard operation as of unproved benefit. The surgeon sees only cases which are presented to him hungry for cosmetic cure, or, Munchausen fashion, seeking another scar on the body to match up with the scars on the mind. In America, where it is more important to have a standard physical equipment, the cosmetic appeal must be even greater. The physician in charge of the elderly sees any cases of heart failure due to this condition that may occur. May we have some evidence about this ? Or are such cases merely " snow on the boots " which no one has ever seen ?

A. Ochsner and M. De Bakey (*J. thorac. Surg.*, 1939, 8, 496) state that the symptoms are, " Cardiac disturbances such as dyspnoea, palpitation, precordial pain, and in rare instances decompensation; pulmonary disturbances such as dyspnoea, cyanosis, cough, and diminished vital capacity, and digestive disturbances such as dysphagia and dyspepsia. In general these patients are of asthenic habitus and usually display characteristic weakness and debility."

These sound very like the symptoms of effort syndrome, or just plain anxiety neurosis. Is operation going to cure them all, and if so would not elementary psychotherapy do the same with less risk ?—I am, etc.,

Bath. H. R. E. WALLIS.

POINTS FROM LETTERS

Ryle's Tube in the Trachea

Dr. C. D. T. JAMES (London) writes: It is a fact that in an anaesthetized patient with an endotracheal tube in place a Ryle's tube passed blindly almost invariably follows the path of the tube already in place. The dangers are obvious, and it behoves any anaesthetist who is asked to pass a Ryle's tube on such a patient to do so under direct vision.

Death under Anaesthesia

Dr. J. NOEL JACKSON (Whitley Bay) writes: From time to time there are reports of deaths under anaesthesia. Some of them have the common factor of death following immediately upon the administration of stimulants intended to raise blood pressure and so forth. Sometimes these measures have been taken before sending the patient back to the ward. . . . Is it too much to suggest that where there is a theatre there should also be a recovery ward adjacent, so that skilled use of posture and the less drastic devices of resuscitation under expert supervision become the rule and not the exception ?

Debauchery of Honest Words

Professor A. D. GARDNER (Oxford) writes: I cannot entirely agree with Dr. H. G. Calwell (March 8, p. 548), who feels that " spectrum of antibacterial activity " is an objectionable misuse of the word " spectrum." It seems to me a figure of speech which does not debase the meaning of the word. But the snappy title of his letter moves me to invite your condemnation of an undoubted debauchery of a precise and essential word, " epidemiology," which is being inflated by writers on social medicine and similar subjects to include the study of the frequency or incidence of diseases whether epidemic or not. The right and, as I thought, obvious meaning of epidemiology is given by the shorter *Oxford English Dictionary* as " the study of epidemics," and an epidemic is " a disease prevalent among a people or a community at a special time, and produced by some special causes not generally present in the affected locality." Therefore, to speak of the epidemiology of coronary thrombosis, or of hare-lip, or diabetes, or of any non-epidemic disease is a debasement of the currency of thought. It is of no use saying that the word is being used in its wider sense. It has no wider sense.

Obituary

G. W. M. FINDLAY, C.B.E., M.D., D.Sc., F.R.C.P.

The death of Dr. G. W. M. Findlay on March 14 was recorded in the *Journal* of March 22 (p. 658). We are indebted to Professor B. G. Maegraith for the following appreciation :

I first got to know George Marshall Findlay really well when he went to West Africa during the war. He was attached to the G.H.Q., West African Forces, as consulting physician. For the ordinary man it would have constituted a full-time job to deal with the medical problems presented by the assembly of a large European force in such an environment. Findlay was no ordinary man, and almost before they knew it the local authorities had provided part of the Medical Research Institute for work on haemolysis, malaria, viruses, and anything and everything else that turned up. This work was continued there, and in the later established laboratory in a nearby general hospital, until he left in 1945. During that period Findlay stimulated considerable research activity amongst work-hungry young Service personnel, and his kindness and enthusiasm will long be remembered by those who worked with him.

Findlay was a voracious reader. He was interested in everything. His knowledge of medical literature was encyclopaedic and his memory astonishing. Medical textbooks and journals, books, and papers on anthropology, natural history, and local history were all absorbed in turn, abstracted, and transcribed neatly in his clear, round hand into school notebooks. He once told me he had been keeping notes of this sort since he was a boy. If his notebooks have been kept they must represent a unique and wondrous store of knowledge that I hope will be preserved.

Findlay's approach to medicine was rather that of an eighteenth-century natural historian. All sides of the problem interested and excited him, and he attacked his work with a gusto and enthusiasm which sometimes seemed a little to outweigh his critical judgment. He absorbed ideas like a sponge. Every bit of information was useful and important in its proper place, no matter where it came from, and to him the natural place for it was in some permanent record. The long list of clear, well-written scientific papers which are credited to him, and particularly the remarkable new edition of his book on chemotherapy upon which he was still engaged when he died, remain as a memorial to him, but those who knew him will, I think, prefer to remember the man. Highly intelligent, amusing, intolerant of interference (especially official) or hindrance, his was the kind of inspiring, irritating, restless personality that influenced and stimulated everyone who came into contact with him. Findlay was certainly one who did not leave medicine where he found it.

KONRAD DOBRINER, M.D.

Many engaged in the biochemistry of cancer and related fields will have received with deep regret the news of the death in New York on March 10 of Dr. Konrad Dobriner of the Sloan-Kettering Institute and Memorial Hospital Centre. Born at Elberfeld on October 14, 1902, Dr. Dobriner graduated from the University of Freiburg in 1925, and shortly afterwards received the degrees of doctor of medicine and doctor of medical

science of the University of Munich. After emigrating to the United States in 1933, he worked as a research fellow in the University of Rochester Medical School from 1934 to 1936, and later for a period of three years at the hospital of the Rockefeller Institute. In 1939 he was appointed head of the department of research chemistry of the Memorial Hospital, and became a member of the Sloan-Kettering Institute in 1947, with the additional title three years later of Associate Professor of Medicine in Cornell University Medical School.

Dr. Dobriner was the author of some eighty contributions to the medical and scientific literature, either alone or jointly with such workers as C. P. Rhoads, L. F. Fieser, S. Lieberman, R. N. Jones, T. F. Gallagher, and C. C. Stock. His earlier interests lay in the field of porphyrin excretion, and later topics included the metabolism of specific carcinogens such as 1:2:5:6-dibenzanthracene, β-naphthylamine, and dimethylaminoazobenzene, and the carcinogenicity of benzidine. Of recent years he had contributed largely to the establishment of the patterns of urinary excretion of the steroid hormones in normal and pathological states, the application of infra-red spectroscopy to steroid structure and metabolism, and the study of the effects of cortisone and related steroids on the growth of experimental tumours. From these later researches he was gradually evolving a view and interpretation of the role of adrenal cortical dysfunction in the inception and development of malignant disease as a whole. A welcome visitor to England, he had taken part in various symposia at the Ciba Foundation and at other meetings elsewhere, and it was hoped that he would be present at the International Congress of Biochemistry to be held in Paris this summer. Such was not to be, and many, not only in the country of his adoption but far beyond it, will mourn "Dobie" as a valued colleague and generous friend. He is survived by his wife and two young children.—A. H.

MICHAEL HESELTINE, C.B.

The death of Mr. Michael Heseltine on March 13 was recorded in last week's *Journal* (p. 663). We are indebted to Sir Henry Cohen for the following appreciation:

The General Medical Council exerts, and is by statute entitled to exert, a greater influence on medical education and on standards of professional conduct than any other body. For the past 18 years few lives could have been more closely intertwined than those of the Council and Michael Heseltine. Others have rightly paid tribute to his superlative gifts as an administrator and to his unrivalled lucidity as a draftsman; and it is proper to acknowledge that during his term of office as Registrar, which saw fundamental changes in the constitution of the Council and its committees, it was his contribution more than any other which ensured that the transition would be smooth and the outcome workable.

But Michael was more than a great administrator. He had a genius for friendship; he was a humanist, a scholar, a wit, a historian, and a bibliophile. I recall how warmly he welcomed me as a new member of the Council, appointed during the war, shortly after the Council's offices had been bombed, and while he was carrying a well-nigh overwhelming burden of responsibility with a depleted staff; and, later, how many were the generous gifts of time and advice which were to flow from that refined and fastidious mind.

In 1946 he accompanied the President and four members of the Council on a visit to Canada and the U.S.A. to examine medical education. The smooth path we were able to follow in comfort, indeed in luxury, owed much to Michael's charm and irresistible personal magnetism. It was on this trip that was conceived the project to which he was to devote the early years of his retirement—a history of the Council and its influence on medical education.

He had great courage. He knew the nature of the illness some years ago which demanded radiotherapy. From the necrosis of the jaw which followed he suffered constant and, at times, agonizing pain; yet he persevered with all his tasks and met us all with his customary cheer and equanimity.

A personal note is not the place for an inventory of his remarkable and exceptional qualities of mind and heart. Nor, indeed, would he have wished it. He would certainly have urged that there be "No flowers, by request," for he had that essential humility which is the surest shield against intellectual arrogance.

Petronius (of whose works Michael contributed a masterly translation to Loeb's Classical Library) wrote in his *Satyricon* that "a man must have his faults" (*sed sibi quisque peccat*). Be this as it may, it can be said of Michael, without any equivocation whatsoever, that amongst members of the Council he leaves no resentments and no enmities; nothing but the memory of a gracious, witty, brave, and generous character who served them and, through the Council, our profession, with unstinted devotion and unsurpassed distinction.

Dr. H. Guy Dain writes: Everyone who has had the privilege of working with Heseltine must have fallen under the influence of his charm and kindly friendliness. To know him was to find a friend, a friend who could always be relied upon to be helpful.

His association with doctors and their problems was long and valuable. As one of the team of young Civil Servants brought together by the late Sir Robert Morant to work Mr. Lloyd George's National Health Insurance scheme, he was concerned from the beginning with the problems of the medical service. During his period of service at the Ministry of Health he took part in the discussions and developments of the "panel" service in its early days. Then, as always, he was helpful and approachable.

Deciding to leave the Civil Service, he was appointed Registrar to the General Medical Council, where his contact with doctors was not only continued but became more intimate. With the background of his experience at the Ministry of Health he interviewed both doctors and the public with sympathy and understanding. He was a master of the English written word, and his memoranda and documents were models of construction. He made himself acquainted with all the intricacies and pitfalls of the Medical Acts, so that when a new Medical Act was passed in 1950 it was Heseltine who had thought it out and worked out all the detail.

During a recent dangerous and painful illness, his friends on the General Medical Council were much impressed by the courage and fortitude that he displayed. They were delighted with the recovery he made, and when his retirement became due last year it seemed he would be able to enjoy it in reasonable health. The news of his death comes as a great shock to the Council.

Dr. EDWARD DAVISON SMITH, of Whickham, Newcastle-upon-Tyne, died on December 26, 1951, of coronary thrombosis, as his father and two brothers had done before him, and like them he died in harness. He was 67 years of age. Born into a family of doctors and brought up in an atmosphere of medicine, he naturally took to it as a vocation. He graduated M.B., B.S. at Durham University in 1908. After serving for a year as house-physician and surgeon in the Royal Victoria Infirmary, Newcastle-upon-Tyne, and going on a trip to the Far East as a ship surgeon with the Blue Funnel Line, he settled down in practice with his father in the halcyon days before the latter had changed horses for cars. In the early days he did a little surgery, and a colleague vividly remembers 40 years ago his operating for a strangulated femoral hernia on an old lady lying on a feather bed. She made an uninterrupted recovery. He served throughout the first world war in the R.A.M.C. and took part in the Gallipoli landing. He was president of the Medical Institute in Newcastle, a member of the B.M.A. and the Northern Counties Medical Society, and a regular attender at their scientific and clinical meetings. A general practitioner in the old tradition, Smith knew his patients to the third and fourth generation, and gave them not only of his clinical best, but made himself their trusted guide, philosopher, and friend. For many years he was the senior of a particularly happy partnership with his two brothers, and latterly with his nephew and another younger man. Intensely loyal to his colleagues, his enthusiasm never waned and he was at all times willing to help his juniors with a worrying case. Recently his cardiac condition worsened and increasing dyspnoea seriously limited his working capacity. He carried on to the end with a fearlessness and courage and unfailing cheerfulness of disposition which were an inspiration to all who knew him. He is survived by his wife, to whom we offer our deepest sympathy.

By the death of Dr. C. H. HALL at the ripe age of 84 the medical profession in West Hertfordshire has lost its doyen and many of its members have lost a personal friend. Charles Herbert Hall was educated at the University of Glasgow, where he graduated M.B., C.M. in 1890, proceeding M.D. in 1901. After practising for a short time in the north of England he settled in Watford in 1891, at that time a small market town in the country, very different from the large industrial centre it has since become. Dr. Hall soon developed a large and active practice and in addition held various appointments, including those of medical officer to the old St. Pancras Schools at Leavesden and to the London Orphan School, and physician to the Cottage Hospital, which later developed into the Watford Peace Memorial Hospital. On reaching the retiring age he was elected consulting physician to the latter. He formed and directed a local branch of the St. John Ambulance Brigade, and he became a governor of the Watford Grammar School for Boys and was closely associated with the Watford School of Music. His medical colleagues, however, will chiefly remember him for his successful efforts in promoting amity and friendliness among the medical practitioners of the district. He achieved this partly by quiet contacts with individuals, but mainly by the encouragement and stimulation of the long-established West Herts and Watford Medical Society, which, under his wise guidance, became a flourishing and lively centre for academic and social gatherings. He became secretary of the society on September 18, 1896, and held the office for the record period of 51 years and was able to be present at its centenary dinner in 1950. He was happily married and founded a medical family, one daughter becoming a hospital almoner and another a radiographer, while his son and grandson are both doctors practising in Watford.

Dr. HENRY CARDEN PEARSON, who died on February 18, aged 77, was educated at the University of Edinburgh, where he graduated M.B., C.M. in 1895. After holding appointments at the Royal Hospital for Sick Children, Bristol, at Birkenhead Borough Hospital, and at Staffordshire General Infirmary, he took the F.R.C.S.Ed. in 1899, and in the same year entered into partnership with the late Dr. A. H. Thompson, of Darlington, who died last August at the ripe age of 96. Dr. Pearson became house-surgeon at the old Greenbank Hospital, Darlington, in 1901, and was a surgeon at the Memorial Hospital there until 1934, when he became consulting surgeon. He was orthopaedic surgeon from 1920 until his retirement in 1939, and was the founder of the orthopaedic department at Greenbank Hospital. One of his greatest interests outside his profession was the Darlington Rotary Club, which he helped to found in 1922. He was president in 1926, and it was as chairman of the club's community service committee that he became actively engaged in work among old people, an interest which occupied a good deal of his time and enthusiasm in recent years. After helping to found the Aged People's Welfare Council he became chairman of the committee controlling nine clubs for old people, an office he held until his death. He was an active member and Past Master of the Marquess of Ripon Lodge of Freemasons, and had been an official of the Provincial Grand Lodge of Durham. When the British Medical Association met at Newcastle-upon-Tyne in 1921 he represented his constituency at the Annual Representative Meeting and was vice-president of the Section of Urology. He was also chairman of the Darlington Division from 1942 to 1945. His zest for life and his friendliness and breezy vigour will be much missed by colleagues, patients, and fellow-townspeople alike. Memorials to his professional work already exist, and others in recognition of his social welfare work are projected. He leaves a widow, two sons, one of whom, Dr. R. C. M. Pearson, is medical officer of health for Watford, and one daughter.

The sudden death of Dr. F. DE R. MARTYN on March 4 has caused much sorrow throughout the Spalding district of Lincolnshire, where he was well known. Frank de Récourt Martyn was born at Lincoln on August 18, 1877, the son of a former deputy chief constable for Lincolnshire, and was educated at Lincoln Grammar School. He received his medical training at Westminster Hospital, and qualified M.R.C.S., L.R.C.P. in 1902. Before moving to Moulton he was in practice at Sutton-in-Ashfield, Nottinghamshire. While there he became a member of the Nottinghamshire County Council and chairman of the district school managers. During the war of 1914–18 he was a captain in the R.A.M.C. and served in Mesopotamia and in India, and in the last war he was medical officer to the 2nd Holland (Spalding) Battalion of the Home Guard, holding the rank of major. A Freemason, Dr. Martyn also took a keen interest in the welfare of ex-Servicemen, and was vice-president of the Moulton branch of the British Legion. He leaves a widow, two daughters, and three sons, one of whom is Dr. Gwyn Martyn, of Sale, Cheshire.

By the sudden death on March 4 of Mr. W. MARTIN MUIRHEAD ophthalmology in the United Kingdom has lost a pivotal figure and many ophthalmologists a warm-hearted friend. Educated at Wesley College, Sheffield, and at the University of Sheffield, William Martin Muirhead graduated M.B., Ch.B. in 1911. After resident posts at Sheffield Royal Hospital his interest turned to ophthalmology, and he obtained a position which to-day would be called a registrarship. He held this post until he joined the R.A.M.C., in which he served from 1916 to 1921, for much of the time as an eye specialist. On demobilization he worked for two years in the anatomy and physiology departments at Guy's and St. Thomas's hospitals, and then held out-patient and resident posts at Moorfields, taking the D.O.M.S. of the Royal Colleges in 1927. In that year he was appointed honorary ophthalmic surgeon to Chesterfield and North Derbyshire Royal Hospital, and he held this appointment, together with that of oculist to Chesterfield education committee, until his death. In 1939 he became honorary ophthalmic surgeon to the Rotherham and Worksop hos-

pitals. His brother then joined him in practice, and they jointly provided a remarkable example of partnership in ungrudging and organized service to the area. A man of excellent clinical sense, with an unwearying capacity for work, Muirhead maintained his interest in scientific ophthalmology and cherished his links with the London, of his earlier years and the chiefs he had served there. His knowledge and ability found their proper scope when he succeeded the late Dr. P. J. Hay in 1943 as secretary of the North of England Ophthalmological Society, of which he was president in 1938–9. This difficult succession and onerous responsibility he fulfilled with outstanding success, and he maintained the activity and traditional influence of the society at its old high level. To this duty he last year added the treasurership of the Midland Ophthalmological Society. Meetings of ophthalmological societies, their scientific interest and the personal associations they provided, were a delight to him, and it was unusual for him to miss any meeting in London and unthinkable if it was in the Midlands or the North of England. When the British Medical Association met at Liverpool in 1950 Muirhead served as a vice-president of the Section of Ophthalmology. To travel with him in the United Kingdom or abroad was a constant pleasure and, incidentally, a guarantee that all doors would be opened in welcome. The kindliness of his nature shone in all he did, but it was only in working with him on a society committee that his thoughtfulness and his skill in planning to draw out and encourage the diffident or neglected (or neglectful) member were realized. His modest, kindly, and widespread influence was a unifying factor among British ophthalmologists, and, while many will greatly miss him on personal grounds, many more will feel his loss to the specialty.—E. G. M.

Dr. Lawson L. Steele (Blyth, Northumberland) writes: The late Dr. ELDRED CURWEN BRAITHWAITE, whose death was recorded in the *Journal* of February 16 (p. 389), was contemporary with me at St. Bees School, Cumberland, and was noted even in those early days for his courage and cheerfulness. He took on a notorious bully, and in a fight lasting nearly half an hour so subdued the bully that life afterwards was much happier for many smaller boys. He was in the rugby fifteen, and was one of the best half-backs the school ever had. One summer on holiday in Cumberland after I had dived into 30 ft. of water from a height of 30 ft. he not only emulated my feat but persuaded his daughter to perform the dive backwards, thus implementing his frequent saying, "Everyone should be made to be tough." He admired St. Bees School and Sedburgh School for their Spartan qualities. His scholastic achievements were worthy of the sixth form to which he attained, and my Latin proses were frequently improved by his help. It is hard to believe that he has gone; one expected that such a man would have reached his century.

Medico-Legal

DEATH AFTER 19 YEARS FROM TOOTH IN LUNG

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

In March, 1932, Cyril Brown, a wheelwright aged 27, was advised by his doctor to have all his teeth extracted because they were in a very bad condition as a result of neglect, and his gums were infected. The extraction was carried out under an open ether general anaesthetic in bed at his home. All the teeth were present and were extracted at once. After the extractions had been completed the doctor who was giving the anaesthetic got the dentist to help him to raise the foot of the bed to relieve cyanosis which the patient was then experiencing.

Mr. Brown was in due course fitted by his dentist with vulcanite dentures, and continued to carry on his calling of wheelwright until in June, 1951, he began to be seriously troubled by a cough which kept him awake at night. On June 22 he had to go to bed: he was admitted to hospital, but in spite of an operation on July 18 he died on July 22.

On July 24 Dr. J. Edwards, of Sheffield Royal Hospital, performed a necropsy. He found that death was due to the bursting of cerebral abscesses into the lateral ventricles of the brain. Since there was no local cause for the pus in the brain, Dr. Edwards concluded that the infected material had probably come by the blood stream, and he investigated the lungs. At the base of the right lung, in the bronchus about 2½ in. (6.3 cm.) from the tracheal bifurcation, he found a collection of pus and in it a hard object.

This hard object turned out to be the root of a tooth, the crown of which had been destroyed by decay or possibly trauma. It was probably the first upper right premolar, and could have been dislodged by the gag during the extraction 19 years before and inhaled while under the ether anaesthetic. Although neither doctor nor dentist could recollect a tooth having been lost, the cyanosis might have been caused by inhalation of the tooth. There was no other explanation of its presence in the lung put forward at the inquest. According to the dead man's sister, it had been a family joke that one of his teeth had been lost.

Dr. Edwards said that he had never known a similar case, but had known of a part of shell casing remaining embedded in the lung for 12 years, although in that case it had entered through the chest wall. In his opinion death was due to the bursting of the abscesses, caused by bronchiectasis, which in turn was caused by the tooth. He could see no reason why the condition should have developed suddenly after the tooth had been in the lung for no less a period than 19 years.

Medical Notes in Parliament

ADJUDICATION—THE MINISTER'S STATEMENT

In a statement to the House of Commons on March 25 Mr. CROOKSHANK said: "I think the House should be informed at once of the result of the claim by general medical practitioners for increased remuneration in the National Health Service. As the House is aware, the late Government agreed to refer the doctors' claim to an adjudicator on the understanding that his award would be binding on both parties, subject to agreement being reached on an improved method of distributing doctors' incomes. The present Government continued these arrangements, and Mr. Justice Danckwerts was appointed to act as adjudicator.

"The Secretary of State for Scotland and I have now received the Adjudicator's award. Its precise effect can be determined only after more detailed study, but broadly it amounts to the award of an additional £9¾m. remuneration for the year 1950–1 (the year on which the award is based) with corresponding increases for previous and subsequent years.

"While, as I say, the full calculations have yet to be made, I feel I should inform the House that—in very approximate terms—this may involve an additional charge on the Exchequer of as much as £40m. in the coming financial year to cover the period back to July 5, 1948. This means that, in spite of the serious measures of economy which have already been proposed to restrain Health Service expenditure within a ceiling of £400m., it will be necessary to seek a Supplementary Vote for this additional amount."

Dentists

In the House of Lords on March 18 the Dentists' Bill was again examined on report. Many amendments were made,

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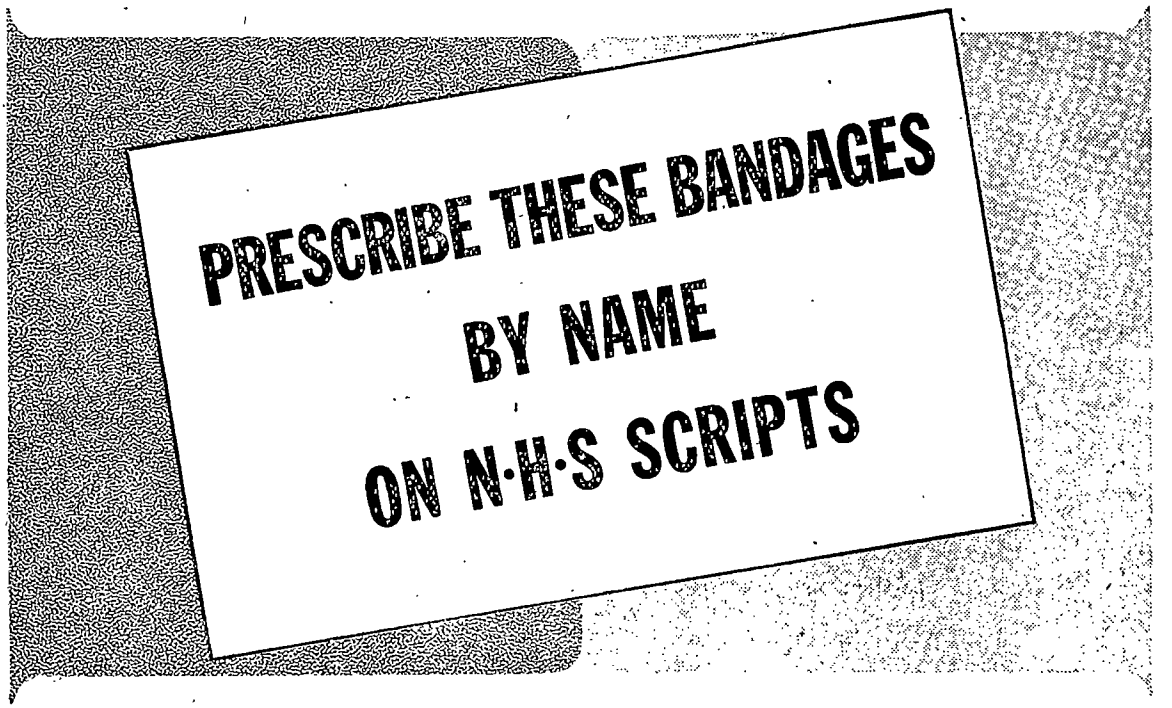

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almost all of a drafting nature and moved by the Earl of Onslow, who was in charge of the Bill. In Clause 18 Lord ONSLOW moved to provide that the regulations should not permit a member of any class of auxiliary to undertake the extraction of teeth other than deciduous teeth.

The committee agreed to the amendment.

Lord Onslow later moved an amendment to provide that if any member of a class of ancillary dental workers used any title or description to suggest he possessed a status or qualification connected with dentistry other than that which he in fact possessed he should be liable on summary conviction to a fine not exceeding £50. Where the regulations did not provide for a roll or record of the class in which particulars of professional status and qualifications might be entered the subsection would still take effect.

Lord WEBB-JOHNSON asked whether Lord Onslow thought the use of the word professional was appropriate.

Lord ONSLOW thanked Lord Webb-Johnson for bringing up this point. He said the Minister would fully consider it when the Bill went through the House of Commons.

Lord ONSLOW moved to insert after Clause 25 a new clause setting out the conditions under which students might undertake dental work. He said the amendment was really a redrafted one to meet a point raised by Lord Webb-Johnson which the Government had accepted in principle on the committee stage. The House agreed to this amendment. Other consequential amendments were made and the report stage closed.

Prescription Charges

Brigadier FRANK MEDLICOTT, on March 20, asked the Minister of Health what action he was taking on the representations received from the medical profession objecting to the proposed arrangements for the collection of prescription charges by dispensing practitioners. Mr. H. F. C. CROOKSHANK replied that he was about to discuss the matter with representatives of the British Medical Association.

Mr. GEOFFREY DE FREITAS asked what representations had been received from local medical committees in Lincolnshire that dispensing rural practitioners should not be made responsible for the collection of 1s. for medicines dispensed.

Miss PAT HORNSBY-SMITH replied that one of these committees had represented that dispensing doctors should not be responsible for the collection of the charge. Representations made by the Trades Union Congress against the proposed Health Service charges were discussed by Mr. Crookshank on March 19 at a meeting with representatives from the T.U.C.

The National Health Service Bill was discussed on second reading in the House of Commons on March 27 after we went to press.

The Services

The *London Gazette* has announced the following appointments in recognition of non-operational services in Japan in connexion with operations in Korea:

O.B.E. (Military Division).—Major (Temporary Colonel) C. W. Nye, E.D., R.A.A.M.C.

M.B.E. (Military Division).—Lieutenant (Temporary Major) J. W. F. Lloyd, R.A.A.M.C.

Major-General F. Harris, C.B., C.B.E., M.C., late R.A.M.C., has been appointed Director-General, Army Medical Services, with the rank of Lieutenant-General from April 1, in succession to Lieutenant-General Sir Neil Cantlie, K.B.E., C.B., M.C., late R.A.M.C.

Colonel J. E. Rusby, M.C., T.D., J.P., R.A.M.C., T.A., has been appointed Honorary Colonel of a T.A. Unit, in succession to Lieutenant-Colonel (Honorary Colonel) A. C. Haddow, T.D., R.A.M.C., T.A., whose tenure has expired and who retains the rank of Honorary Colonel.

Flying Officer G. A. Faux, M.R.C.S., L.R.C.P., R.A.F., Medical Officer, Royal Air Force Station, Horsam St. Faith, has received the Queen's commendation for brave conduct for helping to remove the crew from a crashed aircraft.

Universities and Colleges

UNIVERSITY OF OXFORD

The Board of the Faculty of Medicine has co-opted Dr. A. H. T. Robb-Smith for the statutory period of two years from the first day of Trinity Term, 1952.

H. R. Ing, D.Phil., has been reappointed Reader in Chemical Pharmacology from October 1, 1952, to September 30, 1959, and the following have been reappointed University Demonstrators in the subjects indicated in parentheses: Dr. R. Barer (Human Anatomy—part-time); Dr. J. M. Walker (Pharmacology); Dr. D. S. Parsons and Dr. R. H. Nimmo-Smith (Biochemistry).

Dr. C. W. Wheeler-Bennett has been appointed representative of the University on the governing body of Steyning Grammar School.

Sir Howard Florey, F.R.S., Professor of Pathology in the University, has been reappointed a member of the University and Employees Joint Committee for four years from the first day of Hilary Term, 1952.

In a Congregation held on March 1, the following degrees were conferred:

D.M.—W. H. H. Andrews, R. I. K. Elliott, H. A. W. Forbes, *A. Batty Shaw, *E. A. Spriggs.

B.M.—*Mrs. Pauline O'Neill.

*In absence.

UNIVERSITY OF CAMBRIDGE

Denis Haigh Marrian, Ph.D., has been appointed an Assistant Director of Research in Radiotherapeutics, from January 1 for five years. (*Corrected announcement.*)

Dr. Vincent Brian Wigglesworth, F.R.S., Reader in Entomology, has been appointed Quick Professor of Biology in the University for the period October 1, 1952, to September 30, 1955, in succession to Professor David Keilin, F.R.S.

Dr. K. C. Dixon has been reappointed University Lecturer in Chemical Pathology from October 1, 1952, and Dr. M. M. Bull University Lecturer in Anatomy from April 1, 1952, both to the retiring age. Dr. C. C. D. Shute has been appointed University Demonstrator in Anatomy from April 1, 1952, for three years.

In Congregation on March 8 the following degrees were conferred:

M.D.—*J. G. Selwyn, *J. P. Henry, S. C. Gold, A. S. Mason, C. F. Barwell.

M.B., B.CHIR.—*T. H. Morgan, J. H. F. Batstone.

*By proxy.

UNIVERSITY OF LONDON

The following candidates have been approved at the examinations indicated:

ACADEMIC POSTGRADUATE CERTIFICATE IN TROPICAL MEDICINE AND HYGIENE.—*London School of Hygiene and Tropical Medicine:* P. A. Cooper, E. B. Harvey, J. Newsome.

ACADEMIC POSTGRADUATE DIPLOMA IN MEDICAL RADIOLOGY (DIAGNOSIS).—*Part I:* D. A. B. Ashcroft, A. Berezowski, M. E. Berk, A. S. Bligh, D. Brink, N. L. Bucky, H. Fateh, B. C. Hale, M. A. Harris, K. N. Kamdar, J. K. Lundie, G. A. Medhurst, J. L. Morris, D. MacK. K. Muir, I. A. H. Munro, E. Price, L. J. Sandell, J. V. Tillett, L. E. Wolpert, M. Ziman, I. Yentis.

Dr. W. D. M. Paton has been appointed to the University Readership in Pharmacology and Therapeutics tenable at University College and University College Hospital Medical School.

UNIVERSITY OF BIRMINGHAM

At the annual meeting of the Court of Governors held on February 21 Dr. H. Thwaite was appointed a Life Member of the Court, and the title of Emeritus Professor was conferred upon Dame Hilda Lloyd, formerly professor of obstetrics and gynaecology in the University.

Professor T. L. Hardy has been invited by the Council to continue to hold his University appointment as part-time Professor of Gastroenterology for a period not exceeding three years after he has ceased to hold his hospital appointment next month.

Dr. David Mendel has been appointed National Coal Board Research Fellow in the Department of Medicine from January 1.

The University is founding an additional special lectureship in the Faculty of Medicine to be known as "The Leonard Parsons Memorial Lectureship."

A bronze head of Dame Hilda Lloyd has been completed by Mr. Jacob Epstein, R.A., and a presentation ceremony is being arranged.

INFECTIOUS DISEASES AND VITAL STATISTICS

Summary for British Isles for week ending **March 8** (No. 10) and corresponding week 1951.

Figures of *cases* are for the countries shown and London administrative county. Figures of *deaths* and *births* are for the 160 great towns in England and Wales (London included), London administrative county, the 17 principal towns in Scotland, the 10 principal towns in Northern Ireland, and the 14 principal towns in Eire.

A blank space denotes disease not notifiable or no return available.

The table is based on information supplied by the Registrars-General of England and Wales, Scotland, N. Ireland, and Eire, the Ministry of Health and Local Government of N. Ireland, and the Department of Health of Eire.

CASES in Countries and London	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	38	4	14	1		46	3	18	0	2
Dysentery	639	62	71	4	4	1,449	181	297	16	3
Encephalitis, acute	6	1	0	0		3	1	0	0	
Enteric fever:										
Typhoid	0	0	1	0		11	2	2	0	0
Paratyphoid ..	6	0	2(B)	0		4	0	1(B)	0	
Food-poisoning ..	94	14		2		89	8		0	
Infective enteritis or diarrhoea under 2 years				11	22				24	28
Measles*	6,883	218	561	239	222	29,067	3501	359	93	89
Meningococcal infection	57	7	25	0	6	44	4	19	1	2
Ophthalmia neonatorum	46	5	17	0		48	3	20	0	1
Pneumonia† ..	1,143	60	579	16	5	1,027	51	246	14	16
Poliomyelitis, acute:										
Paralytic ..	13	0	2	4		9	0	1	1	1
Non-paralytic ..	6	0				4	0			
Puerperal fever§ ..	232	37	10	0	3	86	9	15	1	
Scarlet fever ..	1,581	149	221	29	80	1,056	53	165	36	61
Tuberculosis:										
Respiratory ..			148	42				180	31	
Non-respiratory ..			44	15				22	6	
Whooping-cough ..	2,918	114	341	112	45	5,637	420	806	56	105

DEATHS in Great Towns	1952					1951				
	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire	Eng. & Wales	Lond.	Scot.	N. Ire.	Eire
Diphtheria	0	0		0	0	*0*	0	*1*	0	0
Dysentery	0	0		0		•	0		0	
Encephalitis, acute ..		0			0		0			0
Enteric fever ..	0	0		0		*0*	0	*0*	0	
Infective enteritis or diarrhoea under 2 years	11		1	1	0	*14*		*2*	2	1
Influenza	45	5	29	0	0	*130*	13	*3*	3	4
Measles		0	1	0	1		1	*1*	0	0
Meningococcal infection		3	1				1	*0*		
Pneumonia ..	349	55		8	10	*297*	46		9	12
Poliomyelitis, acute	2	0			0	*2*	0			0
Scarlet fever ..		0		0	0		0	*0*	0	0
Tuberculosis:										
Respiratory ..	160	19	17	3	12	*184*	18	*18*	4	11
Non-respiratory ..		1	4	2	4		7	*6*	2	2
Whooping-cough ..	3	0		2	1	*9*	1	*1*	0	0
Deaths 0–1 year ..	275	28	37	10	19	*303*	31	*34*	11	21
Deaths (excluding stillbirths) ..	6,399	907	776	140	217	*6,310*	1030	*714*	146	245
LIVE BIRTHS ..	7,954	1208	884	223	427	*7,453*	1268	*911*	207	417
STILLBIRTHS ..	204	17	30			*206*	23	*33*		

* Measles not notifiable in Scotland, whence returns are approximate.
† Includes primary and influenzal pneumonia.
§ Includes puerperal pyrexia.

Vital Statistics

Influenza in Glasgow

We are indebted to Dr. Stuart Laidlaw, medical officer of health for Glasgow, for the following report: Influenza due to virus A was present in Glasgow in January, 1951. During the course of the present winter another outbreak of influenza occurred in the community. The prevalence of the present outbreak is best shown by the increase in the figures of the Ministry of National Insurance "first certificates," which rose from 2,991 for the week ending January 1, 1952, to a maximum of 9,772 for the week ending March 4. Even allowing for a seasonal rise to some 4,000, it is known that more than 50% of the excess over the normal figures has been accounted for by influenza. A similar trend is shown in the notifications of primary pneumonia, which rose from 99 in the first week of January to 300 in the week ending March 8, and in influenzal pneumonia, which was practically absent in January but increased to 36 in the third week of February. School attendances were also affected by the outbreak and showed the progression of the illness through the city, beginning in the south side and spreading to the north, the difference in time of incidence being approximately three weeks. In some schools absenteeism approached the 25% level, and 15–20% was very frequently recorded. No true record can be obtained of the number of individuals who have been infected, but from the information available to the Department it has been estimated that between 70,000 and 100,000 persons in the city have been affected. This gives a morbidity rate of roughly 10%. All age groups have been involved, although children over the age of 5 years and adults predominate.

Symptomatology.—The illness was of three to four days' duration, the symptoms being running nose and eyes, feverishness, headache, sore throat, laryngitis, pains in the limbs, and frequently epistaxis. Temperatures at the onset of the illness were between 100° F. (37.8° C.) and 103° F. (39.4° C.), and the pulse rate was correspondingly increased. The large majority of cases resolved without complication, but influenzal pneumonia has to some extent complicated the picture. Relapses have occurred in a number of cases about a week to 10 days after the initial illness, and have taken the form of a bronchitic cough and occasional gastric upset. The cases admitted to hospital responded well to treatment, and deaths in hospital were few.

Severity.—The epidemic, although widespread, had a low mortality rate. Deaths from respiratory diseases have risen from 21 to 94 per week compared with 155 deaths during the second week of January, 1951, when the virus-A outbreak was at its peak. The death rate for the city has not risen above 20 per 1,000 in any week as contrasted with the maximum of 28.6 per 1,000 during the worst week of the 1951 outbreak.

Virology.—Serological tests on specimens from a variety of sources examined at the Brownlee Virus Laboratory, Ruchill Hospital, Glasgow, have indicated that the causative virus is of the influenza-B strain. The causative virus itself has been isolated at the Colindale Laboratory, London. Several patients who were admitted to hospital during the second week of February suffering from influenzal pneumonia showed titres indicative of infection some 10 days previously, and from these tests it is obvious that the virus was present in the community during the first week of February. Although the outbreak is not yet over, the indications are that the disease is definitely on the wane.

Smallpox in Lancashire

During the week ending March 22, 16 cases of variola minor were notified. All are associated with the focus in Rochdale C.B. There have been no deaths, and there is no report of the disease elsewhere. Up till March 22, 110 cases had been notified.

Infectious Diseases

Infectious diseases were more prevalent in England and Wales during the week ending March 8, and increases in the number of notifications were recorded for measles 650, whooping-cough 129, scarlet fever 75, and acute pneumonia 82.

The rise in the incidence of measles was mainly contributed by three counties—Lancashire 201, Cheshire 139, and Yorkshire West Riding 132. The largest fall in the number of notifications of measles was 61 in Middlesex. The rise in the incidence of whooping-cough was mainly contributed by Wales, where the number of notifications increased by 89 (Anglesey 27 and Monmouthshire 26). The local trends of scarlet fever showed only small variations from the preceding week. The number of notifications of diphtheria were 5 more than in the previous week, but no change of any size occurred in the local returns.

For the first time in recent years no case of typhoid fever was notified in the country.

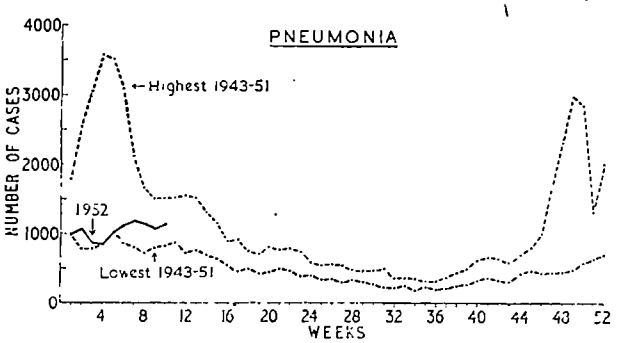
Notifications of acute poliomyelitis were 2 fewer for paralytic cases and 2 more for non-paralytic than in the preceding week. The only counties with more than one case were Warwickshire 4 (Birmingham C.B. 3) and Yorkshire West Riding 4.

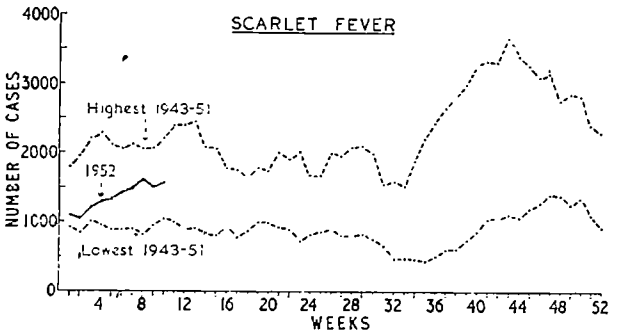
In Lancashire 62 cases of smallpox were notified; these were reported from Rochdale C.B. 59, Heywood M.B. 1, Littleborough U.D. 1, Milnrow U.D. 1.

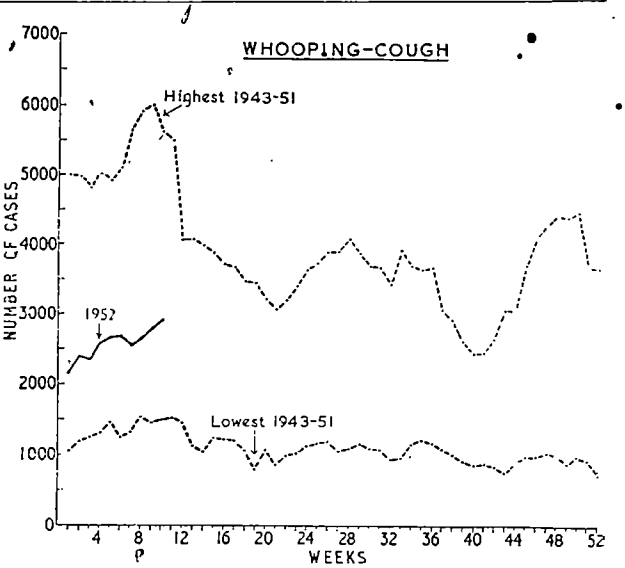
The notifications of dysentery were 8 fewer than in the preceding week. The largest returns were Lancashire 135 (Oldham C.B. 46); London 62 (scattered over 16 boroughs); Norfolk 63 (Norwich C.B. 49); Middlesex 45 (Enfield U.D. 14, Hayes and Harlington U.D. 10); Southampton County 43 (New Forest R.D. 30); Yorkshire West Riding 33 (Bradford C.B. 12); Dorset 27 (Dorchester M.B. 25); Surrey 21 (Esher U.D. 12); Warwickshire 21 (Coventry C.B. 11).

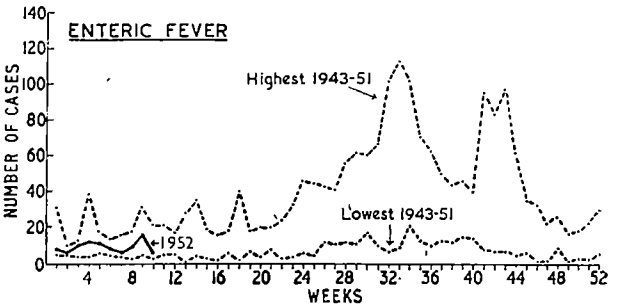
Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases of certain diseases notified weekly in England and Wales. Highest and lowest figures reported during the nine years 1943–51 are shown thus --------, the figures for 1952 thus ———. Except for the curves showing notifications in 1952, the graphs were prepared at the Department of Medical Statistics and Epidemiology, London School of Hygiene and Tropical Medicine.









Road Accidents in January

Accidents on the roads of Great Britain in January resulted in 14,195 casualties, including 377 killed and 3,347 seriously injured. Compared with January, 1951, there was an increase of 678 in the total and of 13 in the killed. The chief increases were in the figures for pedal cyclists, which rose by 199 to 2,709, and those for passengers in vehicles, which rose by 255 to 3,543. Despite the continued upward trend, the accident figures for January were still considerably below those for January, 1938, when 15,745 casualties, including 514 killed, were reported.

Week Ending March 15

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,546, whooping-cough 3,086, diphtheria 53, measles 7,121, acute pneumonia 950, acute poliomyelitis 22, dysentery 642, paratyphoid fever 7, and typhoid fever 4.

That trachoma is curable and should be considered a disease which in general is only mildly contagious, except to young children, are the main conclusions of the W.H.O. Expert Committee on Trachoma which met in Geneva for its first session March 3 to 8, under the chairmanship of Professor Giambattista Bietti, of Parma, Italy. A treatment combining sulphonamides and certain antibiotics is said to be completely effective against most cases of trachoma. "Aureomycin" and terramycin are considered to be the drugs of choice. Trachoma control measures should include all the allied eye infections as well as epidemic conjunctivitis, the committee said, and it recommended a model control programme for this entire group of diseases which can be applied in underdeveloped countries. The plan calls for special legislation for health education of the people, and for a special organization, including fixed and mobile clinics attached to a trachoma institute. The important part that can be played by school-teachers in case-finding and treatment was emphasized.

Medical News

Devon and Exeter Medico-chirurgical Society.—At a meeting on January 24 Mr. Raymond Hinde spoke on "Tonsils and Adenoids: Dogmas and Doubts." The physiology of the tonsils and adenoids, he said, is imperfectly understood. The pharyngeal lymphoid tissue is functional only from birth to puberty, after which time the adenoids disappear. There is a close morphological relationship between the lymphoid tissue of Waldeyer's ring and that of Peyer's patches; indeed, when the tonsils are swollen the Peyer's patches also enlarge. Tonsillar changes occur at the time of the first dentition at the age of 2½ years, and enlargement at that time may be due to local sepsis in the mouth. But far oftener it is in the nature of a hyperplasia, the sequel of a physiological rather than a pathological change, and it is not possible to tell whether a tonsil is septic or not merely by looking at it. A swab from the tonsils is never sterile. Only when a crypt becomes sealed off does it become a source of sepsis. However, the tonsils are a portal of entry for the tubercle bacillus, and some 4% of all tonsils removed show giant-cell systems. In diagnosis it is important to remember that mouth-breathing may be due to factors other than nasal obstruction by adenoids, and not every child who keeps his mouth open breathes through it.

North of England Obstetrical and Gynaecological Society.—A meeting of the society was held in the Medical Institution, Liverpool, on February 22, when Dr. F. Da Cunha described a case of massive haemorrhage following anticoagulant therapy in pregnancy, Dr. Joseph Firth described a case of severe post-partum haemorrhage finally treated by hysterectomy, and Mr. S. B. Herd reported a case of apparent sarcoma of the ovary. Mr. L. W. Cox gave a short paper on intestinal diverticulitis and the gynaecologist, and Dr. S. J. Barr read a short paper on pressure effects of fibroids in pregnancy.

Brazilian Congress of Proctology.—The first Brazilian proctological congress was held from November 14 to 17, 1951, in Rio de Janeiro, a great many specialists from several American countries taking part. The congress was promoted and organized by Dr. Walter Gentile de Mello, president of the Brazilian Proctological Society. The *Annals* of the congress will be published in two volumes, already in preparation, with a summary of each lecture and paper in English. The editors are Drs. W. Gentile de Mello and Manoel Garcia, Avenida Graça Aranha, 81, Rio de Janeiro, Brazil.

Emergency Bed Service: Applications and Admissions.—During the seven days ending March 24 the number of applications made by doctors to the London Emergency Bed Service for admission of patients was 1,100, of whom 89.75% were admitted.

COMING EVENTS

Wessex Rahere Club Dinner.—The spring dinner will take place at the Royal Clarence Hotel, Exeter, on Saturday, April 19. Mr. C. Naunton Morgan will be the guest of honour. Further details will be circulated to members and any other Bart's men practising in the West Country who will get in touch with the hon. secretary, Mr. A. Daunt Bateman, 3, The Circus, Bath.

Osler Club.—The next meeting of the club will take place on Friday, April 18, at the Wellcome Research Institution, Euston Road, London, N.W.1 at 7.45 p.m. The evening will be devoted to Leonardo da Vinci (whose quincentenary falls on April 15), and the opening paper, by Dr. K. D. Keele, will be on "Leonardo the Physiologist."

Medical Art Society.—The annual exhibition of members' work will be held at Walker's Galleries, New Bond Street, W.1, from April 21 to May 3. Receiving day Monday, April 7. The annual dinner will be held on April 21.

Health and Tuberculosis Conference.—The conference will be held in London from July 8 to 13 and is open to all interested in preventive medicine. Subjects for discussion include protective vaccination, contemporary ideas in the management of the tuberculous patient; the social worker and the tuberculous family, the patient in industry, and tuberculosis in British Colonial territories. All information can be obtained from N.A.P.T., Tavistock House North, Tavistock Square, London, W.C.1.

Courses on Mental Defectives.—The Extra-mural Department of the University of London, in co-operation with the National Association for Mental Health, is organizing a course for medical officers on educationally subnormal children and mental defectives which will be held May 5 to 23 and repeated October 6 to 24 at the University Examination Hall, South Kensington. Full details and application forms may be obtained from the National Association for Mental Health, 39, Queen Anne Street, W.1. The total cost is £15.

International College of Surgeons.—The following meetings are announced: The French Chapter, University of Bordeaux, May 13 and 14. The Spanish Chapter (Catalonian Section), University of Barcelona, May 16, 17, and 18. International Assembly, University of Madrid, May 20 to 23. The Austrian Chapter, Vienna, May 26 and 27. The Dutch Chapter, Amsterdam, May 29 and 30. Fellows desirous of information or wishing to attend any of these meetings should make early application to the secretary of the British Chapter, Dr. J. F. Brailsford, 20, Highfield Road, Edgbaston, Birmingham, 15.

SOCIETIES AND LECTURES

A fee is charged or a ticket is required for attending lectures marked ●. Application should be made first to the institution concerned.

Tuesday, April 1

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—5 p.m., "*Structural and Functional Adaptation in Renal Failure,*" Lumleian Lecture by Professor Robert Platt. (See also April 3.)

ROYAL EYE HOSPITAL, St. George's Circus, Southwark, London, S.E.—5 p.m., "*Cataract Extraction,*" by Mr. T. M. Tyrrell.

Wednesday, April 2

BIRMINGHAM MEDICAL INSTITUTE: MIDLAND MEDICAL SOCIETY.—At Queen Elizabeth Hospital, Birmingham, clinical meeting.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—5 p.m., "*Peripheral Aneurysm and Arteriovenous Fistula,*" Hunterian Lecture by Professor S. M. Cohen.

ROYAL EYE HOSPITAL, St. George's Circus, Southwark, London, S.E.—5.30 p.m., "*Visual Fields,*" by Mr. Howard Reed.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, London, W.—3.30 p.m., "*Disturbances of Sleep in Children,*" by Professor R. S. Illingworth.

YORKSHIRE SOCIETY OF ANAESTHETISTS.—At Leeds General Infirmary, 8 p.m., "*Theoretical and Practical Aspects of Therapeutic Nerve Blocking,*" by Dr. G. Steel.

Thursday, April 3

BIRMINGHAM MEDICAL INSTITUTE: SECTION OF ODONTOLOGY.—At 154, Great Charles Street, Birmingham, joint meeting with British Dental Association, Central Counties Branch. "*Oral Cancer, with Special Reference to Radiotherapy,*" by Mr. W. H. Bond. Annual general meeting will follow.

FACULTY OF HOMOEOPATHY.—At Royal London Homoeopathic Hospital, Great Ormond Street, London, W.C., 5 p.m., "*Homoeopathy and the Hypothalamus,*" address by Dr. T. F. Stewart.

OXFORD UNIVERSITY.—At Radcliffe University, Oxford, 5 p.m., "*The Significance and Mechanism of Menstruation,*" Litchfield Lecture by Dr. T. N. MacGregor.

ROYAL ARMY MEDICAL COLLEGE.—At Lecture Theatre, John Islip Street, London, S.W., 5 p.m., "*The Treatment of Hypertension,*" by Professor M. Leonard Rosenheim.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—5 p.m., "*Structural and Functional Adaptation in Renal Failure,*" Lumleian Lecture by Professor Robert Platt. (See also April 1.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—5.30 p.m., "*Intracranial Thrombophlebitis,*" Otolaryngology Lecture by Sir Charles Symonds.

ROYAL EYE HOSPITAL, St. George's Circus, Southwark, London, S.E.—5.30 p.m., "*Detachment of the Retina,*" by Miss M. Savory.

Friday, April 4

EUGENICS SOCIETY.—At 26, Portland Place, London, W., 5 p.m., "*The Genetics of Mental Deficiency,*" Galton Lecture by Dr. J. A. Fraser Roberts.

INSTITUTE OF DISEASES OF THE CHEST AND INSTITUTE OF CARDIOLOGY.—At London School of Hygiene and Tropical Medicine, Keppel Street, W.C., 5.30 p.m., "*Cardiac Trauma,*" by Mr. Norman Barrett.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.—5 p.m., "*After Fifty-six Years,*" Lister Oration by Sir James Learmonth.

SOCIETY OF ANAESTHETISTS OF SOUTH WALES.—At Cardiff Royal Infirmary, 7.30 p.m., films on anaesthetics.

WHIPPS CROSS HOSPITAL MEDICAL SCHOOL SOCIETY, Whipps Cross Hospital, London, E.—8.30 p.m., "*Diarrhoeas of Bacterial Origin,*" by Dr. Joan Taylor.

APPOINTMENTS

CONNOLLY, EUGENE V., M.B., B.Ch., D.P.H., D.C.H., County Medical Officer of Health, Longford, Eire.

DEWAR, R. DUNCAN, M.B., Ch.B., D.P.H., Medical Officer of Health for the Metropolitan Boroughs of Bethnal Green and Poplar.

GRAY, H., M.D., D.P.H., Assistant County Medical Officer and Medical Officer of Health, Bulmer Combined Area, Yorkshire.

HAGGER A. O., M.R.C.S., L.R.C.P., Assistant Medical Officer, Eastern Region, British Railways.

NORTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD.—*Part-time Consultant Anaesthetist, Queen Elizabeth Hospital for Children,* Mrs. Dorothea B. I. Halstead, M.B., Ch.B., D.A., D.C.H. *Full-time Consultant Pathologist, Group Laboratory, Mile End Hospital,* W. D. Linsell, M.D. *Part-time Consultant Physician, St. Andrew's Hospital, Billericay,* I. Gilbert, M.D., M.R.C.P. *Part-time Consultant Physician, St. George-in-the-East Hospital,* A. S. Mason, M.B., B.Ch., M.R.C.P. *Part-time Consultant E.N.T. Surgeon, East Ham Memorial and Runwell Mental Hospitals,* N. A. Punt, F.R.C.S.Ed., D.L.O. *Part-time Consultant Surgeon, St. Andrew's Hospital, Bow,* G. A. Barclay, M.B., B. Chir., F.R.C.S. *Full-time Consultant Surgeon, Colchester Group of Hospitals,* R. N. Jones, M.Chir., F.R.C.S. *Maximum Part-time Consultant Surgeon, North Middlesex Hospital and Annexes,* K. A. Moore, M.B., B.S., F.R.C.S. *Part-time Consultant Surgeon, Prince of Wales's and St. Ann's Hospitals,* E. E. O'Malley, M.Ch., F.R.C.S.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Clayton.—On March 17, 1952, at the Garrett Anderson Maternity Home, London N.W., to Barbara E. Clayton, Ph.D., M.B., Ch.B., wife of William Klyne, a son.

Manson.—On February 25, 1952, at Salisbury, Southern Rhodesia, to Jocé, wife of Dr. John M. S. Manson, of Kanye, Bechuanaland Protectorate, a daughter.

Morel.—On March 22, 1952, at Barnstaple, Devon, to the wife of Mervyn Morel, M.B., F.R.C.S., a daughter.

Muir.—On February 25, 1952, in London, to the wife of Ian Muir, M.B.E., F.R.C.S., a son.

Naidoo.—On February 18, 1952, in London, to Sandhya Bose, M.A., wife of Dr. D. Naidoo, a son—Satyadatta.

Powell-Tuck.—On March 20, 1952, at Netherwood, Solihull, to Catherine, wife of Dr. G. A. Powell-Tuck, 7, Milverton Road, Knowle, Warwicks, a brother for Jeremy.

MARRIAGES

Jenkins—Evans.—On March 18, 1952, at Gilfach Goch, Glam., Ritchie T. Jenkins, M.B., B.Ch., M.R.C.P., to Eileen Joyce Evans, M.B., B.Ch.

DEATHS

Berkeley.—On March 17, 1952, Augustus Frederic Millard Berkeley, L.R.C.P.&S.Ed., L.R.F.P.S., of 183, Kennington Road, London, S.E., aged 83.

Black.—On March 15, 1952, at 4, Anglesey Road, Alverstoke, Hants, Francis George Hamilton Rolfe Black, M.B., Ch.B., Surgeon Captain, R.N., retired, aged 69.

Bramwell.—On March 21, 1952, at 29, Ormidale Terrace, Edinburgh, Edwin Bramwell, M.D., Hon. LL.D., F.R.C.P., F.R.C.P.Ed., aged 79.

Consul.—On December 26, 1951, Bishambar Dayal Consul, L.M.S.S.A., of "Vidya," Colchester Road, Harold Park, Romford, Essex.

Costello.—On March 17, 1952, at "Clare," Hulham Road, Exmouth, Devon, James Joseph Costello, L.R.C.P.&S.I. & L.M.

Coullie.—On March 17, 1952, at Dimblecroft, Alton, Staffs, Alexander Glover Coullie, M.D., F.R.C.S.Ed., Lieutenant-Colonel, I.M.S., retired.

Crosfield.—On March 20, 1952, at Old Tolmers, Broadstairs, Kent, Arthur Mellor Crosfield, L.R.C.P.&S.Ed., L.R.F.P.S., formerly of Belgrave, Leicester, aged 79.

Ellis.—On March 18, 1952, at Gorleston Hospital, Edward Alfred Ellis, M.B., B.Ch., of 147 Lawn Avenue, Great Yarmouth, aged 49.

Ellison.—On March 19, 1952, at the Royal Northern Hospital, Philip Oswald Ellison M.B., B.S., of Buckhurst, Gerrards Cross, Bucks.

Ferguson.—On March 20, 1952, at his home, 29, Coudray Road, Southport, Lancs, James Ferguson, L.R.C.P.&S.Ed., L.R.F.P.S.

McElligott.—On March 19, 1952, Maurice Gerald McElligott, F.R.C.S.I., D.P.H., of Mount Rivers, Listowel, Co. Kerry, late of Bushey Heath, Herts, aged 83.

Reid.—On March 14, 1952, Henry Charles Cecil Reid, M.B., B.Ch., of "Elstow," Hartley Park Villas, Plymouth.

Tacey.—On March 22, 1952, at Woodford, London, E., Dalton William Tacey, M.R.C.S., L.R.C.P., aged 76.

Talbot.—On March 20, 1952, at Prospect House, Mottram, near Manchester, Ernest Talbot, M.C., M.B., Ch.B.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Aetiology of Coronary Disease

Q.—*What aetiological relationship, if any, has mild but prolonged hyperpiesia to coronary artery disease?*

A.—The exact aetiology of coronary artery disease, meaning obliterative coronary sclerosis, is unknown. A number of factors, some of which are perhaps no more than contributory, are well recognized. For instance, there are hereditary aspects, coronary disease at certain ages being twice as common amongst the parents of those stricken with a coronary thrombosis than amongst controls. Similarly, coronary disease is common in those of "stocky build." There is evidence to suggest that a certain psychological background—the successful "go-better" type—prepares the way for coronary mischief. It is also claimed, probably with more justification, that arteriosclerosis is a biochemical disorder involving cholesterol, phopholipids, and uric acid. Hypertension may have a similar background. At all events hypertension is found in approximately 50% of men and 75% of women handicapped by angina pectoris, which is the commonest manifestation of coronary disease. On the other hand, hypertension is unusual amongst males stricken with myocardial infarction before the age of 40 years. It therefore appears that hyperpiesia is not an essential factor in the production of coronary sclerosis. It is, however, a very common associate. Even mild but long-continued hypertension must impose a strain on the arteries and aggravate, if it does not indeed predispose to, intimal vascular damage. It is usually true that to the individual the sclerosis, which is not necessarily an irreversible process, is more harmful than the hypertension.

Diet in Toxaemia of Pregnancy

Q.—*What dietetic treatment is advised nowadays in toxaemia of pregnancy?*

A.—Of recent years the importance of diet restriction has been emphasized not only in the treatment but also in the prevention of pregnancy toxaemia. By controlling the weight of a woman during pregnancy the incidence of toxaemia can be reduced. It is the sudden and rapid increase of weight that is the danger sign. Some obstetricians view an increase of more than ½ lb. (227 g.) a week as abnormal and try to limit the total gain throughout pregnancy to 20 lb. (9.08 kg.). The abnormal weight gain in many pregnant women is due to perversion of appetite and the excessive ingestion of food of high caloric value (carbohydrate and fat). When there has been a too rapid increase in weight the mother should be carefully questioned about her diet. She should be told not to use salt in cooking or at table, not to take bicarbonate of soda as a medicine, and not to take any "salts."

The following diet* can be taken as an out-patient, and has a caloric value of 1,800: 1½ pints of skimmed milk daily. *Breakfast:* tea or coffee with milk, no sugar; 2½ oz. salt-free bread; ½ oz. salt-free margarine; 1 egg; 4 oz. orange or fruit juice. *Mid-morning:* tea or coffee with milk, no sugar. *Lunch:* 3 oz. lean beef, 6 oz. potato, 6 oz. green vegetable, ½ oz. rice with milk, 4 oz. fruit. *Tea:* tea with milk (no sugar), 2 oz. salt-free bread, ½ oz. salt-free butter, 4 oz. fruit. *Supper:* 4 oz. white fish, 5 oz. root vegetables, salad (2 oz. lettuce, 3 oz. tomato, 1 oz. watercress), 2½ oz. salt-free bread, ½ oz. salt-free butter, 4 oz. fruit. *Bed-time:* any milk left from 1½ pints. Alterna-

*One ounce avoirdupois=28.4 g. One fluid ounce=28.4 ml.

tives for lean beef are: lean mutton, lean veal, liver, heart, rabbit, chicken, rationed cheese (cheddar type). Calcium, iron, and vitamin supplements (A, B complex, C, D) are necessary. The actual vitamin content of fruits and vegetables is always doubtful. Food yeast, which is a good source of vitamin-B group, can be used to improve the flavour of the skimmed milk.

Once pregnancy toxaemia has established itself the following 1,200-calorie diet should be advised: 1 pint skimmed milk daily. *Breakfast:* tea or coffee with milk (no sugar), 1½ oz. salt-free bread, ¼ oz. salt-free butter, 1 egg, 4 oz. fruit or tomato. *Mid-morning:* tea or coffee with milk (no sugar). *Lunch:* 2 oz. lean beef or equivalent (see 1,800-calorie diet above), 6 oz. green vegetable, 5 oz. root vegetable, ¼ oz. margarine for vegetables, 4 oz. fruit. *Tea:* tea with milk (no sugar), 1 oz. salt-free bread, ¼ oz. salt-free butter, salad if desired. *Supper:* 4 oz. white fish, salad (2 oz. lettuce, 3 oz. tomato, 1 oz. watercress), 1½ oz. salt-free bread, ¼ oz. salt-free margarine, 4 oz. fruit. *Bedtime:* any milk left from 1 pint. Protein, mineral, and vitamin values cannot be increased without increasing calorie value, except by the use of concentrates and supplements. Skimmed milk is recommended as a means of maintaining protein and calcium levels in this calorie intake. A protein supplement, such as a casein preparation, can be added to the milk. The usual vitamin supplements will be required, and food yeast, which can be given to improve the flavour of the skimmed milk, is a good source of vitamins of the B group. Calcium and iron supplements are necessary. With a diet restricted to this degree it is advisable for the patient to be in bed. After a week, depending on the patient's condition—weight loss, blood pressure, albuminuria—it might be possible to increase the calorie intake to 1,500 calories.

R. H. J. Hamlin has recently reported that in a large maternity hospital in Sydney eclampsia has been eliminated and pre-eclampsia reduced to a minimum by the adoption of two simple measures: (1) The giving of correct diet education in the early weeks of pregnancy (low-carbohydrate, high-protein, high-vitamin diet before mid-pregnancy). (2) Restricting the mother's increase in weight to 8 lb. between the 20th and 30th weeks of pregnancy.

Bat Ears

Q.—*What is the optimum age for operating on a protruding ear? The patient in question is a child aged 20 months with marked protrusion of both ears.*

A.—Operative correction of protruding ears is best delayed until the child is at least 4 years old. In cases of marked protrusion it is desirable to perform the operation before the patient starts school. With mild deformities the operation is best left until the age of 9 or 10 years. In early childhood there is disproportion between the size of the ear and the size of the head, and mild degrees of protrusion may become less obvious as the child grows.

Heliotherapy

Q.—*What are the therapeutic uses of sunshine? Can different effects be obtained from it, especially in the Tropics or subtropics, by exposure at different times of the day?*

A.—The solar spectrum includes ultra-violet and infra-red rays which are used therapeutically. The ultra-violet rays will cause pigmentation, but the actual medical value of these rays is not very great. The infra-red rays (or heat rays) are widely used in therapy. Strong sunshine can therefore be used as a substitute for an infra-red lamp. The only difference that the time of day would cause in treatment is that the amount of rays would decrease as the sun drops towards the horizon. Attempts have been made to set up solaria in places such as the South of France for the therapeutic use of the sun spectrum, but in actual practice it is usually more certain and convenient to use artificial methods of producing these rays rather than to depend on the vagaries of the weather.

Storage of Drinking-water

Q.—*How may water in storage tanks be kept fresh for drinking? I wish to store water in a 10-gallon (45.5-litre) galvanized container for periods up to a fortnight.*

A.—The tank should be provided with a lid which excludes light and dust. It should be cleansed and then sterilized as follows: Half-fill with tap water; add 3 oz. (85 ml.) of a 1% solution of chlorine; completely fill with water; see that the under-surface of the lid is also cleansed with chlorine solution and do not allow it subsequently to become contaminated; replace lid; allow to stand for 24 hours; empty tank. (This need not be repeated each time the tank is filled unless there is good reason for doing so.) The tank may then be filled with tap water, after making sure that any hose used for this purpose is clean. The lid should then be carefully replaced to exclude light and dust. Should there be any doubt about the purity of the water a teaspoonful of 1% chlorine solution may be added while filling the tank. The tank should be situated in as cool a place as possible. Water stored in this manner should keep sweet and pure for at least one month.

The Doctor at the Sink

Q.—*In reply to a question on cleaning empty medicine bottles (August 11, 1951, p. 371) liquor sulphestolis B.P.C. was recommended. Would this substance be equally useful for domestic dish-washing?*

A.—Liquor sulphestolis *B.P.C.* is quite satisfactory for the washing of kitchen utensils, being particularly effective in removing grease. It also gives a good polish to glassware. If the vessels are thoroughly rinsed afterwards there is unlikely to be any noticeable smell and practically no danger of toxicity. Liquor sulphestolis is available commercially under various trade names.

NOTES AND COMMENTS

Pregnancy Tests.—Dr. H. BERIC WRIGHT (London) writes: It does not seem to be generally realized that the Hogben test is at least as reliable as the better-known Aschheim-Zondek and Friedman tests ("Any Questions?" March 1, p. 501). This is a pity, because this method has advantages both for the practitioner and for the pathologist. Landgrebe and Hobson (*British Medical Journal*, 1949, **2**, 17) showed that the Hogben test is, if anything, more accurate than the Aschheim-Zondek. It has the advantage—to the practitioner—of giving a result within 24 hours of receipt of the specimen. Thus a laboratory using this method can give a more rapid service than one using the Aschheim-Zondek or Friedman technique. The test usually becomes positive within 10 to 14 days of the first missed period. From the point of view of laboratory technique the animals used for the Hogben test are easier and cheaper to keep and can be used repeatedly. The Hogben test is thus to be preferred by both the practitioner and the pathologist and deserves to be more widely recognized than it is at present.

OUR EXPERT writes: It is true that the pregnancy diagnosis test using the female toad *Xenopus laevis* has certain advantages over the Aschheim-Zondek and Friedman tests; still further advantages are possessed by the Galli Mainini test using male amphibia such as *Bufo arenarum* Hensel, *Rana pipiens*, and *Rana esculenta*, for in these tests the result is obtained in less than three hours.

Correction.—In a reply to a question on hair oil ("Any Questions?" March 15, p. 614) reference was made to R. C. Harry's book *Modern Cosmeticology*. This is published by Leonard Hill Ltd., *not* by Chapman and Hall as stated.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 4499 TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.
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SUPPLEMENT TO THE

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CONTENTS

The Adjudicator's Award - 113
The Adjudication - 114
Shilling on Prescriptions - 130
Prescription Costs Increase - 130
Annual Conference of Local Medical Committees - 130
Occupational Health - 131
The Middle East Branch - 131
Distribution of G.P.s' Pay - 132
The Durham Dispute - 132
Heard in Chancery Court III - 132
Superannuation - 133
N.O.T.B. Association - 133
Questions Answered - 133
B.M.A. and I.M.A.: Provisional Programme - 134
Correspondence - 136
Association Notices - 138

THE ADJUDICATOR'S AWARD

£40M. TO BE PAID, MINISTER OF HEALTH

100 PER CENT. BETTERMENT FOR 1951

85 PER CENT. BETTERMENT FOR 1948

The Adjudicator, Mr. Justice Danckwerts, has made the following decisions on the adjudication between the General Medical Services Committee of the British Medical Association (representing the general practitioners in the National Health Service) and the Minister of Health and the Secretary of State for Scotland:

My Terms of Reference are as follows:

"To determine the size of the central pool, after taking account of remuneration from all other sources received by general practitioners, in order to give effect to the recommendations of the Spens Committee, having regard to the change in the value of money since 1939, to the increases which have taken place in incomes in other professions, and to all other relevant factors."

My determination is that the size of the central pool for the year ending on March 31, 1951, should be £51.252m. As was agreed at the hearing, an adjustment to this figure will have to be made in respect of Exchequer superannuation contribution. In order that this determination may be applied to other years I add the following explanations:

(1) I have applied a betterment factor of 100% to the figure of £19.89m. for 1939. In my view the corresponding factor in 1948 would be 85%.

(2) The figure which I have reached has been adjusted by reference to the number of doctors in the National Health Service and not the population. There was no evidence before me that an unnecessarily large number of doctors is likely to enter the Service within the next few years, but if the number of doctors in the Service became unreasonably large this point would require reconsideration.

(3) I have excluded interest on compensation moneys from consideration.

(4) I have excluded from the credits which had to be deducted in determining the size of the central pool the amount of the inducement fund in respect of unattractive areas.

(5) I have taken a percentage of 38.7% for expenses. But I have not accepted entirely the figures to which this percentage should be applied.

(signed) HAROLD DANCKWERTS.

March 24, 1952.

(See Leading Article in Journal at page 697)

THE ADJUDICATION

PRESENTATION OF DOCTORS' CASE

The adjudication proceedings opened on March 18 before Mr. Justice DANCKWERTS in Chancery Court III. The General Medical Services Committee of the British Medical Association was represented by Mr. Frederick Grant, Q.C., Mr. H. B. H. Hylton-Foster, Q.C., M.P., and Mr. S. B. R. Cooke. The Minister of Health and Secretary of State for Scotland were represented by the Attorney-General (Sir Lionel Heald, Q.C., M.P.), Mr. Granville Slack, and Mr. Peard Clarke.

FIRST DAY

Tuesday, March 18

120% Betterment Claimed

The opening observations of Mr. GRANT, Q.C., in presenting the case for the Committee were briefly reported in the last issue. Continuing, he put in a statement of agreed figures worked out by Professor Bradford Hill on the basis of 1939 values:

Gross professional receipts of persons in general practice as principals before the war, £28.14m., of which £11.35m. was absorbed by professional expenses, leaving £16.79m. net professional income. If recommendations (1) and (2) of the Spens Committee had been applied to these principals, the total net professional remuneration per annum would have been greater by £3.1m.—that is, it would have been £19.89m.

The basis of this calculation was that there were 17,900 general practitioners in practice as principals before the war.

Mr. Grant also put in the following statement (not agreed):

The basis on which payments to the central pool have so far been made is as follows: Net income £19.89m.+20% =£23.87m.; expenses, £11.35m.+55% =£17.59m., totalling £41.46m. To this add 3% for increase in population=£1.24m., making £42.70m., and deduct 5% for people not using N.H.S., £2.13m., leaving £40.57m.

This sum of £40.57m. represents approximately 18s. per head on 95% of population round about the year 1948. The amount actually paid in the central pool for the year ended March 31, 1951, was 18s. per head of 95% of population for that year—namely, £41.533m.

He gathered that it was not suggested that this basis of calculation was a scientific one, though it was clear from the Minister's case that he still relied on the 3% increase of population and the 5% non-users of the Service, which were assumptions.

What Ought to be in the Central Pool

He next put in some figures showing what, according to the Committee's calculations, ought to be in the central pool for the year ending March 31, 1951:

	£
Adjusted *net* income of general practitioners for 1939	19.89m.
Betterment addition (120%)	23.868m.
	43.758m.

That figure was scaled up again by reference to the number of general practitioners serving as principals in the National Health Service in the year ended March 31, 1951—namely, 19,227—and after allowing for practice expenses and making certain adjustments, of which he spoke in more detail at a later stage, he arrived at a total for the central pool on March 31, 1951, of £57.378m., whereas in fact the amount actually paid was £41.533m.

The Betterment Factor

Dealing with the addition of 120% for betterment, Mr. Grant said that they were entitled, in order to give proper effect to the recommendations of the Spens Committee, to scale up the £19.89m., which was the adjusted net income of general practitioners for 1939, by a percentage which covered both the change in the value of money and the increase in remuneration of members of other professions. Their evidence on this point was set out in a memorandum by Professor R. G. D. Allen, who would be called as a witness. The Ministry had produced voluminous figures on this subject without saying exactly how they were to be used, but he thought he could see quite a number of grounds on which they were open to criticism. He would, however, withhold such criticism until the figures had been formally presented.

The Ministry had said that it was a matter for consideration whether the betterment percentage ought to be added to the actual figure of the net remuneration in 1939 or to the adjusted figure. But surely it was evident that the percentage for betterment ought to be added to what the figure should have been in 1939, and not to the wholly irrelevant figure of what it actually was in that year.

They had treated as exceptions, not to be brought into the general calculation, those general practitioners who had restricted lists. There was a dispute, he gathered, about scaling up. The Ministry said that what ought to be done was to scale up first by reference to increase in population, and then to scale down by reference to the population estimated not to be making use of the National Health Service. That, however, was not giving effect to the Spens recommendations. It proceeded on the assumption that what the Spens Committee had said was that £19.89m. was the amount needed to pay properly for general-practitioner doctoring in the country in 1939, and therefore that that amount could be altered only by reference to changes in the number of people requiring to be doctored. But that was not what the Spens Committee said at all. What the Spens Committee was laying down was a scale of remuneration for individual general practitioners. That stood out plainly right through the report. In his submission, to scale down by reference to population was not giving effect to the Spens report but to something entirely different.

To Give Effect to Spens

Here were some 19,200 general practitioners giving full service—there was no suggestion at all that the doctors in the N.H.S. were not working hard—and the only way of giving effect to the Spens recommendation was by means which would ensure that these were remunerated on the Spens 1939 scale, with the necessary adjustments to cover the change in the value of money and the increase in remuneration of other professions. It could not be supposed that the amount of work of the doctor would increase merely *pari passu* with the population, but everyone knew that the amount of work would increase when people were not paying directly for the service. The only way of giving effect to the Spens recommendation was to scale up the adjusted net income, which Spens said ought to be secured, by reference to the increase in full lists, not having reference to restricted lists.

A figure of 19,227 practitioners doing full service had been put in for the year ending March 31, 1951. That was arrived at in the following manner. From documents pro-

vided by the Ministry it appeared that the total number of general practitioners in the National Health Service on that date was 19,945. The number who had restricted lists was 887, leaving 19,058. The comparable figure on January 1, 1952, was 20,640, of whom 990 had restricted lists, leaving a total of 19,650. What the Minister had said was that what ought to be taken was the number of general practitioners who were serving throughout the year. But supposing Dr. Smith was serving for the first part of the year and Dr. Jones for the second half, neither of them would have served throughout the year, or would come into the Ministry's calculation, but surely they ought to count at least as one. The method by which the Committee had arrived at its figure was as accurate as it could be made.

Practice Expenses

He turned next to practice expenses. On the basis of information available the Committee claimed that the ratio of professional expenses to gross receipts for the year ended March 31, 1951, should be taken as 38.7%. Here he read a long document which had been prepared on this subject. With the agreement of the Association, the Inland Revenue authorities were asked to carry out an investigation into the level of practice expenses in the year 1949–50. A sample of 3,145 principals was selected by the B.M.A. from its records. Doctors known to have salaried appointments were excluded; otherwise it was a random sample, and practices were classified as rural, semi-urban, and urban. The names of the doctors were communicated by the Ministry to the Inland Revenue, who arranged to extract from income-tax returns particulars of the practice expenses allowed.

Of the original sample of 3,145 cases 2,775 forms were returned by the local inspectors. For various reasons, principally because many of the accounts were made up to a date earlier than December, 1949, a large number had to be discarded, and finally the number of doctors in respect of whom information was transmitted to the Ministry was 1,066. On consideration of these figures it was agreed that regard must be had to the substantial payments made to doctors in the first three months of 1949 in respect of the period to July 5, 1948. For these reasons and also to secure that the information related as nearly as possible to the year ending March 31, 1950, many other cases were disregarded, and the balance, concerning doctors whose accounts were made up on an earnings basis to dates between January 1 and March 31, 1950, numbered only 449—a disappointingly small number.

This, however, formed the basis of the investigation into practice expenses. It was sought to agree on an average expense ratio for all doctors. The arithmetical average for the 449 cases gave a ratio of 35.5%, but at a meeting between the two parties the actuary for the B.M.A. said that in his opinion the figure should be adjusted to 37.5%. In an endeavour to reach agreement the Government Actuary's Department suggested 36.5% as the maximum to which the Ministry was prepared to go, but the B.M.A. refused to move from their figure of 37.5%, and so no agreement was reached.

The actuaries were next asked to consider what expense ratios should be used to calculate the notional net remuneration figures from the statistics of the gross payments made to doctors in the year ending March 31, 1950, as recorded in returns received from executive councils and hospital management committees. A classification of 36 groups was agreed for expense ratios, and these expense ratios, when applied to the corresponding sectional totals of gross remuneration obtained from the executive councils' returns, gave an overall average of 36.5%. The B.M.A. made it clear that its collaboration in devising the expense ratios for the 36 groups was without prejudice to its claim that the overall figure should be 37.5%. The Ministry, on the other hand, was inclined to think that it would have been better to use for the overall expense ratio not 36.5% but the 35.5% actually given by the average of the 449 cases, and on this and other grounds the Ministry was now contending that the appropriate practice expense for the year 1949–50 was in fact 35.5%, and not 36.5%.

As for the variation in expenses for 1950–1, in the view of the Ministry the total estimated expenses for the year ended March 31, 1951, might represent about 37.7% of the total gross income for that year (excluding compensation interest and Exchequer superannuation contributions). The Committee's figure was 38.7%.

The Committee's figure of 38.7% was obtained by taking the figure which the Government actuary had been prepared to concede but which the Association had not at first seen its way to accept—namely, 36.5%—and adding the increase of 2.2%, by which, in the year ended March 31, 1951, practice expenses absorbed a still higher percentage of gross receipts.

It was necessary to bear in mind that after the offer was originally made a larger sample was taken. The cases of which one could not get particulars were likely to be the smaller practices, and it was well known that the expense ratio in the smaller practices was likely to be higher than in the larger ones. The samples were probably unduly weighted on the side of larger incomes. There were several categories which would tend to make the figure thrown up by the Inland Revenue calculation—35.5%—too low, and on the evidence of the document he had read it would be reasonable to take 36.5%, which the Government actuary originally offered, as the figure for 1950, and to add to it the 2.2%, making it 38.7% for 1950–1. This was against the Ministry's figure of 37.7%, which was in turn based on the 35.5% for the earlier year.

Receipts from Sources Outside Central Pool

Mr. Grant then dealt with certain smaller items—remuneration under Parts II and III of the Act, and remuneration from other Government departments. The gross receipts of practitioners in the Service from sources outside the Service had been put down by the Committee at £1m. The Ministry's estimate was £4.334m. It was not suggested that there was any solid basis for this estimate, but the Ministry assumed that all practitioners with unrestricted lists were making an average of £150 per annum. Obviously it was quite impossible to give accurate estimates, but his instructions were that that figure was far too high. He must wait to see on what it was based.

One item did not appear on his list at all. It was an item described as interest on compensation, and amounted to the substantial figure of £1.420m. in 1950–1. That, in his submission, was not professional remuneration or remuneration at all, but a payment by way of compensation to doctors who had been deprived of a capital asset—namely, the right to sell the goodwill of their practices. These were not professional earnings. They had nothing to do with services rendered under the scheme. They ought not to be taken into account at all, and were rightly excluded from the Committee's computations.

The figure which in his submission was required to give effect to the Spens Committee's recommendations for the year 1950–1, so far as concerned general practitioners in the Service, excluding those with restricted lists, was £57.173m. To this amount were to be added the estimated receipts of practitioners with restricted lists—namely, £0.155m.—which was brought up to £0.205m. with the addition of the betterment factor. These practitioners with restricted lists were receiving from sources outside the fund —practically all of it under Part II of the Act—£705,000. That was nearly all paid for specialist services, as consultants in hospitals and so on, or as senior hospital medical officers. It was right to shut this out of the general calculation, because this £705,000 came from sources other than the pool.

How the Central Pool should be Calculated

To recapitulate:	£ millions
Gross receipts of general practitioners in N.H.S. (excluding those with restricted lists) for the year to March 31, 1951, to give effect to Spens Committee recommendations would be:	
Net income	47.002
Practice expenses	18.528
	65.530
Less gross receipts from sources outside N.H.S., say	1.000
Total N.H.S. remuneration for year	64.530
Add Service remuneration of practitioners with restricted lists, plus betterment factor	0.205
Total N.H.S. remuneration for all practitioners	64.735
Deduct receipts from N.H.S. sources, excluding payments from central pool and inducement fund:	
Additional mileage money	0.500
Maternity medical service	2.548
Drugs	1.298
Sight-testing	0.176
Training grants	0.385
Cottage hospitals	0.176
Exchequer superannuation contributions	2.274
	7.357

With this final deduction the figure for the central pool for the year ended March 31, 1951, should have been £57.378m.

Evidence of Statistician

A memorandum of evidence by Professor R. G. D. ALLEN, professor of statistics, London University, was read by Mr. Hylton-Foster, and Professor Allen afterwards went into the witness-box for cross-examination by the Attorney-General.

In his memorandum Professor Allen showed in great detail the changes in the value of money and standards of living between 1938 and 1950. He exhibited a table giving the changes in aggregate money and real income between those years. This showed that, among earners, only the professional classes in the aggregate had lost ground. At the other end of the scale, wage-earners had gained about 30% in real consuming power since 1938, apart altogether from increased benefits from social services in cash or kind. Property owners, or the property incomes of persons who might also earn, had come off worst. Even with undistributed profits included, the aggregate of property income after tax was worth less than three-quarters of its pre-war value. The corresponding figure for distributed income only was about 60% of pre-war value. For incomes of £1,500 and over in 1938 the loss in standard of living must be at least 25%.

A massive redistribution of purchasing power, said Professor Allen, had taken place. The middle classes might have been impoverished to such an extent that they could no longer serve effectively in providing public service and cultural needs.

He addressed himself to the question of what increase in earned income a professional family should receive to maintain their 1938 position within the professional group as a whole—in other words, "to keep up with the Joneses." To do this the doctors should have their incomes about doubled. Earnings corresponding to £1,000 in 1938 should by the end of 1951 be £2,400, and earnings corresponding to £1,300 in the earlier year should be £3,020.

A general practitioner who earned £1,000 in 1938, plus property income of £275, would need in 1950, to maintain his position in the hierarchy, a total income of £2,200, of which about £400 would be corresponding property income and £1,800 professional earnings.

Professor Allen's conclusions were that the real national income per head of disposable income in terms of amount for goods and services increased by about 7% between 1938 and 1950. Wage-earners gained by 20 to 25% in that period, apart from the additional benefits in cash and kind obtained from the social services. Other economic classes in the community had sustained corresponding losses in standard of living. Professional and higher salaried classes had lost heavily because their real income was 20 to 25% lower than in 1938. This was the result of deliberate economic policy by the Government. It would require unemployment on a catastrophic scale or a complete reversal of social policy to wipe out the gains of the wage-earning group.

It must be assumed that general practitioners, like other professional men, had accustomed themselves to a standard of living lower than they achieved in 1938. They were supporting a large and increasing Government expenditure on defence and general administration; they had received smaller increases in pay or fees than wage-earners; the incidence of indirect taxation and other factors had made the things which they bought dearer than for the working classes. And the question was, What rise in income over 1938 was needed to keep the general practitioners, as a group, no worse off than other professional and higher salaried workers? There was an estimate of a loss in living standards in this group since the war; this loss was greater at the higher income level and could be calculated at 17½% at the £1,000 level of pre-war income. Therefore, as he had said, to maintain equality with the Joneses in 1950 the general practitioner would need an income of £2,200.

Cross-examined by the Attorney-General

Sir LIONEL HEALD: Are general practitioners any worse off than other professional or higher salaried workers?—*A.* Yes.

Q. It is quite clear that general practitioners among other professional men have unfortunately suffered a loss of relative status since the war?—*A.* Yes.

Q. You point out that the redistribution of the national income has favoured what you describe as the working class substantially at the expense of the professional classes?—*A.* Yes, including in "professional classes" salaried earners and particularly higher salary earners.

Q. You have pointed out that the working classes have "mopped up" a good deal of the purchasing power; 22% is the figure you mention. Is that really relevant?—*A.* Yes, in a sense. I start by trying to take the whole distribution of the increased income, and therefore it is relevant, if one set of people have lost, to see which set has gained.

Q. The position is that you are not suggesting that in order to put the general practitioners in their proper position in the post-war scale they should be equated with the increase that the working classes have obtained?—*A.* Not at all.

Q. In addition to having lost their relative status, it is also true, is it not, that the professional classes such as the doctors, the lawyers, and people like that have in fact suffered a substantial loss of relative status for the benefit of and to the advantage of the managerial hierarchy and the Burnhamites and so on?—*A.* They are among the salary earners that I bracketed with professional earners in some cases.

Q. In fact you have, because of the difficulty of separation, been bound to lump in doctors with people who are in the new professions, such as people in the Coal Board, who in many cases are better off than the doctors?—*A.* Not always; sometimes we can distinguish between professional earners, that is the earners who work on their own account, and salaried earners, which often include the same people.

Q. Let us get down to it. When you get your 120% it would include doctors and what I call the Coal Board people?—*A.* Yes.

Q. You have arrived at the final figure of 119½% increase being necessary to maintain pre-war standards after considering what is necessary to maintain the pre-war standard of life at £1,000 a year and £1,300 a year?—*A.* Yes, and I also averaged the earnings in 1937–8.

The Attorney-General then questioned Professor Allen on the method he employed in arriving at his figures.

Q. The first result you get in para. 22 of your memorandum is an increase of 80%? Taking everybody who is getting more

than £1,000 a year, their earnings have gone up by 80% ?—*A*. Yes, for 1949–50.

Q. Supposing that some managerial people have, so to speak, rushed their way in and got ahead of the professional man, then according to your view he would be taking one of their places, would he not ? The relative distribution would have changed ?—*A*. If people have thrust themselves ahead of him, yes.

Q. You are saying that he ought to be put back where he was before ?—*A*. Yes, but not necessarily by pushing back the same interlopers. There is always a shift in these matters.

Q. So that it is not a question of the actual position but of putting him in the same relative position as he was before ?—*A*. Yes.

Q. These people in the majority of cases are not people who would be regarded as members of the professions in the ordinary sense of the word ?—*A*. No, this distribution of incomes includes everyone.

Q. Those people who have pushed the professional man down the scale are not people who in the ordinary sense of the word would be described as members of a profession ?—*A*. Oh, no, they could be "spivs."

Q. Surely you do not take account of the presence of "spivs" ? —*A*. It is the Inland Revenue approach—an approach solely of incomes.

Q. I think we understand where we are, and please do not think I am criticizing your method, but it does involve this assumption, that you are going to make some kind of allowance for this, that the professional men have to a certain extent been thrust behind by others and you think they ought to be restored ? —*A*. It is not a question that I think they ought to be. I have not used the word "ought" at all. I was making a calculation of the income they would have to get up to the same relative position.

The witness was next questioned about his Section IV method. He said that in working out his figures for Section IV he had started from the top of the income ranks and had gone down, irrespective of who was earning the income. The earners would be mainly the upper-salaried people.

Q. In para. 23 you say that most doctors own some property. Therefore we may assume that on the average doctors have relatively as much property as anybody else—is that right ?—*A*. Not necessarily.

Q. You cannot take out the property element and therefore you are considering both together ?—*A*. That method of proceeding is an accident following from the nature of the data available.

Q. Would you say to what your 80% applies ?—*A*. That figure of 80% applies to earnings, but it is on the assumption that the person is maintaining his position, including his property income.

Q. That 80% does not include what you want and so you start again ?—*A*. We do the same exercise, but the earned incomes are now distributed from the top downwards instead of taking the total incomes, for which the basic data are not so readily available.

Q. Do you ever use in this memorandum that figure of 80% again ?—*A*. No, it was taken purely as an illustration.

Q. Are the data for 1937–8 given in Table 5 of very much help to us ?—*A*. I am quite used to making rough approximations and I have satisfied myself that my approximations are reasonable. The data for 1937–8 are missing to a large extent.

Q. Would it be unfair to say that what the data give you are certain points which enable you to construct a graphical representation ?—*A*. Yes.

Q. This enables you to put general practitioners in the same position as before the war relative to the whole class. Would you define that class ?—*A*. It cannot be defined in any other way except as those who earn incomes down to a certain point on the scale.

Q. What sort of people does it include ? First of all professional people and then managers and executives in industry; who else ?—*A*. It includes all salaried earners above a certain point—for example, Civil Servants. It would include independent business men who do not earn a salary but who obtain an income from their business.

Q. All you have really excluded are people who derive their income from investments and property ?—*A*. Yes.

Q. May we now look at your No. V ? Would you disagree that No. V is a somewhat speculative exposition ?—*A*. In a sense it is all speculative.

Q. Does it not depend on rather more questionable assumptions than the others ?—*A*. Perhaps you will specify what you mean.

Q. Can we look upon it as involving a more dubious hypothesis ?—*A*. No, neither more nor less.

Cost-of-living Comparisons

Professor Allen was next asked whether there was not a good deal of controversy about the comparison between the cost-of-living figures before the war and now, and whether it was not fair to say that one was moving in a very difficult field in the attempt to give separate figures for the increase in retail prices for different sections of the population. He replied that it was a difficult thing to do. Any one figure given could be attacked, and all figures were subject to a margin of error. His only safeguard was that he had adopted two methods and had got broadly the same result by both.

Q. Are you arguing that because you have got the same result by two methods then both those methods are right ?—*A*. No, they might be both wrong.

Q. When you speak in Table 6 of upper middle-classes is there any way of differentiating them or have you merely based them on income ?—*A*. On income, yes.

Q. What is the figure for the middle-class ? The middle-class in 1938 was taken as persons having an income of over £500 a year ?—*A*. Yes, that is right.

Q. That would quite possibly include the "spivs" again ?—*A*. Yes, that relates to the purchasing power of people's incomes.

Professor Allen was next questioned about a figure which he had given—namely, 17½%—as representing a reduction of income, and was asked how he arrived at that figure. He replied that it was based on what was called real post-tax income or income after paying tax. It was an index of standard of living in this sense, that it meant the income after paying taxes and in terms of command over goods and services.

Q. Where do you get that 17½% ?—*A*. If you look back at Table 2 you will find that in 1950 my calculations concerning professional earnings were between 80 and 85% of total income, in terms of post-tax pre-war income. I took 82½% as the average of those two figures, and the difference between that and 100 gave me the 17½% reduction. But in addition to that it appears from that table and also from other calculations that have been published recently that at certain levels the cut in real income per head did turn out actually to be round about this figure of 17½%. It means no more than that in the end 17½% is the typical reduction in real income.

Q. Why do you put it in Table 7 ? You say that if there had been no changes in the standard of living you would have to assure me, if I were a general practitioner, an income of £2,980 a year, but I as a general practitioner am not going to ask you to give me that income because it is subject to the 17½% reduction.—*A*. There is the same implication here as in an earlier section of my memorandum. It is a question of "keeping up with the Joneses." The 17½% is the reduction in the living standards of real incomes per head in the case of professional earners and upper-salaried earners in 1950.

Q. It means that you have failed to live up to the increase in expenditure by 17½% ?—*A*. Yes, the Joneses, with whom you are supposed to be keeping up, have lost 17½%. That figure pertains to the professional groups and I think it also applies to the upper-salaried earners. It does not necessarily apply to other groups like farmers and independent earners.

Q. When we get to incomes like £1,300 we find there a 25% reduction ?—*A*. Yes, that is because any loss in real income per head increases as we go up the income scale.

Q. That is a broad statement, not a calculated figure ?—*A*. The 17½% does appear to apply more or less to incomes at the average level of just about £1,000. As you go up in income the real income is known to decline. It has been shown that there is a graduated loss in real income as you go up the income scale, so that the figure of 25% is put in in the attempt to allow for that effect. It is more of a round figure, admittedly, than the 17½%.

It was further pointed out that the 25% incidentally is about the measure of the loss in standard of living sustained by property owners—that is to say, those who depend entirely upon property.

Q. When you refer to professional earnings do you differentiate between salaries and fees ?—*A*. Yes, professional earnings are those which are received when a person is working on his own account. A professional man earning a salary would be regarded as a salaried man. It is the income from fees or other operations on account of the man in question which is taken here.

Q. Comparing 1938 and 1950, there has been a change in the method of estimation which makes all comparisons seem unreliable, has there not ?—*A.* If I may make a general statement, in 1938 the figures were rather different and not as fully detailed as they have been since. A good deal of the statistical material we now have has been developed since 1938. In any case, even if that were not so, a comparison over ten years in any matter of this kind is difficult to interpret.

Q. Is it true to say that in 1950 figures were available though incomplete, but in 1938 they were largely lacking ?—*A.* Yes.

Q. Does that not make it rather a speculative thing ?—*A.* I think the information available is sufficient to produce the kind of ranges which I have given in my memorandum. There is information of various kinds which has had to be taken into account.

Finally Professor Allen was questioned on property income. Attention was drawn to his statement that property income had increased to a less extent than other kinds of income.

Q. On the other hand, the earned income of non-professional people, such as farmers and traders, has risen considerably more than the income of professional people ?—*A.* Yes.

Q. Is it not, therefore, fair to say that earned and unearned income, including property income, would provide a fairer basis of comparison than earned income alone ?—*A.* Not in this context. The context is the earnings of the practitioners. If you were considering total income then you would use that method. To the extent to which general practitioners have property income, that property income is outside this consideration. It has been cut automatically. The argument is about the earned part of the general practitioner's income. To the extent that the general practitioner has property income he has already suffered a certain loss on his property holdings.

The cross-examination of Professor Allen by the Attorney-General had not concluded when the proceedings were adjourned until the following day.

SECOND DAY

Wednesday, March 19

Professor Allen's Cross-examination Continued

On the second day of the inquiry Professor R. G. D. ALLEN went again into the witness-box to answer a few further questions in cross-examination. The Attorney-General drew his attention to the terms of reference of the inquiry, which mentioned the change in the value of money since 1939 and the increases in the remuneration of other professions. He thought that Professor Allen had said on the previous day that so far as he was concerned no information was available as to the increases which had taken place in incomes in other similar professions as compared with the incomes of general practitioners.

Professor Allen replied that that was not quite so. He had used two methods, one of which included all incomes, and the other was appropriate to higher salaried and professional earnings.

Q. I am not concerned with your calculations at the moment. The actual statistics giving the relative position of professional men working on their own account, relating to the periods before and after the war, are not available to you ?—*A.* Not from the Inland Revenue.

Q. If we could get figures which gave you, for example, the position with regard to lawyers and members of similar professions, obviously that would be a helpful thing ?—*A.* Yes, if they were averaged out, not confined to particular groups.

Q. At the moment we have not got those figures. If we could get them they would be of assistance ?—*A.* Oh, yes, certainly.

Q. You would obviously like the opportunity of considering them and criticizing them, but they would be helpful ?—*A.* They would be helpful.

Re-examination

Mr. HYLTON-FOSTER, after questions to elucidate how they would be helpful, asked: If one is looking at the recruitment aspect of the matter it is essential to take into account that a new block of people have got into those ranges of income ?—*A.* That was my interpretation of the Spens recommendations, that the general practitioner should keep up with all people in the income range.

Q. The terms of reference of this inquiry refer to "all other relevant factors," do they not ?—*A.* Yes.

Q. The Attorney-General was referring to some of your comparisons as speculative. I would ask whether in your own view your conclusions expressed in this memorandum are not reasonable, accurate, and reliable ?—*A.* Yes; I admit that they are speculative, that is why I have gone into them in great detail in various ways. A certain amount of judgment is involved, but my attempt has been to get the best estimate. There is no bias. The figures may be too high or too low, but they are the result of unbiased judgment, taking into account a large number of factors.

Q. You have indicated where you have exercised judgment owing to limitation of data ?—*A.* Yes.

Q. And you yourself are of opinion that your conclusions are reasonably sound and accurate ?—*A.* Yes.

Before this witness left the box Mr. Hylton-Foster said that owing to the course which the proceedings took on the previous day he had had no opportunity of introducing Professor Allen. Professor Allen held the chair of statistics in the University of London and he had been concerned with the study of economics since 1928.

THE MINISTRY'S EVIDENCE

The ATTORNEY-GENERAL said that one matter arose out of the questions which he had put to Professor Allen. The terms of reference of the inquiry directed consideration of the increases which had taken place in incomes in other professions—he assumed that this meant similar professions—but at the present time they were not in a position to consider any figures which gave a comparison of such incomes before the war and after. Professor Allen had said that there were no such figures available. In view of that it did seem to him that they were working to some extent in the dark and that his Lordship's task had been made more difficult by the absence of such figures. He considered it his duty therefore to ensure that his Lordship had any information which was available, and in fact he had been told that there were actually certain figures which could be produced by a responsible officer of the Inland Revenue and that these figures would at any rate give some assistance as showing the difference in the incomes of those professional men who worked on their own and who might be regarded as in certain respects comparable with general practitioners. He was, however, in this difficulty: the gentleman from the Inland Revenue who was able to give those figures had been, as they could imagine, extremely busy during the last week, engaged from day to day in the House of Commons. He hoped that he would be in a position to attend the inquiry on the following morning and give his Lordship the best assistance he could.

Mr. Justice DANCKWERTS said that he would like to have that assistance.

The ATTORNEY-GENERAL added that the figures which that witness would produce had not been published, and as they related to only one section he was instructed that the figures should be given in closed court.

Mr. Justice DANCKWERTS pointed out that if the figures were commented on the comments would be made in open court.

The ATTORNEY-GENERAL said that it was simply a question of not publishing the tables which he would produce.

Mr. GRANT said he had no objection to this procedure, although it was rather late in the day to bring in an influx of new figures.

Mr. Justice DANCKWERTS: We had better have them and see what their value is.

The ATTORNEY-GENERAL then said that he proposed to call three witnesses in support of the general statement of the case put forward by the Minister of Health and the Secretary of State for Scotland.

Evidence of Deputy Accountant-General

Mr. A. J. F. DANIELLI, Deputy Accountant-General in the Ministry of Health, was called to the witness-box and examined by Mr. Granville Slack for the Ministry.

Mr. DANIELLI said that he was responsible under the Accountant-General for the Division which dealt, among other matters, with the finances of the general medical services provided under Part IV of the National Health Service Act. He had been closely associated with that work since 1947. He had been concerned with the working out of the figures from that time onwards and also with the discussions which had taken place with the British Medical Association. He was also responsible in connexion with the present adjudication for preparing some of the figures which appeared in the Ministry's documents.

He was first asked about the constitution of the central pool. He said that the central pool was not a statutory arrangement. It was constituted by the Ministers in agreement with the British Medical Association and was an administrative arrangement for giving effect to the statutory provisions of the Act, and, of course, the money which was used to provide the central pool came from money provided by Parliament. The central pool was the main source from which general practitioners providing general medical services were paid. From the central pool were paid what were known as inducement payments, capitation fees, payments in respect of temporary residents, payments for treatment given by a practitioner in an emergency to a person not on his list, and payments in respect of mileage (not the entire payment but some two-thirds of the payment in respect of mileage came from the central pool). From the central pool was also made the payment in cases in which a practitioner was required to provide the services of a second practitioner for administering an anaesthetic.

Mr. Danielli was asked to explain what was an inducement payment. He said that an inducement payment was an addition to the fixed annual or capitation payment and was originally intended to increase the incomes of doctors practising in sparsely populated areas or sometimes in what were known as less attractive areas. Curiously enough they had not been able to find doctors who wanted this money. The sum of £400,000 had been provided for this purpose, but they had only spent roughly £30,000 a year on this particular item, and part of that money had not been paid to induce practitioners to settle in certain areas, but, by agreement with the British Medical Association, it had been paid to practitioners whose practices had fallen in value since the introduction of the National Health Service. In the early part of 1948 the B.M.A. made representations that the money going to rural doctors was not sufficient, and, by agreement with the Association, a sum of £200,000 a year was diverted from the Inducement Fund and added to the Mileage Fund.

Effect of Inflation

In reply to a further question, the witness said that the present lists were inflated very considerably. There were 168 executive councils in Great Britain, and in the areas of about 70 of them the number of people purporting to be on doctors' lists exceeded the total population.

Mr. Justice DANCKWERTS asked how this inflation had arisen.

Mr. DANIELLI replied that quite a lot of inflation arose as a result of the old National Health Insurance arrangement. At the outset of the N.H.S. people were told that if they were on the list of an insurance doctor they need not register again. Then, further, people moved about and many of them seemed reluctant to tell a doctor that they had been already to another doctor, so that the doctor to whom they went eventually, in all good faith on his part, took their names on to his list.

The witness next entered into the calculations which were made to determine the size of the central pool having regard to the recommendations of the Spens Committee. The estimated total of the 1939 gross income of general practitioners was £28.14m. To this was added the Spens increase of £3.1m., making a total of £31.24m. The 55% increase in practice expenses as between 1939 and 1948 accounted for £6.24m., and a 20% increase on adjusted 1939 net income another £3.98m., making a total of £41.46m. To this was further added £1.24m., representing a 3% addition for the increase in population 1939–48, and from this figure a 5% deduction was made—namely, £2.13m.—on account of people not using the Service. The total figure thus arrived at was £40.57m. gross. Expenses on the 1939 income were taken as £11.35m., and to this the 55% increase (£6.24m.) was added, making £17.59m. The net figure, irrespective of the addition for increase in population and of reduction for non-users, was thus £23.87m.

Mr. GRANVILLE SLACK: There were no real figures available in 1948 to show what the increase in practice expenses should be, and 55% was taken as the nearest that could be found ?—*A*. Yes.

Q. I think 3% has always been taken for increase in population between 1939 and 1948 ?—*A*. Yes.

Q. And then you take off 5% to allow for people not using the Service ?—*A*. Yes. What happened at the time was that nobody really knew how many people were going to make use of the Service. The B.M.A. in discussion with us pointed out what happened at the beginning of National Health Insurance, when there was considerable delay on the part of insured persons in taking advantage of the scheme. It was thought that in the early days there might not be more than 60 or 70% of people making use of the Service. But on the other hand the profession had agreed to accept collective responsibility for the whole population, and finally it was agreed that 95% should be taken in the pool to cover, not necessarily people actually on doctors' lists, but the people for whom doctors were at risk in accordance with their terms of service.

Q. And you found that was approximately 18s. per head for 95% of the population ?—*A*. Yes

Q. Has the central pool been calculated on that basis ?—*A*. It has been calculated quarterly on that basis.

Q. And on figures of population supplied by the Registrar-General ?—*A*. That is so.

Other Payments to Practitioners

With regard to the Inducement Fund, this came rather "out of the blue" in discussion with the British Medical Association. When it was agreed that something should be done to encourage practice in sparsely populated or unattractive areas nobody knew how much it would involve. Therefore 1% of the central pool was taken to provide money for that purpose.

The next item was additional mileage money. This again was paid on the representations of the profession. Early in 1949 it was stated that the remuneration of rural practitioners was inadequate, and it was agreed to divert £200,000 from the Inducement Fund, and the Government provided another £500,000.

The next item concerned payments for maternity medical services, an estimated figure for the year ending March 31, 1952, of £2.665m. Payments for provision of drugs were estimated for the same year at £1.417m., payments for sight-testing at £0.131m., and payments for training assistants at £0.419m. He added that the initial rush for spectacles was beginning to fall off, and the figures showed a decrease over each of the three years taken into account.

Turning to Part II Services under the Act, the witness referred to the amounts for cottage hospital staff funds, part-time medical officers at convalescent homes, and part-time consultants and senior hospital medical officers. The amount estimated for part-time consultants and senior hospital medical officers for the year ending March 31, 1952, was £1.276m. He explained that this related to general practitioners who held such appointments; they were paid on a basis proportionate to the full-time remuneration for the particular job. Figures had been obtained from nine regional hospital boards who were asked for the latest figures relating to part-time consultants, and these showed increases over the three years ending in March, 1950, 1951, and 1952. All he was attempting to show was that the total payment for part-time consultants over those three years was increasing. Over the same three years there had been a slight decrease in the figure for part-time senior hospital medical and dental officers. But the B.M.A. criticism that these figures were

falling was hardly borne out by the numbers he had quoted. Over the whole field of these part-timers the figures were not decreasing.

With regard to Part III Services, these included local authority services, such as care of mothers and young children, midwifery, vaccination and immunization, and mental health. The final amount of these payments could not be known until after the accounts of the local authorities for that particular year had been audited, and only estimates were given. The total amount estimated for each of the three years was £367m. There had been a substantial fall in payments for midwifery, but there were compensating increases under other headings.

He then described the work done by general practitioners under other Government departments, such as the Ministries of Pensions, Labour and National Service, and National Insurance, the General Post Office, the Civil Service Commission, and the War Office, Admiralty, and Air Ministry.

He next turned to the question of interest on compensation. He said that the Act prohibited the sale of the goodwill of the medical practice of a general practitioner who was providing general medical services under it, and a sum of £66m. was provided as compensation to general practitioners in Great Britain for the loss of the right to sell such goodwill. The compensation attached to the goodwill of an individual practice was normally payable on the death or retirement of its owner, and interest at the rate of 2¾% per annum was paid in the meantime on the amount of compensation remaining unpaid. This interest was clearly new income not enjoyed by general practitioners in 1939. It would, of course, diminish gradually as capital payments were made, but the whole sum of £66m. would not be dispersed for some 30 years.

Mr. Danielli agreed that he had included superannuation payments and contributions by the Exchequer in his figures. The figures which appeared in the Ministry's case so far as they related to the change in the value of money were based roundly on the figures of national income contained in the Government's White Paper. The figures relating to the working classes were taken from the *Ministry of Labour Gazette*. In calculating the central pool the figures for the population were obtained from the Registrar-General. The number of doctors was not used in calculating the amount for the central pool.

In the Ministry's case the remuneration of practitioners in 1939 was computed by taking a gross income figure of £53.243m. for 1950 and £53.798m. for 1951, and these figures were reduced by practice expenses to £35.692m. and £34.987m. respectively for the two years.

Mr. Danielli was asked how he arrived at the figure of £150 a year as the average amount received by a practitioner in the Service from private practice. He explained that the Ministry had started with the sample which was taken for the investigation into practice expenses. An average was struck and the total remuneration from all professional sources was compared. The average amount received by the 761 doctors whose incomes were taken in the practice expenses inquiry was £1,853 for the year 1949–50, and the sum received, after proper adjustments, from the N.H.S. was £1,681, the difference between the two being £172. This was a figure based on what he regarded as a sizable sample, and it was reasonable to assume from that figure that general practitioners as a whole in the Service must have been deriving from private practice an average amount of somewhere between £100 and £200. Not a great deal was known about this, but it seemed not unreasonable to take an average figure of £150.

Cross-examination of Mr. Danielli

Mr. GRANT cross-examined Mr. Danielli first of all on the formula for working out the amount to go into the central pool.

Q. I think we are agreed that to arrive at the formula for working out the amount to go into the pool it is proper to treat income and expenses separately ?—*A.* Yes, that is reasonable.

Q. So far as the net income is concerned we start with the figure of £19.89m., being the 1939 income adjusted to give effect to the Spens increase ?—*A.* Yes.

Q. And the expenses are to be computed by a percentage on the estimated gross earnings of the year one is dealing with ?—*A.* Yes.

Q. We differ as to the percentage ?—*A.* Yes.

Q. I gather that you do not agree that we are doing the right thing in scaling up the Spens net figure by a reference to the number of doctors giving full service in the scheme ?—*A.* No.

Q. Am I right in thinking that what the Minister says is that you have to make two allowances: (1) you scale up a figure by reference to the estimated increase in the population and (2) you make a deduction, which we will call 5%, to allow for the part of the population which does not use the scheme ?—*A.* Exactly.

Q. Is the Ministry in a position to give me a calculation how you compute these items ? So far we have not had it. Have you got a formula ?—*A.* I am not quite sure what you have in mind.

Q. It is quite simple. We have given you the way we think it should be worked out, we want to know how you work it out.—*A.* What we have done is to take the pre-war incomes; we have added to that the £3.1m. for Spens, we have then loaded the resultant figures to take account of the increase in the population, and we have then deducted from them 5%.

Q. That is what you have done down to date ?—*A.* The Minister has made these calculations quarterly on up-to-date figures; the only figure which might be said to be out of date is the current expenses ratio.

Q. What you have done is to take the 1939 estimated figure of expenses from Professor Bradford Hill's calculations and add 55%. That is not the method you suggest for the future ?—*A.* We suggest for the future that we should apply at agreed intervals such figures as are actually drawn up by the Inland Revenue.

Q. For the particular year 1950–1 you suggest applying 37½% to some figure or other ?—*A.* We apply it to an ascertained figure. We apply 37½% for 1950–1 by adding a figure obtained from the Inland Revenue authorities to load the figure they obtained on our behalf for 1949–50.

Q. I am not quarrelling with that for a moment, but it is quite different from what you have done so far, is it not ?—*A.* In a sense, yes. What we have done so far is to take the figure ascertained from Inland Revenue sources before the war and apply 55% to that, and, of course, we have adjusted that figure to take account of the increase in population, because that has been taken right through, but there has been no broad rule to get more accurate figures. We are lacking figures, if I may say so, in respect of the period following the introduction of the National Health Service Act. The first complete financial year after that Act came into operation ended on March 31, 1950, and we have taken the figure for that year. We could hardly have done anything else.

The Question of a Formula

Q. I am asking you what formula the Ministry is inviting his Lordship to adopt in order to work out the correct amount to go into this fund, because this has to be done every year. What I am asking you to enlighten us on is your formula. It begins at some stage with £19.8m. Could you put it down on a piece of paper.—*A.* With respect I would say "No."

Q. Why not ?—*A.* I find it difficult myself to suggest that you can define a formula to deal with practice expenses; they are something which vary from year to year. I have no doubt that the profession will say that for the forthcoming year there will be a jump in practice expenses owing to the increased cost of petrol. This is something which has to be ascertained.

Q. But in principle there is no dispute. We had agreed that practice expenses are to be worked out by applying some percentage. There is not a great deal of difference between us on the method of estimation; on the amount there is a difference. In principle what I want to see is your whole calculation. Where do you add on 3%, and where do you deduct the 5% ?—*A.* If I understand you rightly we are looking at the central pool, we add the 3% or a corresponding figure. Every quarter the Registrar-General gives us the population figures.

Q. Will you help me on this, because it is the whole of your case. If I were to sit down to work out the basis to which you say his Lordship should direct his attention, I begin with an amount of £19.8m., the suggested Spens net income. What do I do next ?

The ATTORNEY-GENERAL: Is this before or after the adjudication ?

Mr. GRANT: I have made my position clear. What I want to know is what the Ministry's case is, and I am struggling to find

out. I want to know how you do it.—*A*. I am saying we should do it in the same way as we do at the moment, by taking into account the adjustment of the population quarterly.

Q. That is a general statement. May I press it? Starting off with £19.8m., what do you do next? Unless you tell me you have no idea what to do next I shall press it.—*A*. What I am saying is that I apply to that figure the factor representing the current population over the pre-war population.

Q. So that we scale up our £19.8m. shall we say by 3%. What next?—*A*. Then you have a figure which to our mind produces something comparable with the total pre-war income of general practitioners.

Q. What next? I will not say whether it is good or bad, I want to know what you do next?—*A*. We say, "Here is the pool calculated on this basis by loading it with the population, and this is what we distributed among general practitioners for the purpose of providing for such services as are paid for out of the pool."

Q. You have £19.89m., plus 3% for increased population. You are still on a 1939 basis with an addition for the increased population. Now, then, what is the next element in the calculation?—*A*. So far there has been a loading for betterment which in the past has been taken at 20%.

Q. What next, what about your 5%?—*A*. The 5% I think you have to allow for as and when you find out exactly how many people are on doctors' lists.

Q. We call it 5%. Let us assume you are right in saying that 5% of the population do not make use of the N.H.S. Am I right in thinking that, having added the 3%, you scale it up by some betterment percentage and then lower it by 5% for people outside the Service?—*A*. Exactly.

Q. Having done that, you would put in the amount for professional expenses?—*A*. Well, yes, you would do that. We have done all these calculations on a gross, not a net basis.

Q. I thought it was agreed to separate them out?—*A*. You are trying to take me through the steps which we take. In the past we have done it on the gross figure.

Q. We are not quarrelling about professional expenses. We are saying that at this stage you would put in a figure for professional expenses?—*A*. Well, I am bound to say that I think when we do these calculations in the future it will not be practicable to do it on a break-down basis. You will have to calculate on the basis of gross sums.

Q. Why?—*A*. Let us put it in this way. In any particular year you are going to pay a gross sum. We pay in gross sums to executive councils. The sums represent a certain capitation fee for 95% of the population. It is not possible in any one year to break that down and say that it represents so much net payment and so much practice expenses. To one doctor the practice expense figure is quite different from what it is to another. You are doing a quite useless sum if you attempt it in that way.

Q. Is it quite a useless sum when the figure which you have to start from is £19.8m., which is net income?—*A*. You start with the £19.8m., which is net income, I agree. I am not contesting that at all, but I am not saying that you can take £19.8m. and load it by certain factors to produce a new net income and then automatically say the amount should be x because the practice expense ratio is y.

Q. You have got this far, you have scaled £19.8m. by two factors—population and betterment—and you have scaled it down to exclude the people who are not using the Health Service, so that you have a maximum net figure. What we are trying to find out is how much gross these people have to get out of the pool, and you must add on to that some figure for expenses?—*A*. That is what we have done.

Q. That is what you have to do?—*A*. I agree that you must have a figure for practice expenses. I find it rather difficult to follow your line of argument. If you take a net figure and gross it up, what you have to do is to write it down to take account of actual ascertained expenses.

Q. Why did you agree with me, then, that you started with £19.89m., and scaled it up by two factors and down by one factor? That is where we got to.—*A*. That is how we started. We had to have a starting basis to get at a figure, and what we got was a gross figure.

Q. Do you say, then, that for the future you should not start with the Spens £19.89m. and scale it up or down?—*A*. No, what I feel must happen in the future is that we shall take whatever sum is awarded and build our calculations on that.

Q. You are not giving the Adjudicator very much help as to how he is to get that sum?—*A*. If I am not giving much help I am sorry, but I am trying to say what I think the position is and what it should be.

Mr. Justice DANCKWERTS here interposed to say that what counsel was asking, and what he himself wanted to know, was how he, as Adjudicator, was going to get at that sum. The witness replied that such practice expense figures as they had got for 1950–1 should be taken, but there was nothing by which that figure could be loaded for 1951–2. In making his award the Adjudicator would have to look at that figure.

Mr. GRANT: You mean that in making his award for 1951–2 he will have to look at the figure which has been put in for expenses for 1950–1?—*A*. Exactly, because all the figures that are in front of the Adjudicator for 1951–2 are in the nature of estimates. There are no firm figures for that year. The Adjudicator will be indulging in a little guesswork if he tries to ascertain the practice expenses ratio for 1951–2.

Q. I am not interested in that. I am interested only in seeing what your document will look like. I understand you agree that having scaled up the £19.8m. twice and scaled it down once you add something for expenses?—*A*. That is what we did to arrive at the starting point. We got a gross amount which we proceeded to load. For the purpose of paying under the Act we are not really concerned with the practice expense ratio; having got the figure we pay in gross. The practice expense ratio only comes into the picture at the time when the profession comes along and says that the amount it is getting is not enough, that the expense ratio has gone up.

Q. You had come to saying what we are going to do with the gross figure once it is ascertained. There is a saying, "First catch your hare"—what we have to find out is what the gross figure is going to be.—*A*. We have to find that out, but the gross figure would be a figure related to 1950–1.

Q. I dare say.—*A*. When we have the gross figure, say £55m., the Minister would adjust it to take account of the population and then distribute it among the executive councils. One would not attempt to adjust it to take account of practice expenses until there was some data on which to do so.

Q. I am trying to get you to help me and his Lordship as to how to arrive at the gross figure for the year 1950–1; we will deal with the others afterwards. We have got the £19.89m. scaled up twice and down once, in order to get a gross figure; from there you must include practice expenses and there are things you deduct for earned income outside the Service. That is right, is it not?—*A*. Are we talking about the total remuneration of the general practitioner or the central pool?

Q. I understand that the £19.8m. was the starting point for doctoring all the people in the country?—*A*. Exactly.

Q. And you take off 5% because 5% of the population are outside the Service?—*A*. Yes.

Q. And what is left is what it is going to cost to doctor the people in the Service, on the assumption that the people outside are being paid for otherwise, and you do not have to provide for them. On your basis, now you are dealing with remuneration for the doctors in the Service, that is right?—*A*. Yes.

Q. And certain credits have to be given for remuneration from sources outside the pool?—*A*. Exactly.

A Matter of Deduction

Q. There are certain differences about detail, but there is one thing for which you cannot claim credit—any amounts paid by persons not using the services. In other words, you cannot knock out 5% at the top for the people outside the Service and then ask for credit to be given for fees paid by people who are not using the services. That follows, does it not?—*A*. Yes, but it depends on the angle from which you approach it. If you are looking purely at the remuneration I agree your suggestion is the right one, but if you are looking at the remuneration of all practitioners, as in fact we are, then you must take into account what is being earned from private practice.

Q. If you start off by looking at the earnings of all practitioners from all sources and deduct 5% because you are concerned only with the National Health Service you cannot deduct anything more in respect of payments made by people who are not using the National Health Service?—*A*. I am sorry if I am a little dense. We are talking about the way in which the Ministry made the calculations to start with. Are you now moving towards what the Adjudicator should do in the way of a formula?

Q. Everything I have done since yesterday morning has been done to help the Adjudicator to answer this question. I am putting to you the logical consequence of making the 5% deduction. It is a simple proposition that if you knock off early on in the calculation that 5% of the income on the ground that you are dealing only with the Service you cannot knock off anything else lower down for the fees paid by the 5% not using the Service.—*A*. I would not go as far as that. We are looking at the income of general practitioners from all sources; 5% has been deducted

as the amount which a general practitioner gets in the way of fees for patients who visit him in the ordinary way. There are private sources of remuneration which have to be taken into account.

Q. They are in fact extremely small ?—*A.* Not necessarily.

Q. Are they not extremely small; I am putting that to you ?—*A.* They are not small, they are of the order of 10% of the total.

Q. I am putting it to you that they are extremely small; you are knocking off 5% from everything, not only of the private fees, but of the whole thing ?—*A.* Five per cent. of the whole thing, I agree, but what I am saying is that although you take off that 5% in making the original calculation and put 95% into the central pool, that 5% does not all go to doctors outside the Service; some goes to doctors inside the Service, and you have to take that into account—what the doctors inside the Service get from that proportion of the population.

Q. That is your basis. I will put it for the last time. If you knock out 5% of the total up at the top on the ground that 5% of the population is outside the Service and you are not concerned with them, you cannot thereafter deduct amounts paid by private patients to anybody at all ?—*A.* I would not go as far as that. In the figures which we have put before you I think the income of private practice is of a certain order; we have included a sum payable to some thousand doctors who are outside the Service.

Q. Your £150 per annum is not for doctors outside the Service ?—*A.* I am not talking about £150, I am talking about the thousand doctors outside the Service altogether, and we put in a figure which assumed a gross income for those doctors of the order of just over £3m.

Q. So what ?—*A.* I am just saying that I have deducted 5% in one place and I shall assume that there are 5% of the doctors earning a certain amount of money.

Q. If you have knocked out 5% of the adjusted Spens up at the top to cover doctoring done to people outside the Service, will you explain what conceivable justification there is for knocking it out again lower down ? You are taking out what these people are assumed to pay ?—*A.* I am not taking it out. What I attempted to demonstrate this morning in suggesting how I calculate the £2.7m. for private practice was that the figure was obtained from the Inland Revenue and relates solely to doctors in the Service. I am entitled to bring that into account.

Q. I submit that you are not. I suggest that on your basis it is a wholly irrelevant figure.—*A.* I do not agree.

The witness was questioned about what Mr. Grant described as a formula he had put in. He said that it was a suggestion which the Adjudicator might look at in fixing a sum for the central pool.

Q. Where have you put the 5% in that document ?—*A.* It is not there at all, for the simple reason that I adjusted the figure for the whole of the population.

Q. So that it is on quite a different basis from the one you were talking about this morning ?—*A.* All I was talking about this morning was the scheme we adopted in 1948.

Q. That was not all you talked about ?—*A.* It was all I intended to talk about.

Q. I will not comment on that for the moment. What this document says is that remuneration should be calculated on the size of the population and not on the number of doctors, which has nothing to do with the Committee's suggestions ?—*A.* I would not agree.

The Different Approach

Q. Take it this way, then. The Committee's case is based on the number of doctors giving full service in the scheme ?—*A.* Yes.

Q. Your figures are not based on that at all ?—*A.* No.

Q. They are in fact on wholly different lines.—*A.* I do not agree. We are talking at cross purposes. What we have attempted to do is to develop a total of remuneration on the same lines as the Committee, with the simple difference that the Committee adjusted it for the number of practitioners and we used the population. That is the only difference.

Q. What you describe as a simple difference makes all the difference in the world ?—*A.* It is a difference in approach.

Q. It is a completely different approach ?—*A.* I do not agree, unless you say you start from population or doctors then you do start on a different basis, but the method of building up the figures is the same in both cases.

Q. We are building up figures for remuneration of doctors with full lists in the Service, that is what we are doing. You are building up remuneration for all doctors whether they are in the Service or whether they are not in the Service. You think that does not make much difference ?—*A.* It is a difference of approach; we are looking at what the remuneration of doctors should be to deal with a certain population.

Q. And you have produced a figure which you call the gross remuneration of all doctors whether in the Service or not ?—*A.* Exactly.

Q. That includes a very substantial number of doctors with whom we have nothing whatever to do ?—*A.* Exactly.

Q. You make deductions from that and you include in your deductions estimates of the remuneration earned by the doctors who are not in the Service at all ?—*A.* Yes, but you observe that I deducted that.

Q. You deducted it in order to reduce the amount you say the pool should be ?—*A.* Yes.

Q. So it follows from this way of thinking that it is not a formula but a check on our figures. The higher the remuneration earned by the doctors who are not in the Service, automatically the lower will be the remuneration given to the doctors who are in the Service. That follows ?—*A.* Broadly speaking I think that might be the proper thing. Does it not follow that if the remuneration of doctors outside the Service is increasing they must be doing a greater proportion of work ?

Q. Might they not be charging the bigger fees. How do you know about that ?—*A.* I agree, but, generally speaking, they would be doing more of the work.

"A Ridiculous Position"

Q. Does it not strike you as a ridiculous position to say that the amount which has to be put into the pool for the remuneration of doctors in the Service is to be reduced if the remuneration earned by the doctors outside the Service is increased ?—*A.* I am very sorry, I do not think I would agree.

Q. What method have you got of ascertaining the remuneration of doctors who are not in the Service ?—*A.* All we have got is, as I have already explained, a certain calculation which was made this morning, and another calculation which appears in the supplement to the Ministry's case which assumes a certain measure of income from private practice. We are starting with the total income of all general practitioners before the war.

After some further questions Mr. Grant asked the witness to make an effort to answer the questions he was putting to him. What means had he got of ascertaining the earnings of doctors not in the N.H.S. ? He replied that they had no real means of knowing that figure. They made certain estimations.

Q. I will leave that for now. Earlier you said that in various areas the total number of persons on doctors' lists exceeded the number of the population. Does that affect the amount paid into the pool ?—*A.* No, it does not. All it does is to suggest that the number of people on doctors' lists is incorrect.

Q. There is obviously something wrong, but it does not affect the pool ?—*A.* No, it does not affect the size of the pool.

Q. It might even suggest when you say that 5% of the population is not using the Service that that percentage is too high ?—*A.* It is more likely that it is too low.

Q. That is guessing again, is it ?—*A.* It is based on certain control figures which we have had.

Q. Have not the figures been got out ?—*A.* They are being got out, but you appreciate it is a very big job and it is not done in five minutes, and I do not think the profession has been very co-operative about it.

Q. I gather that the reason why you scale up the £19m. is to give effect to the increased work necessary in the years during which the Service has operated ?—*A.* Yes.

Q. That, therefore, is based on the assumption that the amount of work to be done will increase in proportion to the population ?—*A.* That is not an unreasonable assumption.

Q. But everybody knows that it is wrong ?—*A.* I do not know that it is wrong.

Q. You do not know that the work has increased to a far higher ratio ?—*A.* I do not know that it has increased a great deal, but the Spens Committee has taken account of that in its recommendations. On the top of that you have a supplementary increase in the increase of the population.

Q. You are developing an argument about what you think the Spens Committee had in mind but did not say ?—*A.* I am saying what they said in their report.

Increase of Work

Q. I will read it presently. You agree that the amount of work per patient has increased very much since the National

Health Service began ?—*A*. It has increased, but I will not admit that it has increased very much.

Q. What proportion of the population was on the panel ?—*A*. Rather less than 50%.

Q. May I give my figures for prescriptions ? In the calendar year 1947, under the old National Health Insurance scheme 75,991,000 prescriptions were dispensed. In the half-year, January to June, 1948, 41,802,000 were dispensed, in the first half-year of the National Health Service, from July to December, 1948, the number was 90,334,000; for 1949 it was 219,188,000; for 1950, 236,650,000, and for 1951, 249,855,000. It does look like a substantial increase ?—*A*. It is an increase, but it is a qualified increase in the sense that in the first set of figures you are looking at insured persons—namely, the working-classes—who have an incentive to stop at work, and who, by and large, are what might be called the healthier ranges of the population. Now that we have a National Health Service we have the young children and elderly people included. Therefore although there is a substantial increase it is not in proportion to the figures you read out. I would not take those figures by themselves as a measure of the increase in work.

Q. It is an increase in the number of prescriptions written out ?—*A*. Perhaps the less one says about the number of prescriptions written out the better.

Q. Possibly that is so. You appreciate that the object of the Spens Committee, just before the scheme came into action, was to provide what should be a range of total professional income of registered medical practitioners in a publicly organized Service ?—*A*. Yes.

Q. They laid down a scale which was converted into £16m., with an addition of £3m. which was necessary to furnish the remuneration for all individual doctors on the scale which the Spens Committee laid down as desirable on the 1939 basis ?—*A*. Exactly.

Q. There have been changes, of course, but, according to your method of working it out, you start from the total and, in arriving at your result, the number of practitioners who are to be paid out of this fund is an irrelevant factor ?—*A*. Certainly.

Q. Would you tell me how you can deduce anything which will produce a certain scale of remuneration which has no regard to the number of men in that class ?—*A*. You are paying for a certain volume of work to be done. You have a certain number of people doing that work to whom you pay a certain amount of money. It does not make sense to me to say that you should have four men to do a job of work and pay them a certain amount because you want five men in a year's time.

Q. How can you arrive at a figure which will give a certain range of increase to a certain body of men if they pay no attention whatever to the number of men in that body ?—*A*. I have already said that I would not agree that you would have to pay incomes of that range to a number of men.

Mr. Justice DANCKWERTS: Supposing that you had a certain amount of work for which you had four clerks, but you had to get a fifth clerk in order to do the work properly. Would you pay the five clerks the total that you have been paying the four clerks previously ?—*A*. If it had been a Government office it would not happen because you would not get a fifth clerk.

Q. That is not relevant.—*A*. If one did have a fifth clerk one would probably have to bring in somebody of a very much lower grade. But you would not get five people to do the work which four could do in reasonable comfort.

Q. We are told that a certain standard wage or remuneration in the case of doctors is a proper figure. If you are going to pay the five clerks the total which you paid the four you are not paying enough.—*A*. If you have four people who are doing the job you are not going to pay five people to do the same kind of job, unless there is something seriously wrong in the organization of the office. In the case of general practitioners I would say that the Spens Committee does envisage an increase in the volume of work. So far as that increase in volume is concerned I would say it is an increase in population, and for that we make what we think is an adequate provision. But I am afraid I could not possibly assent to the theory that an unlimited number of people could come into it.

Mr. Justice DANCKWERTS: I did not say that; that is a different matter.

Full and Restricted Lists

Mr. Grant next asked the witness on what basis he had split up the amount paid to general practitioners on the full list and on the restricted list, respectively. He replied that it was an agreed basis. These figures were brought together in his office and were checked against the names of doctors in their index. Their index showed whether the doctors were providing full service or had a restricted list.

Mr. GRANT: As regards consultants and senior medical officers, what are here indicated are, of course, part-time posts held by general practitioners ?—*A*. Yes.

Q. When the Service came in general practitioners holding these posts were in the first instance continued in them ?—*A*. That is so.

Q. But on the posts falling vacant has not the policy been to get these posts into the hands of doctors who were not general practitioners ?—*A*. It is probably fair to say that there has been a tendency where such people were available to take the people into those posts.

In reply to further questions on this point the witness said that he was not concerned with the hospital side of the Ministry. The figures had been given to him by the Hospitals Division.

Q. So we are getting at the moment only "what the soldier said." Did you know that there is another document in September, 1951, saying that it is desirable to take action as soon as possible to reduce the number of senior registrars ?—*A*. I know that is so.

Q. You have given no effect to this at all in the figures ?—*A*. I have taken the figures given to me by the responsible division.

Q. I come to payments by local authorities. These are all estimates for the years in question. How do you say you arrived first of all at the apportionment of the total between payments made to general practitioners in the N.H.S. and to general practitioners outside the Service ?—*A*. On exactly the same basis as for Government departments. I told you this morning that in respect of the major Government departments . . . we had a break-down between full-time and part-time doctors, and here we used the same ratio as for a Government department.

Q. What basis have you adopted for checking the split between the people with full lists and those with restricted lists ?—*A*. We have not got it laid down at all yet.

Q. But you have given an all-round total of £367,000 as the amount allocated to Part III Services, and you have given an estimate of £5,000 of that to practitioners with restricted lists ?—*A*. I am not sure at the moment what basis this is taken on.

Q. Do you think it is reasonable or likely to be right to apportion these Part III Services on this basis of Government department practice ?—*A*. Well, I know of no other method of adjustment, because, by and large, it is the tendency for Government departments and local authorities to employ general practitioners. The general practitioner gets a reputation as the sort of man who is prepared to do this sort of job, and Government departments and local authorities do often employ the same man, so that I think it is not unreasonable to assume that the break-down is the same.

Q. Take the item "Care of mothers and young children"—that is, clinics. Is it not the fact that a very large proportion of these clinics are attended by women doctors, many of them married women, who are not in the N.H.S. at all ?—*A*. That may be so in some cases, but I would not agree that it is completely so.

Q. It is not really very logical or sensible to apply to that kind of thing the basis thrown up by the experience of the Ministry of Labour and National Service, the Ministry of Pensions, or the Civil Service Commission ?—*A*. All I say is that the break-down between Government departments is the only one we have. We have no other basis. And I suggest that, by and large, the method we have adopted is quite a reasonable one.

Q. It does not look, prima facie, very scientific ?—*A*. I think it is as good as anything else. I would not be prepared to say there is anything very much wrong with that figure.

Q. Is not Part III (i) (Care of mothers and children) a diminishing item anyway ?—*A*. There is a small diminution there, and midwifery has gone down a little, but overall there is an increase.

Coming to Government departments as another source of general-practitioner remuneration, Mr. Grant asked if there was not an actual break-down in the case of the Ministries of Pensions, Labour and National Service, and National Insurance, and the Civil Service Commission, and whether that break-down extended not only to health and non-health services but to restricted and unrestricted lists. The witness replied that it was a complete break-down.

Q. Is it not a fact that very substantial work in relation to the Service Ministries (War Office, Admiralty, and Air Ministry) is done by retired service doctors ?—*A*. But they are men who

are practising general practitioners. These figures relate only to payments made to general practitioners.

Q. Are they practising to any extent as general practitioners with unrestricted lists ?—*A.* We break these down on the basis of the others. There is no doubt that these gentlemen who hold themselves out to be general practitioners are general practitioners.

Q. Are they retired officers with unrestricted lists ?—*A.* Some may have restricted and others unrestricted lists, but there is no reason to think that the great majority of them are ineffective practitioners.

Q. You just don't know ?—*A.* I don't know definitely, but they must be assumed to be in effective practice.

Re-examination of Mr. Danielli

The ATTORNEY-GENERAL said that he wanted to understand—and he was being quite objective in this matter—the starting point on which the Spens figure was based which gave the £19.89m. representing the 1939 income of all doctors adjusted to give effect to the Spens increase. This, of course, included all doctors, whether inside the Health Service or outside, because in 1939 the National Health Service did not exist. When this figure was brought up to date by whatever betterment factor was adopted it still included all doctors, though not all were working in the National Health Service. Those not in the Service must be cut out, but those who were working in the N.H.S. would also be getting some remuneration from outside, and therefore in considering them it was necessary to include such outside remuneration.

The WITNESS agreed with this view. He explained that in computing these figures they did not start with the net income and then proceed to adjust it for practice expenses. The starting point was the gross income.

Asked to enlarge on his remark that he was not prepared to say on what basis in future he would proceed, the witness explained that what he had in mind was this, that after the present adjudication was over and the Adjudicator had given them the figure which he regarded as a proper one for the central pool, then that figure would be taken as the basis for the pool payments and would be adjusted to take account of changes in the population year by year and major changes in practice expenses, though that sort of thing could not be done every few months. Again, account would have to be taken of any future major change in the value of money. That was what he had in mind.

The ATTORNEY-GENERAL said that Mr. Grant had stated that in his view the Adjudicator would lay down a formula which would be generally applicable in the future. He gathered that the witness did not agree with that view.

The WITNESS said that he did not think it applicable to work on a formula. What they were aiming at was a net income which would be on the basis of Spens, with some adjustment to take account of any changes in the value of money and in the economic circumstances of other professions. If they got a total sum awarded by the Adjudicator that sum would have to be tabulated having regard to all other sources of remuneration. He would suggest that it was quite impossible to produce a formula which was going automatically to take care each year of what doctors might get from other sources. It was something to be looked at freshly every year. One could not say that the pool should be £50m. and should be adjusted every year to take account of an increase of population or an increase in practice expenses. He did not see how one could possibly devise anything in the way of a simple formula to take that into account.

The ATTORNEY-GENERAL: Have you been able to find the word "formula" in the terms of reference in this inquiry ?

The WITNESS: It is not there at all.

Practice Expenses

Evidence was next given by Mr. L. G. K. STARKE, F.I.A., Principal Actuary in the office of the Government Actuary, with regard to practice expenses. Examined by Mr. GRANVILLE SLACK, he said that in 1950, at the invitation of the Ministry of Health, he undertook an investigation into the practice expenses of general practitioners for the year ending March 31, 1950. It was agreed with the British Medical Association that an investigation should be undertaken for this purpose. A start was made with a sample of 3,145 principals in general medical practice in the National Health Service. The names were taken from the records in the possession of the Association. He thought they were selected by taking every sixth name on the list. The Board of Inland Revenue was then asked to furnish the returns from these doctors, particularly as relating to allowance for practice expenses. When the returns were made it was found that they were on a varying basis and for varying dates, with the result that a large number of the returns had to be discarded, and the number eventually taken was 449. From these 449 he made a calculation to find out the ratio of practice expenses to gross remuneration. The figure at which he arrived was 35.5%. The actuary for the British Medical Association arrived at the figure of 37.5%, and in order to reach a working compromise the Ministry had been prepared to concede a figure of 36.5%, but the British Medical Association refused to move from its higher figure.

Since then further information had been obtained about practice expenses, and this led him to suppose that his original figure of 36.5% was rather a bad guess. The second part of the story was the result given by an enlarged sample of some 700 doctors which had recently been forthcoming. This was an enlargement of the original 449. He proceeded to give the reasons which led him to take back his original figure of 36.5%. One of the reasons was that the sample on which it was based was disappointingly small; another important consideration was whether the sample could be deemed to be fully representative. In this case there was some ground for supposing that it was unrepresentative in a way which made the earlier figure an understatement. For example, the ratio which a doctor's expenses bore to his remuneration might vary somewhat according to the sort of doctor he was. A doctor in partnership might be supposed to incur a rather lower level of expenses than a single-handed doctor. A classification was accordingly adopted in which the cases were broken up into 36 groups. The result of his new calculations gave not a figure slightly in excess of 35.5% but one slightly less, actually 35.3%. He went through the same process of weighting the relative numbers and found a reduction of about 0.2%. In other words, his original 35.5% came down to 35.3%.

Asked how he arrived at 37.7% for the year ending March 31, 1951, he said that the Inland Revenue were able to study the 1950–1 returns for nearly 400 doctors who had figured in the 1949–50 returns, and the comparison between the expense ratios suggested an increase of 2.2% in the expense ratio, and this figure, he thought, was not at issue; it was accepted by both sides.

Cross-examination by Mr. Grant

Q. In the end there were 700-odd cases from which to draw a conclusion ?—*A.* 725.

Q. The figure of 35.5% mentioned was based on that number ?—*A.* Making a slightly different use of the figures brought the 35.5 down to 35.3.

Q. So that we get appreciably different results according to the use made of this very small sample ?—*A.* Yes, if you call a difference of 0.2% appreciable.

Q. If you consider what it means in money I think it is quite substantial. At any rate there is this difference ?—*A.* Yes.

Q. It does not look a terribly reliable figure, this 35.5% ?—*A.* No. It was derived from a sample which was very much smaller than both sides hoped to achieve, but from the re-rating calculation it looks as though one cannot budge very much. I agree that 0.2% is appreciable.

Q. You are in a white sheet as regards the amounts you gave originally to the Ministry ? You advised them to accept 36.5 ?—*A.* I do not know that I wear a very white sheet.

Q. But you are saying that your advice was all wrong ?—*A.* Oh, yes, I made a bad guess.

Q. And I understand that you changed your mind about this because of what emerges from the difference arising out of the additional cases which brought the sample up from 449 to 725 ?—*A.* Yes, to the extent that the sample has been enlarged by these 200 or 300 cases. One is, I suppose, rather more confident over 725 than over 449.

Q. If your advice was sound on the material originally before you it does not become unsound because another 200 or 300 cases show approximately the same results as the original smaller number ?—*A.* I am afraid I must make it clear that the increase in the sample was not the only reason which led me to go back on my figure. It is this question of looking at the thing in different categories, and it brings one back to the question of whether the sample was representative. Did it represent in due proportion the different kinds of doctors ? It is common ground between the two sides that the original 449 might be suspect in that way. In arriving at the basis on which I gave my advice I had recourse to the only information then available to me in the shape of some figures the Ministry had collected for the first nine months of the National Health Service. These pushed up the 35.5 by a little. But shortly after that I was given a series of weights which were more suitable for the purpose in view. They related to the actual body of doctors with regard to whom the expense ratio would be used, and to the same financial year, and the effect was then to depress the figure slightly.

Q. It seems to be an elastic figure ?—*A.* Oh, yes, it is not cast-iron or even approximate. The trouble is that one has not sufficient information.

Q. If the 449 is not a reliable sample is there any ground for regarding the 700-odd as any more reliable ?—*A.* Well, I think I may say that if we had started off with 775 instead of 449 we should not have felt quite so unhappy.

Q. You would have been four-sevenths as unhappy. I notice that out of the original sample of 3,145 cases 2,775 forms were returned by the local inspectors, and of these 868 related to cases where accounts were not available. That is from the Inland Revenue, is it not ? And it means that the Inland Revenue did not have the figures as regards those 868 cases ?—*A.* That is as I understand it.

Q. One reason was that they had not agreed the figures with the taxpayer ?—*A.* Yes.

Q. Is it not reasonable to expect that prima facie the cases in which the Inland Revenue did not agree the figures were the cases where the taxpayers were making what the Revenue considered to be unduly large claims for deduction ?—*A.* That is possible.

Q. It is the most likely, is it not ? What other reason would there be why they should not have the figures ?—*A.* Well, I suppose some of us are more lazy in filling up our income-tax returns than others.

Q. But I do not think many of us are allowed to be as lazy as that. The inference to be drawn from these figures is that the 868 probably represent cases where high deductions were claimed for expenses, whether rightly or wrongly one does not know. The elimination of these 868 cases throws the average very much out and is likely to reduce the overall percentage ?—*A.* I can only agree with you that that is a possibility.

Q. Do you agree that the proportion of low income cases in what is left of the sample is unduly low ?—*A.* I would not know. My only way of testing is to find out whether the 35.5 as a straight arithmetical average by dividing one figure into another is the best one can do for applying to the whole body of doctors, and my method of testing that has been to use a series of weights derived from the whole body of doctors. The result of re-rating is that either the proportions in the categories are much the same throughout or that the error in one proportion is counter-balanced by the error in another.

Increases in Incomes of Other Professions

The ATTORNEY-GENERAL said that his learned friend, Mr. Grant, had questioned one of the previous witnesses concerning some information which he had derived from another Government department than the one with which he was associated. On the other hand, the whole of the evidence of Professor Allen was based on outside documents which he himself had not challenged. The next witness whom he was proposing to call had accumulated a mass of information from as many as 35 different sources. He hoped that Mr. Grant was not going to question each of these, otherwise the inquiry would be prolonged unduly.

Mr. Justice DANCKWERTS : The figures may be accepted even though the witness has obtained them from other sources.

Mr. J. P. DODDS, Under-Secretary for Finance, and Accountant-General, Ministry of Health, was examined by Mr. Granville Slack.

He produced a document in which information had been compiled as to the relative increases in income in other professions. He said that the information was collected in the autumn of last year. All of it related to the incomes of salaried people. He had endeavoured to get from professional organizations information as regards fee earnings, but without success. He had approached the Royal Institute of British Architects, the Law Society, and the Institute of Chartered Accountants, but he had not been able to get information regarding increases of fees.

Mr. Justice DANCKWERTS: Did you approach the General Council of the Bar ? (Laughter.)

The WITNESS: No, Sir. We approached the Law Society.

Mr. Justice DANCKWERTS: That is quite a different thing. You evidently did not.

The witness said in answer to Counsel that he had compiled a table showing the increase over 1939 which had taken place in July, 1948, September, 1949, and July, 1951, for certain specified professions. In the administrative class of the Civil Service, in the highest grades, the increases over 1939 at the three dates were respectively 15.8, 25.0, and 47.7 respectively, and the lowest 5.9, 13.6, and 25.0 respectively. The same process had been followed for other professions in the Civil Service, for Metropolitan magistrates, for officers in the Army, for officers of local authorities, for graduate teachers in grammar schools, university professors and lecturers, and Fellows of the Royal Institute of Chemistry, for the banking profession, for various industries and companies, and for whole-time hospital consultants in the National Health Service. Certain of the material from industries and companies was obtained in confidence, and the figures were handed up only to the Adjudicator and to the counsel on the other side.

He was asked whether the whole-time hospital consultants in the National Health Service had not been also the subject of an inquiry by a Spens Committee, and replied that that was so.

In reply to further questions, he said that it was impossible to carry out any averaging process for all of these miscellaneous grades, but in general it could be said that a perusal of the information showed that the general range of the increases was, for July, 1948, from 10% to 50% ; for September, 1949, from 10% to 60%, and for September, 1951, from 20% to 80%. The increases outside these ranges were few and exceptional. These figures covered by far the majority of the many instances which were included in the document.

Mr. GRANVILLE SLACK: In the Spens Report the view was taken that in 1939 doctors were underpaid ?—*A.* That is the view in the report.

Q. Are you aware of any other professions which took the same view ?—*A.* Yes, there are reports relating to several of these groups which did express the same view and I could go into details about them if desired.

The witness then went on to say that the case of the administrative class in the Civil Service was the subject of the Chorley Report published as a White Paper (7635) in 1949, and that was followed, after an interval, by an increase in salaries. The legal department of the Civil Service was the subject of a confidential report by a committee in 1944, which took very much the same view. The position of the scientific officers of the Civil Service was reported on in 1943, and again substantially the same view was taken. As regards teachers, the Report of the McNair Committee was published in April, 1944, and as regards university professors and lecturers, the University Grants Committee reported in 1947.

The examination of this witness had not concluded when the inquiry was adjourned until the following day.

THIRD DAY

Thursday, March 20

At the beginning of the sitting the evidence of Mr. R. E. BEALES, F.I.A., of the Inland Revenue, was taken *in camera*. Mr. Beales gave evidence as to the incomes of certain sections of professional classes.

Cross-examination of Mr. J. P. Dodds

Mr. GRANT, in cross-examining Mr. Dodds, who had given evidence on the previous day, said that what he had brought forward was a very small sample.

Mr. Dodds replied that it extended to several thousands of cases.

The argument then turned on the definition of "professional."

Q. All the cases you have given here are of people on salaries. You have not brought forward a single case of a professional man working as a principal ?—*A.* No. The information I have submitted does not attempt to cover that field at all.

Q. A large proportion of your sample—for example, Civil Servants—are on salary scales ?—*A.* Yes.

Q. If promotion is quicker than before the war, these figures take no account at all of that fact ?—*A.* They are related to the same grades and level of responsibility as before the war.

Q. But if promotion is quicker than before the war these figures take no account of the influence of that fact on earnings ?—*A.* No, they do not cover that at all.

The ATTORNEY-GENERAL: Do you know if promotion is quicker or slower now ?—*A.* I am afraid I have no information on that.

Further Examination of Professor R. G. D. Allen

Professor ALLEN, who had given his principal evidence on the first day, then went into the box, and further questions were addressed to him by Mr. HYLTON-FOSTER on the evidence given *in camera* earlier that morning by Mr. Beales.

He said that the general impression he had got from listening to Mr. Beales's evidence was that it was not necessarily inconsistent with the general pattern he had tried to present in his own. Mr. Beales's figures had not surprised him, although he would have liked to have asked some questions about them before he reached a balanced judgment. One point concerned the timing. Mr. Beales had taken the year 1937 to begin with, and this was a specially good year. His own comparison was with 1938, and the difference as between the two years would be as much as 5%. Again. Mr. Beales's latest date was 1949, and here also the comparison was vitiated. He would have preferred to have a larger group for comparison than Mr. Beales had brought forward. The larger the group the greater the stability.

He did not wish to qualify in any way the evidence furnished in his own memorandum. Further, he thought that the assistance afforded by salary scales would be very limited. A person receiving a salary scale showed a different distribution of timing; in other words, salary proceeded by steps upwards until retirement, whereas for fee-earners a more typical distribution would be one which rose to a peak and then fell off. It would be dangerous to pick on one particular salary scale for comparison with the earnings which were not on a salary scale. He thought it true that at the present time other earnings increased far more than salary scales.

Mr. HYLTON-FOSTER: Speed in promotion is obviously of the greatest importance. Did you make an experiment on the basis of the documents available to you to see what happened to various individuals who were promoted, principally in the Ministry of Health, in certain years from 1927 to 1940 ?—*A.* I certainly found that those officials who had been made principals in the late 'thirties had reached by the present time higher posts in general than those who had been made principals in the late 'twenties—in other words, the later generation had gone ahead in comparison with the earlier. Even those appointed principals just before the war were further up the scale than those appointed in the late 'twenties. My general impression was that there had been at least four or five years' acceleration.

Q. Superannuation also comes in ?—*A.* Yes, it must be taken into account. The different terms under which superannuation is obtained at the end of the salary scale are relevant because superannuation is in effect an increase of salary.

Further Cross-examination

The ATTORNEY-GENERAL addressed some questions to Professor Allen.

Q. Your 120% which you want to give to general practitioners to put them in the same position as a large number of professional and other people is a figure which is arrived at because there are people other than professional who have gone up by 120%, whereas professional men have not ?—*A.* I did not imply that. Those who have gone ahead and also those who have fallen behind exist equally among salary earners and the other groups.

Q. Can you give an example of a range of professional men properly so-called whose remuneration has gone up 120% ?—*A.* No, I could give you examples of the kind of people who may have gone up.

Q. Can you give an example of a profession which has gone up 120% ?—*A.* That is too limited a question.

Q. It does not matter whether it is limited or not, the answer is "No" ?—*A.* The answer is "No."

Q. You have heard evidence to-day [the evidence taken in closed court] relating to three professions in which the rise has been very much less ?—*A.* I would not agree to that. The figures given in that evidence and in my own are not comparable.

Q. In 1938 and 1939, the years you have taken at the beginning of your computation, a large rearmament programme was getting under way ?—*A.* No, sir, 1937 saw the beginning of that, and then there was a depression. The rearmament programme only affected incomes in the late 1939 and 1940.

Q. To say that 1937 was a substantially better year than 1938, unless we have some figures, is really just speculation ?—*A.* It is general knowledge among economists that 1937 was a better year for industry and employment and for incomes generally than 1938.

Q. Would you say that as regards the legal profession ?—*A.* No, I have no comment.

Some argument ensued on what constituted a professional man. Professor Allen said he had no evidence to show that in the case of men who worked on salaries their increase in net income as between the pre-war period and 1950 was smaller than that of men who worked on fees. The evidence was just not there. The question was a difficult one to answer precisely, because there was an overlap between the two. Salaried professional men in many cases also earned fees.

The ATTORNEY-GENERAL: What I am suggesting is this. It is quite clear from the information we have got that if you combined with the percentage increase in fee earnings of professional men the percentage increase of salaried professional men you would arrive at a subs antially smaller percentage figure than that of the professional fee-earners only ?—*A.* My information is that the two are broadly the same, and therefore the comparison figure of 120% applies to both.

Re-examination

Mr. GRANT, in re-examination, said that evidently Professor Allen attached less importance to salary scales than to earnings. Did salary scales give any clue to promotion or steps in the scale? Professor Allen replied that they did not. In reply to another question he said he had seen no evidence in this case at all to justify the opinion that non-professional people had "bumped-up" the percentage. His general conclusion was that upper salaried earners and professional earners had experienced very much the same kind of change since 1938.

Presentation of Case for the Ministers

The ATTORNEY-GENERAL then opened the case for the Ministers. At the outset he expressed on their behalf their appreciation of the extremely objective and very restrained way in which his learned friend, Mr. Grant, had opened the case for the Committee on the first day. One of the most

desirable results of this whole adjudication was that there should be a spirit of co-operation in which both parties could set to work on the next stage of this great National Health Scheme. They were all aware that in the past in connexion with this matter—and not surprisingly—there had been a certain amount of strong feeling, but his Lordship was now going to be in the position to give an adjudication which could be accepted by all concerned as the basis of future operations and would enable all these controversies to be put to rest.

Another thing which he ought to say was this: that this matter had been hanging about for a long time, and it was highly desirable that it should be settled now once for all. He was blaming no one at all, but so far as the Ministers were concerned it was their first determination when they came to office that they would get this matter concluded so far as possible.

The background was of some importance. He hoped he might be able to allay some feelings which had arisen based on misunderstandings as to their attitude in this matter. The adjudication had been decided upon because it was felt that there were two quite widely different points of view, and the proper way of settling the matter would be to have the case of both sides placed before an impartial adjudicator. Therefore if he had to put forward some matters which might appear to the other side harsh or unreasonable, after all, the matter was in his Lordship's hands. He thought he could say without any undue modesty—because he himself was not responsible for it—that the document put in summarizing the case for the Ministers did set out in sufficient fullness and fairness the history of the whole matter.

Mr. Justice DANCKWERTS: Yes, I found it of great help.

Thorniest Questions

The ATTORNEY-GENERAL went on to say that it was from that history that the thorniest questions took their origin. The basis of the Spens Report was to arrive at what ought to be the proper individual incomes of medical practitioners, but actually what it did was to proceed from the point of total remuneration for all engaged in the work. The terms of reference of the Spens Committee were perhaps germane to this consideration. The Committee was instructed to consider what ought to be the range of total professional income of a registered medical practitioner in any publicly organized service of general medical practice; to consider this with due regard to what had been the normal financial expectations of general practice in the past, and to the desirability of maintaining in the future the proper social and economic status of general practice and its power to attract a suitable type of recruit to the profession.

The Committee at quite an early stage came to the conclusion that they could not go beyond the 1939 situation; they had not the necessary information, and they had to leave to be dealt with later the problem of adjusting 1939 values to post-war values. It was necessary to consider not only any change in the value of money but any change in the incomes of members of other professions. There one came up against one of the questions of principle involved in the present adjudication. His Lordship had been asked to do two things—first, to take into account the increases in cost of living, and, secondly, the increases which had in fact taken place in incomes of other professions, and to apply whichever figure was the greater.

He had to submit to his Lordship that that was quite a misconceived approach. Let it be supposed that the cost of living increased by 300%, but that the incomes in other professions had not made anything like a similar increase. Would it not be an extraordinary proposition that doctors should be given the 300% increase? That would be a thing which, he was quite sure, the doctors themselves would not suggest. Therefore it must be the case that the controlling factor was the corresponding change which had taken place in the incomes of other professions. If other professions had not caught up with the rise in the cost of living it would be an extraordinary proposition that doctors alone should be given preferential treatment. His learned friend's argument on that point was unreal, because it must result in absurd and unfair consequences.

Incomes in Other Professions

In fact it did appear to be the case that professional incomes had not caught up with the cost of living. Obviously the increase in the cost of living was one of the factors which had to be taken into account, but it seemed evident that what doctors should be given should be comparable with what other professions obtained, and if there had been an increase in other comparable professions a corresponding increase should be received by them.

How was one going to say what was the position with regard to other professions? It would be agreed that this was an extremely difficult field in which to travel, and he was sure his learned friend would not suggest that on their side they had not done their best to assist his Lordship in the matter. After all, statistics of the kind required in this case were almost impossible to obtain. Efforts had been made to obtain figures from certain professional bodies, but those efforts had largely failed. It was doubtful whether the professional bodies in question had got them or had got them in any more than an extremely imperfect form. Professor Allen, the first witness called on the side of the Committee, was not overstating the matter when he said he was proceeding, with certain basic figures, on speculation. That morning he himself had tendered other evidence on that point—the evidence of Mr. Beales.

Mr. Justice DANCKWERTS: Mr. Beales's evidence was very helpful indeed.

The ATTORNEY-GENERAL went on to say that the next matter was in relation to the number of doctors. He would like to consider in an entirely objective way how controversy had been built up over that. The whole basis of this inquiry concerned total remuneration. There was a certain amount of public money available for the purpose of the National Health Service. Quite obviously those responsible for its guardianship were jealous over its administration. It seemed extraordinarily difficult to determine how many doctors there were in this service at any given moment. The figure of 19,227 general practitioners given in the Committee's case included some practitioners who were not engaged in providing general medical services throughout the year. If those were excluded the number of general practitioners for the year ending March 31, 1951, became 18,387. This illustrated the difficulty of arriving at a proper estimate of the number of practitioners providing the services.

The basic question which did arise was this: the view had been taken throughout the whole discussion that the proper way to approach this method of payment was on the basis of work done. His Lordship might come to the conclusion that that was wrong; there had been a great deal of discussion about it. His Lordship had not been troubled by his learned friend concerning the various arguments which had arisen on that head, and he might very well ask himself, having added on the Spens increase of £3.1m., whether the work could be done by the same number of doctors under the National Health Service. It was not part of his instructions to allege over-doctoring. They knew that doctors were hard worked. There might be certain areas where there was over-doctoring and others where there was under-doctoring, but no evidence had been given on that point; nor was he attempting to bring forward evidence that there was over-doctoring.

The Attorney-General then proceeded to deal in detail with remuneration which general practitioners in the National Health Service received outside the Service. He said that, like many parts of this inquiry, this involved various estimates and approximations.

He continued: "I say what has throughout been stated on behalf of the Department, that the Ministers, rightly or wrongly, arrived in 1947 at a certain figure for the central pool. The Committee considered that figure too small, and

the Committee are suggesting that a positive addition should be made to the central pool. We say that it is for the Committee to prove that this addition should be made, and it is for your Lordship to decide whether they have made out their case or not."

What in all the circumstances was the comparable increase in other similar professions? The only way in which that could be tested was by asking in the first place what was the meaning of the expression "other professions." Reference had been made to the various new professions which were springing up, such as he had described at one stage as the "Burnham world"—the industrial and managerial type of occupation—and he thought his Lordship would agree that it was not intended that professions of that kind should be included. On the other hand, the professions did clearly include not only the men who worked on their own account for fees but those who worked for salaries as professional men. There was not much difference of view between Professor Allen and Mr. Beales on this point. If the Committee could satisfy his Lordship that there ought to be a percentage increase, let it be so. But could it really be said that they had satisfied them with any evidence which would justify a figure of more than 80% increase in comparable professions?

Difficult Territory

The Attorney-General made certain submissions. After some argument on the relatively minor calculations made in the opposing cases, he addressed himself to the comparison with the increase in earnings in other professions. What was meant by "professions" in the terms of reference of the present inquiry? It was certainly not intended that the Adjudicator should take into account people who were not in the professions as the word had been understood for hundreds of years. It had almost been suggested by Professor Allen that farmers should be included among the professions.

But "profession" in the sense in which the term was used in the terms of reference certainly included both salaried people and self-employed people who earned fees. As regards the latter, evidence had been given that morning (by Mr. Beales). He did not know what was the numerical relation of these two groups of professional people, but he would suggest that there were many more salaried than fee-earning. The Ministry had tried to get some scale which would show the increase which had taken place in professional salaries during the period in question (1938 to 1950), and it did appear that in the case of professional salaries the increase had been less than in the case of fee-earners. It was common knowledge that the professional man working on salary did get a rather poor deal as compared with other people.

The best conclusion that one could suggest was this: that if one were able to amalgamate the salaried and the fee-earning professional people one would have to proceed on the basis: (1) that there were more salaried people than fee-earning, and (2) that on the whole salaried people received less than fee-earners. Professor Allen was working on difficult territory, but he was not dealing at all with the problems his Lordship had to cover. In the Committee's case it was stated that it was possible to determine with reasonable accuracy the general level of net professional incomes per head, as compared with their general level per head before the war. But Professor Allen had made no attempt to do this. He had not proved that professional incomes had advanced by 120% (in other words, if the figure for 1938 were taken as 100, then the figure for 1950 would be 220). All he had done was to show this percentage increase for the whole group of earners. It was true that that morning, in reply to a question put to him, he seemed to say that they would all stand at 220, but he thought he had told them previously that with the inclusion of farmers and other people one would expect to find the professional man relatively rather down in the scale. The argument seemed to be, "It is quite true that salaried and fee-earning professional people have not been able to get up to 220 (in relation to the 100 for 1938), but because the general income class to which they belong has been raised to that figure, they should be raised to it also." But it was not to this point that the terms of reference were directed. The Committee's case mentioned the general level of net professional incomes per head as compared with the pre-war position. It was quite clear that this was much lower than 220, and that some figure substantially smaller than that would have to be taken. It was imputing no blame to Professor Allen to say that he was not really very helpful on that point.

Cost of Living Up

The restoration of the doctor to his place in the hierarchy of professional incomes had been mentioned. It was said that he must be at the same distance from the top of the scale as he was before. He had been tempted to ask, "Why not have him the same distance from the bottom? One got into all sorts of difficulties in exploring these unknown statistical territories. The terms of reference of the Spens Committee were to consider what ought to be the range of total professional income of a practitioner in a publicly organized service, with due regard to what had been the normal expectations of general medical practice in the past and the desirability of maintaining in the future the proper social and economic status of general medical practice. It was not a question of what terms were necessary to keep up with the cost of living. The mere fact that the cost of living had gone up was no reason in itself for giving the doctors a better deal than anyone else. All that Professor Allen had proved was that, owing to the very skilful efforts of certain sections of the population included in his enumeration, on the average the people in those sections had caught up with the cost of living whereas the professional man had not.

It had been suggested by his learned friend Mr. Grant that his Lordship should consider making a formula. He begged his Lordship not to consider doing so. It did not fall within the terms of reference of the inquiry. He also pointed out that the safeguard against new people setting up in the practice of medicine was very slight, so that any suggestion that the Adjudicator should lay down a sort of principle whereby the number of doctors might be taken at a given date and multiplied by a certain figure would be a very dangerous thing to do. The Ministers did not agree that by reason of Section 34 of the Act there were adequate safeguards against "over-doctoring," or that there was not, or could not be, a surplus of general practitioners in the Service. The Medical Practices Committee could prevent further practitioners entering the Service as single-handed practitioners in areas where it was established that there were already enough, but it could not direct a practitioner to remove from an "over-doctored" to an "under-doctored" area.

He concluded by saying that the attitude of the Ministers was that if the General Medical Services Committee was able to satisfy his lordship that the pool was inadequate, well and good, but they submitted that on the evidence brought forward no sufficient grounds had been shown for increasing it in the manner suggested by the Committee.

Mr. GRANT explained that all that he had meant by the word "formula" was that his Lordship in giving a figure for 1950–1 should also furnish them with some idea how he had arrived at it.

Mr. Justice DANCKWERTS said that, as he understood it, the Committee contended that there should be adjustment back to July, 1948. For that reason he would have to indicate how he reached his particular figure, and might have to indicate what would be an appropriate factor.

Final Speech for G.M.S. Committee

Mr. GRANT, in his final speech for the Committee, took up first the amount of betterment percentage. He was not quite

sure what the attitude of his learned friend the Attorney-General was about the comparisons which had been brought forward. Reference had been made to the fact that in the income groups Professor Allen had brought forward he had included the incomes of persons such as farmers.

Mr. Justice DANCKWERTS: The farmers go out of consideration; they are not traders, nor are they professional people.

Mr. GRANT addressed himself to the question of what was relevant in fixing the betterment percentage. One had to compare what had happened to doctors with what had happened to members of other professions, and his friend suggested that if these changes had not kept pace with the changes in the value of money, that was just too bad. In the Spens report (para. 6) it was stated:

"We leave to others the problem of the necessary adjustment to present conditions, but we would observe in this connexion that such adjustment should have direct regard not only to estimates of the change in the value of money but to the increases which have in fact taken place since 1939 in incomes in other professions. In our judgment it is only if corresponding changes are made in the incomes of general practitioners that the recruitment and status of their profession will be maintained as against these professions."

The Spens Committee had also laid stress on the difficulty of recruiting doctors:

"We consider that unless conditions are substantially improved in both these respects [that the percentages of low incomes were too high and that the proportion of practitioners able to reach the stated net income was too low], and on the basis of a pre-war value of money, the social and economic status and the recruitment of general medical practice could not, in the long run, be maintained."

It had been argued that it was wrong to take the higher of the two figures—the increase in the cost of living and the increase in the remuneration of other professions, and a picture had been painted of the cost of living advancing by 300% and the increase in professional earnings being only 100%; and of the anomalous position of doctors if on their behalf the higher figure were accepted. He submitted that on a proper construction of the Spens report one should take the higher of the two figures for this purpose, but in fact the figures for the two calculations were not very different. He claimed that there was no justification for so low a percentage increase as 80. The evidence for the Ministers was given on this point by Mr. Dodds. It consisted largely of salary scales which by themselves were useless for this purpose. For one thing, the conclusions were vitiated by the fact of salary promotion. Mr. Beales had produced figures showing on the basis of Schedule E assessments that in the professional groups he had indicated the increases, comparing the year 1938–9 with the years 1949–50 and 1950–1, were 88% and 89½% respectively. Adjustment had to be made for increased depreciation allowance, but this was a small sum. But in effect Mr. Beales's comparison, taking the assessments for 1938–9, were on the basis of earnings in 1937, which was a better year than the years following. Therefore his base figure was too high, and similar considerations applied to his closing figure, which was too low. The figures were not for the right years at either end, and therefore the conclusion to be drawn even from Mr. Beales's evidence was that the percentage increases in this group were appreciably higher than his 88 and 89½%.

There was no evidence that Professor Allen had "bumped up" his percentage by including non-professional people, and he suggested that his evidence had not really been seriously challenged. There was also a question whether the betterment percentage should be applied to the £16.79m., which was the net pre-war income of 17,900 principals in general practice, or to the £19.89m., which included the addition of £3.1m., being the increase required to give effect to the Spens recommendation that the proportion of practitioners able to reach in 1936–8 a net income of £1,300 or over was too low. The only ground on which it had been faintly suggested that it might be applied to the £16.79m. was that other professions might have been underpaid in 1939, but the evidence as to such underpayment was negligible.

The next question was that of scaling up. The Committee had scaled up the figure by reference to the number of doctors serving in the National Health Service with unrestricted lists. This figure—19,227—had not been challenged.

Mr. Justice DANCKWERTS: A criticism was made that this number were not necessarily serving during the whole of the year.

Mr. GRANT said that the figure was taken as at March 31, 1950, and at December 31, 1951, and it was assumed that the increase which had taken place between those dates was evenly spread over the period. The figures were those of the Ministry, and all that the Committee had done was to assume an even spread over 21 months. His learned friend had scaled up by reference to population. That was only the beginning of the trouble. Mr. Danielli, the Ministry's chief witness, had agreed that it was relevant to take off 5% for the people who were not using the N.H.S., but no reference had been made to that in the Attorney-General's computations. If they scaled up by reference to population they were in fact proceeding to work on a basis which completely ignored the number of doctors, and were not dealing effectively with the Spens recommendations at all. With conditions as they were, the Spens basis was not only the right basis but the basis which had to be applied. To scale up by population and to ignore the number of doctors was simply not to do what the terms of reference required. It was not open to his Lordship to treat the matter in any other way than the scaling up on the number of doctors in the Service. The Ministry's method took cognizance of doctors outside the scheme. It was ridiculous to say that the amount of fees to be paid to the doctors in the Service was to vary inversely with the fees collected by doctors outside the Service. It meant bringing into calculation an entirely unknown item—namely, the remuneration of the doctors outside the scheme.

The Committee scaled up the figure first of all by reference to the number of doctors. They were setting out to provide for the remuneration of the doctors in full service. Admittedly they had to give credit for what the doctors received outside the Service.

He dealt next with the expenses percentage (38.7% for the year to March 31, 1951). His Lordship had the evidence on that. The Inland Revenue were given a sample list of 3,145 principals in the Service, and an endeavour was made to get their taxation figures. Most of them dropped out, and they ended with a list of 449, from which a percentage of 35.5 was deduced as the expense ratio. Mr. Stark had advised the Ministry to go as high as 36.5%.

Mr. Justice DANCKWERTS: He said he had made a bad guess.

Mr. GRANT said that in point of fact, when the position was examined, it was very far from evident that he was wrong the first time. One of the matters which Mr. Stark said influenced him was that it was not clear that the effect of arrears payments had been entirely eliminated. The fact that in a large number of cases in the original sample the figures were not available because the assessments had not been agreed with the taxing authorities suggested that such cases in the main were those in which the doctors were arguing with the authorities about their allowance, and probably those which remained would tend to be those on the low side. Taking the figure of 36.5%, and adding to it the 2.2% to adjust it to March 31, 1951, they had the figure of 38.7%, applied to the figure of £47.876m., being the estimated gross receipts for all principals in the N.H.S. for the year ending March, 1951, excluding those with restricted lists. The Ministry's figure was 37.7%.

The Inducement Fund was not a matter of figures but of principle. It depended upon what the Spens addition of £3.1m. covered. In the first recommendation of the Spens Committee no figure was given at all. In his submission this was intended to be outside the scale laid down in that

and the following recommendation. No statistician working on the Spens report could give effect to it, because there were no statistics.

Mr. Grant had not concluded his speech when the Adjudicator rose for the day.

FOURTH DAY

Friday, March 21

Final Speech for G.M.S. Committee

On the last day of the Adjudication the proceedings lasted little more than half an hour.

Mr. FREDERICK GRANT concluded his final speech on behalf of the General Medical Services Committee. He dealt with certain revisions which, he said, ought to be made in the estimates of the remuneration of general practitioners for 1950–1 from public sources under Part II (hospital services) and Part III (local authority services). He gave reasons why, for the purpose of computation, reductions ought to be made in these estimates. The same applied to many of the services rendered to other Government departments. For example, probably a large part of the work for the War Office, Admiralty, and Air Ministry was carried out by retired Service doctors who had not full lists. All these services should be subject to some discount, as set out in the Ministry's computations.[1] They were not very large items, but it was not safe to take in full the figures as presented by the Ministry.

There remained the item for private practice. According to the Ministry's case, on the data available it was assumed that the average net income received by general practitioners in the Service as a result of private practice and of payments by local authorities for services other than those under Part III was of the order of £4.334m. According to figures worked out by the General Medical Services Committee the amount should be £1m. The Ministry had put in the same figure for each of the years under review. The figure was derived from an Inland Revenue investigation primarily undertaken for deciding the ratio of practice expenses to gross income. A fairly large sample was taken, but many eliminations were made; and it came down eventually to 449 cases, afterwards increased to 761. The figures for this relatively small number revealed an average total remuneration from all sources, inside and outside the Service, of £1,681. The figure with which this was compared was one extracted by the Ministry as giving the remuneration from other than private sources for all doctors in the Service. Thus one of these estimations represented the total remuneration of a small number (700-odd) and the other the remuneration, apart from private practice, of the entire profession (18,000-odd). If the two groups had been comparable there would be something to be said for this method, but of course the one group was extremely attenuated; and the assumption was made that the general level in that small number was the same as in the grand total. There was no evidence to support that assumption at all. The figure worked out at between £100 and £200, and Mr. Danielli had told the Adjudicator that he had fixed on £150. The figure ought to be heavily discounted. There was no sufficient evidence on which to build so important a figure. He must leave it to his Lordship to decide what the discount should be, but it should be subject to a heavy discount for the first year and a still heavier one for the later years.

On the matter of compensation interest, in his submission this was not remuneration: it was a statutory payment covered by Section 36 of the Act. It arose from the prohibition upon the sale of goodwill of practices, and had no connexion with Spens in any shape or form. It was described in the statute as compensation for deprivation of a capital asset.

Returning to the question of the betterment factor, particularly with regard to the evidence of Mr. Beales, Mr. Grant said that in his comparison Mr. Beales had taken a pre-war year (approximately the calendar year 1937, which was the basis of the assessment for the 1938–9 returns) and the calendar year 1949, and had shown that the increase in professional incomes had been 88 or 89%, subject to a small deduction in respect of depreciation. Mr. Beales had agreed with him that 1937 was a better year than 1938 or 1939, and Professor Allen had said the same thing. The 100 figure which had been taken for the basic year 1937 would be less than 100 if the year 1939 had been taken, and the figure 189½ which had been taken for 1949 would have been higher had 1950 or 1951 been taken. This was arithmetic and nothing else. If one assumed that there was a 5% drop as between 1937 and 1939 and a 5% increase as between 1949 and 1950 or 1951, the 100 for the first year would become 95, and the 189½ for the last year would become 199. This made the increase in terms of percentages 110. He submitted that Professor Allen's figures were unshaken.

Of the amount in the pool—namely, £41.533m.—8% under the superannuation provisions, which were based on Section 67 of the Act and on certain regulations, had to be paid out of the Exchequer as representing the Government contribution to the Superannuation Fund. If his Lordship increased that £41.533m. to a higher figure it might be on the assumption that no superannuation payments had to be made on the additional amount, but that a suitable adjustment should be made to provide for them. This contribution was provided out of Exchequer moneys which were separate from the central pool. Although it was counted as part of the practitioner's remuneration, it was not in fact paid to him but was set aside for the purpose of providing superannuation benefits. It did not, therefore, form part of the practitioner's actual receipts.

Mr. SLACK: We can work that out arithmetically afterwards.

This concluded the submissions on both sides, and Mr. Justice DANCKWERTS said that he would send a copy of his determination to both parties, and he did not expect to keep them waiting very long.

The inquiry then terminated.

[1]The Ministry's estimates of remuneration of general practitioners for Part II services, 1951–2, were £2,055,000; for Part III services, £367,000; and for services for other Government departments, £668,000.

SHILLING ON PRESCRIPTIONS

MINISTER TOLD OF DISPENSING DOCTORS

Representatives of the doctors and pharmacists had a two-hour meeting with Mr. Crookshank, the Minister of Health, on March 20, to discuss the shilling on prescriptions. The Minister's attention was drawn to the difficulties confronting dispensing doctors in collecting the charge.

A meeting between the doctors' representatives and Ministry of Health officials was held on March 25.

The Bill had its second reading in Parliament on March 27, after we went to press.

PRESCRIPTION COSTS INCREASE

Because of higher wholesale prices of certain drugs and appliances, the following increases per prescription will be made on the average cost per prescription: 2d. for under 2s. 10d.; 3d. for 2s. 10d. to 3s. 11d.; 4d. for 3s. 11d. to 5s.; 5d. for 5s. to 6s. 2d.; 6d. for 6s. 2d. and over. Quarterly payments on account to dispensing doctors paid in accordance with the Drug Tariff will be adjusted similarly.

ANNUAL CONFERENCE OF LOCAL MEDICAL COMMITTEES

The Annual Conference of Representatives of Local Medical Committees will be held at B.M.A. House, London, on Thursday, June 12, at 10 a.m.

OCCUPATIONAL HEALTH

A meeting of the Occupational Health Committee of the Association was held on March 19 under the chairmanship of Dr. J. A. L. VAUGHAN JONES.

National Coal Board: Scale for Part-time Medical Officers

The Committee discussed the National Coal Board's recommendation regarding the remuneration for medical officers in part-time contract with the Board. The chairman commented upon the good relations obtaining between the Association and the Board, and it was agreed that the scale, which is in conformity with the Association's scale, be accepted.

The Dale Report

It was reported that a letter had been received from the Ministry of Labour and National Service, in reply to an inquiry, stating that with regard to para. 75 of the Dale Report there had not been found to be such lack of co-ordination as to justify the setting up of an advisory committee. The Dale Committee had recommended that a standing joint advisory committee, with a strong medical membership, and with representatives of Government departments, employers, and workers, should be an essential part of new developments. In discussion it was pointed out that any co-ordination which did exist appeared to be only at local level, and that there was an undoubted lack of co-ordination at the centre. Further, inasmuch as the Dale Report recommended that this advisory committee should be charged with the development as well as the co-ordination of industrial health services, it was resolved to ask whether the Ministry's reply meant that no action was being taken with regard to developments within the industrial health service.

The Ministry's letter also referred to the position of the appointed factory doctor in relation to the school medical officer. The view of the Ministry was that there was no overlapping, and that the question of co-operation arose only in respect of the furnishing by the school medical officer to the factory doctor, where required, of information on the previous medical history of the young person, a matter already provided for under the Factories Act, 1937. One member of the Committee suggested that a shortened form of school medical record might be transferred to the factory medical record. The general practitioner's position in respect to this was referred to, and it was pointed out that, whilst there was a statutory obligation on the education department to make the records available to the appointed factory doctor, there was no similar compulsion on the general practitioner.

Some members thought that it was a waste of medical manpower to have both a school-leaving examination and a pre-employment examination in industry, but other members stressed the advantages of maintaining the two examinations. This matter was deferred for further discussion at the next meeting.

Occupational Dermatitis

The question of occupational dermatitis, which has been discussed at several previous meetings of the Committee, again arose following upon correspondence with the Ministry of National Insurance. The CHAIRMAN said that the question of obtaining statistics in relation to occupational dermatitis had been pressed without success. On the suggestion that all cases persisting after 21 days should automatically be referred to a dermatologist, the Ministry was of the opinion that there were not sufficient dermatologists available at the present time to deal with the automatic reference of such cases. The Ministry also felt that the work entailed in sending copies of the dermatologists' reports to the examining practitioner concerned would hardly be justified. The Committee decided to seek the views of the Association of Factory Surgeons.

Another matter which concerned the Ministry of National Insurance was the constitution of medical appeal tribunals. It was stated that the Ministry had decided that members of such tribunals must be senior members of hospital medical staffs. The Committee decided to transmit its firm opinion that experienced industrial medical officers should be recognized for membership.

Tripartite Consultations

A letter was read from the Southampton and District Advisory Council on Occupational Health suggesting the establishment of a central liaison with employers. This suggestion led to a certain amount of discussion. It was thought that it was inopportune to propose the immediate establishment of a tripartite body, although it was appreciated that an increasing number of local advisory councils on occupational health were being formed on a tripartite basis. It was felt, however, that a joint committee with employers would be extremely helpful, and it was agreed to recommend to the Council of the Association that a further attempt be made to establish a joint committee with the British Employers' Confederation.

THE MIDDLE EAST BRANCH

MEETING AT BAGDAD

A very successful Annual General Meeting of the Middle East Branch of the B.M.A. was held at Bagdad on March 4 and 5. The British Ambassador, Sir JOHN TROUTBECK, opened the proceedings with a felicitous speech in which he reminded his large audience that Bagdad was once the centre of the medical world and "those who are Scotsmen among you may think that it might still be so to-day if its place had not been usurped by Edinburgh." Sir John stated that the whole world was groping towards international co-operation and there were few fields in which such co-operation was already more effectively at work than the field of medicine. The medical profession in Iraq had been built up in the closest association with the British, and the growing international importance of the Iraqi medical profession and of the Royal Medical College was clearly evident.

The Ambassador was followed by H.E. the Minister for Social Affairs, SAYYID MAJED MUSTAPHA, and by the Dean of the Medical Faculty, Professor HASHIM AL-WITRY.

The scientific proceedings then opened with a lecture by Professor F. A. R. STAMMERS, of Birmingham, on "Fluid Crystalloid and Protein Balance in Surgery," which was much appreciated. Dr. F. AKRAWI, professor of venereology at Bagdad, read an interesting paper on bejel, a treponemal disease resembling syphilis and endemic in certain countries of the Middle East. Professor Akrawi considered that bejel was syphilis modified by the conditions under which it existed.

A lecture on W.H.O. in the Middle East was delivered by Dr. W. H. CRICHTON, the public health administrator for the Eastern Mediterranean Regional Office of W.H.O. The lecture was followed by an interesting discussion in which Dr. W. H. FORD ROBERTSON (Beirut) suggested that insufficient attention had been devoted to mental health in the Middle East and hoped that in the future this would be remedied. Professor A. M. CRITCHLEY (Bagdad), who, as Honorary Secretary of the Middle East Branch, B.M.A., was responsible for organizing the meeting, welcomed W.H.O. as mankind's biggest effort in the battle against disease, but felt that the W.H.O. services for acquiring and imparting information could be improved.

Professor STAMMERS toured the surgical wards of the Royal Hospital and gave a second lecture. Medical films were shown and there was a medical exhibition. Social functions included a luncheon given by the Minister for Social Affairs, the Annual Dinner of the Middle East Branch, and an excursion to Babylon.

The meeting was attended by a large number of doctors from as far afield as Bahrein and the Lebanon.

DISTRIBUTION OF G.P.s' PAY

THE WORKING PARTY

When adjudication was agreed last year the General Medical Services Committee also agreed to set up with the Ministry of Health a joint Working Party to examine distribution of general practitioners' remuneration.

The proposal was first suggested by the Minister of Health and the Secretary of State for Scotland (*Supplement*, August 11, 1951, p. 56). They wanted a Working Party "to work out a revised plan of distribution" designed to secure certain objects. Discussions with G.M.S. Committee representatives followed, and the finally agreed terms of reference of the Working Party were as follows:

Terms of Reference

"To secure an equitable distribution of the central pool based upon the recommendations of the Spens Committee, the object being to enable the best possible medical service to be available to the public, and to safeguard the standard of medical service by discouraging unduly large lists; at the same time, to bring about a relative improvement in the position of those practitioners least favourably placed under the present plan of distribution, to make it easier for new doctors to enter practice, and to stimulate group practice."

Make Happier Atmosphere

Meanwhile, in accepting the Working Party proposal, the Committee had assured the Ministers that it would be the aim of its representatives on the Working Party to work harmoniously with a desire to provide the best possible service for the public and make possible a better and happier atmosphere among the doctors who take part in it. But the Committee pointed out that "the profession would feel rightly aggrieved if the award following arbitration were nullified by failure to agree in the Working Party upon the proper distribution of the pool."

The Committee appointed as its members on the Working Party the following representatives:

Drs. S. Wand, A. T. Rogers, W. M. Knox, E. A. Gregg, C. F. R. Killick, A. Campbell, H. Guy Dain, A. B. Davies, F. Gray, J. T. Baldwin, J. Bleakley, J. T. McCutcheon, D. P. Stevenson.

The first meeting of the Working Party was held on February 26, when the Committee representatives went with certain proposals to discuss with the Ministry. These proposals are now being considered by the Ministry, and more meetings will be held. The meetings are confidential, but news of the discussions will be given as soon as it is released.

Possible Arbitration if Disagreement

The Committee received an undertaking that the findings of the adjudicator would be made known before the Working Party had concluded its deliberations. Further, if there is disagreement in the Working Party, then the question of arbitration on the points of disagreement is not ruled out.

THE DURHAM DISPUTE

INVITATION TO PROFESSIONS' REPRESENTATIVES

Durham County Council has invited representatives of the Joint Emergency Committee of the Professions to discuss the "closed shop." This is in response to a request from that committee to send a deputation (*Supplement*, March 22, p. 108). The committee has on it representatives of the doctors, dentists, nurses, midwives, teachers, and engineers.

The committee had not considered the invitation before we went to press.

Heard in Chancery Court III

One Hundred Thousand Words

Such was the extent of the speaking, spread over 14 hours, which was required to present and to contest the General Medical Services Committee's case before the Adjudicator. The shortness of the inquiry was a surprise to almost everybody. The general notion had been that it would last for 10 or 11 days. It lasted three days and one hour—a shorter time than the similar inquiry in 1937, which went on for four very long days, and the one in 1924, which went on for five days. But in fact no one knew how the case would develop, what contests on figures would arise, and what witnesses in reserve it might be necessary to call. The Committee had in reserve a financial expert of national reputation, a distinguished actuary, and medical practitioners in the Service. But no witness who was a doctor or had any connexion with medical practice was called on either side, and the statisticians and economists, the actuaries and accountants had it all their own way. The pre-war inquiries were concerned with arguments over shillings and pence, but this time no cognizance was taken of figures other than millions and decimal fractions thereof. In the two earlier courts the doctor himself, his budget, his transport, his way of conducting his practice, figured prominently. In his place was now a shadowy, balloon-like thing called the central pool.

Human Interest

A press reporter complained to us that the proceedings had no human interest. Certainly they were dull. It requires more than the spells cast by an Attorney-General and two other Queen's Counsel to give life to figures, especially when they are distended to millions. There had been some fear that the court would be too small for those who wished to attend the proceedings, but everybody was well accommodated. A few resolute executives of the Association and the Chairman and Secretary of the General Medical Services Committee sat it through, as did certain chiefs of the Ministry of Health, including a deputy chief medical officer. Various members of the profession looked in from time to time and then staggered out under the weight of figures. Others peeped through the glass panels but probably were deterred by what in Bleak House is called the owlish aspect of a Court of Chancery. One morning the whole of the public gallery was occupied with schoolgirls acquainting themselves with legal—in this case quasi-legal—procedure. It must have been a disappointment to them to find that neither his Lordship on the bench nor the learned gentlemen addressing him wore wigs and gowns. One hopes that they were able to understand one word in ten and one figure in a hundred.

Skilled Advocacy

A special tribute should be paid to Mr. Frederick Grant, Q.C., who, coming into the case at short notice, handled it in a masterly manner, as though he had been doing these very calculations all his life. His cross-examination of the Deputy Accountant-General of the Ministry on the constitution of the central pool was a fine forensic display, and indeed was the high-spot of the proceedings. He was ably assisted by Mr. Hylton-Foster, Q.C., and, in a non-speaking but none the less industrious part, by the junior counsel, Mr. S. B. R. Cooke. The services of Mr. Leigh Taylor, of Hempsons, in the preparation and conduct of the case were, of course, invaluable. Mr. Justice Danckwerts, presiding as Adjudicator, once or twice permitted himself a touch of judicial humour, as when he asked a witness who had been applying to various professional bodies to ascertain what increases had taken place in the earnings of professional men who worked for fees, "Did you apply to the

General Council of the Bar ?" The witness replied that he had asked the Law Society, upon which his Lordship shook his head, "Ah, that's quite another thing." One saw in Chancery Court III an exhibition at its best of the British way of settling a dispute. But as the chairman of the General Medical Services Committee remarked when he came into court on the first day, "What a pity that these two parties, both interested in the health of the people, are on opposite sides!"

SUPERANNUATION

MEDICAL SCHOOLS AND M.R.C.

Members of hospital medical staffs who, within twelve months of leaving superannuable employment in the Health Service (or within six months of completing National Service if contributions have been paid during the period of that service), take up temporary employment in a medical school or with the Medical Research Council can continue contributing to the N.H.S. superannuation scheme.

Contributions are based on the remuneration attaching to the new post and are deducted by the employing body, which pays the employer's share.

To take advantage of these arrangements the officer must complete Form S.D. 65 (obtainable from the medical school) or S.D. 66 (obtainable from the Medical Research Council) and return it to the employing body within three months of taking up his new employment.

Further information may be obtained from the Superannuation Division of the Ministry of Health, Government Buildings, Honeypot Lane, Stanmore, Middlesex.

N.O.T.B. ASSOCIATION

The N.O.T.B. Association held its twentieth committee meeting on February 29, when reports from two subcommittees were considered and adopted.

"Non-tolerance"

The question of charges made to ophthalmic medical practitioners in non-tolerance cases was discussed, and two cases were mentioned where demands had been made for a refund of the fees concerned. The committee took the view that only in instances of gross professional negligence should the error be rectified at the practitioner's expense.

Special Medical Certificates

The committee noted some spread of demand from patients who, having been examined through the supplementary ophthalmic service, required a special certificate for their employers. The committee was strongly of the opinion that ophthalmic medical practitioners should decline to provide such certificates free of charge, as this was outside their terms of service.

Report on the Future Eye Services

The committee approved a confidential report on the future eye services for circulation to all members with the annual general meeting agenda.

The next meeting of the committee was arranged to take place before the annual general meeting, held on March 28.

Correction.—We regret that Professor R. G. D. Allen's initials were given incorrectly in our report of the adjudication in the *Supplement* of March 22 (p. 108).

Questions Answered

Dispensing During Confinements

Q.—*As a dispensing doctor receiving 6s. 6d. per patient per annum for drugs, am I entitled to claim extra for drugs used on my patients during confinements when they have completed Form E.C.24 (application form for maternity medical services)?*

A.—A practitioner may claim on the executive council for those expensive items which are included in the special list and/or the list maintained under the medical aid arrangements. Inexpensive drugs are borne by the doctor, for which he is paid by capitation fee. The supply of inexpensive dressings is still under discussion with the Ministry.

Allowable Expenses

Q.—*What is the position for income-tax allowance of (1) B.M.A. subscription, (2) defence society subscription, (3) medical library subscription, (4) purchase of medical textbooks, (5) purchase of instruments, (6) telephone expenses in the case of (a) principal, (b) assistant in general practice?*

A.—To the doctor assessed on Schedule D all the above are allowable, subject to the exception that to the extent to which they represent capital outlay they are not allowable. For instance, the expense of replacing worn-out or obsolete instruments and books is allowable, but not the expense of adding to the existing equipment or library.

For the doctor assessed on Schedule E the position here is different. The statutory rule requires allowable expenses to have been incurred wholly, exclusively, and necessarily in the performance of the duties of the office, etc., and the rule has been strictly construed in a number of High Court decisions. Broadly speaking, the expenses listed are not allowable unless the employing authority specifically requires the individual concerned to incur the expenses as a condition of his employment.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Southwark, Stoke Newington.

Non-County Borough Councils.—Crewe.

Urban District Councils.—Droylsden, Houghton-le-Spring.

The National Insurance Advisory Committee has been asked to consider and report upon the preliminary draft of regulations which would amend the existing National Insurance (Determination of Claims and Questions) Regulations. The need for the regulations arises from the recent amendment to Overlapping Benefits Regulations. A person awarded an unemployability supplement to an allowance under the Pneumoconiosis and Byssinosis Benefit Act, and who is at the same time entitled to any National Insurance benefit, has his National Insurance benefit reduced by the amount of the supplement. The amending regulations would enable the local insurance officer, when an unemployability supplement is back-dated to cover a period for which a National Insurance benefit has already been paid, to require repayment of that benefit to the extent that benefit and supplement overlap. Power would also be given to recover the benefit from the arrears of the unemployability supplement. Copies of the preliminary draft of these regulations (the National Insurance (Determination of Claims and Questions) Amendment Regulations, 1952) can be purchased from H.M. Stationery Office (price 2d.) or any bookseller. The committee will consider written objections if sent before April 15, 1952, to the Secretary, National Insurance Advisory Committee, 30, Euston Square, London, N.W.1.

British Medical Association and Irish Medical Association

JOINT ANNUAL MEETING—DUBLIN, JULY 3-11, 1952

President-Elect: P. T. O'FARRELL, M.D., F.R.C.P.I., D.T.M., D.P.H., Dublin

PROVISIONAL PROGRAMME

The 120th Annual Meeting of the British Medical Association will be held in Dublin from Thursday, July 3, to Friday, July 11, 1952, as a joint meeting with the Irish Medical Association.

The first part of the Meeting—the Annual Representative Meeting—will be held in the Round Room, Mansion House, Dublin, starting at 10 a.m. on Thursday, July 3, and concluding on Monday, July 7.

The Overseas Luncheon and Representatives' and Ladies' Dinners will take place on Thursday, July 3; and there will be all-day excursions for Representatives and their Ladies on Sunday, July 6.

The adjourned Annual General Meeting and President's Address will take place at Trinity College on the evening of Monday, July 7, and will be followed by the President's Reception.

At an early stage of the second part of the Meeting—the Annual Meeting proper—there will be two Religious Services, Protestant and Catholic, held on Tuesday morning, July 8, preceding the opening Plenary Scientific Section, to be held in the Round Room, Mansion House.

The holding of three Plenary Scientific Sessions on the mornings of July 8, 9, and 10, in addition to the meetings of the Scientific Sections, is an innovation which it is hoped will prove of interest to the majority of members. These Plenary Sessions will be addressed by a number of experts and then opened for questions or general discussion. The subjects chosen are: "Death in Early Adult Life," "The Relief of Pain," and "Body Fluids and Water Balance."

In addition to the Plenary Sessions there will be 14 Scientific Sections, meeting in the afternoons of Wednesday and Thursday, July 9 and 10, and all day on Friday, July 11, at Trinity College, University College, Royal College of Physicians, and Royal College of Surgeons. These Sections will be:

Medicine	Two sessions	July 10 (p.m.) July 11 (a.m.)
Surgery	" "	July 9 (p.m.) July 11 (a.m.)*
Obstetrics and Gynaecology	" "	July 11 (a.m. and p.m.)
Anaesthetics	One session	July 9 (p.m.)
Cardiology	" "	July 9 (p.m.)
Child Health	" "	July 10 (p.m.)
Ophthalmology	" "	July 11 (p.m.)
Orthopaedics	" "	July 10 (p.m.)
Oto-rhino-laryngology	" "	July 9 (p.m.)
Pathology	" "	July 10 (p.m.)
Psychiatry	" "	July 11 (a.m.)
Radiology	" "	July 11 (p.m.)
Social Medicine and Occupational Health	" "	July 11 (a.m.)
Tropical Medicine	" "	July 11 (p.m.)

*Amended time.

Individual programmes for these Sections will be published in a later issue of the *Journal*.

The Annual Dinner of the Association will be held on Thursday, July 10.

Among the many social functions to be arranged it is hoped to hold a State Reception on the evening of Wednesday, July 9; a Garden Party at Trinity College on the afternoon of Thursday, July 10; and a dance at the Royal College of Surgeons in Ireland on Friday, July 11.

It is proposed to hold the Secretaries' Conference in Dublin on the afternoon of Tuesday, July 8, and the Overseas Conference on the afternoon of Wednesday, July 9.

The Reception Room for registration in University College, Earlsfort Terrace, will be opened on Monday, July 7, at 9 a.m. The Ladies' Club will be situated at Newman House, St. Stephen's Green, and will be open throughout the Meeting.

The Annual Exhibition of Surgical Appliances, Foods, Drugs, and Books will be housed in University College, Dublin. The official opening will take place on Monday, July 7, at 9 a.m., and the Exhibition will remain open on July 8, 9, 10, and 11, from 9 a.m. to 6 p.m.

It is hoped also to hold a small Scientific Exhibition in University College, Dublin (in place of the Pathological Museum).

ACCOMMODATION AND TRANSPORT

Dublin is a capital city of great charm and beauty which cannot fail to provide something of interest to every visitor. It is rich in history, architecture, variety of scenery, and variety of entertainment.

Hotel Accommodation

Hotel accommodation in Dublin is at present very limited owing to a strike of hotel employees affecting many of the larger hotels. The list given below consists of hotels unaffected by the strike at which accommodation was available at the time of going to press. Members still requiring accommodation are advised to apply *as soon as possible* direct to the hotel concerned, stating that they are attending the B.M.A. and I.M.A. Meeting. The Irish Tourist Association, of 14, Upper O'Connell Street, Dublin, is available for information and advice to any members who would like further particulars regarding accommodation.

There are a number of alternative routes open to members visiting Dublin, but traffic on *all* these routes during the summer months is very heavy. For the comfort and convenience of members, therefore, the Association has approached the transport companies with a view to securing reservations on trains and 'planes. These reservations can be made, however, only if the companies receive in good time an indication of the number of passengers likely to travel by the various routes.

The Shirley James' Travel Service, Ltd., of Tavistock House South, Tavistock Square, London, W.C.1, the official Travel Agency for B.M.A. House, has been asked to handle these travel inquiries, and members are invited to communicate with this Agency *as soon as possible*, stating the route selected, the proposed date of travel to and from Dublin, and the number of passengers. Briefly, the alternative direct routes open to visitors to Dublin are as follows:

Air	*Rail and Sea*
Birmingham–Dublin	Holyhead–Dun Laoghaire (Kingstown)
Bristol–Dublin (restricted service)	Liverpool–Dublin
Glasgow–Dublin	Glasgow–Dublin (restricted service)
Liverpool–Dublin	
London–Dublin	
Manchester–Dublin	

SCIENTIFIC EXHIBITION

A Scientific Exhibition will be staged in the Convocation Hall of University College, Dublin, from July 8 to 11 in connexion with the Joint Annual Meeting of the British Medical Association and Irish Medical Association.

Applications for space at the Exhibition, which must be accompanied by brief details of the proposed exhibit, should be received *not later than March 31* and should be addressed to the Organizing Committee, Scientific Exhibition, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

Each stand will be 10 ft. wide and 6 ft. deep and the walls will be 8 ft. high. The front will be open, and a shelf 2 ft. 6 in. above the floor and 1 ft. wide will extend all round the three walls. Chairs will be provided if required. Fluorescent lamps will be fitted to the walls but can be omitted if exhibitors require indirect lighting for show-cases, transparencies, etc. The current is A.C. 200–240 volts.

The exhibitor will be expected to pay the cost of the preparation, transportation, and installation of his exhibit, but no other expense will fall on him unless he requires alterations to the booth or special construction. Although it is hoped that the latter may not be required, any special demands will be dealt with sympathetically so far as possible. The cost of such alterations will be borne by the exhibitor.

No motion pictures will be shown in the booths, but separate arrangements will be made for these elsewhere. Exhibitors are expected to provide their own transparency cases for slides of *x*-ray films. There is ample free storage space for packing-cases.

Exhibits should be shown in the name of an individual person (or persons), who must be a member attending the Annual Meeting. The name of the hospital or institution at which he works may appear as part of the address.

The booths will be ready for the installation of exhibits on *Sunday, July 6.* Installation should be completed by *6 p.m. on Monday, July 7.*

GENERAL INFORMATION

Passports or travel permits are necessary when visiting Ireland, but no ration cards are required. There is no Customs restriction upon taking in reasonable personal effects.

Visitors may hire motor-cars in Dublin, thus avoiding the expense and trouble attached to taking cars over. The cost of hire is approximately £12 12s. a week for self-driven cars, and chauffeur-driven cars may be hired for about 1s. 3d. a mile. Those wishing to take over their own cars are advised to get in touch with the A.A. or R.A.C. as early as possible, as facilities are restricted.

SECOND LIST OF HOTEL ACCOMMODATION

Name and Address of Hotel	No. of Rooms	Bed and Breakfast per Day From	Full Board per Day From (Minimum 3 Days)	Special Remarks
DUBLIN CITY				
*Buswell's, 25, 26, Molesworth Street ..	51	18s. 6d.	27s. 6d.	—
*Mont Clare, 14, Clare Street	30	17s. 6d.	30s. 0d.	Double rooms only
*Power's, 47–48, Kildare Street	27	17s. 6d.	30s. 0d.	Double rooms only
Caledonian, South Great George's Street	19	15s. 0d.	—	—
*Cumberland, 17, Westland Row	19	19s. 6d.	28s. 6d.	Double rooms only
*Parkside, 7, North Circular Road	15	18s. 6d.	—	—
*Lansdowne, 27, Pembroke Rd. Ballsbridge	18	18s. 6d.	30s. 0d.	—
*Belvedere, Great Denmark Street	35	15s. 6d.	25s. 0d.	—
Castle, 3–4, Gardiner's Row	30	15s. 0d.	—	—
*Northbrook, 22, Northbrook Road, Leeson Park	10	18s. 6d.	—	Double rooms only
Hatch, 9, Hatch Street	13	17s. 0d.	—	—

SECOND LIST OF HOTEL ACCOMMODATION—*contd.*

Name and Address of Hotel	No. of Rooms	Bed and Breakfast per Day From	Full Board per Day From (Minimum 3 Days)	Special Remarks
COUNTY DUBLIN				
DUN LAOGHAIRE (7 miles from Dublin)				
*Pier, 3, Victoria Terrace	24	21s. 0d.	37s. 6d.	—
*Ardeen, Marine Parade	22	17s. 6d.	27s. 0d.	Sat. to Sat. bookings only. Double rooms only
Wave Crest, Marine Terrace	17	17s. 6d.	27s. 6d.	Double rooms only
*Haddington House, 12, Haddington Terrace	10	21s. 0d.	—	—
DALKEY (9 miles from Dublin)				
*Cliff Castle	35	21s. 0d.	32s. 6d.	—
HOWTH (9 miles from Dublin)				
*Claremont	25	25s. 0d.	35s. 0d.	Double rooms only
*St Lawrence, Harbour Road	32	18s. 0d.	35s. 0d.	—
KILLINEY (9 miles from Dublin)				
*Beechwood, Ballinclea Road	16	17s. 6d.	30s. 0d.	Double rooms only
*Court-Na-Farraga ..	13	19s. 6d.	33s. 6d.	Double rooms only
LUCAN (8 miles from Dublin)				
*National Spa and Hydro	44	21s. 0d.	33s. 0d.	Double rooms only
OLD CONNAUGHT (12 miles from Dublin)				
*Walcot House, near Bray	10	15s. 6d.	27s. 0d.	—
PORTMARNOCK (7 miles from Dublin)				
*Portmarnock Country Club	19	25s. 0d.	45s. 0d.	—
COUNTY WICKLOW				
BRAY (13 miles from Dublin)				
*Bray Head, Esplanade	52	21s. 0d.	36s. 0d.	Double rooms only
*Esplanade, Esplanade	36	21s. 0d.	36s. 0d.	—
*International	70	17s 6d.	30s. 0d.	—
*Royal, Quinsboro' Rd.	60	19s. 6d.	30s. 0d.	Double rooms only
GREYSTONES (18 miles from Dublin)				
*Grand	52	21s 6d.	40s. 0d.	—
*Clyda	35	17s. 6d.	30s. 0d.	—

* Licensed hotels.

TIME-TABLE OF MEETING

Thursday, July 3

9.00 a.m.—A.R.M. Inquiry Office opens at Mansion House, Dawson Street.
9.30 a.m.—Ladies' Club opens at Newman House, St. Stephen's Green, for registration of Ladies and for tours.
10.00 a.m.—Annual Representative Meeting opens at Mansion House, Dawson Street.
11.00 a.m.—Welcome by Lord Mayor of Dublin to A.R.M.
1.00 p.m.—Overseas Luncheon, Royal Hibernian Hotel, Dawson Street.
2.30 p.m.—Excursions for Ladies.
7.30 p.m.—Dinner for Representatives at Gresham Hotel, O'Connell Street.
7.30 p.m.—Dinner or Fork Supper for Representatives' Ladies. The dinners will be followed by a Reception and Dance at Gresham Hotel.

Friday, July 4

9.00 a.m.—A.R.M. Inquiry Office open, Mansion House.
9.30 a.m.—Ladies' Club open, Newman House.
9.30 a.m.—A.R.M., Mansion House.
2.30 p.m.—Excursions for Ladies.
7 30 p.m.—Abbey Theatre or evening excursions.
7.30 p.m.—Edinburgh Graduates' Dinner, Gresham Hotel.

Saturday, July 5

9.00 a.m.—Council Meeting, Council Chamber, Royal College of Physicians.
9.00 a.m.—A.R.M. Inquiry Office open, Mansion House.

9.30 a.m.—Ladies' Club open, Newman House.
10.00 a.m.—A.R.M., Mansion House.
2.30 p.m.—Excursions for Ladies.
7.30 p.m.—Glasgow Graduates' Dinner, Royal Hibernian Hotel.
7.30 p.m.—Welsh Dinner, Metropole Restaurant.
7.30 p.m.—Abbey Theatre or evening excursions.

Sunday, July 6

a.m.—Long excursions by coach.
p.m.—Short excursions by coach.

Monday, July 7

9.00 a.m.—A.R.M. Inquiry Office open; Mansion House
9.00 a.m.—Opening of Exhibition by President-Elect, University College, Earlsfort Terrace.
9.00 a.m.—Reception Room opens at University College, Earlsfort Terrace, for registration.
9.30 a.m.—A.R.M., Mansion House.
10.00 a.m.—Annual Meeting, Irish Medical Association, Physics Theatre, University College, Dublin.
12.30 p.m. (or as soon thereafter as the business of the A.R.M. is concluded).—Annual General Meeting, Mansion House.
Council Meeting (at conclusion of A.R.M.), Royal College of Physicians.
8.30 p.m.—Adjourned Annual General Meeting and President's Address, Trinity College.
9.30 p.m.—President's Reception, Trinity College.

Tuesday, July 8

9.00 a.m.—Roman Catholic Service, Pro-Cathedral.
9.00 a.m.—Reception Room and Exhibition open, University College.
9.30 a.m.—Protestant Service, Christ Church Cathedral.
9.30 a.m.—Ladies' Club open, Newman House.
10.45 a.m.—Scientific Plenary Session, Mansion House.
2.30 p.m.—Secretaries' Conference, Royal College of Physicians.
7.30 p.m.—Secretaries' Dinner, Shelbourne Hotel.

Wednesday, July 9

8.30 a.m.—Annual Medical Missionary Breakfast, Royal Hibernian Hotel.
9.00 a.m.—Reception Room and Exhibition open, University College.
9.30 a.m.—Ladies' Club open, Newman House.
10.00 a.m.—Scientific Plenary Session, Mansion House.
10.00 a.m.—Notts Ladies' Challenge Cup Golf Competition.
10.00 a.m.—Leinster and Childe Cup Golf Competition.
10.00 a.m.—Excursion and tours.
12 noon.—Visit to St. James's Gate Brewery.
2.30 p.m.—Overseas Conference, Royal College of Surgeons.
2.30 p.m.—Scientific Sections, University College, Trinity College, and Royal College of Surgeons.
2.30 p.m.—Short tours.
5.00 p.m.—Overseas Cocktail Party, Royal College of Surgeons.
9.00 p.m.—State Reception.

Thursday, July 10

9.00 a.m.—Reception Room and Exhibition open, University College.
9.30 a.m.—Ladies' Club open, Newman House.
10.00 a.m.—Scientific Plenary Session, Mansion House.
10.00 a.m.—Treasurer's Cup Golf Competition.
10.00 a.m.—Excursions and tours.
12 noon.—Visit to St. James's Gate Brewery.
2.30 p.m.—Short tours.
2.30 p.m.—Scientific Sections, University College, Trinity College, and Royal College of Surgeons.
4.00 p.m.—Garden Party at Trinity College.
7.30 p.m.—Annual Dinner.

Friday, July 11

9.00 a.m.—Reception Room and Exhibition open, University College.
9.30 a.m.—Ladies' Club open.
10.00 a.m.—Scientific Sections, University College, Trinity College, and Royal College of Surgeons.
10.00 a.m.—Excursions and tours.
2.30 p.m.—Scientific Sections, University College, Trinity College, Royal College of Physicians, and Royal College of Surgeons.
9.30 p.m.—Dance in aid of R.M.B.F. Society of Ireland at Royal College of Surgeons in Ireland.

Correspondence

Dispensing Fees

SIR,—I was astonished to read (*Supplement*, March 1, p. 76) that there are 4,000 dispensing doctors in the N.H.S. If this is so, their interests are singularly badly served and it is high time that they made themselves heard.

Those who dispense under the capitation-fee system seem still to be greatly in the majority, yet there can be surely no doubt that the fee of 6s. 6d. is hopelessly inadequate and that it forces dispensing to be done on the cheap or at a loss. When it is realized that the average cost per patient per year for drugs and appliances is about 17s., and allowing for expensive drugs and appliances, the inadequacy is better understood.

We are advised by the B.M.A. to change over to the tariff system if we find the other unsatisfactory. There is, however, a grave defect in this. The price paid for prescriptions is calculated on the wholesale cost, to which an addition of 25% is added. Now the wholesale, or chemist's, price is 33⅓% below the retail, while the discount allowed to doctors is only 10%.

An example will show how this works to the disadvantage of doctors:

	s.	d.
Retail price of 12 capsules of chloramphenicol ..	36	0
Price to doctors	32	9
Price to chemists	24	0
Payment to doctors on prescription (24s.+25% +dispensing fee of 9d.+container fee 1¾d.) ..	30	10
Loss to doctor	2	0

The wholesalers claim that chemists have to carry large stocks and that this is the reason for the greater discount. Yet the Ministry bases the cost on the wholesale price as in the example above. In this case the fault lies with the wholesalers, whose association will not allow the same discount to dispensing doctors as they do to chemists. It is a matter that calls for immediate rectification.

I maintain that dispensing is an arduous and exacting addition to the work of a doctor and as such should carry an appropriate financial reward. I understand that a committee is considering these matters. Results are long overdue.—I am, etc.,

Rolvenden, Kent. B. W. WYLLIE.

Unestablished Doctors

SIR,—The profession is now fully aware that the problems of the unestablished practitioner have greatly increased since the introduction of the N.H.S. The B.M.A. has consistently refused to support any betterment of the conditions of assistants or to help the small-list doctor; it has never brought forward nor supported any plan to encourage practitioners with large lists to take partners.

This negative policy led to the formation of the Unestablished Practitioners Group just over a year ago. As yet the B.M.A. has refused to recognize this group and claims to represent "adequately" the unestablished practitioner. The correspondence columns of the medical journals and the fact that this group already represents nearly 500 doctors invalidate this claim.

Until the problems involved are recognized by the B.M.A. and plans put forward for their alleviation, the Unestablished Practitioners Group will strive to implement its policy, in brief:

(1) To press for alterations in the N.H.S., in particular in the method of remuneration for general practitioners, designed to increase the number of established principals, primarily by encouraging partnership rather than assistantship, and also by helping the *bona fide* squatter.

(2) To render unprofitable the commercialized permanent assistantship system, by not allowing a principal who employs an

assistant any increase above the agreed maximum list permitted to an unassisted practitioner.

(3) To press for removal of restrictions on change of doctor.

(4) To modify the "trainee general practitioner" scheme so that the trainee would be employed not by the principal but by the executive council, who would pay the trainee's salary, be responsible for his conditions of work, and arbitrate in any dispute.

The terms of reference of the Working Party set up by the Ministry are "to secure a more equitable distribution of the central pool, to discourage unduly large lists. . . ." These are the very matters which affect the unestablished doctor most. But there is not one assistant or unestablished practitioner on this Working Party. One is justified in asking whether this is because the B.M.A. "adequately represents" the unestablished practitioner or whether it has merely forgotten this growing minority *which is already on a full-time salaried service imposed by the profession itself.* It should be remembered that the existence of a large number of unestablished practitioners is a threat to the prestige of the profession as a whole.

The unestablished practitioners have a just case and will succeed if they act through their own organization—the U.P.G. We therefore ask all doctors seeking entry into general practice, all assistants and small-list practitioners who have not already joined, to apply for membership of this group.—I am, etc.,

L. RUSSELL,
Chairman, Unestablished Practitioners Group.

*** The Secretary of the Association writes: The General Medical Services Committee last year set up an Assistants and Young Practitioners Subcommittee to represent the interests of assistants and of young doctors wishing to enter general practice or not yet established in it. This subcommittee is representative in that elections have been held throughout the country and every assistant and unestablished practitioner has had an opportunity of recording his vote and electing a representative to serve on the subcommittee. In this way ten members have been elected by doctors whose interests the subcommittee serves. In addition, six members are appointed from the G.M.S. Committee. It has two representatives on the G.M.S. Committee. The B.M.A. has not "refused to recognize" the Unestablished Practitioners Group, as Dr. Russell asserts. The question of recognition has not arisen, but the B.M.A. subcommittee has been distinguished from Dr. Russell's organization in these columns. Although it is true that the Working Party does not include an assistant or unestablished practitioner, the views of the subcommittee have been ascertained and will continue to be sought as and when necessary.

Contracting Out of N.H.S.

SIR,—Dr. M. Solomon suggests (*Supplement*, March 15, p. 103) that a scheme for contracting out of the N.H.S. is impossible. Not only is it perfectly possible, but such a scheme is already under discussion by the Amending Acts Committee.

All that would be necessary would be good will on the part of the Government and help from the big insurance companies. An annual credit from the Treasury of a sum based on the cost per head of population to the country of the N.H.S. (say £10 gross) would be paid to the patient who contracted out. This credit would only be used to obtain insurance cover against all sickness and accident risks, and the patient would be required to produce evidence that it had been so used.

It would be desirable to indicate the 10d. per week taken from the N.I. contribution as a subvention to the N.H.S. funds, and this could be done by having two stamps instead of one. There has been "misunderstanding" about the purpose of the N.I. contribution from the very beginning of the N.H.S.—a "misunderstanding" which, as Dr. H. W. Forshaw so pertinently put it (*Supplement*, March 15, p. 105); was probably "deliberately fostered by the Government then in power for very obvious reasons."

I doubt if Dr. I. E. D. McClean (*Supplement*, February 9, p. 55) intended, when he proposed that the right of patients to contract out of the Service (as in N.H.I. days) be restored, to suggest that the contractor should cease to pay N.I. contributions, though I can think of no valid reason why he should not do so if he were willing to forgo the various cash benefits. And, in passing, let it be remembered that all "self-employed persons," though they pay N.I. contributions, are entitled neither to unemployment nor to industrial injury benefits, and I dare say quite a number of them would be willing to eschew the benefits to which they *are* entitled, if they were allowed to drop the payment of their weekly 6s. 6d.

Dr. Solomon's last sentence is a more or less skilful attempt to cloud the issue. Certainly patients are *allowed* to seek their medical attention on a private basis, but this is not at all contracting out, for they still have to pay in taxation just as much as they would were they making every possible use of the N.H.S., and though still paying their whack they are discriminated against by being debarred from getting drugs and appliances on a Form E.C.10. I don't imagine that Dr. Solomon would seriously contend that this constitutes the right to contract out if he thinks things over.—I am, etc.,

Wolverhampton. VICTOR RUSSELL.

Notes for Employers

SIR,—It would seem that our representatives in their meeting with the British Employers Federation, as reported in the *Supplement* of March 15 (p. 98), have let us down again. The employers complain that their welfare departments could not possibly investigate the very large number of absentees. We are therefore happily committed to doing their work.

I believe that, if this one item of service were jettisoned, general practice could play its full part in the N.H.S. and considerably relieve the out-patient departments of the hospitals. During the power cuts of a year or so ago our surgeries were almost empty. It was evident that it was not treatment that was required but notes. The medicine which is almost inevitably supplied with the note must be quite unnecessary.

If our policing of industry produced an accurate assessment of each individual, it might be worth this employment of a large part of a G.P.'s time. But with 50 patients waiting, any one of whom may be germinating a serious illness which it is our duty to diagnose early, how is it possible in trivial illness to decide scientifically if a man should work? With the greatest care one cannot exclude the chance of serious symptoms developing in the course of the next few hours, and I defy anybody to be certain of not being taken in by an intelligent man who sets himself out to deceive.

In fact, we deceive ourselves and the community and do no service to industry by pretending that the notes we issue in good faith, and with considerable trouble, in minor illness represent anything but the opinion and desire of the absentee.—I am, etc.,

Shirley, near Birmingham. W. BRIAN GOUGH.

Doctors' Houses at Birmingham

SIR,—With reference to the letters from the Birmingham Executive Council and Dr. E. K. Morris (*Supplement*, March 8, pp. 91 and 92) in reply to mine (*Supplement*, February 9, p. 55), would you allow me to make the following observations:

(1) I have the greatest regard for the clerk of the council and his staff. My criticism was only against the policies of the council.

(2) There is definite divergence of views between myself and the council about my appeal to the Minister, closure of my branch surgery, and my alleged acceptance of proposed rent without

comment. I stand by my original statement and am willing to substantiate it at an independent inquiry.

(3) I wished to build the house with my own money. I am still willing to buy the house from the Corporation. Why should a doctor be refused permission to build his house, if he has no worry about "initial heavy capital outlay"? In my opinion a doctor can render medical service as efficiently from his own house as from a rented one.

(4) The local medical committee, to my knowledge, has *never* approved the £300 rent. Most members of the committee feel that this rent is excessive and should be reduced and also that doctors with their own capital should be allowed to build their own houses.

(5) Dr. E. K. Morris quotes regulations, but forgets that I never asked the council to provide accommodation, nor did I apply for a Corporation house. He defends the rent by saying that a doctor's house and surgery are regarded as business premises. In Birmingham doctor's premises have always been rated as residential premises. His comparison with the shops next door does not reveal the fact that a shopkeeper pays only £180 rent for his shop and two-storeyed residential accommodation as against £300 for the doctor's house. As for the premium, a shopkeeper creates goodwill out of nothing and can sell it for a tidy figure. Has Dr. Morris forgotten that nowadays a doctor has no goodwill to sell?

Coming from the personal to the general aspect of the problem, I hope this correspondence will result in joint consultations between the executive council, the local medical committee, and the local authority, so that houses could be made available to unestablished doctors with speed and for reasonable rent.—I am, etc.,

Birmingham D. R. PREM.

Registrar Appointments

SIR,—I should like to support Professor Charles Wells (*Supplement*, March 15, p. 102) in his suggestion that we do need in hospital a junior grade of consultant. The present tendency to get patients up much earlier after operation, and the remarkable reduction in complications brought about by antibiotics, have led, at any rate in urology, to a very much increased turnover of beds; operating sessions tend to become positive marathons.

I think there would be a place as third and junior member of a firm for a man who had secured a permanent place as a consultant in the National Health Service, but who was whole-time, and so acting in the true sense as an assistant to the senior member of the firm.—I am, etc.,

Birmingham. HUGH DONOVAN.

Association Notices

Diary of Central Meetings

APRIL

1	Tues.	Orthopaedic Group Committee, 12 noon.
1	Tues.	Orthopaedic Group, 2 p.m.
2	Wed.	General Practice Review Committee, 11 a.m.
2	Wed.	Coroners Subcommittee, Private Practice Committee, 2.30 p.m.
3	Thurs.	Rural Practices Subcommittee, G.M.S. Committee, 2 p.m.
8	Tues.	Subcommittee on Constitution and Procedure of Medical Service Committees, G.M.S. Committee, 2 p.m.
9	Wed.	Amending Acts Committee, 2 p.m.
16	Wed.	General Practice Review Committee, 11 a.m.
17	Thurs.	G.M.S. Committee, 10.30 a.m.
17	Thurs.	General Practice Review Committee, 11 a.m.
17	Thurs.	Radiologists Group Committee, 2 p.m.
18	Fri.	Consulting Pathologists Group Committee, 2 p.m.
18	Fri	Scholarships Subcommittee, Science Committee, 2.30 p.m.
30	Wed.	Film Committee, 2 p.m.

MAY

6	Tues.	Alcohol and Road Accidents Committee, 2 p.m
8	Thurs.	International Relations Committee, 2 p.m.

Branch and Division Meetings to be Held

ALDERSHOT AND BASINGSTOKE DIVISION.—At Rotherwick Village Hall, Wednesday, April 2, 9 p.m., annual general meeting.

COVENTRY DIVISION.—At Pilot Hotel, Burnaby Road, Coventry, Tuesday, April 1, 7.30 for 8 p.m., supper meeting. Dr. Alistair French: "Legal and Ethical Aspects of Medical Practice." Questions and discussion are invited.

DEWSBURY DIVISION.—At Dewsbury General Infirmary, Friday, April 4, 8.30 p.m., address by Dr. Donald Teare: "Murder." To be illustrated with lantern slides. All medical practitioners in area of Division are invited.

HAMPSTEAD DIVISION.—At New End Hospital, Heath Street, London, N.W., Wednesday, April 2, 8.30 p.m., talk by Dr. Keith Simpson: "What to do with a Dead Body." Illustrated by lantern slides. All medical practitioners in the area of the Division are invited.

LEWISHAM DIVISION.—At Lewisham Hospital, 390, High Street, Lewisham, S.E., Friday, April 4, 8.30 p.m., meeting.

MID-ESSEX DIVISION.—At Mid-Essex Technical College, Market Road, Chelmsford, Sunday, April 6, 10 a.m., clinical meeting. Films, talks, and discussions.

NORTH MIDDLESEX DIVISION.—At North Middlesex Hospital, Silver Street, Edmonton, N., Tuesday, April 1, 8.45 p.m., annual general meeting.

NUNEATON AND TAMWORTH DIVISION.—At Red Lion Hotel, Atherstone, Tuesday, April 1, 8 p.m., supper; 8.45 p.m., address by Mr. T. Sergeant: "The Use and Abuse of Physiotherapy."

REIGATE DIVISION.—At Redhill County Hospital, Tuesday, April 1, 8.30 p.m., Dr. Donald Teare: "Homicide."

SCUNTHORPE DIVISION.—At War Memorial Hospital, Scunthorpe, Thursday, April 3, 8.30 p.m., lecture by Dr. W. N. Pickles: "Epidemiology in Country Practice."

SWINDON DIVISION.—At Goddard Arms Hotel, Swindon, Tuesday, April 1, 7.45 for 8.15 p.m., B.M.A. Dinner. Dr. S. J. Hadfield (Assistant Secretary, B.M.A.): "General Practice and Recent Medical Events."

Meetings of Branches and Divisions

SOUTHAMPTON DIVISION

A successful meeting was held on January 16, when the chairman, Dr. J. R. Kingdon, presented Mr. R. W. Knowlton with a bookcase as a memento of fifteen years as secretary of the Division.

Dr. W. S. C. Copeman delivered an address entitled "Cortisone, A.C.T.H., and the Rheumatic Diseases." After outlining the history of the discovery and use of A.C.T.H. and cortisone in the treatment of rheuma oid arthritis, he pointed out that the principle of their action was replacement in the case of cortisone and stimulation of production by suprarenals in the case of A.C.T.H. Discussing treatment, he stressed the importance of finding the minimal dose necessary for the patient, with occasional boosting on the appearance of any remission. The reduction in the dosage of cortisone should take place very slowly. Dr. Copeman discussed certain reactions that might occur, and pointed out that use of these hormones was still experimental. The cost of treatment was still very high, and he could not see that there would be much reduction in expense in the future. As regards the value of the hormones in general practice, he considered that cortisone would be of definite advantage over A.C.T.H., which required four-hourly injections.

After the address a short film was shown illustrating cases which had benefited from the therapy. This was followed by an interesting discussion in which the most important point emphasized was that all methods of treatment, including gold, used before the discovery of the action of these hormones should still be employed.

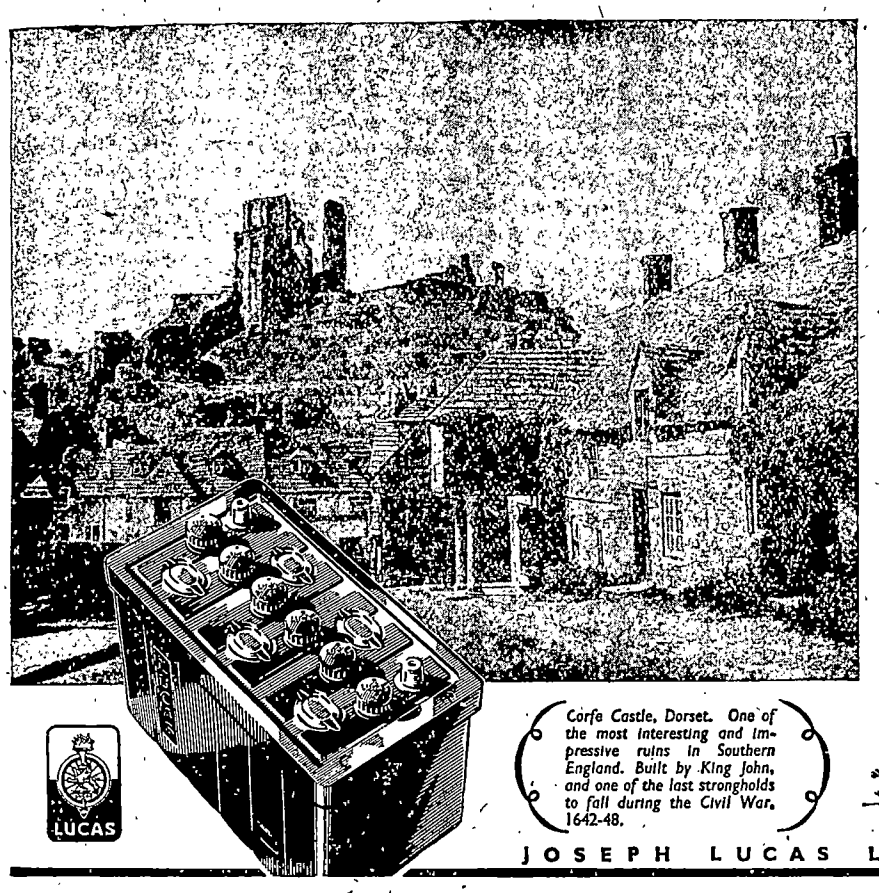
The chairman thanked Dr. Copeman for his interesting and valuable address.

PRESTON DIVISION

The annual B.M.A. Lecture was delivered by Sir Daniel Davies, Physician to King George VI, at Preston Royal Infirmary to a large and attentive audience on March 11. The title of the address was "The Changing Scene in Medicine." Sir Daniel dealt with the changes in medical diagnosis and treatment in the last twenty-five years or so, with particular emphasis on the advances in therapeutics. The introduction of insulin, liver therapy, the vitamins, the sulphonamides, penicillin, streptomycin, "aureomycin," cortisone, and A.C.T.H. had produced results undreamt of thirty years ago. In preventive medicine immunization had reduced to a small fraction the incidence of diphtheria and had almost abolished its mortality.

Not only had medicine changed but so also had disease incidence, and the greatly increased expectation of life in itself provided new problems. Not only had life itself been prolonged but the potential working life had also been extended, so that at 70 years of age a man faced life much as a man of 50 might have done a few decades ago. There were still many as yet unsolved problems to challenge the next generation of medical men.

In his address Sir Daniel was never at a loss for the apt quotation to illustrate a particular point. A vote of thanks to the lecturer was proposed by Mr. Ian Orr and seconded by Dr. D. J. Davies.



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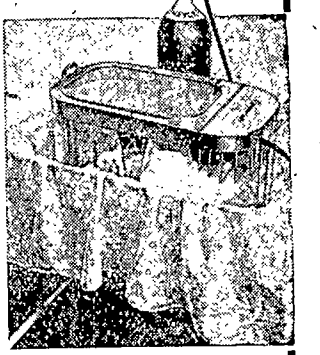

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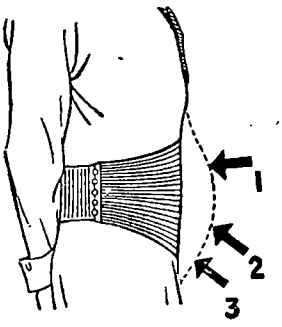

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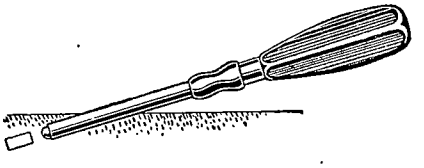

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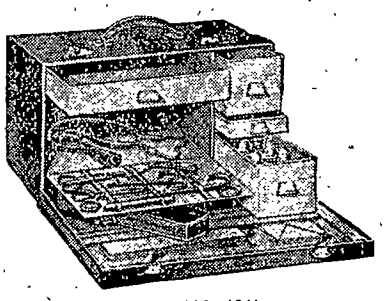

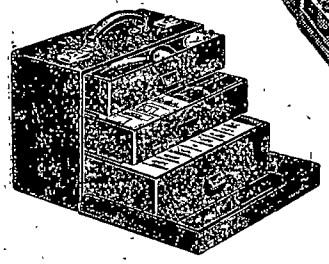

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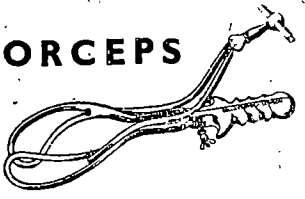

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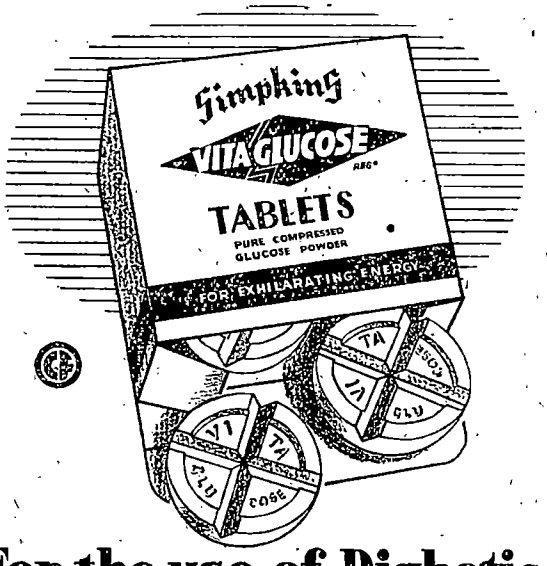

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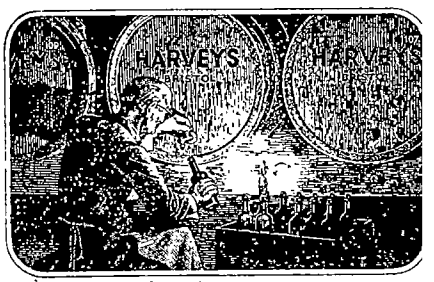

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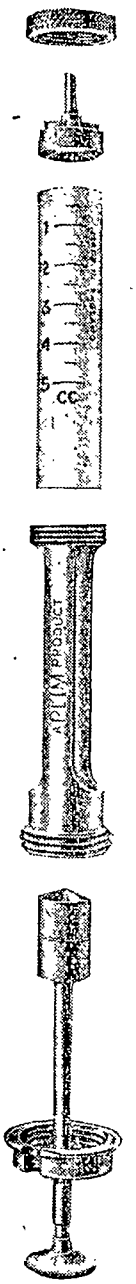

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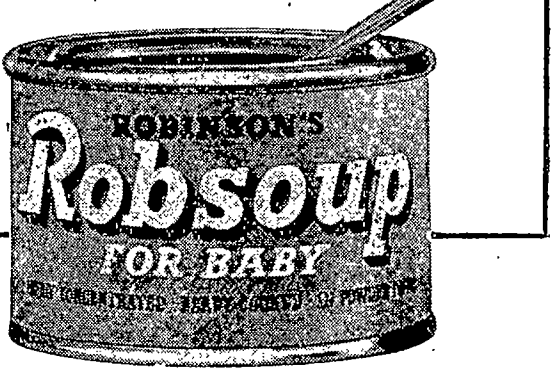

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★*SERVICE MEMBERS may have difficulty in supplying recent testimonials, but this should not deter them from applying.*

Deferment of call-up for "R" practitioners (i.e., practitioners liable for call-up under the National Service Acts) is granted at the discretion of the Central Medical War Committee and (in Scotland) the Scottish Central Medical War Committee. The Committees normally allow an "R" practitioner to hold a First House Officer post (N.H.S. salary £350 per annum) provided that he obtains it without delay. *Under present arrangements* the Committees also normally allow an "R" practitioner to hold a Second House Officer post (£400) and a Senior House Officer post (£670), provided in each case that the higher appointment is secured before the termination of the practitioner's current appointment.

"R" practitioners may not accept Third House Officer posts (£450 per annum) unless they have obtained the special permission of the C.M.W.C. or (in Scotland) the Scottish C.M.W.C.

SALARY SCALES OF JUNIOR GRADES OF HOSPITAL MEDICAL STAFF

Registrar Grades, Whole-time

(*a*) *REGISTRAR:* Posts obtained normally not less than two years after registration as a medical or dental practitioner and held normally for two years: £775 per annum in the first year; £890 per annum in the second and any subsequent years.

(*b*) *SENIOR REGISTRAR:* Posts obtained normally not less than four years after registration as a medical or dental practitioner and held normally for three years: £1,000 per annum in the first year; £1,100 per annum in the second year; £1,200 per annum in the third year; £1,300 per annum in any subsequent years.

Other Grades, Whole-time

(*a*) *HOUSE OFFICER:* £350 per annum for the first post held, £400 per annum for the second post held; £450 per annum for the third and any subsequent post held; with, in each case, a deduction at the rate of £100 per annum in respect of board and lodging and other services provided. Each post shall be tenable for six months

The Minister will be prepared to authorize, in exceptional circumstances, salaries up to £50 per annum higher than the standard rates specified above where a post cannot be filled otherwise.

(*b*) *SENIOR HOUSE OFFICER:* Posts obtained normally not less than one year (in Scotland, two years) after registration as a medical or dental practitioner and normally held for one year only: £670 per annum.

(*c*) *JUNIOR HOSPITAL MEDICAL OFFICER:* Officers who have held house appointments but who are not Registrars and who have less responsibility than other hospital officers of non-consultant status: £700 (for an officer appointed not less than two years after registration as a medical practitioner) by £50 to £1,000 per annum.

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Those intending to apply for resident appointments in the Registrar grades are recommended to make inquiries with regard to the deductions proposed for board and lodging at the time of submitting their applications, where this is not stated in the advertisement.

(22 2 52)

CLASSIFICATION

and order of appearance

Practices	Assistantships
Partnerships	Locums

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CONSULTANTS
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REGISTRARS
J.H.M.O.s
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HOUSE OFFICERS
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Anaesthetics	Ophthalmology
Blood Transfusion	Orthopaedics
Cardiology	Paediatrics
Chest and Tb.	Pathology
Dental	Plastic Surgery
Dermatology	Psychiatry
E.N.T.	Radiology
Geriatrics	Radiotherapy
Infectious Diseases	Rheumatology
Neurology	Urology
Neurosurgery	Medicine
Obstetrics and Gynaecology	Surgery
	Casualty

PUBLIC HEALTH

in alphabetical order of names of employing authorities

Industrial	Accommodation
Governmental	Consulting Rooms, etc.
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Notices	Hotels
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Lectures	Motor Cars, Hire, etc.
Situations(Non-med.)	Miscellaneous
Pharmacists, etc.	Homes
Receptionists, etc.	Agents

EASTER, 1952

ALL CLASSIFIED ADVERTISEMENTS should reach the Advertisement Manager not later than:

WED. April 2 for April 12 issue.

WED. April 9 for April 19 issue.

Cancellations, and/or corrections, for the above issues cannot be effected if received in this office after 4 p.m. on April 3 and April 10, respectively.

PRACTICES (Executive Councils)

For vacancies (except those in Scotland) apply on Form E.C.16A, obtainable from the Executive Council. Mark envelope "Vacancy."

CHALFORD AND EASTCOMBE, Gloucestershire
Applications invited for vacancy (urban) due to death. List approximately 1,720. Residence and surgery at Eastcombe available for purchase when widow finds alternative accommodation. Branch surgery at Chalford also available for purchase. Applications, on forms E.C.16A, to reach the undersigned not later than April 19, 1952.—W. J. T. Little, Clerk of the Gloucester County and City Executive Council, 12, College Green Gloucester.

UPMINSTER, Essex
Applications invited for retirement vacancy (urban). List at present approximately 2,850. Residence and surgery may be available by purchase from the retiring doctor. Apply, on Form E.C.16A, before April 15, 1952, to the undersigned. —E Bergdahl, Clerk, Essex Executive Council, 131-3, Fillebrook Road, Leytonstone, E.11.

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Cambridge man, 30, married, requires definite view Partnership or Succession. Four years G.P. Capital available for house purchase.—Box P1214, B.M.J.

Experienced practitioner, 36, requires Partnership or Assistantship with View. Car owner. Capital available for house purchase. Free now.—Box P1143, B.M.J.

Experienced Scots practitioner, 38, married, requires post in general practice in Scotland.—Box P1129, B.M.J.

M.B., D.R.C.O.G., 32 years, English, married, experienced in G.P. and hospital. Own car, desires Partnership or Assistantship with view. Capital available for house purchase.—Box P1259, B.M.J.

M.B. seeks Partnership or Succession, London or near. Capital available for house.—Box P1117, B.M.J.

Partnership or Assistantship with view, in N. Ireland, by experienced practitioner, married, R.C. —Box P1239, B.M.J.

Practitioner, 38, R.C., seeks Partnership, private practice. Family man, car. Wide experience abroad. Medicine, surgery, tropical diseases. South country town or Channel Islands preferred.—Box P1224, B.M.J.

ASSISTANTSHIPS VACANT

Wanted, Assistant, outdoor, R.C. preferred, car desirable, but not essential. Pleasant Cheshire town.—Box 1040, B.M.J.

Wanted, Assistant (male or female), early View, large industrial town near Manchester. Car, G.P., and midwifery experience essential. R.C. Salary by arrangement.—Box 1226, B.M.J.

Wanted, Trainee Assistant, preferably car owner, mixed country practice, excellent practical experience.—Dr. D. J. Johnson, Oswestry, Shropshire.

Wanted, Assistant, young Jewish, for mixed practice North-East town. Car owner preferred. Salary £1,000 per annum gross.—Box 1247, B.M.J.

Wanted immediately, Lady Assistant, South Midlands. Salary £1,000 all found, indoor. Car provided. Experienced midwifery.—Box 1207, B.M.J.

Assistantships Vacant—contd.

Wanted, married Assistant, South Yorks, to live on surgery premises, free unfurnished house, secretary employed, no branch surgeries, Sunday duty rota, £1,050 per annum including car allowance. No view.—Box 1243, B.M.J.

Wanted, Co. Durham, Male Indoor Assistant, £850 and car allowance.—Box 1242, B.M.J.

Wanted, Indoor Assistant, early April, married or single, experienced. Car supplied. East Anglia, permanency, no view. Salary by arrangement.—Box 1241, B.M.J.

Assistant with View wanted, practice 4,000 units, East Anglian town. House for sale.—Box 1227, B.M.J.

Assistant required April 1, 1952, North-East town. Salary £1,000 plus car allowance.—Box 1246, B.M.J.

Experienced woman Assistant required for May 1, for urban district North Cheshire, near Manchester. Driver, single, salary £700, all found. Separate flat and attendance. Car supplied for use in the practice.—Box 1228, B.M.J.

Male Trainee Assistant required early May, semi-rural Essex. Own car. Furnished accommodation for married couple without children.—Box 1145, B.M.J.

Postgraduate offered accommodation Central London. Suitable married man, available one night weekly, some week-ends. Car owner preferred.—Box 1244, B.M.J.

Trainee Assistant wanted, G.P. West London Suburb, mid May, pleasant flat available if required. English or Scot preferred. Car almost essential.—Box 1201, B.M.J.

Trainee, Kent semi-rural, end April, single, in-door, list 2,700. Ample time for study. Car available, or allowance.—Box 1215, B.M.J.

Trainee Assistant wanted May 1, male, single. Accommodation and car provided. Pleasant country district.—Dr. Connolly, Rothwell, near Kettering, Northants

Trainee Assistant required in a pleasant country town Warwickshire. Single preferred. Car provided. Salary to scale. Ample time for study and recreation.—Box 1240, B.M.J.

Trainee, in/outdoor, car advantageous, wide general experience and postgraduate facilities.—Dr. Chamarette, Chester Road, Manchester, 15.

Trainee Assistant required rural practice, Cots-wold border. Furnished accommodation. Car essential.—Box 1208, B.M.J.

Trainee Assistant required for mixed practice, after the middle of May. Unfurnished flat available.—Drs. Drake Lee, Ogle and Brook, 15, Lower Street, Kettering, Northants.

ASSISTANTS AVAILABLE

Assistantship wanted by married man aged 35, where scope for anaesthetics.—Box 1248, B.M.J.

Doctor awaiting appointment abroad in nine months' time available for Morning and Evening Surgeries. Day visits if required. Experienced G.P. London preferred. No car.—Box 1209, B.M.J.

Experienced practitioner, 30, married, two chil-dren, seeks genuine opening in G.P. Capital available for house purchase.—Box 1213, B.M.J.

Fully experienced English doctor (Thomas's), resident Chelsea, available afternoons, evenings. Car. Telephone.—Box 1249, B.M.J.

Scot M.B., Ch.B., B.Sc., wide experience G.P., seeks permanency succession, partnership, assistantship with view. Coast or country town Southern England or Scotland preferred. Own car. Free June. Minimum salary considered £1,000.—Box 1019, B.M.J.

Woman doctor seeks work reasonable distance Wimbledon. Car owner.—Box 1229, B.M.J.

LOCUMS (Vacant)

Wanted, Locum from July 28 to August 24 in-clusive, North London practice.—Box 1202, B.M.J.

Wanted, Locum, April 24 to May 13, semi-rural practice Shropshire. Car provided. Hospitality wife. Two guineas daily.—Box 1250, B.M.J.

Wanted, Locum Tenens, June 22 to 28, car pro-vided. Fee 15 guineas.—Box 1110, B.M.J.

Wanted. Locum Tenens, from July 23 to August 21, 10 miles from Leeds, car provided. Fees by agreement.—Box 1111, B.M.J.

Locum wanted, Leeds. Partnership practice, July 2 to September 9. State full particulars.—Box 1230, B.M.J.

Locum wanted June 12 to July 4. Car available. All found.—Dickinson, Loxley, Wombwell, near Barnsley.

Locum required for general practice. Four-doctor partnership, one month June 7 to July 7, inclusive. Car provided if required.—Box 1217, B.M.J.

North-Western Group Laboratory, 4/8, Pond Street, Hampstead, N.W.3. North-West Metro-politan Regional Hospital Board.—Locum Tenens Senior Registrar in Pathology required for one year. Applicants must have good all-round experience in pathology with special experience in haematology Duties may include work at other hospitals in the Group. Candidates invited to visit the Laboratory. Applications to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by April 3. (9919)

Royal Chest Hospital, City Road, London, E.C.1. Northern Group Hospital Management Committee. —Locum Part-time Senior House Officer (non-resident) required for indefinite period from April 17, 1952. Duties involve attendance at five afternoon sessions per week. Applications to be sent to the Assistant Secretary, Royal Northern Hospital, Holloway, London, N.7, by April 5. (9866)

Royal Northern Hospital, Holloway, London, N.7 (Northern Group Hospital Management Committee).—Part-time Locum E.N.T. Registrar (8 ses-sions) required for indefinite period. Applications to Hospital Secretary. (2115)

St. Alfege's Hospital, Greenwich.—Locum Tenens Senior Registrar (Pathology) full-time, required for approximately six weeks. National salary and conditions. Interview, and inspection laboratory, arranged on request. Please telephone GREenwich 2655, Ext. 28. (2114)

Westminster Hospital Teaching Group.—Locum Tenens Medical Registrar (Grading Registrar or Senior Registrar) required from April 7 to May 24. Applications to be sent as soon as possible to Assistant Secretary, Westminster Children's Hospital, Vincent Square, S.W.1. (2323)

Aylesbury, Royal Buckinghamshire Hospital.—Locum House Surgeon to department of children's surgery and orthopaedics. Vacant now. Applications, stating age, nationality, qualifications and experience, with two testimonials, to the Secretary-Superintendent. (2048)

Aylesbury, Royal Buckinghamshire Hospital.—Locum House Surgeon for E.N.T. and Ophthalmic Department. Vacant now. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Secretary-Superintendent. (2049)

Barnet General Hospital, Barnet, Herts.—Whole-time Locum Senior Registrar in Orthopaedics required for three weeks during April. Apply to Medical Director. (2202)

Bournemouth, Royal Victoria Hospital, Shelley Road. East Dorset Hospital Management Committee. Locum Orthopaedic Registrar required for the period April 11 to July 31. Non-resident (£775 per annum). Applications to Assistant Secretary, Royal Victoria Hospital, Bournemouth. (2204)

Hounslow Hospital (acute general—81 beds), Staines Road, Hounslow.—Locum House Physician required, period March 29 to April 8, inclusive. Apply to Assistant Secretary, telephone HOUNSLOW 4448. (2203)

Hounslow Hospital (acute general—81 beds), Staines Road, Hounslow.—Locum Resident Surgi-cal Registrar required, period April 11 to April 25, inclusive. Apply to Assistant Secretary, telephone HOUNSLOW 4448. (2204)

Hull Royal Infirmary. Hull (A) Group Hospital Management Committee.—Locums required (Senior House Officer grade) for the following posts: Resident Surgical Officer. House Surgeon. Applications to the Administrative Officer. (2116)

Kettering and District General Hospital.—Appli-cations are invited from registered medical practitioners for the post of **Locum House Surgeon (General Surgery)** from now to the end of June. Salary will be in accordance with National Health Service Regulations and dependent upon past experience. Applications, stating age, nationality, qualifications, and giving details of previous experience, together with not more than two recent testimonials, should be sent to the Assistant Secretary, General Hospital, Kettering, as soon as possible. (9131)

Mansfield and District General Hospital.—Locum Casualty Officer required from beginning of April. Salary £670 per annum, with a deduction of £135 in respect of residential emoluments. Applications, giving full particulars, to be sent as soon as possible to the Secretary, Mansfield H.M.C., Crow Hill Drive, Mansfield. (2005)

Merthyr General Hospital. Welsh Regional Hospital Board.—Wanted, **Locum Tenens Physician** to act as holiday relief for the Consultant Physician from June 29, 1952, to July 20, 1952, inclusive. Salary in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, together with the names of two referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board Temple of Peace and Health, Cathays Park, Cardiff. (2142)

South-East Essex Hospital Management Comm't-tee.—Locums required. Senior Anaesthetic Reg's-trar, Orsett Hospital, April 7 to May 7, 1952. Salary £1,100 per annum, less £130 emoluments. **Anaesthetic Senior House Officer, St. Andrews Hospital, Billericay,** April 15 to 30, 1952. Salary £670 per annum less £130 emoluments. Applications should be forwarded to the Sec., South-East Essex H.M.C., Thurrock Hospital, Grays, Essex. (2074)

Welsh Regional Hospital Board.—Wanted im-mediately a **Locum Tenens Assistant Anaesthetist (S.H.M.O.)** to serve the Mid Glamorgan Hospital Management Committee. He will be based on Neath General Hospital but will be expected to work at other hospitals in the area. The locum is for a period of three months and the salary will be in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, together with the names of two referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (2125)

LOCUMS (Available)

Wanted, Locums or Assistantship by medical woman, well qualified and experienced, free in London immediately.—Box 1236, B.M.J.

Experienced woman doctor requires Locum en-gagements. Free end of April. Car owner.—Box 1231, B.M.J.

Experienced doctor, available for Locum en-gagements, excellent credentials. Own car if required.—Box 1232, B.M.J.

Experienced G.P. requires Evening Surgeries, Week-ends, London area.—Box 1225, B.M.J.

Ex-trainee, L.R.C.P., M.R.C.S., British, married, 32, R.C., car, requires continuous locums in Midlands area. Free May 1.—Box 1218, B.M.J.

M.B., 27, car owner, English, with varied hos-pital, obstetric and G.P. experience available Southern England, May 25 onwards.—Box 1251, B.M.J.

Young Irish doctor in Midlands partnership seeks two to three weeks' locum either June or between July 24 and September 5. Seven years' experience G.P. and obstetrics, etc. Own car. Sea-side preferred. Hospitality for wife and two small daughters.—Phone Chellaston 3302 (near Derby) or write Box 1219, B.M.J.

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APPOINTMENTS

ANAESTHETICS

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

PART-TIME ASSISTANT ANAESTHETIST (S.H.M.O. scale)

to undertake six sessions per week at hospitals in the Ilkley and Otley, Menston and Middleton and Grassington Hospital Management Committee Groups. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, to be forwarded to the Secretary, Park Parade, Harrogate, not later than April 26. (2006)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time, non-resident post of

ASSISTANT ANAESTHETIST

to work under the general guidance of the Group Consultant at the Blackburn and District Hospital Centre (Blackburn Royal Infirmary, Queen's Park Hospital, Blackburn, and the Victoria Hospital, Accrington). Salary £1,300 by £50 to £1,750. The successful candidate will be required to live near Blackburn. Forms of application may be obtained from the Senior Administrative Medical Officer to the Board at Cheetwood Road, Manchester, 8, and should be returned, together with the names and addresses of three referees, to be received not later than April 14, 1952. (9879)

MANCHESTER, SAINT MARY'S HOSPITALS
United Manchester Hospitals

Applications are invited for the post of

ASSISTANT ANAESTHETIST

at a salary of £1,300 (at age 32) by £50 to £1,750. The person appointed will require to undertake duties in both the obstetrical and gynaecological sections of the hospitals, but his services are particularly required in connexion with the obstetrical units, where the person appointed will be required to take a close and personal interest not only in the anaesthesia for operative obstetrics, but in the general measures to relieve the pain of childbirth. Forms of application may be obtained from the undersigned. The closing date for applications is April 30, 1952.—A. R Wise, General Superintendent, Saint Mary's Hospitals, Manchester, 13. (9957)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Anaesthetics—contd.

SHEFFIELD REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners who are in possession of the D.A. for the post of
Whole-time ASSISTANT ANAESTHETIST
to serve the Grimsby General Hospital and Louth County Infirmary. The person appointed will be required to reside within ten miles of the Louth County Infirmary. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to the Secretary not later than April 26. (2075)

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
ASSISTANT ANAESTHETIST (Whole-time)
to the Croydon Group of Hospitals. Duties mainly at Mayday Hospital. Salary scale: £1,300 by £50 to £1,750 per annum. Applications (five copies), stating date of birth, qualifications, experience, and present appointment(s), and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than April 12, 1952. Applicants may visit the hospitals by local arrangement. (2023)

COVENTRY GROUP
Birmingham Regional Hospital Board
Applications invited for appointment of
REGISTRAR IN ANAESTHETICS (Whole-time)
Duties mainly at Hospital of St. Cross, Rugby (168 beds), which is recognized for D.A. Experience in specialty essential. Possession of D.A. an advantage. Appointment subject to N.H.S. (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10 Augustus Road, Birmingham, 15, before April 18, 1952. Candidates may visit the hospital concerned. (2117)

DERBY, CITY HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
REGISTRAR (Anaesthetics)
to the above hospital, which is recognized for training for the D.A. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 15, 1952. (2024)

GLASGOW, STOBHILL HOSPITAL
Western Regional Hospital Board, Scotland
Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:
REGISTRAR in Anaesthetics
Applications (twelve copies), stating age, qualifications, experience, present appointment, and giving the names of three referees, should be submitted not later than April 12, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (2138)

GLASGOW—WESTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for the following appointments, which will be for one year in the first instance:
TWO REGISTRARS IN ANAESTHETICS
based respectively at Glasgow Royal Infirmary and Glasgow Western Infirmary
Applications (sixteen copies), stating age, qualifications, and experience, and present appointment, and giving the names of three referees, should be submitted not later than April 12, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointments will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (2286)

MEXBOROUGH, MONTAGU HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident post of
WHOLE-TIME REGISTRAR (Anaesthetics)
to the above hospital. The appointment is for one year in the first instance, and may be renewed for a second year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to reach him not later than April 7, 1952. (9716)

NEWMARKET GENERAL HOSPITAL (450 beds)
East Anglian Regional Hospital Board
ANAESTHETIC REGISTRAR
Post provides wide experience in all types of anaesthesia. Single quarters available. Appointment for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments with names of three referees, to Secretary of Board, 117, Chesterton Road, Cambridge, by April 15, 1952. Candidates invited to visit hospital by direct arrangement with Medical Superintendent. (2076)

SOUTH-EAST KENT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from suitably qualified practitioners for the appointment of
LOCUM RESIDENT ANAESTHETIST
to assist at all or any of the following hospitals within the Committee's area:
Royal Victoria Hospital, Folkestone
Ashford Hospital
Willesborough Hospital
Royal Victoria Hospital, Dover
Buckland Hospital
Victoria Hospital, Deal
The post, which will become vacant in early April, is for a period of nine months and will be non-resident. Salary will be at the mid-grade Registrar salary rate (£775 to £890 per annum). Candidates should hold the Diploma of Anaesthetics and have had a good general experience of the specialty. Applicants should state age, qualifications and dates, nationality, and give a résumé of experience, with the names and addresses of suitable referees. Travelling expenses will be paid in accordance with the approved scale, where necessary. Applications should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone, to reach him by April 7, 1952. (2207)

DULWICH HOSPITAL
East Dulwich Grove, S.E.22
Camberwell Hospitals Management Committee
Applications are invited for appointment as
SENIOR HOUSE OFFICER (Anaesthetist duties)
Position vacant from April 1, 1952. Salary £670 a year, with deduction at rate of £150 a year in respect of residence. Applications, stating age, qualifications and experience, enclosing copy testimonials, to the Secretary, Camberwell H.M.C., Dulwich Hospital, S.E.22, as soon as possible. (9780)

BATH, ROYAL UNITED HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE ANAESTHETIST
The post is graded Senior House Officer. Salary, terms and conditions of service are in accordance with those published by the Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to undersigned.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (2077)

BOLTON, ROYAL INFIRMARY (237 beds)
Bolton and District Hospital Management Committee
RESIDENT ANAESTHETIST
(Senior House Officer Grade)
Post vacant immediately, tenable for twelve months, and recognized for the D.A. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (2078)

DERBYSHIRE ROYAL INFIRMARY, Derby
(416 beds)
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
SENIOR HOUSE OFFICER (Anaesthetics)
(Resident)
now vacant. Recognized for D.A. Apply, with full details and two names for reference, to Secretary, No. 1 Hospital Management Committee, Babington Lane Derby. (9681)

DONCASTER ROYAL INFIRMARY
(Recognized under the regulations for the D.A.)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners with the necessary experience for the appointment of
RESIDENT ANAESTHETIST
in the grade of Senior House Officer
Salary at the rate of £670 per annum, from which a deduction of £130 per annum will be made for board, residence, etc. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with copies of three testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (9717)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetics)
Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester. (2079)

HARROGATE AND RIPON HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the resident post of
SENIOR HOUSE OFFICER (Anaesthetics)
The person appointed would work mainly at the Harrogate and District General Hospital, but would also be required to undertake duty at any of the other hospitals in the Group when necessary. Salary £670 per annum, subject to the usual deductions. Applications, stating age, experience and qualifications, to the Assistant Secretary, Harrogate and District General Hospital, Knaresborough Road, Harrogate. (2145)

HITCHIN—LUTON AND HITCHIN GROUP HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT ANAESTHETIST
(Senior House Officer)
to work in the Hitchin area under the direction of the whole-time Consultant Anaesthetist. The appointment, which is vacant now, offers experience in general surgery, E.N.T., gynaecology and obstetrics, and orthopaedics, and is recognized for the D.A. examination. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent immediately to the Medical Director, The Lister Hospital, Hitchin. (9718)

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL (146 beds)
BINGLEY HOSPITAL, Bingley (68 beds)
Yorkshire, West Riding (Full Consultant Staffs)
Applications are invited for the appointment of
SENIOR HOUSE OFFICER in Anaesthetics
(Male or female)
for duty at the above hospitals for acute sick, resident at Keighley Victoria Hospital. Twelve months' appointment, vacant now. Salary £670 per annum. National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Bingley Keighley, Skipton and Settle Hospital Management Committee, St. John's Hospital, Keighley, as soon as possible. (2001)

MANSFIELD AND DISTRICT GENERAL HOSPITAL
Mansfield Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Anaesthetic)
The post is recognized for the D.A. examination and is tenable for one year. Salary £670 per annum, less an appropriate deduction in respect of board residence. Applications, stating age, qualifications, nationality and experience, etc., with names of two persons for reference, should be addressed to the Secretary, Mansfield Hospital Management Committee, Oak Bank, Crow Hill Drive, Mansfield, Notts. (9719)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL, Freedom Fields
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified and registered medical practitioners for appointment of
RESIDENT ANAESTHETIST
(Senior House Officer status)
Post vacant June 1, 1952. The appointment will be for a period of twelve months. Salary at £670 per annum. Applications, stating age, nationality, qualifications, and experience, together with the names and addresses of three referees, to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Stoke, Devonport. (2289)

PRESTON ROYAL INFIRMARY (400 beds)
RESIDENT SENIOR HOUSE OFFICER
(Anaesthetics) (Senior House Officer Grade)
(Recognized for D.A.)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary Preston.—John Gibson, Secretary. (9591)

RUGBY, HOSPITAL OF ST. CROSS (168 beds)
RESIDENT ANAESTHETIST
(Senior House Officer status)
Good experience of all types of general and orthopaedic surgery. Applications to the Hospital Secretary. (2290)

STOURBRIDGE (near), WORDSLEY HOSPITAL
(450 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
(Resident Anaesthetist)
Post now vacant. Applicants should have held house appointments and had previous experience in anaesthetics. The salary will be at the rate of £670 per annum, less a deduction of £150 per annum in respect of residential emoluments. Applications stating age, nationality, qualifications, with dates, experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley, Worcs. (6601)

Anaesthetics—contd.

ST. HELENS HOSPITAL (189 beds)
St. Helens and District Hospital Management Committee

Applications are invited from suitably qualified medical practitioners for the appointment of

SENIOR HOUSE OFFICER

to act as Resident Anaesthetist and Casualty Officer

Salary £670 per annum, less £150 per annum for residential emoluments. The appointment will be subject to annual review. Applications to be forwarded to the undersigned immediately.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (2118)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee

Applications are invited for the appointment of

RESIDENT ANAESTHETIST AND HOUSE PHYSICIAN

vacant now Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications and experience, with a copy of two recent testimonials and the name of one referee, should be sent to the Group Secretary, St. Helier Hospital, Carshalton, Surrey. (2080)

PADDINGTON HOSPITAL
285, Harrow Road, W.9
Paddington Group Hospital Management Committee

Applications are invited for the post of

HOUSE SURGEON in the Anaesthetic Department

The hospital is recognized for the D.A. The officer appointed will be required to assist in the casualty department. Salary and conditions of service as for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of two referees, to reach the Secretary to the Committee, Harrow Road, W.9, by April 10, 1952. (2221)

BLACKPOOL, VICTORIA HOSPITAL

HOUSE OFFICER (Anaesthetics Department)

Post vacant April 7, 1952, and recognized for D.A. National salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (2025)

BRADFORD, ST. LUKE'S HOSPITAL

HOUSE OFFICER (Anaesthetics)

Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (9887)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)

RESIDENT ANAESTHETIST
(House Officer status)

Vacant beginning of May. Recognized for D.A. Applications, with full details of experience, etc., together with the names and addresses of two referees, to be sent to the Administrative Officer of the hospital within seven days of the appearance of this advertisement. (9824)

GREENOCK AND DISTRICT HOSPITALS, BOARD OF MANAGEMENT FOR

HOUSE SURGEON ANAESTHETIST

Required immediately. Applications to the Secretary and Treasurer, 47, Eldon Street, Greenock, forthwith. (2168)

HALIFAX GENERAL HOSPITAL

RESIDENT ANAESTHETIST (House Officer grade)

Hospital providing large surgical turnover. Facilities available for practical experience under guidance of consultant staff. Ample opportunities for studying for D.A. Applications, stating age, sex, qualifications and experience, with copies of three recent testimonials, to the Secretary, Halifax Area Hospitals Management Committee, Royal Halifax Infirmary, Halifax. (2126)

SHREWSBURY, ROYAL SALOP INFIRMARY AND COPTHORNE HOSPITAL (500 beds)
Shrewsbury Group Hospital Management Committee

Applications are invited for the post of

RESIDENT ANAESTHETIST (House Officer grade)

Vacant April 1, 1952. Post recognized for the D.A. Applications, stating age, nationality, qualifications and previous hospital appointments, together with copies of recent testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (2169)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL (350 beds)
Tunbridge Wells Group Hospital Management Committee

Applications are invited for the appointment of

FULL-TIME RESIDENT ANAESTHETIST

vacant April 12, 1952. Post tenable for six months in first instance, or locum duties, and recognized for Diploma of Anaesthetics. Applications, stating age, qualifications, with copies of recent testimonials, to Administrative Officer. (9922)

IMPORTANT NOTICE

APPOINTMENTS

Medical practitioners are requested

not to apply

for any appointment referred to in this notice or for appointments under local authorities referred to in this notice without first having communicated with the Secretary to the British Medical Association, B.M.A. House, Tavistock Square, W.C.1,

or, in the case of the Irish appointment, with the Medical Secretary, Irish Medical Association, 10, Fitzwilliam Place, Dublin.

LOCAL GOVERNMENT SERVICE

CITY OF LEEDS
(Part-time Assistant Medical Officer (Sessional), for Maternity and Child Welfare)

COUNTY BOROUGH OF DUDLEY
(Deputy Medical Officer and Deputy School Medical Officer)

COUNTY BOROUGH OF LONDONDERRY
(Deputy Medical Officer)

COUNTY BOROUGH OF NORTHAMPTON
(Assistant Medical Officer of Health and Assistant School Medical Officer)

FIFE COUNTY COUNCIL
(Senior Medical Officer (Chief Executive School Medical Officer))

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE
(Assistant School Medical Officer)

IRELAND

BALLYMORE EUSTACE DISPENSARY DISTRICT
(Medical Officer)

By Order of the Council,

A. MACRAE,
Secretary.

March 25, 1952.

BLOOD TRANSFUSION

CARDIFF—WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the appointment of

ASSISTANT MEDICAL OFFICER

(S.H.M.O. scale) at the Regional Blood Transfusion Service, Cardiff

Candidates should preferably have had previous experience in this branch. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (2143)

CARDIOLOGY

WIRRAL CALDY MANOR HOSPITAL, Caldy (41 beds)
North Wirral Hospital Management Committee

Applications are invited from registered medical practitioners, male or female, for appointment of

RESIDENT HOUSE PHYSICIAN

for the above new hospital, which specializes in the treatment of heart cases. The appointment will become vacant on April 1, 1952, and will be tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging, and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Secretary, North Wirral H.M.C., Leasowe Children's Hospital, Moreton, Wirral, Cheshire. (8832)

CHEST AND TUBERCULOSIS

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of a **CONSULTANT CHEST PHYSICIAN (Whole-time)** at the Bradford Chest Clinic. Applicants should possess high medical qualifications and extensive experience of pulmonary tuberculosis and other diseases of the chest. The successful applicant will be the senior member of a team consisting of two Assistant Chest Physicians of Senior Hospital Medical Officer status and a Registrar. There is close collaboration with the Thoracic Surgical Unit at the Bradford Royal Infirmary, and a new chest clinic is nearing completion in the grounds of St. Luke's Hospital, Bradford. The person appointed will be responsible for the administration of a Sub-Regional Tuberculosis Admission Bureau serving the western half of the Region, and for the supervision of the Mass Radiography Unit based upon the Bradford Clinic. He will also be responsible to the Local Health Authority through the Medical Officer of Health for functions relating to the prevention, care and after-care of tuberculosis under Section 28 of the National Health Service Act. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than April 12, 1952. (9990)

BRADFORD CHEST CLINIC
Leeds Regional Hospital Board

Applications are invited for the whole-time appointment of

ASSISTANT CHEST PHYSICIAN
(S.H.M.O. Scale)

The appointment offers considerable scope for experience in tuberculosis and diseases of the chest, and the person appointed will be under the direction of the Consultant Chest Physician for the area. The duties will include attendances at chest clinic sessions, general hospitals and sanatoria within the area and such domiciliary visits as may be necessary. They will also include preventive care and after-care work on behalf of the Local Health Authority, and the salary may be subject to adjustment in respect of this work. The possession of a higher qualification will be an advantage, and previous experience in the specialty is essential. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than April 26, 1952. (2081)

LEICESTER ISOLATION HOSPITAL AND CHEST UNIT, Groby Road, Leicester
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the whole-time post of

DEPUTY PHYSICIAN SUPERINTENDENT

There is a thoracic surgical centre at this hospital. Clinical duties will be mainly on the chest side. Candidates should have a good general medical experience and special experience in the treatment of chest diseases and tuberculosis. Salary scale £1,300 by £50 to £1,750 per annum. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms should be returned to the Secretary not later than April 19, 1952. (9781)

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for two appointments as **WHOLE-TIME REGISTRAR IN DISEASES OF THE CHEST**

In the Lewisham Group of Hospitals, for duty in the first instance at Grove Park Tuberculosis Hospital

At Preston Hall Hospital, British Legion Village, Maidstone, Kent

Candidates must have good experience in general medicine and in the diagnosis and treatment of pulmonary tuberculosis in adults. The appointments will be in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales), and will be for one year in the first instance. Applications, giving particulars of age, qualifications, and experience, with relevant dates, together with the names and addresses of three referees, to be sent to the Secretary, Registrars Committee, South-East Metropolitan Regional Hospital Board, 11, Portland Place, W.1, not later than April 18, 1952. (2026)

CARDIFF, GLAN ELY HOSPITAL, Fairwater (236 beds) which deals with cases of respiratory and non-respiratory tuberculosis
Welsh Regional Hospital Board

Wanted immediately a

LOCUM TENENS REGISTRAR IN DISEASES OF THE CHEST

The post is resident, will be for a period of six months, and the salary will be in accordance with the terms and conditions of service. Applications to be sent immediately, with the names of two referees, to the Senior Administrative Medical Officer, The Temple of Peace and Health, Cathays Park, Cardiff. (2283)

Chest and Tuberculosis—contd.

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the post of
REGISTRAR IN CHEST DISEASES
The initial duties will be with the Mass Radiography Service in Hull, under the immediate supervision of the Senior Chest Physician in the area. Ample facilities will also be given for clinical work at the parent chest clinic, attendance at Sanatoria and General Hospitals, etc. After a satisfactory term in mass radiography, suitable candidates will be considered for a further period of training in selected regional sanatoria. This is essentially a trainee specialist post and only applicants possessing a first-rate clinical background in chest work will be considered. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars Committee, Park Parade, Harrogate, not later than April 12. (2082)

WINDSOR CHEST CLINIC
North-West Metropolitan Regional Hospital Board
WHOLE-TIME REGISTRAR
Required for one year in first instance. Duties will include care of in-patients at Canadian Red Cross Memorial Hospital, Taplow, Bucks. Clinic may be visited by direct appointment. Application forms obtainable from, and returnable to, the Secretary, Windsor Group Hospital Management Committee, Kipling Memorial Building, Alma Road, Windsor, by April 7, 1952. (2083)

NORTH BERWICK, EAST LOTHIAN, EAST FORTUNE HOSPITAL (270 beds)
Applications are invited from registered medical practitioners for the resident whole-time post of
JUNIOR HOSPITAL MEDICAL OFFICER
Salary £700 per annum by £50 to £1,000, less recognized charges for emoluments. Accommodation for married practitioner available. The hospital is modern, admitting all types of pulmonary and non-pulmonary tuberculosis, with thoracic, orthopaedic and genito-urinary surgery being done in the hospital. Duties may include both hospital and district work and an excellent opportunity is available for experience in all branches of tuberculosis work. Applications, stating age, qualifications and experience, with names of three referees, should be sent to the Secretary, East Lothian Hospitals Group Board of Management, 15, Court Street, Haddington, within fourteen days of appearance of this advertisement. (2128)

PAISLEY, INFECTIOUS DISEASES HOSPITAL
Thoracic Unit
Board of Management for Paisley and District Hospitals
Applications are invited from suitably qualified medical practitioners for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
for duty in the thoracic unit of the above hospital. Applicants should be at least two years qualified. Replies to be addressed to Group Medical Superintendent, Royal Alexandra Infirmary, Paisley, within two weeks of the date of this advert. (2222)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest
A vacancy occurs on June 1, 1952, for
RESIDENT SURGICAL OFFICER
Appointment for six months, with the prospect of renewal, of which two will be at the Country Branch, near Letchworth. Post graded as Senior House Officer or Registrar, according to qualifications and experience. Previous surgical experience necessary. Applications, stating age, qualifications, with dates, and previous appointments held, with copies of three testimonials, should reach the undersigned not later than April 19, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (2119)

BARROW AND FURNESS HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for a resident post of
SENIOR HOUSE OFFICER
for Chest Services in the Group, with main duties at the High Carley Sanatorium (153 beds, and regional centre for major thoracic surgery) and also at Chest Clinics. National salary scale and conditions, with a deduction of £100 per annum for residential emoluments. Applications, stating age, qualifications, and experience, with two recent copy testimonials, to be forwarded to the Secretary of the Committee 52, Paradise Street, Barrow-in-Furness (2291)

DRIFFIELD, YORKS, NORTHFIELD SANATORIUM
RESIDENT SENIOR HOUSE OFFICER (Medical)
Required at the above Sanatorium, which has accommodation for 80 adult cases of pulmonary tuberculosis. Salary £670 per annum. A charge of £175 will be made for residential accommodation. Applications to the Secretary, Westwood Hospital, Beverley. (2016)

EDINBURGH CITY HOSPITAL
RESIDENT SENIOR HOUSE OFFICER
Required for Surgical Thoracic Unit. Salary £670 per annum, less £150 for emoluments, and appointment is for one year in the first instance. The work will be in the tuberculosis section of the unit. Applications, stating age, experience, and giving the names of two referees, to the Secretary, Board's Office, City Hospital, Greenbank Drive, Edinburgh, 10. (2324)

IPSWICH SANATORIUM
Ipswich Group Hospital Management Committee
SENIOR HOUSE OFFICER
Required for this modern Sanatorium of 100 beds, which has recently been re-equipped for all modern forms of treatment of pulmonary tuberculosis and for all methods of investigation of chest diseases. Major surgery is about to be undertaken. Apply, with full particulars and names of two referees, to the undersigned.—John Williams, Sec., at East Suffolk and Ipswich Hospital. (2127)

NEWCASTLE, WALKER GATE HOSPITAL
Chest Department
Newcastle-upon-Tyne Hospital Management Committee
Applications are invited for the appointment of
RESIDENT SENIOR HOUSE OFFICER
There are 105 beds in the department, and the appointee will be required to carry out duties assigned to him under the supervision of the Senior Chest Physician. Facilities for study available. Salary £670 per annum, less residential charges. National Health Service terms and conditions. Applications, with three testimonials, should reach the Secretary, Newcastle-upon-Tyne Hospital Management Committee, Newcastle General Hospital, Westgate Road, Newcastle-upon-Tyne, 4, by April 7, 1952. (9923)

ST. HELENS AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Eccleston Hall Hospital
Applications are invited from suitably qualified registered medical practitioners for the post of
SENIOR HOUSE OFFICER
at the above hospital. Salary £670 per annum, less £150 per annum for residential emoluments. The person appointed will work under the supervision of the Tuberculosis Medical Officer, who is also on the staff of this hospital. There are 75 beds and the work comprises all types of tuberculosis. The appointment may also include duties at another hospital in the Group which is to be converted for the treatment of tuberculosis. Good residential accommodation for a single person, male or female, is available. Applications to be forwarded to the undersigned immediately.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (2170)

SWANSEA, MORRISTON HOSPITAL (450 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident appointment of
SENIOR HOUSE OFFICER
in the Department of Diseases of the Chest at the above hospital. The Department consists of 56 beds for pulmonary tuberculosis and a thoracic ward of 26 beds for tuberculous and non-tuberculous pulmonary cases There is a weekly operating session. Applications, stating age, qualifications, and experience, should be addressed to the Medical Superintendent, Morriston Hospital, Swansea.—O. C. Howells, Secretary, Glantawe Hospital Management Committee, St. Helen's Road, Swansea. (2292)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park and East Reach Branches)
(12 Residents)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
SENIOR HOUSE OFFICER (Chest Diseases)
Duties will include work in out-patient's clinics, sanatorium, and hospital wards (pulmonary tuberculosis, both medical and surgical). Salary is in accordance with the National Health Service scale. Applications stating age, qualifications, with dates, nationality, and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Musgrove Park Hospital, Taunton, Somerset. (2027)

HOSPITALS FOR DISEASES OF THE CHEST
Applications are invited from registered medical practitioners (male and female) for appointment of
NON-RESIDENT HOUSE PHYSICIAN
at Brompton Hospital, S.W.3, for which there are three vacancies. The appointment is whole-time for six months, commencing June 1, 1952. The duties include work in the Outpatients Department as well as in the wards. Salary £400 or £450 a year, according to experience. Applications, stating age, qualifications, with dates, nationality, and previous appointments held, and accompanied by copies of one or more recent testimonials, should reach the undersigned not later than Saturday, April 5, 1952.—Kenneth A. F. Miles, Secretary to the Board, Brompton Hospital, S.W.3. (9802)

LONDON CHEST HOSPITAL
Hospitals for Diseases of the Chest
Vacancies occur on June 1, 1952, for
TWO HOUSE PHYSICIANS (Resident)
Appointments for six months, four in London, two at the Country Branch, near Letchworth, and posts are graded as House Officer. Duties include work in the Out-patient Department and Refill Clinics as well as in wards. Applications, stating age, qualifications, with dates, and previous appointments held, with copies of three testimonials, should reach the undersigned not later than April 19, 1952.—Thomas Brown, House Governor, London Chest Hospital, E.2. (2120)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (Thoracic Unit)
Vacant April 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary. (2281)

CAMBRIDGE, PAPWORTH SANATORIUM
Papworth Hospital Management Committee
HOUSE PHYSICIAN
Applicants must have held resident surgical and medical posts in a general hospital. Appointment for six months, and salary at rate of £400 to £450 per annum, according to experience, less £100 for residential emoluments. Applications should be sent to the Secretary, Papworth Group Hospital Management Committee, Papworth Hall, Cambridge, accompanied by three recent testimonials. (9471)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER
in the Manchester Regional Hospital Board Centre for non-tuberculous thoracic surgery, which will become vacant mid-May, 1952. Salary £350 to £450 per annum, according to experience. £100 per annum will be deducted for residential accommodation and services. Six months' appointment. Vacancies occur periodically in the various departments and House Officers are eligible for appointment to another specialty at the end of the original term of service when such vacancies exist. Application forms may be obtained from the Secretary, Park Hospital, Davyhulme. (9924)

DENTAL

MANCHESTER, WYTHENSHAWE HOSPITAL
Wythenshawe (formerly Baguley Emergency Hospital)
South Manchester Hospital Management Committee
Applications are invited from registered dental practitioners for the post of
SENIOR HOUSE OFFICER
to the Maxillo-Facial and Oral Surgical Unit. Hospital recognized by the Royal College. Applications, stating age, nationality, present post, experience, and names of two referees, to be forwarded to the undersigned not later than April 12, 1952.—A. H. Keates, Secretary to the Committee, Christie Hospital and Holt Radium Institute, Manchester, 20. (2293)

DERMATOLOGY

GLASGOW, STOBHILL HOSPITAL
Western Regional Hospital Board, Scotland
Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:
REGISTRAR in Dermatology
Applications (twelve copies), stating age, qualifications, experience, present appointment, and giving the names of three referees, should be submitted not later than April 12, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (2139)

NEWCASTLE-UPON-TYNE, UNITED HOSPITALS
Royal Victoria Infirmary
Applications are invited from registered medical practitioners for the appointment of whole-time
REGISTRAR IN THE SKIN DEPARTMENT
of the Royal Victoria Infirmary. The appointment, which is non-resident, will be for one year in the first instance and subject to national terms and conditions of service for registrars. Apply immediately, giving full particulars and names and addresses of three referees.—A. W. Sanderson, House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne, 1. (2294)

EAR, NOSE, AND THROAT, etc.

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of a
SENIOR REGISTRAR IN E.N.T. SURGERY
The post for a period of four years, subject to review annually, of which part will be served at the teaching hospitals within the United Cardiff Hospitals Group and part at Swansea General Hospital and other hospitals of the Regional Hospital Board within the Glantawe Hospital Management Committee Group. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff. (2285)

Ear, Nose, and Throat, etc.—contd.

CARSHALTON, QUEEN MARY'S HOSPITAL FOR CHILDREN
South-West Metropolitan Regional Hospital Board
Carshalton Group Hospital Management Committee
NON-RESIDENT REGISTRAR
Required in the E.N.T. Department for five half-days a week. Canvassing will disqualify, but candidates are not precluded from visiting the hospital. Forms of application may be obtained from the Secretary, Queen Mary's Hospital for Children, Carshalton, Surrey, to whom they should be returned duly completed by April 12, 1952. (2223)

OLDHAM, BOUNDARY PARK GENERAL HOSPITAL and OLDHAM ROYAL INFIRMARY
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
to the E.N.T. Departments
at the above hospitals, becoming vacant on April 24. Applications, containing details of qualifications and experience, together with copies of two recent testimonials and quoting reference number A/839, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (2224)

SHREWSBURY, EYE, EAR AND THROAT HOSPITAL (70 beds)
Shrewsbury Group Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (E.N.T.)
Post recognized for the D.L.O. R.C.S. and vacant May 1, 1952. Applications, stating age, qualifications, nationality and experience, together with copies of recent testimonials, should be sent to the undersigned.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (2171)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds) and SOUTHAMPTON GENERAL HOSPITAL (453 beds)
SENIOR HOUSE OFFICER (E.N.T.)
Applications are invited for this whole-time post, now vacant. The post is recognized for the F.R.C.S. (Eng.) and D.L.O. examinations, providing experience in all branches of E.N.T. work, including audiometry. The Group includes a diagnostic and distributing hearing aid centre. Occasional work at other hospitals may be required. Applications, with copies of three recent testimonials, should be forwarded as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8226)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (E.N.T.)
Vacant now. Post recognized for F.R.C.S. and D.L.O. Applications, with copy testimonials, to be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent. (9411)

METROPOLITAN EAR, NOSE AND THROAT HOSPITAL
14-16, Granville Place, W.1, and 4-5, Collingham Gardens, S.W.5
(a hospital of the Fulham and Kensington Group)
HOUSE SURGEON
Required, some ear, nose and throat experience desirable. Vacant immediately. Hospital recognized for D.L.O. Resident appointment for six months in first instance, possibility of re-appointment for further period for suitable candidates. Application forms (stamped addressed foolscap envelope required) from the Secretary (B.M.J. 21), Fulham and Kensington Hospital Management Committee, St. Mary Abbots Hospital, Marloes Road, Kensington, W.8, to be returned not later than April 7, 1952. (2225)

ALTRINCHAM, CHESHIRE, ST. ANNE'S (EAR, NOSE AND THROAT) HOSPITAL (53 beds)
North and Mid-Cheshire Hospital Management Committee
JUNIOR HOUSE OFFICER (Male or female)
Required to commence duties on or about April 8, 1952. This is a busy hospital staffed by Manchester Consultants and a full-time Senior House Officer. Facilities for postgraduate study will be afforded, and there is also opportunity for much practical experience. Salary and conditions will be as laid down in accordance with the terms of service issued by the Ministry of Health. Applications, stating age, qualifications, etc., should be forwarded to E. A. Biden, Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland Road, Altrincham. (9346)

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON
for E.N.T. and Ophthalmic Department
Recognized for D.L.O. and D.O. First or second post, which carries additional remuneration at the rate of £50 per annum. Vacant now. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Secretary-Superintendent. (2050)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
HOUSE SURGEON
Required in the Ear, Nose and Throat Department at the Hull Royal Infirmary and the Victoria Hospital for Sick Children. Recognized for D.L.O. National scales and conditions. Six-monthly appointment, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8468)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
HOUSE SURGEON
to the E.N.T. Department for a period of six months from April 1, 1952. The post is recognized for the D.L.O. and the F.R.C.S. Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (9051)

READING, ROYAL BERKSHIRE HOSPITAL (403 beds)
Applications are invited for the post of
HOUSE SURGEON (E.N.T. Department)
Male or female. Vacant immediately. Salary £400 or £450, less £100 board residence, etc. Applications, stating age, qualifications (with dates), nationality, present post, with copies of three recent testimonials, to Administrative Officer. (5732)

GERIATRICS

YORK, GRANGE HOSPITAL (Chronic Sick Hospital of 259 beds, with full Consultant staff)
JUNIOR HOSPITAL MEDICAL OFFICER
in Geriatrics
Salary £700 by £50 to £1,000. Residence available at doctors' hostel of modern general hospital in same grounds, for which £153 is charged. Person appointed may be non-resident. Post vacant immediately. Applications, giving age, nationality, experience, qualifications and names of two referees, to be forwarded immediately to Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (2198)

BRIGHTON GENERAL HOSPITAL
Brighton and Lewes Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN to the Geriatric Unit
which will become vacant on May 28, 1952. Salary in accordance with national scales. Applications, stating age, qualifications and experience, together with copies of recent testimonials, should be sent to the Physician-Superintendent, Brighton General Hospital, Elm Grove, Brighton, 7, as soon as possible. (2172)

HALIFAX, ST. JOHN'S (GERIATRIC) HOSPITAL (accommodating 400 patients)
Halifax Area Hospitals Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN (Male or female)
(House Officer Grade)
This hospital is provided with consultant medical and ancillary services. Applications, stating age, nationality, qualifications and experience, together with copies of three testimonials, to be forwarded to Sec., Royal Halifax Infirmary, Halifax. (2129)

INFECTIOUS DISEASES

ROYAL FREE HOSPITAL GROUP
TWO HOUSE OFFICERS
(Second or subsequent post) for Fever Department
Required at the North-Western Branch of the Royal Free Hospital from July 1, 1952. The posts will be for six months in the first instance, but candidates will be expected to work subsequently for six months as Paediatric House Physicians at the Liverpool Road Branch. Terms and conditions of service as published by the Ministry of Health. Application forms may be obtained from the Secretary to the Board of Governors, The Royal Free Hospital, Gray's Inn Road, W.C.1, to whom they should be returned not later than April 30. (2146)

SOUTHAMPTON INFECTIOUS DISEASES HOSPITAL AND SANATORIUM
RESIDENT HOUSE OFFICER
(Male or female)
Required immediately for duties partly in the wards for infectious diseases, partly in the chest department. Post tenable for six months. Apply as soon as possible, with copies of testimonials, to the Group Secretary, Southampton Group H.M.C., Bullar Street, Southampton. (9424)

NEUROLOGY

PADDINGTON GROUP HOSPITAL MANAGEMENT COMMITTEE
Paddington Hospital, Harrow Road, W.9
West End Hospital for Nervous Diseases
Applications are invited for the post of
SENIOR HOUSE OFFICER
at the above hospital, at present housed at St. Charles' Hospital, Ladbroke Grove, W.10. Candidates should have held a House Physician appointment. Neurological experience will be an advantage. Salary and conditions of service for hospital medical and dental staff. Applications, stating age, qualifications, experience, together with the names and addresses of three referees, to reach the Secretary to the Committee by April 12. (2227)

NEUROSURGERY

BIRMINGHAM, UNITED, HOSPITALS
Applications are invited for the post of
HOUSE SURGEON
to the Department of Neuro-Surgery at the Queen Elizabeth Hospital. The appointment is for the period ending July 31, 1952. Salary will be in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications, experience, nationality, and present post, together with copies of three recent testimonials, should be sent to the undersigned at once.—G. A. Phalp, B.Com., Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (2255)

OBSTETRICS AND GYNAECOLOGY

EDINBURGH—SOUTH-EASTERN REGIONAL HOSPITAL BOARD, Scotland
Applications are invited from suitably qualified medical practitioners for the appointment of
SENIOR REGISTRAR
in Obstetrics and Gynaecology
which becomes vacant in the professorial charge at the Royal Infirmary of Edinburgh, and the Simpson Memorial Pavilion, Edinburgh, on July 25. The duration of the appointment will be for a period of two years in the first instance. The post is superannuable, and the conditions of service are in accordance with the regulations. Twelve copies of applications, giving particulars of age, previous experience and qualifications, together with the names of three referees, should be submitted to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh Gardens, Edinburgh, 3, within fifteen days. (2173)

LIVERPOOL, ROYAL INFIRMARY
United Liverpool Hospitals
Applications are invited for the temporary post of
GYNAECOLOGICAL REGISTRAR
for the period to September 30, 1952. The post is assessed in the Registrar grade. Applications, on forms from the undersigned, should be returned by April 12, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (2212)

NOTTINGHAM HOSPITAL FOR WOMEN
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the non-resident post of
WHOLE-TIME SENIOR REGISTRAR
(Obstetrics and Gynaecology)
Candidates should preferably be members of the Royal College of Obstetricians and Gynaecologists. The work of the hospital is mainly gynaecological, but 27 beds are available for abnormal obstetric cases. The appointment is for one year in the first instance reviewable annually. It has been agreed in principle that the period of appointment of Senior Registrars shall be divided between Regional Board hospitals and those administered by the Board of Governors of the United Sheffield Hospitals. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to reach him not later than April 7, 1952. (9784)

OXFORD, UNITED, HOSPITALS
Applications are invited for the post of
RESIDENT REGISTRAR in Obstetrics and Gynaecology at the Churchill Hospital
The post is linked with the department in Aylesbury and the successful candidate will spend one year in Oxford and, subject to satisfactory service, the second at Aylesbury. Preference will be given to applicants with the M.R.C.O.G. Diploma. Applications on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by April 15. (2051)

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD
Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance
SENIOR REGISTRAR IN OBSTETRICS AND GYNAECOLOGY
for duties under the Area Obstetrician and Gynaecologist in Lanarkshire
Applications (sixteen copies), stating age, qualifications, and experience, and present appointment, and giving the names of three referees, should be submitted not later than April 12, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointments will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (2287)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Obstetrics and Gynaecology—contd.

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of
REGISTRAR in Obstetrics and Gynaecology
to serve the Mid-Glamorgan Hospital Management Committee. The successful candidate will be based on Bridgend General Hospital (364 beds). The post is resident and will be subject to review at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Catnays Park, Cardiff. (2216)

QUEEN CHARLOTTE'S AND CHELSEA HOSPITALS
Queen Charlotte's Maternity Hospital, Goldhawk Road, W.6
JUNIOR OBSTETRIC OFFICER
(Senior House Officer)
and JUNIOR DISTRICT OBSTETRIC OFFICER
(Senior House Officer)
Resident posts tenable for six months from July 1, 1952. Applications to be lodged with the undersigned by April 12, 1952, on forms obtainable from L. E. Turner, Secretary to the Board of Governors, 339, Goldhawk Road, London, W.6. (2147)

QUEEN CHARLOTTE'S AND CHELSEA HOSPITALS
Chelsea Hospital for Women, Dovehouse Street, S.W.3
HOUSE SURGEON (Senior House Officer)
Resident post tenable for one year from August 1, 1952. Applications to be lodged with the undersigned by April 12, 1952, on forms obtainable from L. E. Turner, Secretary to the Board of Governors, 339, Goldhawk Road, London, W.6. (2148)

BARKING HOSPITAL (Maternity)
Ilford and Barking Group Hospital Management Committee
There will be a vacancy for a
RESIDENT SENIOR HOUSE OFFICER
(Male or female)
on March 19, 1952. Salary being £670 per annum, less emoluments valued at the rate of £150 per annum. Applicants should have been qualified not less than one year. Duties will include antenatal work. Applications, accompanied by copies of testimonials, should be sent to the undersigned within seven days of the appearance of this advertisement.—G. Austin Hepworth, Secretary, King George Hospital, Ilford. (2017)

GATESHEAD, 9, CO. DURHAM, QUEEN ELIZABETH HOSPITAL, Sheriff Hill
Gateshead and District Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER
to the Gynaecological Cancer Unit at the above hospital. Applications, together with copies of three recent testimonials or the names and addresses of three referees, should be addressed to the Medical Superintendent at the above hospital.—H. Clark, Group Secretary. (2149)

MANCHESTER, 20, WITHINGTON HOSPITAL
South Manchester Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER
to the Obstetrical and Gynaecological Department. Post recognized for D.R.C.O.G. Applications, stating age, nationality, qualifications, pre ent post, experience and names of two referees, to be forwarded to the undersigned not later than April 12, 1952.—A. H. Keates, Secretary to the Committee, Christie Hospital and Holt Radium Institute, Manchester, 20. (2295)

ROSSENDALE GENERAL HOSPITAL
Rawtenstall
(Beds: 25 Obstetric, 8 Gynaecological)
Bury and Rossendale Hospital Management Committee
There is a vacancy for a
SENIOR HOUSE OFFICER
(Obstetrics and Gynaecology)
at the above hospital. Salary and conditions of service are in accordance with national recommendations. Applications, stating age, qualifications, experience, nationality, and other relevant details, together with the names and addresses of two referees, or copies of recent testimonials, should be sent to the undersigned as soon as possible.—H. Wilkin on, Sec. to Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9211)

WORKINGTON INFIRMARY
West Cumberland Hospital Management Committee
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Obstetrical and Gynaecological Department
preferably with previous experience. The obstetrical department is a modern one with 22 beds, and the gynaecological ward has 12 beds, both under the charge of a Consultant. Salary and terms and conditions of service in accordance with national agreement. Applications, giving full particulars of experience and qualifications, and the names of two referees, to be forwarded immediately to the undersigned.—R. M. Bompas, Secretary, Workington Infirmary, Workington, Cumberland. (9690)

BRITISH HOSPITAL FOR MOTHERS AND BABIES, Samuel Street, Woolwich, S.E.18
OBSTETRICAL HOUSE OFFICER
(Recognized for M.R.C.O.G.)
Vacant May 1. Salary £400 or £450 per annum, less £100 per annum for residence. Apply to Secretary, Memorial Hospital, Woolwich, S.E.18. (9889)

HAMMERSMITH HOSPITAL AND POSTGRADUATE MEDICAL SCHOOL, London, W.12
Applications are invited for the following posts:
HOUSE SURGEON (Obstetrics) vacant May 1
HOUSE SURGEON (Obstetrics) vacant June 1
TWO HOUSE SURGEONS (Gynaecology) vacant July 1
Age, qualifications, experience, copies of two recent testimonials, to Secretary, Board of Governors, by April 6. (2151)

PRINCE OF WALES'S GENERAL HOSPITAL N.15 (218 beds)
Tottenham Group Hospital Management Committee
The Green, N.15
Applications are invited from registered medical practitioners for the appointment of
RESIDENT GYNAECOLOGICAL HOUSE SURGEON (Third post)
for a period of six months, commencing on May 26, 1952. Application form from the Secretary, to be returned by April 12, 1952. (2152)

BANGOR, COUNTY HOSPITAL (139 beds)
(Specialist Hospital for Obstetrics, Gynaecology and Paediatrics)
Part III Midwifery Training School
Caernarvon and Anglesey Hospital Management Committee
Applications are invited for the post of
RESIDENT OBSTETRICAL OFFICER
at a salary of £350 to £450 per annum, less £100 for residential emoluments. Post vacant May 31, 1952. The post is recognized by the Royal College of Obstetricians and Gynaecologists for the examination of the Diploma and for the obstetrical part of the membership examination. Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, N. Wales. (2108)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Gynaecology and Obstetrics)
Salary, terms and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to Secretary, St. Martin's Hospital, Bath, as soon as possible.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (2084)

BLACKPOOL, VICTORIA HOSPITAL
RESIDENT HOUSE OFFICER
(Gynaecology and Obstetrics)
Post recognized for gynaecology for membership of R.C.O.G. Vacant May, 1952. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (9785)

BRIGHTON GENERAL HOSPITAL
Brighton and Lewes Hospital Management Committee
OBSTETRIC AND GYNAECOLOGICAL HOUSE SURGEON
Applications are invited for the above appointment, which will become vacant on May 7, 1952. There are 60 obstetric and 25 gynaecological beds and the hospital is recognized for the M.R.C.O.G. Salary in accordance with national scales. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be sent to the Physician-Superintendent, Brighton General Hospital, Elm Grove, Brighton, 7, as soon as possible (2174)

BURNLEY, BANK HALL MATERNITY HOSPITAL (51 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Obstetrics)
The appointment is for a period of six months and salary and conditions of service will be in accordance with the National Health Service terms. The hospital is recognized for the M.R.C.O.G. Applications, with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (2176)

BURNLEY GENERAL HOSPITAL (656 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Gynaecological)
The appointment is for a period of six months and salary and conditions of service will be in accordance with the National Health Service terms. The hospital is recognized for the M.R.C.O.G. Applications, with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley. (2175)

CHESTER ROYAL INFIRMARY
Chester and District Hospital Management Committee
Applications are invited from medical practitioners, male or female, for the post of
HOUSE SURGEON
to the Gynaecological Department
commencing May 18, 1952. Applications, giving full details, together with copies of two recent testimonials should be forwarded to L. V. Pollard, Secretary, 5, King's Buildings. (8174)

DARLINGTON DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Greenbank Maternity Hospital (53 beds)
Applications are invited for the post of
OBSTETRICAL HOUSE OFFICER
Post vacant April 10. The appointment will be in accordance with the terms and conditions for hospital medical staff. Applications, stating age, qualifications and experience, together with the names of two referees, should be addressed to the Secretary, Darlington Memorial Hospital. (9474)

DERBYSHIRE HOSPITAL FOR WOMEN, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Gynaecology)
vacant April. Post recognized for training for the Membership examination in Gynaecology of the R.C.O.G. Applications, stating age, qualifications, and experience, with copies of two testimonials, should be forwarded immediately to the Secretary, No. 1 Hospital Management Committee, Babington Lane, Derby. (9682)

DERBYSHIRE HOSPITAL FOR WOMEN AND QUEEN MARY MATERNITY HOME, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON (Obstetrics and Gynaecology)
vacant April. Duties include gynaecology at the Derbyshire Hospital for Women and the care of 21 beds at the Maternity Home. Previous obstetric experience is desirable. Applications, stating age, qualifications, and experience, with copies of two testimonials, should be forwarded immediately to the Secretary, No. 1 Hospital Management Committee, Babington Lane, Derby. (9683)

DERBYSHIRE ROYAL INFIRMARY, Derby
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Gynaecology)
Vacant April 19, 1952. Post recognized for the M.R.C.O.G. Applications, stating full particulars with copies of two testimonials, should be sent immediately to Secretary, Derbyshire Royal Infirmary, Derby. (9731)

DEVONPORT, ALEXANDRA MATERNITY HOME (64 beds)
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON (Second or third post)
in the Department of Obstetrics and Gynaecology
vacant May 19, 1952. The appointment will be for a period of six months and terminable by one month's notice on either side. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, should be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9845)

EASTBOURNE, ST. MARY'S HOSPITAL (261 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON for Gynaecology and Obstetrics
Staff of five House Officers. Salary in accordance with national terms and conditions. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, to the Secretary, 29, Bedfordwell Road, Eastbourne. (2007)

GATESHEAD, 9, CO. DURHAM, QUEEN ELIZABETH HOSPITAL, Sheriff Hill
Gateshead and District Hospital Management Committee
Applications are invited for the following appointment:
HOUSE SURGEON
to the Gynaecological Cancer Unit
Applications, with copies of three recent testimonials, or the names and addresses of three referees, should be forwarded as soon as possible to the Medical Superintendent of the above hospital.—H. Clark, Group Secretary. (2150)

HUDDERSFIELD ROYAL INFIRMARY (321 beds)
Huddersfield Hospital Management Committee
HOUSE SURGEON
to the Gynaecological and Abnormal Maternity Department
Required to commence duties on April 1, 1952. Salary in accordance with terms and conditions of service for hospital medical and dental staff, with full residential emoluments. Applications, together with copies of three recent testimonials, to be addressed to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, the Royal Infirmary, Huddersfield. (9549)

Obstetrics and Gynaecology—contd.

INVERNESS, ROYAL NORTHERN INFIRMARY
Board of Management for Inverness Hospitals
HOUSE SURGEON
to the Gynaecologists required from April 1, 1952. Applications, with references, to Medical Superintendent. (2298)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General hospital, 426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Obstetrics)
Applications are invited from registered medical practitioners. Post vacant mid-April, 1952, and is recognized for training for membership and Diploma in Obstetrics examinations of the R.C.O.G. Salary £350 to £450 per annum, according to experience. A deduction of £100 per annum will be made for residential accommodation and services. The appointment will be for six months. Vacancies occur periodically in the various departments and House Officers are eligible for appointment to another specialty at the end of the original term of service when such vacancies exist. Application forms may be obtained from the Secretary, Park Hospital, Davyhulme. (9550)

NOTTINGHAM CITY HOSPITAL (833 beds)
OBSTETRIC HOUSE SURGEON
Post vacant May 1, 1952. Salary within scale of £350 to £450 per annum, less £100 per annum for residential emoluments. Recognized for M.R.C.O.G. Applications, stating age, nationality, qualifications and experience, together with copies of not more than three testimonials, to be sent to Administrative Officer, City Hospital, Hucknall Road, Nottingham. (9806)

NOTTINGHAM, FIRS MATERNITY HOSPITAL (40 beds)
OBSTETRIC HOUSE SURGEON
Post vacant April 16, 1952. The post is recognized for D.(Obst.)R.C.O.G. Applicants should have had previous experience in obstetrics. Salary within the scale £400 to £450 per annum, less £100 per annum for board and lodging. Applications, stating age, qualifications, experience and nationality, together with copies of not more than three testimonials, to be sent to the Administrative Officer, City Hospital, Hucknall Road, Nottingham. (9807)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Department of Obstetrics and Gynaecology
Plymouth South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for the appointments of
HOUSE SURGEON (Second or third post)
vacant May 14, 1952
HOUSE SURGEON (Second or third post)
vacant May 1, 1952
Recognized for the Membership of the Royal College of Obstetricians and Gynaecologists. Wide experience can be obtained in obstetrics, including antenatal and post-natal clinics. Applications, stating age, nationality, qualifications and experience, together with three recent testimonials, should be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9847)

REDRUTH, CAMBORNE-REDRUTH HOSPITAL
West Cornwall Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
FIRST HOUSE SURGEON
to the Obstetric and Gynaecological Departments, now vacant. Applications, stating age, experience, qualifications, and nationality, together with copies of three testimonials, should be submitted to the undersigned immediately.—N. O. Deans, Admin. Assistant, Camborne-Redruth Hosp., Redruth. (2028)

ROCHDALE, BIRCH HILL HOSPITAL
OBSTETRIC AND GYNAECOLOGICAL HOUSE SURGEON
Post recognized for D.R.C.O.G. Apply Secretary, Birch Hill Hospital, within one week. (2256)

ROCHFORD, ESSEX, GENERAL HOSPITAL (603 beds)
RESIDENT HOUSE SURGEON
(Obstetrics and Gynaecology)
Applications are invited for the above appointment which becomes vacant on April 30, 1952. The hospital has a maternity unit of 60 beds and a busy gynaecological ward of 25 beds, also a premature baby unit. The post is recognized for the M.R.C.O.G., in obstetrics. Applications, etc., should be sent to the undersigned not later than April 5, 1952.—J. C. Field, Secretary. (9848)

SOUTH SHIELDS GENERAL HOSPITAL
Department of Obstetrics and Gynaecology
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE SURGEON
(First, second or third post)
for a period of six months. This post is recognized for the D.R.C.O.G. Applications to be forwarded as soon as possible to the Medical Superintendent, General Hospital, Harton Lane, South Shields. (2257)

ST. LEONARDS-ON-SEA, BUCHANAN HOSPITAL (94 beds)
Hastings Group Hospital Management Committee
HOUSE SURGEON (Gynaecology) (Resident)
Post vacant April 1, 1952, and is recognized for the M.R.C.O.G. National scales of salary. Applications to Administrator at the hospital. (2029)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Orsett Branch)
South-East Essex Hospital Management Committee
Applications are invited for the post of
OBSTETRIC HOUSE SURGEON
at the above hospital. Male or female. Resident. Six months' appointment in the first instance. Applications for the post, which becomes vacant on April 21, 1952, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (9692)

WATFORD MATERNITY HOSPITAL
King Street, Watford (58 beds)
Applications are invited for the resident post of
JUNIOR OBSTETRIC OFFICER
for duties commencing May 1, 1952. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Hospital recognized for M.R.C.O.G. examinations. Applications, giving full details of age, nationality, qualifications, present and previous appointments, with dates, and copies of three testimonials, should be sent to the Administrator. (2296)

LAUNCESTON, CORNWALL, OLD TREE HOUSE MATERNITY HOME (14 beds)
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from registered medical practitioners for appointment as
CLINICAL ASSISTANT
at the above Maternity Home. Duties will include general supervision of the home and attendance, when required, on patients not under the care of their own doctors. They are assessed at the equivalent of one session per week. Payment will be at the rate of £175 per annum per weekly 3½-hour session. The appointment will be in accordance will the terms and conditions of service of hospital medical staff. Applicants should state whether they are engaged in general practice, and if so, the number of patients on their National Health Service list. Two copies of applications, stating date of birth, qualifications and experience, together with the names and addresses of two referees, should be addressed to Arthur R. Cash, Secretary, Plymouth, South Devon and East Cornwall General Hospital Management Committee, 7, Nelson Gardens, Devonport, so as to reach him not later than April 19, 1952. Canvassing will disqualify. (2325)

OPHTHALMOLOGY

MANCHESTER, ROYAL EYE HOSPITAL
United Manchester Hospitals
Applications are invited for the post of
FULL-TIME SENIOR HOSPITAL MEDICAL OFFICER (Non-resident)
Previous experience in ophthalmology essential. The terms and conditions of service for hospital medical and dental staffs will apply. Applications, giving details of past experience and qualifications, together with the names of three referees, to be addressed to the undersigned as early as possible. (Special application forms can be obtained on request.)—F. J. Cable, Secretary, United Manchester Hospitals. (2153)

LEEDS REGIONAL HOSPITAL BOARD
Applications are invited for the appointment of
NON-RESIDENT REGISTRAR in Ophthalmology
for duties mainly at hospitals in the Hull "A" Hospital Management Committee Group. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars' Committee, Park Parade, Harrogate, not later than April 12, 1952. (2008)

LIVERPOOL REGIONAL HOSPITAL BOARD
Applications are invited for the post of
WHOLE-TIME SENIOR OPHTHALMIC REGISTRAR
with duties at the following hospitals: Alder Hey Children's, Broadgreen, Mill Road Maternity, and Sefton General. Applicants should possess a higher qualification and have had previous experience in the specialty. Forms of application from and to be returned to Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than April 12, 1952.—Vincent Collinge, Secretary to the Board. (2558)

MANCHESTER, ROYAL EYE HOSPITAL
United Manchester Hospitals
Applications are invited for the post of
FULL-TIME REGISTRAR (Non-resident)
Tenable for twelve months, subject to renewal. Previous experience in ophthalmology essential. The terms and conditions of service for hospital medical and dental staffs will apply. Applications, giving past experience and qualifications, together with the names of three referees, to be addressed to the undersigned as early as possible. (Special application forms can be obtained on request.)—F. J. Cable, Secretary, United Manchester Hospitals. (2154)

NOTTINGHAM AND MIDLAND EYE INFIRMARY
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Ophthalmic)
Required to undertake work at the above infirmary. Salary and conditions of service in accordance with those published by the Ministry of Health. The post becomes vacant on April 1, 1952, and applications, stating age, qualifications, and experience, together with copies of testimonials, should be sent to the undersigned.—Henry M. Stanley, Secretary, General Hospital, Nottingham. (8671)

SHREWSBURY, EYE, EAR AND THROAT HOSPITAL (70 beds)
Shrewsbury Group Hospital Management Committee
Applications are invited from registered medical practitioners of either sex for the post of
SENIOR HOUSE OFFICER (Ophthalmic)
Vacant May 1, 1952. Applications, stating age, qualifications, nationality, together with copies of recent testimonials, should be sent to the undersigned.—J. P. Mallett, Secretary, Royal Salop Infirmary, Shrewsbury. (2177)

BIRMINGHAM, UNITED, HOSPITALS
Applications are invited for the post of
HOUSE SURGEON
to the Ophthalmic Department at the Queen Elizabeth Hospital. The appointment is for the period ending July 31, 1952. Salary will be in accordance with the terms and conditions of service of hospital medical and dental staff. Applications, stating age, qualifications, experience, nationality, and present post, together with copies of three recent testimonials, should be sent to the undersigned at once.—G. A. Phalp, B.Com., Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15. (2260)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE OFFICER (Eye and E.N.T. Department)
Post recognized for D.L.O. and D.O.M.S. Vacant April, 1952. National Health Service salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (9788)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE OFFICER (Ophthalmic)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9597)

LONDON COUNTY COUNCIL
Blind Persons Act, 1920
Required services of
MEDICAL PRACTITIONERS
with special experience in ophthalmology for employment under above Act. Four guineas a session (1½ to 2½ hours), plus travelling allowance. Details on application form from Medical Officer of Health (PH/D.1), County Hall, Westminster Bridge, S.E.1, returnable by April 12, 1952. (2317)

ORTHOPAEDICS

WELSH REGIONAL HOSPITAL BOARD
Applications are invited from registered medical practitioners for the appointment of
WHOLE-TIME SENIOR HOSPITAL MEDICAL OFFICER (Orthopaedic and Traumatic Surgeon)
to serve the Newport and East Monmouthshire Hospital Management Group. He will be based at Royal Gwent Hospital, and will work under the direction of the Consultant Orthopaedic Surgeon. Candidates must have experience of the practice of orthopaedic and traumatic surgery. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within 21 days of appearance of this advertisement. (2144)

CENTRAL MIDDLESEX HOSPITAL, N.W.10
North-West Metropolitan Regional Hospital Board
REGISTRAR (Whole-time)
(Orthopaedic and Traumatic Department)
One year in first instance. Resident when on duty. Duties include teaching, Out-patient Clinics, visiting Convalescent Hospital, and work in Casualty Department. Vacant April 7, 1952. Hospital may be visited by appointment. Application forms obtainable from and returnable to Secretary, Central Middlesex Group Hospital Management Committee, Acton Lane, N.W.10, by April 9. (2559)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Orthopaedics—contd.

CARSHALTON, SURREY, ST. HELIER HOSPITAL
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
Whole-time SENIOR SURGICAL REGISTRAR (Non-resident)
Work is primarily orthopaedic and traumatic, but the successful candidate will also be required to supervise the work of the Casualty Officers. Further information and opportunity to visit the hospital obtainable from the Physician Superintendent. Application forms obtainable from the Group Secretary, Management Committee Offices, St. Helier Hospital, Carshalton. Completed forms to be returned not later than fourteen days after the appearance of this advertisement. (2085)

KINGSTON HOSPITAL (500 beds)
26, Wolverton Avenue, Kingston-on-Thames
South-West Metropolitan Region
Kingston Group Hospital Management Committee
Applications are invited for the position of
WHOLE-TIME REGISTRAR
Fracture and Casualty Department
The appointment will be subject to the provisions of the National Health Service (Superannuation) Regulations, and becomes vacant on June 1, 1952. Forms of application may be obtained from the Group Secretary (a foolscap stamped addressed envelope to be enclosed) and the completed forms returned to the Group Secretary, 35, Coombe Road, Kingston-on-Thames, within fourteen days of the appearance of this advertisement. (2009)

LEICESTER GENERAL HOSPITAL AND ROYAL INFIRMARY
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the whole-time post of
REGISTRAR (Orthopaedics)
to the above hospitals, which are recognized for the F.R.C.S. Accommodation can be provided if required. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 15, 1952. (2030)

PAISLEY, ROYAL ALEXANDRA INFIRMARY
Orthopaedic and Fracture Department
Board of Management for Paisley and District Hospitals
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER in Orthopaedics
Commencing salary £700 per annum. Applicants should be at least two years qualified. Applications, stating age, experience, etc., should be addressed to the Group Medical Superintendent at the above address, together with copies of two recent testimonials, within seven days from the date of this advertisement. (2130)

BARROW-IN-FURNESS NORTH LONSDALE HOSPITAL
ORTHOPAEDIC, TRAUMATIC, AND CASUALTY SENIOR HOUSE OFFICER
Applications are invited for the above resident appointment. Hospital comprises 189 beds with large out-patient departments. Duties comprise service in the orthopaedic, traumatic, and casualty departments, and the post is recognized for F.R.C.S. Salary £670 per annum, less £100 per annum for emoluments. Applications, with two recent copy testimonials, to be forwarded to the Secretary, Barrow and Furness Hospital Management Committee, 52, Paradise Street, Barrow-in-Furness. (2297)

BEVERLEY, E. YORKS, WESTWOOD HOSPITAL
SENIOR ORTHOPAEDIC HOUSE SURGEON
Post vacant now. Salary £670. Charge for board and lodging. Applications to the Secretary. (2018)

BRADFORD ROYAL INFIRMARY
SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £670 per annum, less £130 per annum residential emoluments.
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications for above posts, stating age, nationality, qualifications and experience, with copy testimonials, to Sec. (2228)

BRADFORD, ST. LUKE'S HOSPITAL
SENIOR ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £670 per annum, less £130 per annum residential emoluments.
ORTHOPAEDIC HOUSE SURGEON/CASUALTY OFFICER
Vacant now. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications for above posts, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (2229)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
SENIOR HOUSE OFFICER
to the Orthopaedic Unit in the area of this Hospital Management Committee. The orthopaedic unit consists of 30 beds at Eryri Hospital, Caernarvon, busy out-patient clinics at the Caernarvon and Anglesey General Hospital, Bangor, work in peripheral hospitals, etc. The post offers excellent experience in orthopaedics and traumatic surgery. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, qualifications, details of previous experience, and names and addresses of two referees, to be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, N. Wales. (2109)

DARLINGTON MEMORIAL HOSPITAL
ORTHOPAEDIC SENIOR HOUSE OFFICER
Applications are invited from male or female practitioners for the above appointment (resident or non-resident) to commence forthwith. Salary £670 per annum. Apply, with references, stating age and experience, to the undersigned.—G. W. Beckwith, Secretary. (9827)

GLOUCESTERSHIRE ROYAL HOSPITAL
(Great Western Road Unit) (350 beds)
Gloucester, Stroud and the Forest Hospital Management Committee
SENIOR HOUSE OFFICER
Required for the Orthopaedic and Traumatic Surgery Unit (100 beds). Salary £670 per annum, less £125 per annum emoluments. Applications, naming two referees, to the Sec., Gloucestershire Royal Hospital, Southgate Street, Gloucester. (2031)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER
for Orthopaedic, Fracture and Accident Service
vacant April 21, 1952. Previous surgical and orthopaedic experience would be an advantage. Applications should be sent immediately to the Administrative Officer, Grimsby General Hospital. (9709)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds—5 residents)
Applications are invited for the post of
RESIDENT SENIOR HOUSE SURGEON
in the Traumatic and Orthopaedic Department
Duties include charge of casualty department, under consultant staff, care of in patient beds and supervision of other residents. The hospital is a peripheral centre of the Oxford Regional Orthopaedic Service based on the Wingfield-Morris Orthopaedic Hospital. Salary £670 per annum, with deduction for residence. Post recognized for F.R.C.S. Applications, with testimonials, to the Secretary, St. Mary's Cottage, High Wycombe. (2052)

LEICESTER GENERAL HOSPITAL
Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
for Fracture and Orthopaedic Service
Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (9790)

LEICESTER ROYAL INFIRMARY
Applications are invited for the post of
SENIOR HOUSE OFFICER (Orthopaedic)
for Fracture and Orthopaedic Service
Applications, stating age, experience and qualifications, together with copies of recent testimonials, to the Secretary, No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (9791)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (211 beds)
TWO SENIOR HOUSE OFFICERS
Required for the Orthopaedic and Accident Service (total 60 beds). This service includes charge of the Casualty Department, which deals with a large number of accidents and is an integral part of the fracture service. Duties will be divided between the casualty department and work in the wards, theatres and out-patient clinics. Salary for each post £670 per annum, with deduction for residential emoluments. Applications, giving full particulars and enclosing copies of two recent testimonials, to be forwarded to the Secretary, Mansfield Hospital Management Committee, Crow Hill Drive, Mansfield, Notts, as soon as possible. (6671)

MANSFIELD (near), NOTTS, HARLOW WOOD ORTHOPAEDIC HOSPITAL (340 beds)
Applications are invited from registered medical practitioners for the posts of
RESIDENT SENIOR HOUSE SURGEONS
The posts are recognized for examination purposes by the Royal College of Surgeons. Applications, with references or names of referees, to Secretary, Nottingham No. 5 Hospital Management Committee, Harlow Wood, near Mansfield. (6741)

NUNEATON, MANOR HOSPITAL (139 beds)
SENIOR HOUSE SURGEON
to Traumatic and Orthopaedic Department (40 beds)
The hospital treats all accident and orthopaedic cases for an area with a population of 100,000 and is well equipped with ancillary services. Applications to the Assistant Secretary. (9828)

NOTTINGHAM GENERAL HOSPITAL
Applications are invited from registered medical practitioners for the post of
ORTHOPAEDIC AND FRACTURE SENIOR HOUSE OFFICER
The post offers exceptional experience in traumatic surgery. Duties to commence as soon as possible. Salary £670 per annum, less £150 residential emoluments. Applications, with copies of testimonials, should be sent as soon as possible to Henry M. Stanley, Secretary. (2053)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE SURGEON (Orthopaedic)
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference No. A/835, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (2230)

SHEFFIELD, 6, KING EDWARD VII ORTHOPAEDIC HOSPITAL, Rivelin Valley Road (140 beds)
Sheffield Regional Hospital Board
Sheffield No. 3 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT SENIOR HOUSE OFFICER
at the above hospital. Candidates should have held a resident appointment in a hospital. Salary £670 per annum, subject to a deduction of £165 per annum for full residential emoluments. The appointment is normally for one year, subject to one month's notice either side. Applications, stating age, qualifications, experience, etc., to be forwarded to the Secretary, Sheffield No. 3 H.M.C., Lodge Moor Hospital, Sheffield, 10. (2121)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
ORTHOPAEDIC/ACCIDENT HOUSE SURGEON (Senior House Officer)
Vacant May 1, 1952. The successful applicant will be allowed to attend for two days a month at the Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry, for postgraduate study, with the Consultant. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 H.M.C., Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (9849)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
SENIOR HOUSE OFFICER (Orthopaedic)/CASUALTY OFFICER
Required immediately for the above hospital (Orthopaedic Unit 74 beds). This hospital is the centre to which all trauma from a large industrial town and port is directed, thus providing excellent experience in the treatment of traumatic conditions. Applications, with copies of testimonials, to be submitted as soon as possible to the Secretary, Southampton Group Hospital Management Committee, Bullar Street, Southampton. (8744)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 beds)
SENIOR HOUSE OFFICER
in Orthopaedic Department
The appointment will be for six months in first instance and will be resident. Salary £670 per annum, less £150 for board and residence. Applications should be sent to the Secretary. (2178)

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL
HOUSE SURGEON
Required to the Department of Children's Surgery and Orthopaedics which is centred on this hospital for the area. There are 35 orthopaedic beds and 10 children's beds. First or second post, which carries additional remuneration at the rate of £50 per annum. Vacant now. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Secretary-Superintendent. (2055)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
(Orthopaedic and Traumatic)
Salary, terms and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to Secretary, St. Martin's Hospital, Bath as soon as possible.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (2086)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Vacant now. National scales and conditions. Six-monthly appointment, terminable at any time by one month's notice on either side. Forms of application from the Administrative Officer. (7138)

Orthopaedics—contd.

BRIGHTON GENERAL HOSPITAL (721 beds)
Brighton and Lewes Hospital Management Committee
HOUSE SURGEON in Orthopaedics
Applications are invited for the above appointment, which is tenable for a period of six months, vacant now. Salary according to national scales. Applications, stating age, qualifications and experience, together with copies of recent testimonials, should be sent to the Physician-Superintendent, Brighton General Hospital, Elm Grove, Brighton, 7, as soon as possible. (2179)

INVERNESS RAIGMORE HOSPITAL (408 beds)
TWO ORTHOPAEDIC HOUSE SURGEONS
Required for the six months' period commencing April 1, 1952 (Orthopaedic Department, 140 beds). Apply, with two testimonials or names of two referees, within fourteen days of appearance of this advertisement to Medical Superintendent. (2299)

ISLEWORTH, WEST MIDDLESEX HOSPITAL
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (First, second or third post)
Orthopaedic Unit (Full-time, Resident)
Applications (endorsed "House Officer," Orthopaedic Unit, West Middlesex Hospital"), stating age, nationality, qualifications and experience, with copies of up to three recent testimonials, to Secretary, West Middlesex Hospital, Isleworth, by April 8, 1952. (2231)

MANCHESTER, 8, CRUMPSALL HOSPITAL
(General Hospital—1,225 beds)
Applications are invited for the appointment of
HOUSE OFFICER (Orthopaedics)
now vacant. Applications, stating age, nationality, present and previous appointments (with dates), along with names and addresses of two referees, to be sent to the undersigned immediately.—A. T. Sampson, Secretary to the Committee, Crumpsall Hospital, Manchester, 8. (2010)

NEWPORT, MON, ROYAL GWENT HOSPITAL
(259 beds)
(Base Hospital for the Newport and East Monmouthshire Group—10 residents)
Applications are invited for the post of
HOUSE OFFICER (Orthopaedic)
vacant about April 1. The post is recognized for the Fellowship of the Royal College of Surgeons. The Fracture and Orthopaedic Department is a self-contained unit of 36 beds, and affords a good opportunity for gaining experience in this speciality. National salary scale and conditions. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport. (2011)

NUNEATON, MANOR HOSPITAL (139 beds)
HOUSE SURGEON
(Traumatic and Orthopaedic Department, 40 beds)
Required May 1. Applications to the Hospital Secretary. (2300)

PRESTON ROYAL INFIRMARY (400 beds)
HOUSE SURGEON (Orthopaedic)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary (9598)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
(Recognized for the F.R.C.S.)
Medway and Gravesend Hospital Management Committee
ORTHOPAEDIC HOUSE SURGEON
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality, and experience, to be addressed to the Administrative Officer. (2219)

ROMFORD, ESSEX, OLDCHURCH HOSPITAL
(718 beds)
ORTHOPAEDIC HOUSE SURGEON (Resident)
Applications are invited from registered medical practitioners for the above post in the Orthopaedic and Accident Unit. The service consists of 100 beds equally divided between traumatic surgery and "cold" orthopaedics. Six months' post. Applications, stating age, nationality, qualifications (with dates), present appointment and experience and two recent testimonials, or names of two referees, should be forwarded immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (6675)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(12 Residents)
Taunton Hospital Management Committee
Applications are invited from registered medical practitioners for the following post:
HOUSE SURGEON
(Traumatic and Orthopaedic)
Salary in accordance with the National Health Service scale. The post is recognized by the Royal College of Surgeons as a qualifying appointment for the Final Fellowship Examination. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton H.M.C., Musgrove Park Hospital, Taunton, Somerset. (2087)

PAEDIATRICS

KING'S COLLEGE HOSPITAL
Denmark Hill, S.E.5
Applications are invited for the appointment of
SENIOR RESIDENT MEDICAL OFFICER
at the Belgrave Hospital for Children, Kennington
to start June 1, 1952. The appointment is for one year in the first instance and will be in the grade of Registrar. Applications, stating age, qualifications and experience, together with the names of three referees, should reach the undersigned by April 19.—S. W. Barnes, House Governor. (2180)

ST JAMES' HOSPITAL
Onslow Road, Balham, S.W.12 (660 beds—General)
South-West Metropolitan Regional Hospital Board
Wandsworth Hospital Group
REGISTRAR (Paediatrics)
Becoming vacant in August, 1952. Application forms for the above post (send stamped addressed foolscap envelope) obtainable from the Group Secretary, 14, Atkins Road, Balham, S.W.12. Forms to be completed and returned by April 9. (2122)

BIRMINGHAM, SORRENTO MATERNITY HOSPITAL AND PREMATURE BABY UNIT (112 beds)
Birmingham Regional Hospital Board
(Selly Oak Group)
Applications invited for the appointment of
WHOLE-TIME REGISTRAR IN PAEDIATRICS
Resident at Sorrento Hospital. Some duties also at other Maternity and Children's Hospitals. Experience in diseases of children desirable. Higher qualification an advantage. Appointment subject to National Health Service (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before April 18, 1952. Candidates may visit the hospitals concerned. (2262)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
(Teaching Hospital of Birmingham University)
Applications are invited for the appointment of
TWO MEDICAL REGISTRARS
one in the grade of Senior Registrar and the other in the grade of Registrar, vacant on July 1, 1952. The appropriate terms and conditions of service are applicable, and preference will be given to candidates holding the M.R.C.P. and/or D.C.H. Forms of application, with further particulars, may be obtained from the House Governor, and should be returned not later than April 17, 1952.—G. H. Phalp, Secretary to the Board of Governors. (2261)

PENDLEBURY, MANCHESTER, ROYAL MANCHESTER CHILDREN'S HOSPITAL
Manchester Regional Hospital Board
Applications are invited for the post of
RESIDENT REGISTRAR IN GENERAL SURGERY
Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by April 5, 1952. (2270)

GLASGOW, ROYAL HOSPITAL FOR SICK CHILDREN, Yorkhill
Board of Management for Glasgow and District Children's Hospitals
TWO JUNIOR HOSPITAL MEDICAL OFFICERS (Resident)
Required for the Medical Paediatric Units. Salary £700 by £50 to £1,000. National Health Service conditions of service. Applications, stating age and giving full details of qualifications and experience, with the names of three referees, should be lodged with the Secretary of the Board of Management, 86, St. Vincent Street, Glasgow, C.2, not later than 21 days after the appearance of this advertisement. (2181)

BANGOR, COUNTY HOSPITAL
(Specialist Hospital for Women and Children)
Caernarvon and Anglesey Hospital Management Committee
Applications are invited for the post of
RESIDENT PAEDIATRIC OFFICER
(Senior House Officer Grade)
Duties to commence on May 1, 1952. Preference will be given to candidates with previous experience in neonatal and premature infant care. The paediatric unit is recognized for the D.C.H. Salary according to scale. Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, N. Wales. (2110)

BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
SENIOR HOUSE OFFICER (Paediatrics)
Applications are invited for the above post, which is recognized for the D.C.H. examination, with duties mainly at Blackburn Royal Infirmary, Queen's Park Hospital, Victoria Hospital, Accrington, and Park Lee Hospital, Blackburn. Applications, stating age, experience, and qualifications, together with names of two referees, should be forwarded to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (2032)

EVELINA CHILDREN'S HOSPITAL OF GUY'S HOSPITAL
Southwark Bridge Road, London, S.E.1
Applications are invited for the post of
HOUSE PHYSICIAN
vacant on May 1, 1952 (second or third post). The duty for the first two months will be in the casualty out patients department. The post is tenable for a period of six months and is recognized for the D.C.H. Salary at the rate of £400 or £450 a year, according to experience, with a deduction at the rate of £100 a year for residential emoluments. Applications, stating age, nationality, qualifications (with dates) and accompanied by copies of three recent testimonials, should reach the Hospital Secretary by first post on Thursday, April 10. (2232)

QUEEN ELIZABETH HOSPITAL FOR CHILDREN MANAGEMENT COMMITTEE
Hackney Road, E.2, Shadwell, E.1, and Banstead Wood, Surrey
TWO HOUSE OFFICERS
Each of these appointments will be made for two periods of six months, commencing June 1, 1952. First period as House Physician and second as House Surgeon and Casualty Officer in each case. Application forms may be obtained from the Secretary at Hackney Road, and should be returned with copies of not more than three testimonials, on or before April 15, 1952. (2301)

AYLESBURY, STOKE MANDEVILLE HOSPITAL (624 beds)
HOUSE PHYSICIAN
Required for Paediatric Department, including care of children in infectious diseases and plastic units, also out-patient clinics (at Royal Buckinghamshire Hospital). Recognized for D.C.H. First or second post. Vacant May 10. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Administrative Officer. (2056)

BIRMINGHAM, 16, THE CHILDREN'S HOSPITAL, Ladywood Road
United Birmingham Hospitals
TWO HOUSE OFFICERS (Surgical)
Required for six months, one to commence duty as soon as possible and one on May 1, 1952. The duties will be mainly general surgery, but the officer will have, in addition, the opportunity of undertaking a certain amount of special surgery. Forms of application may be obtained from the House Governor and should be returned within ten days of the appearance of this advertisement.—G. H. Phalp, Sec to the Board of Governors. (9959)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE OFFICER (Paediatrics)
Vacant May 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (2233)

CANTERBURY, KENT AND CANTERBURY HOSPITAL (265 beds)
Canterbury Group Hospital Management Committee
PAEDIATRIC HOUSE PHYSICIAN
The above post includes experience in the care of the newborn and in preventive medicine, and will become vacant at the end of April. N.H.S. salary and conditions. Applications to be addressed to the Chief Administrative Officer at the hospital. (2302)

COVENTRY, GULSON HOSPITAL (311 beds)
HOUSE PHYSICIAN to Paediatric Department
Required May 1, 1952 (52 beds). Hospital recognized for D.C.H. Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (2155)

DERBYSHIRE HOSPITAL FOR SICK CHILDREN, Derby (84 beds)
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
vacant April. Post recognized for D.C.H. Applications, stating age, qualifications, and experience, with copies of two testimonials, should be forwarded immediately to the Secretary, No. 1 Hospital Management Committee, Babington Lane, Derby (9685)

HALIFAX GENERAL HOSPITAL (425 beds)
Applications are invited for the post of
PAEDIATRIC HOUSE PHYSICIAN
(House Officer Grade)
at the above busy acute general hospital. Salary according to experience. Applications, stating age, sex, nationality, qualifications, experience, and enclosing copies of three testimonials, to be forwarded to the Secretary, at the Royal Halifax Infirmary, Halifax. (2131)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Paediatrics—contd.

MANCHESTER, 9, BOOTH HALL CHILDREN'S HOSPITAL

Applications are invited for the post of

HOUSE SURGEON

Post vacant April 1. National scale conditions. Apply, stating age, nationality and usual relevant particulars, to the Medical Superintendent as soon as possible. (2182)

MANCHESTER, 19, DUCHESS OF YORK HOSPITAL FOR BABIES
Manchester Babies' and Children's Hospital Management Committee

HOUSE PHYSICIAN (Male or female)

Required for six months from April 28, 1952. Salary in accordance with national scales. Applications, with copies of three testimonials, to be sent to the Administrative Officer of the hospital before March 31, 1952 (9960)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee

HOUSE OFFICER (Paediatrics)

Applications are invited from registered medical practitioners for this post, which will become vacant mid-April, 1952. Salary £350 to £450 per annum, according to experience. £100 per annum will be deducted for residential accommodation and services. Six months' appointment. Vacancies occur periodically in the various departments and House Officers are eligible for appointment to another specialty at the end of the original term of service when such vacancies exist. Application forms may be obtained from the Secretary, Park Hospital, Davyhulme. (9927)

MANCHESTER, SAINT MARY'S HOSPITALS
United Manchester Hospitals

Applications are invited from registered medical practitioners, male or female, for the post of

HOUSE PHYSICIAN

in the Neonatal Unit of Saint Mary's Hospitals (attached to the University Department of Child Health), for a period of six months, commencing April 17, 1952. Previous paediatric experience essential. Duties include the care of the newborn in the maternity department, the care of infants in the infants' ward, and work in the clinics under the charge of the Department of Child Health. Salary in accordance with national scales. Application forms may be obtained from the undersigned and returned duly completed before April 7, 1952. —A. R., Wise, General Supt., Saint Mary's Hospitals, Whitworth Park, Manchester, 13. (9961)

NOTTINGHAM CHILDREN'S HOSPITAL
(134 beds)

RESIDENT HOUSE SURGEON

Applications are invited for the above post, which is immediately vacant. The post is tenable for six months in the first instance. Salary £350 to £450 per annum, less emoluments. Applications, with copies of two testimonials, should be sent to the Assistant Secretary, Nottingham Children's Hospital, Chestnut Grove, Nottingham. (9829)

PENDLEBURY, ROYAL MANCHESTER CHILDREN'S HOSPITAL
Salford Hospital Management Committee

Applications are invited from medical practitioners, male and female, for two posts of

RESIDENT HOUSE SURGEON
(House Officer status)

now vacant Each appointment is for a period of six months. Applications, stating age, qualifications (with dates), and nationality, accompanied by copies of three recent testimonials, to be sent to the Superintendent at the hospital, to be received not later than seven days after the appearance of this advertisement. (2303)

TAUNTON AND SOMERSET HOSPITAL
(Musgrove Park Branch and East Reach Branch)
(12 Residents)
Taunton Hospital Management Committee

Applications are invited from registered medical practitioners for the following post:

HOUSE PHYSICIAN (Paediatrics)

Salary in accordance with the National Health Service scale. The post is recognized by the Royal College of Physicians as a qualifying appointment for the Diploma of Child Health. Applications, stating age, qualifications (with dates), nationality and details of experience, together with two recent testimonials, should be sent immediately to the Secretary, Taunton H.M.C., Musgrove Park Hospital, Taunton, Somerset. (2089)

TEES-SIDE HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

PAEDIATRIC HOUSE PHYSICIAN

Resident at the Middlesbrough General Hospital, Middlesbrough, where there is a unit of 60 beds for acute cases. There are also duties at the Children's Hospital, Stockton, containing 45 beds including a babies unit. Applications, stating age, qualifications, and accompanied by copies of three testimonials to be sent to the Secretary-Superintendent, General Hospital, Ayresome Green Lane, Middlesbrough (9490)

WIRRAL, CHESHIRE, LEASOWE CHILDREN'S HOSPITAL (211 beds)

Applications are invited from duly qualified medical practitioners for the post of

HOUSE OFFICER

at the above hospital specializing in the treatment of long-term orthopaedic, non-pulmonary tuberculous and general paediatric conditions. This appointment, which is vacant May 1, 1952, gives ample scope to a practitioner reading for a higher qualification. Salary in accordance with National Health Service Regulations, i.e., £350, £400 or £450, according to experience. Applications, giving full details of age, qualifications and experience, together with the names and addresses of three referees, to Physician Superintendent, Leasowe Children's Hospital, Leasowe, Moreton, Wirral, Cheshire. (9809)

PATHOLOGY

SOUTH-WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

Whole-time CONSULTANT PATHOLOGIST
for the Portsmouth and Isle of Wight Area Pathological Service

The successful candidate will be expected to be resident in the Isle of Wight and will be largely responsible for the co-ordination of clinical pathology for the island. Considerable experience in haematology and post mortem work is essential. The Consultant appointed will also be required to assist in the general running of the service in Portsmouth and to make regular visits to the Central Laboratory there. Applications (five copies), stating date of birth, qualifications, experience and present appointment, and giving the names and addresses of three referees, should be made by letter and sent to the Secretary (S.D.1), South-West Metropolitan Regional Hospital Board, 11a, Portland Place, London, W.1, to arrive not later than April 26, 1952. Applicants may visit the laboratories by local arrangement. (2103)

WELSH REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of

CONSULTANT PATHOLOGIST

to serve the Cardiff Hospital Management Committee. He will be based at St. David's Hospital, Cardiff, but will be required to visit other hospitals in the district. Applicants should have had a sound experience in all branches of the specialty and preferably possess a higher qualification. Candidates are asked to state whether they wish to be considered for a whole-time or maximum part time appointment. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates), and publications with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (2326)

ASHFORD HOSPITAL, Ashford, Middlesex
North-West Metropolitan Regional Hospital Board

WHOLE-TIME ASSISTANT PATHOLOGIST

Required, with special experience in morbid anatomy and histology. Salary scale £1,300 to £1,750. Applications, giving date of birth and three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by May 3, 1952. Hospital may be visited by direct appointment. (2234)

BLACKPOOL, VICTORIA HOSPITAL
Manchester Regional Hospital Board

Applications are invited for the whole-time, non-resident post of

ASSISTANT PATHOLOGIST

to the Group Laboratory. Experience of all branches of hospital pathology is desirable. The successful candidate will work under the general guidance of the Consultant Group Pathologist, and facilities for gaining general and special experience in different branches are available. Salary £1,300 by £50 to £1,750 per annum. Forms of application may be obtained from the Senior Administrative Medical Officer to the Board, at Cheetwood Road, Manchester, 8, and should be returned, with the names and addresses of three referees, to be received not later than April 14, 1952. (2264)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified practitioners for whole-time, non-resident post of

ASSISTANT PATHOLOGIST (S.H.M.O. scale)

for duties in the Scarborough, Bridlington, Malton, and Whitby group of hospitals. Applicants should have had wide experience, and the possession of a higher qualification will be an advantage. The main hospital in the Group, the Scarborough General Hospital, houses a very active and well-equipped laboratory. The successful candidate will work under the general guidance of the Consultant in charge of the Department, and will be required to reside in Scarborough, or within such distance of that town as the Board may approve. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than April 26, 1952. (2033)

DUNDEE, MARYFIELD HOSPITAL
Eastern Regional Hospital Board (Scotland)

Applications are invited for the post of

SENIOR REGISTRAR in Pathology

This is a teaching hospital of over 400 beds and provides a pathological service for general and special hospitals in Dundee and Angus. Applicants should have had training in all branches of pathology and should have special experience in morbid anatomy and histology. Salary and conditions of service in accordance with national agreement. Further particulars and forms of application from the Secretary to the Board, Braeknowe, 430, Blackness Road, Dundee, with whom applications must be lodged not later than April 5, 1952. (9891)

SCOTLAND, WESTERN REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:

SENIOR REGISTRAR IN PATHOLOGY
based on Glasgow Royal Infirmary, for Regional Duties primarily in Lanark County

Applications (sixteen copies), stating age, qualifications, and experience, and present appointment, and giving the names of three referees, should be submitted not later than April 12, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointments will be subject to the National Health Service (Scotland) (Supn.) Regulations. (2288)

SHEFFIELD, CITY GENERAL HOSPITAL
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the non-resident whole-time post of

REGISTRAR (Pathology)

to the laboratory, City General Hospital, Sheffield, with duties at other hospitals in the area. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 7. (9747)

BETHNAL GREEN HOSPITAL
(General—313 beds)
Cambridge Heath Road, London, E.2
Central Group Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

RESIDENT SENIOR HOUSE OFFICER
(Pathologist)

for duties in connexion with the area laboratory situated in the hospital. The successful candidate will be expected, when necessary, to work in other hospitals in the Group under the supervision of the Area Pathologist. The period of tenure is one year with salary at the rate of £670 per annum, less residential charges of £130 per annum. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should reach the Assistant Secretary of the hospital within fourteen days. (2235)

BEVERLEY, YORKSHIRE, WESTWOOD HOSPITAL

RESIDENT SENIOR HOUSE OFFICER

Assistant Pathologist in the new premises of the area Laboratory at the above general hospital. The position offers experience in all branches of clinical pathology. Applications, with the names of two referees, to the Secretary. (2019)

BIRMINGHAM, 16, CHILDREN'S HOSPITAL
Ladywood Road
United Birmingham Hospitals

Applications are invited for the appointment of

RESIDENT SENIOR HOUSE OFFICER
(Clinical Pathology)

vacant on June 1, 1952 Applicants should have held resident appointments in a children's hospital, or a children's department of a general hospital, and preference will be given to those wishing to concentrate on pathology and to those with a higher qualification. The successful applicant will be required to work in the Clinical Pathological Department. Forms of application may be obtained from the undersigned, and should be returned not later than April 5, 1952.—N. R. Winwood, House Governor. (9830)

BRADFORD, ST. LUKE'S HOSPITAL

SENIOR HOUSE OFFICER (Pathology)

Vacant April 7. Salary £670 per annum, less £130 per annum residential emoluments. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to Secretary, Bradford Royal Infirmary. (2236)

PRESTON ROYAL INFIRMARY
Group Pathological Laboratory

SENIOR HOUSE OFFICER (Pathological)

Previous experience in Pathology desirable but not essential. Applications, stating experience and qualifications, to be forwarded to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary (9602)

Pathology—contd.

SHEFFIELD, UNITED, HOSPITALS
The Children's Hospital Unit
Western Bank, Sheffield, 10

Applications are invited from registered medical practitioners for the post of

RESIDENT PATHOLOGIST
(Senior House Officer status)

Salary in accordance with National Health Service scales. Applications, in writing (with copies of three testimonials), to reach the Superintendent not later than April 2. (2156)

PLASTIC SURGERY

BASINGSTOKE, HANTS, ROOKSDOWN HOUSE PLASTIC AND JAW UNIT

Applications are invited from registered medical practitioners, male or female, for appointment of

HOUSE SURGEON

Salary according to national scales. Interesting work, which includes plastic surgery of all varieties, war injuries, congenital abnormalities and burns at all stages. Applications should be sent to the Medical Superintendent, Rooksdown House, Basingstoke, Hants, as soon as possible. (2263)

PSYCHIATRY

RYHOPE (near), SUNDERLAND, CHERRY KNOWLE HOSPITAL (780 bed)
Newcastle Regional Hospital Board

Whole-time CONSULTANT PSYCHIATRIST

Salary scale £1,700 to £2,750. Applicants must have had wide experience in psychiatry and be competent to take clinical responsibility for a section of the hospital and to participate in the work of the associated out-patient clinics and domiciliary consultant service in the area served by the hospital, subject to the general administrative control of the Medical Superintendent. He must be prepared to visit associated general and other hospitals as required and if necessary undertake the treatment of suitable cases in the general wards. Amongst the associated general hospitals are the Sunderland Royal Infirmary, Sunderland General Hospital, and the South Shields General Hospital. The person appointed will be required to reside near the Cherry Knowle Hospital. Appointment subject to National Health Service (Superannuation) Regulations, 1950. Candidates are free to visit the hospital by arrangement with the Medical Superintendent, from whom particulars may be obtained. Applications, together with names and addresses of one to three referees, and/or one to three testimonials, should be sent to the Regional Psychiatrist, Blythswood South, Osborne Road, Newcastle-upon-Tyne, 2, within twenty-eight days. (2090)

DUMFRIES, CRICHTON ROYAL
Western Regional Hospital Board, Scotland

Applications are invited from suitable qualified medical practitioners for the following appointment:

WHOLE-TIME ASSISTANT PSYCHIATRIST

with salary on the scale £1,300 by £50 to £1,750. Applications (sixteen copies), stating age, qualifications and experience and present appointment, and giving the names of three referees, should be submitted not later than thirty days after the publication of this advertisement to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (2141)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for whole-time post of

RESIDENT ASSISTANT PSYCHIATRIST

at Lancaster Moor Hospital (2,500 beds). Large flat suitable for man with family available in hospital grounds. Salary £1,300 by £50 to £1,750 per annum. Candidates should have had considerable experience in psychiatry and possess the D.P.M. Forms of application can be obtained from the Senior Administrative Medical Officer to the Board at Cheetwood Road, Manchester, 8, and should be returned to be received not later than April 14, 1952. (9894)

UPTON MENTAL HOSPITAL
Liverpool Regional Hospital Board

Applications are invited for the post of

WHOLE-TIME ASSISTANT PSYCHIATRIST
(Resident or non-resident)

to the above hospital. If resident, a house is available at a charge to be arranged. Applicants should possess the D.P.M., or an equivalent qualification, and have reasonable experience in psychiatry, including practical knowledge of out-patient work. Duties will include attendance at Out-patient Clinics outside the hospital. Salary within the scale of £1,300 (at age 32) by £50 to £1,750. Forms of application from and to be returned to Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 19, James Street, Liverpool, 2, to be received not later than April 12, 1952.—Vincent Collinge, Secretary to the Board. (2265)

MANCHESTER ROYAL INFIRMARY
Manchester, 13
United Manchester Hospitals
ASSISTANT PSYCHOTHERAPIST

Required to commence as soon as possible. Part-time post of S.H.M.O. status. Salary on scale £1,300 to £1,750 per annum. Applicants must have wide experience in the specialty, and possess a Diploma in Psychological Medicine. The successful applicant will be required to serve two sessions per week for out-patient work. Applications to be made on forms obtainable from the undersigned, and to be returned not later than April 9, 1952.—F. J. Cable, Secretary to the Board of Governors (9963)

BRISTOL CLINICAL AREA
Board of Governors of the United Bristol Hospitals and the South-Western Regional Hospital Board

Applications are invited by the above Boards from registered medical practitioners for the joint appointment of

SENIOR REGISTRAR in Psychiatry
to the Bristol Mental Hospitals

Applicants should possess the Diploma in Psychological Medicine. The appointment will be made for one year in the first instance and, subject to satisfactory service, will be renewable annually for a further period not exceeding four years in all. The post offers considerable opportunities for clinical work and research in all branches of adult psychiatry. Residential accommodation for an unmarried man will be provided. Twelve copies of applications, stating date of birth, qualifications and experience, together with twelve copies of two testimonials, and the names and addresses of two referees, should be sent to the Secretary of the Regional Hospital Board, 5, Cotham Lawn Road, Bristol, 6, not later than April 18, 1952. (2132)

GLASGOW ROYAL MENTAL HOSPITAL
Western Regional Hospital Board, Scotland

Applications are invited from suitably qualified medical practitioners for the following appointment, which will be for one year in the first instance:

REGISTRAR in Psychiatry

Applications (twelve copies), stating age, qualifications, experience, present appointment, and giving the names of three referees, should be submitted not later than April 12, 1952, to the Secretary, Western Regional Hospital Board, 64, West Regent Street, Glasgow, C.2. The above appointment will be subject to the National Health Service (Scotland) (Superannuation) Regulations. (2140)

LEICESTER (near), CARLTON HAYES HOSPITAL, Narborough
Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the whole-time post of

REGISTRAR (Psychiatry)

to the above hospital, which is a recognized training hospital for the D.P.M. A house is available. The appointment is for one year in the first instance and may be renewed for a further year, and will become vacant on April 21, 1952. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 7. (9750)

LIVERPOOL, ROYAL INFIRMARY
United Liverpool Hospitals

Applications are invited for the temporary post of

PSYCHIATRIC REGISTRAR

for the period to September 30, 1952. The post is assessed in the Registrar grade. Applications, on forms from the undersigned, should be returned by April 12, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (2213)

NORTHAMPTON, ST. ANDREW'S HOSPITAL

Applications are invited for the appointment of

SENIOR REGISTRAR

Previous experience in psychiatry and possession of the D.P.M. are essential. The successful candidate will work in the hospital and at Out-Patient Clinics. Salary £850 to £1,150 per annum, together with full residential emoluments. Married quarters are available if desired. Applications to be addressed to the Medical Superintendent. (9831)

NOTTINGHAM (near), SAXONDALE HOSPITAL
Radcliffe-on-Trent
Sheffield Regional Hospital Board

Applications are invited for whole-time post of

REGISTRAR (Psychiatry)

to the above hospital, providing experience in all modern treatment methods and out patient work. Single quarters only available. The appointment is for one year in the first instance, and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 15, 1952. (2034)

FRIERN HOSPITAL MANAGEMENT COMMITTEE, New Southgate, London, N.11

Applications are invited from registered medical practitioners for the post of

JUNIOR HOSPITAL MEDICAL OFFICER
(Resident or non-resident)

Salary in accordance with the terms and conditions of service for hospital medical and dental staff. Friern Hospital has 2,470 beds occupied by patients suffering from mental and nervous disorders and is readily accessible to central London. Applications, giving details of age, qualifications and experience, together with the names of two referees, should be sent to the Physician Superintendent within ten days of appearance of this advertisement. (2183)

BURY, FAIRFIELD GENERAL HOSPITAL
(Comprising 175 Mental, 203 Chronic and 133 Obstetric and Gynaecological beds)
Bury and Rossendale Hospital Management Committee

Applications are invited for the post of

JUNIOR HOSPITAL MEDICAL OFFICER

at the above hospital. This post is mainly for the mental and chronic sick beds, and the successful applicant will be required to work in the main under the direction of the Consultant Psychiatrist. Salary will be at the rate of £700 per annum, rising by annual increments to £1,000 per annum. Conditions of service in accordance with national recommendations. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (8434)

EDINBURGH (near), ROSSLYNLEE HOSPITAL
Rosslyn Castle, Midlothian, Scotland

JUNIOR HOSPITAL MEDICAL OFFICER
SENIOR HOUSE OFFICER

Applications are invited for the above posts. Accommodation available for a single person. Salary in accordance with recognized scale, as are deductions for accommodation. All modern methods of treatment are employed and the hospital is near Edinburgh. Applications to the Medical Superintendent. (2184)

KNOWLE, WARWICKSHIRE, MIDDLEFIELD HALL (Male Mental Defectives—270 beds)
Monyhull Hospital Management Committee

JUNIOR HOSPITAL MEDICAL OFFICER (Male)

House available in July. Applications, stating age, qualifications and experience, and details of three referees, to Medical Superintendent, Monyhull Hall, Birmingham, 14. (2091)

LEEDS (near), MENSTON HOSPITAL, Menston
Menston (Mental) Hospital

Applications are invited from registered medical practitioners for whole-time appointments as follows:

JUNIOR HOSPITAL MEDICAL OFFICERS
SENIOR HOUSE OFFICERS

Facilities will be available for training in all branches of psychiatry in conjunction with the University of Leeds Department of Psychiatry. Salaries in accordance with the terms and conditions of service of hospital medical and dental staff (England and Wales). Residential accommodation is available for single applicants. Applications, stating age, marital state, qualifications, full details of experience, together with the names and addresses of two persons to whom reference may be made, and indicating which post is applied for, to be sent to the Medical Superintendent, Menston Hospital, near Leeds, as soon as possible.—C. C. Morgan, Secretary, Menston Hospital Management Committee. (2304)

AYLESBURY (near), BUCKS, ST. JOHN'S HOSPITAL, Stone (Psychiatric)
TWO SENIOR HOUSE OFFICERS

The hospital offers opportunity for studying for the D.P.M. Accommodation for married man available. Applications, stating age, qualifications and experience, together with names of two referees, to the Physician-Superintendent. (2057)

MACCLESFIELD, CHESHIRE, PARKSIDE HOSPITAL (1,555 beds)

Applications are invited from suitably qualified medical practitioners for the post of

SENIOR HOUSE OFFICER (Psychiatric)

Salary in accordance with the terms and conditions of service of hospital medical staff (England and Wales). Less appropriate charge for board, residence and laundry. Excellent opportunity exists for gaining experience in all modern psychiatric methods and close proximity to Manchester allows attendance for D.P.M. course. Applications, giving age, nationality and full details, with the names of three referees, to be sent to the Medical Superintendent as soon as possible. (2003)

STOCKTON-ON-TEES, WINTERTON HOSPITAL MANAGEMENT COMMITTEE
THREE SENIOR HOUSE OFFICERS

Required at the above mental hospital. These appointments are subject to the provisions of the National Health Service (Superannuation) Regulations, 1950. Applications, in writing, should state full name, age, and qualifications, and be addressed to the Medical Superintendent, Winterton Hospital, Sedgefield, Stockton-on-Tees, within fourteen days of the appearance of this advertisement.—C. W. Gill, Group Secretary. (2305)

RADIOLOGY

PADDINGTON HOSPITAL, Harrow Road, W.9 (585 beds, including 95 beds for maternity cases) North-West Metropolitan Regional Hospital Board

Whole-time CONSULTANT RADIOLOGIST (Diagnostic)

Applications, giving three referees, to Secretary, North-West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by May 3, 1952. Hospital may be visited by direct appointment. (2327)

BIRMINGHAM REGIONAL HOSPITAL BOARD

Applications invited for appointment of

WHOLE-TIME ASSISTANT RADIOLOGIST

for duties equally with the Dudley and Stourbridge and West Bromwich Groups. Successful candidate will work under direction of Group Consultant. Experience in specialty essential. Possession of higher qualification an advantage. Salary scale £1,300 to £1,750 per annum. Appointment subject to N.H.S. (Superannuation) Regulations. Ten copies of applications, stating name, age, nationality, qualifications, present and previous appointments, and details of three referees, to Secretary, 10, Augustus Road, Birmingham, 15, before April 18. Candidates may visit group hospitals. (2266)

LEEDS REGIONAL HOSPITAL BOARD

Applications are invited from suitably qualified practitioners for whole-time, non-resident post of

ASSISTANT RADIOLOGIST (S.H.M.O. scale)

for duties in the York "A" Group and Scarborough Group of Hospitals. Applicants should have had wide experience in radiology, and the possession of the D.M.R. is essential. The successful candidate will work under the general guidance of the Consultants in charge of the respective Departments, and will be required to reside in Scarborough or within such distance of that town as the Board may approve. Applications, stating age, qualifications, and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary, Park Parade, Harrogate, not later than April 26, 1952. (2035)

MANCHESTER REGIONAL HOSPITAL BOARD

Applications are invited for the whole-time, non-resident post of

ASSISTANT RADIOLOGIST

to the Barrow and Furness Hospital Centre (North Lonsdale Hospital, Barrow, High Carley Sanatorium, Ulverston, Ethel Hedley Hospital, Windermere, etc.). Applicants must possess the D.M.R.(D) and should have had wide experience in radiology. The successful candidate will work under the general guidance of a Consultant, and will be required to live within reasonable distance of Barrow. Salary £1,300 to £1,750. Forms of application can be obtained from the Senior Administrative Medical Officer to the Board, at Cheetwood Road, Manchester, 8, and should be returned to be received not later than April 14, 1952. (2267)

WELSH REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the appointment of

WHOLE-TIME ASSISTANT RADIOLOGIST (S.H.M.O. Scale)

to serve the Caernarvon and Anglesey Hospital Management Committee. The successful applicant would be based at the Caernarvon and Anglesey General Hospital, Bangor, but would be required to work at other hospitals in the Hospital Management Committee area. He will also work under the direction of the Consultant Radiologist to the Group. Candidates should be in possession of the Diploma of Medical Radiology (Diagnostic). A knowledge of Welsh is desirable. Twelve copies of application, stating date of birth, giving a summary of qualifications, experience, previous appointments (with dates) and publications, with names of three referees, should be addressed to the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff, within twenty-one days of appearance of this advertisement. (2217)

NEWCASTLE-UPON-TYNE, ROYAL VICTORIA INFIRMARY

United Newcastle-upon-Tyne Hospitals

Applications are invited from registered medical practitioners holding a recognized Diploma in Radiology, for appointments of

WHOLE-TIME REGISTRARS in the Department of Radiology

The first year of the appointment is tenable at the Royal Victoria Infirmary, and if extension of one year is granted the appointees may be required to work at a selected hospital of the Newcastle-upon-Tyne Regional Hospital Board. The appointments, which are non-resident, will be for one year in the first instance and will be subject to the national terms and conditions of service for Registrars. Applications, giving age, nationality, experience and qualifications, with the names and addresses of three referees, should be sent to the undersigned within two weeks of the date of appearance of this advertisement.—A. W. Sanderson, House Governor and Secretary, Royal Victoria Infirmary, Newcastle-upon-Tyne. (2157)

LIVERPOOL, UNITED, HOSPITALS

Applications are invited for a temporary post as

RADIOLOGICAL REGISTRAR

for the period to September 30, 1952. The post is assessed in the Registrar grade. Applications, on forms from the undersigned, should be returned by April 12, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (2214)

NORTHERN IRELAND HOSPITALS AUTHORITY

The Authority invites applications for a post as

SENIOR HOUSE OFFICER IN RADIOLOGY

The terms and conditions of the appointment will be in accordance with the Authority's application of the Spens Report to Northern Ireland. The post will be on a whole-time basis. Applications should be made on a form which may be obtained (together with further details) from the Secretary, Northern Ireland Hospitals Authority, Friends' Provident Building, 58, Howard Street, Belfast, which must be returned to him so as to be received not later than April 19, 1952. (2306)

RADIOTHERAPY

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from registered medical practitioners for the post of

WHOLE-TIME ASSISTANT RADIOTHERAPIST

to the Radiotherapy Centre at the Derbyshire Royal Infirmary, where the successful candidate will work under the direction of the Consultant Radiotherapist-in-charge. Candidates should have a good clinical background and be in possession of the D.M.R.(T.). Salary scale £1,300 by £50 to £1,750 per annum. The appointee will be required to reside within ten miles of the Infirmary. Application forms and further details may be obtained from the Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10. Completed forms must be returned to Sec. not later than April 26. (2058)

MIDDLESEX HOSPITAL, W.1

Applications are invited for two posts of

NON-RESIDENT REGISTRAR to Radiotherapy Department

Further particulars and application forms from Deputy Superintendent, to whom applications should be sent, naming three referees, by April 12. (2237)

BRISTOL, UNITED, HOSPITALS (Joint appointment with the South-Western Regional Hospital Board)

Applications are invited for the post of

REGISTRAR in the Radiotherapy Department

The post will become immediately vacant, and the appointment will be subject to the terms and conditions of service of hospital medical and dental staff negotiated between the Minister and the profession, and will be for a period of one year in the first instance. The main duties attaching to the post will be in the Bristol General Hospital, where approximately 35 beds are allocated to radiotherapy. Applications, stating full christian names, age, qualifications, experience and present post, and giving the names of two referees, should be sent not later than April 15, 1952, to Secretary to Board, Royal Infirmary Branch, Bristol, 2. (2187)

RHEUMATOLOGY

BATH, ROYAL NATIONAL HOSPITAL FOR RHEUMATIC DISEASES

Bath Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

SENIOR HOUSE OFFICER in Rheumatology

Salary, terms and conditions of service in accordance with those published by the Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to the undersigned as soon as possible. The hospital is recognized for Part II of the Diploma of Physical Medicine.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (2092)

UROLOGY

ST. PETER'S, ST. PAUL'S AND ST. PHILIP'S HOSPITALS, W.C.2

RESIDENT SURGICAL OFFICER (Registrar Grade)

Required for St. Paul's Hospital on June 1, 1952. Applications invited from male candidates on the British *Register*. Appointment for six months, with opportunity for a further six months in a higher grade, if recommended. Candidates should be prepared to spend one year at the hospital if required. Applications (twelve copies), with twelve copies of three recent testimonials, should reach the House Governor, St. Peter's Hospital, Henrietta Street, W.C.2, by April 26, 1952. (2328)

PRESTON ROYAL INFIRMARY (400 beds)

HOUSE OFFICER (Urological)

Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9609)

MEDICINE

HAMMERSMITH HOSPITAL AND POST-GRADUATE MEDICAL SCHOOL, London, W.12

Applications are invited for the following appointments in the Department of Medicine, vacant June 1:

SENIOR REGISTRAR
TWO REGISTRARS

Age, qualifications, experience, names of two referees, to Secretary, Board of Governors by April 10. (2238)

ROYAL MASONIC HOSPITAL

Ravenscourt Park, London, W.6

Applications are invited for two resident appointments as

MEDICAL REGISTRARS

one of which will occur on or about May 13, 1952, and the other before the end of May. Salary £775 per annum, inclusive of full residential emoluments. Applications, stating age, qualifications, past and present appointments, together with two recent testimonials and also the names of two referees, should be received by the Secretary and House Governor at the hospital by the first post on April 7, 1952, by whom further information would be given on request. (9896)

BARNET GENERAL HOSPITAL, Barnet, Herts

Barnet Group Hospital Management Committee

Applications are invited for the post of

SENIOR MEDICAL REGISTRAR

to an acute unit of 50 beds. The post, which is immediately available, is temporary pending the approval of a permanent appointment by the Regional Board. Candidates should possess a higher qualification. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees, should be sent to the Medical Director. (2158)

CARSHALTON, SURREY, ST. HELIER HOSPITAL

St. Helier Group Hospital Management Committee

Applications are invited for the appointment of

WHOLE-TIME MEDICAL REGISTRAR

commencing April 1, 1952. Applicants must hold M.R.C.P. qualification. Further information and opportunity to visit the hospital obtainable from the Physician Superintendent. Application forms obtainable from the Group Secretary, Management Committee Offices, St. Helier Hospital, Carshalton. Completed forms to be returned not later than fourteen days after the appearance of this advertisement. (2093)

CHESTERFIELD ROYAL HOSPITAL

Sheffield Regional Hospital Board

Applications are invited from registered medical practitioners for the whole-time post of

MEDICAL REGISTRAR

to the above hospital. Single accommodation is available if required. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 7, 1952. (9755)

LIVERPOOL, UNITED, HOSPITALS

Applications are invited for temporary appointments as

MEDICAL REGISTRARS at the David Lewis Northern Hospital and the Royal Southern Hospital

for the period to September 30, 1952. The posts are assessed in the Registrar grade. Applications, on forms from the undersigned, should be returned by April 12, 1952.—A. V. J. Hinds, Secretary, The United Liverpool Hospitals, 80, Rodney Street, Liverpool, 1. (2215)

MAIDENHEAD (near), CANADIAN RED CROSS MEMORIAL HOSPITAL, Taplow

North-West Metropolitan Regional Hospital Board

RESIDENT MEDICAL REGISTRAR

Required for one year in the first instance. Hospital may be visited by direct appointment. Application forms obtainable from, and returnable to, the Secretary, Windsor Group H.M.C., Kipling Memorial Building, Alma Road, Windsor, Berks, by April 8, 1952. (2059)

MANCHESTER, SOUTH, GROUP OF HOSPITALS

Manchester Regional Hospital Board

Applications are invited for the post of

RESIDENT REGISTRAR IN GENERAL MEDICINE

with main duties at Withington Hospital, Manchester. Forms of application may be obtained from the Senior Administrative Medical Officer, Manchester Regional Hospital Board, Cheetwood Road, Manchester, 8, and should be returned, with copies of two recent testimonials, to be received by April 7, 1952. (2268)

Medicine—contd.

PETERBOROUGH HOSPITALS
East Anglian Regional Hospital Board
MEDICAL REGISTRAR
Post provides wide range of experience in general medicine, paediatrics and infectious diseases. Appointment for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, with names of three referees, to Secretary of Board, 117, Chesterton Road, Cambridge, by April 15, 1952. Candidates invited to visit hospitals by arrangement with H.M.C. Secretary, Peterborough Memorial Hospital, Peterborough. (2088)

SWANSEA GENERAL HOSPITAL (403 beds)
Welsh Regional Hospital Board
Applications are invited from registered medical practitioners for the non-resident post of
REGISTRAR IN GENERAL MEDICINE
The post will be reviewed at the end of the first year. Forms of application should be obtained immediately from the Senior Administrative Medical Officer, Welsh Regional Hospital Board, Cathays Park, Cardiff (2284)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL
South-West Metropolitan Regional Hospital Board
Winchester Group Hospital Management Committee
Applications are invited for the post of
MEDICAL REGISTRAR (Registrar status)
Higher qualification desirable. Vacant May 12. Resident or non-resident. In addition to duties as Registrar to Medical Department, he will be Medical Officer responsible for work and discipline of resident medical staff. Forms of application may be obtained from the Secretary of the hospital and must be completed and returned within fourteen days of the appearance of this advertisement (2185)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
SENIOR HOUSE OFFICER and Casualty Officer
at the above hospital. The appointment, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (9757)

BOLTON, ROYAL INFIRMARY (237 beds)
Bolton and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER (Medicine)
Post tenable for twelve months. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (2060)

CARDIFF, LLANDOUGH HOSPITAL
United Cardiff Hospitals
The Board of Governors invites applications for the appointment of
SENIOR HOUSE OFFICER (Medical)
Applications, stating age, nationality, qualifications, experience and present appointment, together with the names of two referees, should be sent as soon as possible to Arnold Tunstall, Secretary and Principal Administrative Officer, The United Cardiff Hospitals, Cardiff Royal Infirmary, Cardiff. (2133)

CHESTERFIELD ROYAL HOSPITAL (322 beds)
Chesterfield Hospital Management Committee
SENIOR HOUSE PHYSICIAN
(Senior House Officer)
Required immediately. National salary and conditions. Apply, in detail, to M. H. Boone, Secretary. (9793)

COVENTRY, GULSON HOSPITAL (311 bed)
RESIDENT MEDICAL OFFICER (S.H.O. status)
Vacant May 1, 1952. The hospital contains 87 general medical beds. Applications to the Secretary, Group 20 H.M.C., Coventry and Warwickshire Hospital, Coventry. (2159)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds—5 residents)
RESIDENT HOUSE PHYSICIAN
Required immediately to take charge of two acute medical wards. Salary £670 per annum, less deduction of £150 for board residence. One year tenure first instance. Busy out-patient department with full Consultant staff. Applications, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe (2061)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
Applications are invited from registered medical practitioners for the following post, which is vacant on March 31, 1952:
SENIOR HOUSE OFFICER (General Medicine)
The appointment will be for twelve months at a salary of £670 per annum, less £155 per annum for residential accommodation and services. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8472)

MIDDLESBROUGH, HEMLINGTON HOSPITAL (220 beds)
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for the following appointment:
SENIOR HOUSE OFFICER (Medical)
attached to Medical Clinic No. 2, which has 40 beds at the above hospital. Applications, stating age, qualifications and experience, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (9155)

OLDHAM, BOUNDARY PARK GENERAL HOSPITAL AND ANNEXE
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
RESIDENT MEDICAL OFFICER
(Status Senior House Officer)
The person appointed will be responsible for the chronic sick cases in the annexe, and full opportunities for gaining experience in the treatment of acute medical cases will be afforded in the Boundary Park General Hospital. Preference will be given to candidates who are intending to specialize in medicine and who hold a higher qualification. Salary will be at the rate of £670 per annum. Applications, containing full particulars of qualifications, experience, and giving the names of two persons to whom reference may be made, should be forwarded immediately to the undersigned.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (2239)

SOUTHERN AYRSHIRE HOSPITALS, BOARD OF MANAGEMENT FOR
Applications are invited for the post of
LOCUM SENIOR HOUSE OFFICER (Medicine)
for a period in the first instance of six months. Salary in accordance with terms of service of medical staff in the National Health Service, i.e., £670 per annum, less deduction for residential emoluments. Applications to the Administrative Medical Officer, Ballochmyle Hospital, Mauchline, within fourteen days of the appearance of this advertisement. (2186)

TREDEGAR, ST. JAMES HOSPITAL
(38 beds for acute medicine, 75 chronic sick, 46 obstetrical)
RESIDENT SENIOR HOUSE OFFICER
(Male or female)
Required July 1. Term of appointment twelve months. Salary £670 per annum less an agreed deduction for full residential emoluments. Medical establishment comprises visiting physician geriatrician, and obstetrician, together with Resident Senior Hospital Medical Officer and Junior House Officer. Apply to Secretary, Hospital Management Committee, District Miners Hospital, St. Martins Road, Caerphilly. (9932)

WEST HARTLEPOOL GENERAL HOSPITAL
Applications are invited for the appointment as
SENIOR HOUSE OFFICER (Medical)
at the above hospital, now vacant. Salary £670 per annum, less £150 for residential emoluments. Applications, stating age, nationality and qualifications (with dates), and accompanied by two testimonials, should be sent to the Secretary to the Management Committee, General Hospital, West Hartlepool, as soon as possible. (8260)

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, London, E.15
Applications are invited from registered medical practitioners, male or female for appointment of
HOUSE PHYSICIAN
(House Officer, first, second or third post)
for six months commencing on May 1, 1952. Applications, stating age and experience, together with copies of testimonials, should be sent to the undersigned immediately.—M. J. Huntley, Secretary, West Ham Group Hospital Management Committee, Stratford, London, E.15. (2240)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE PHYSICIAN (H.O. 1, 2 or 3)
Salary, etc., in accordance with national scale. Tenable for six months. Post now vacant. Application forms obtainable from and returnable to the Medical Superintendent. (2269)

WANSTEAD HOSPITAL
Hermon Hill, Wanstead, E.11 (191 beds)
Applications are invited for the post of
HOUSE PHYSICIAN
vacant April 30, 1952. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, should be sent immediately to the Secretary, H.M.C. Forest Group, Langthorne Road, E.11. (2020)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Physician and Casualty)
Required to commence duties as soon as possible This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid Cheshire H.M.C., The Hospital, Sinderland Road, Altrincham, Cheshire. (9339)

ACCRINGTON, VICTORIA HOSPITAL (112 beds)
HOUSE PHYSICIAN
Salary £350 to £450 per annum, less £100 per annum board and lodging. Applications, with copies of two testimonials, to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (9697)

BANBURY, OXON, HORTON GENERAL HOSPITAL (170 beds)
HOUSE PHYSICIAN
Required April 16, 1952. Salary from £350 in accordance with experience. Four other Residents. The post provides experience in general medical wards and in separate Infectious Diseases Unit. Applications, stating age, nationality, qualifications, and names of two referees, to the Secretary. (2036)

BANGOR, CAERNARVON AND ANGLESEY GENERAL HOSPITAL
Caernarvon and Anglesey Hospital Management Committee
Applications are invited for the appointment of
HOUSE PHYSICIAN (Resident)
at the above hospital. The appointment is for a period of six months. Applications, stating age, experience, and qualifications, together with the names and addresses of two referees, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, N. Wales. (2111)

BANSTEAD, SURREY, CUDDINGTON HOSPITAL (126 beds) (at present 18 to 32 I.D. beds, 25 surgical convalescent beds, and 24 T.B. beds)
RESIDENT HOUSE OFFICER
Required to work under the various consultants. Cases admitted are mainly acute of the types shown above. Post suitable for anyone reading for a higher qualification. Vacant April 26, 1952. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent immediately to Group Secretary, Epsom District Hospital, Dorking Road, Surrey. (2063)

BARNSTAPLE, NORTH DEVON INFIRMARY (110 beds)
HOUSE PHYSICIAN
Required April 1, 1952. Applications to Secretary and Finance Officer, North Devon Hospital Management Committee, 19, Alexandra Road, Barnstaple, North Devon. (9415)

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL
Barrow and Furness Hospital Management Committee
Applications are invited for a post of
RESIDENT HOUSE PHYSICIAN
(House Officer grade)
at the above hospital (189 beds), with duties under control of Consultant Physician. Applications, stating age, qualifications, and experience, with copy testimonials or names of referees, should be forwarded to the Secretary, Barrow and Furness Hospital Management Committee, 52, Paradise Street, Barrow-in-Furness. (2307)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE PHYSICIAN
Salary, terms and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to Secretary, St. Martin's Hospital, Bath, as soon as possible.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (2094)

BINGLEY HOSPITAL, Bingley (68 beds)
SKIPTON GENERAL HOSPITAL, Skipton (64 beds), Yorkshire, West Riding
(Full Consultant Staffs)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Either sex)
at each of the above hospitals. First, second or third appointments. Now vacant. Six months' appointment. Salary in accordance with National Health Service terms and conditions. Applications, stating age, qualifications, experience and nationality, together with copies of recent testimonials, to be forwarded to the Secretary, Bingley, Keighley, Skipton and Settle Hospital Management Committee, as soon as possible. (2002)

BLACKBURN, QUEEN'S PARK HOSPITAL (650 beds)
HOUSE PHYSICIAN
National Health Service salary and conditions Applications, accompanied by copies of two testimonials or names of referees, to the Secretary, Blackburn and District Hospital Management Committee, Royal Infirmary, Blackburn. (2037)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Medicine—contd.

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge. Main line railway from Liverpool Street)

Applications are invited from registered medical practitioners for the following resident appointment:

HOUSE OFFICER (Medical) (Male or female)
(First, second or third post held)

with primary attachment to the paediatric ward of 24 beds, and other duties in connexion with eight skin beds and the casualty department. Salary £350 to £450 per annum, less £100 per annum for residential emoluments. Appointment to commence May 1, 1952, for a period of six months. Applications, stating nationality, age, qualifications and experience with copies of testimonials or the names of two referees, should be sent to the Administrative Officer as soon as possible. (9966)

BURY AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE

Applications are invited for the post of

HOUSE PHYSICIAN

to work between Florence Nightingale Hospital (I.D. 96 beds and T.B. 24 beds) and Aitken Sanatorium (T.B. 70 beds). Some experience can be gained in minor thoracic surgery, and residence will be at Florence Nightingale Hospital. Applications should be made by persons who have already completed one year's experience as a House Officer. Salary and conditions of service in accordance with national scales. Applications should be made to the undersigned.—H. Wilkinson, Secretary to the Committee, Bury General Hospital, Walmersley Road, Bury, Lancs. (9589)

DARLINGTON MEMORIAL HOSPITAL (210 beds)
Darlington District Hospital Management Committee

Applications are invited for the post of

HOUSE PHYSICIAN (J.H.O.—Resident)

Salary in accordance with national scale. Apply, giving age and references, to the undersigned at once.—G. W. Beckwith, Secretary. (7237)

DEWSBURY, GENERAL HOSPITAL
Moorlands Road, Dewsbury (119 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee

Applications are invited for the appointment of

HOUSE PHYSICIAN

now vacant. This is a modern general hospital with a large out-patient department. Excellent experience available. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (8047)

DRIFFIELD, YORKS, EAST RIDING GENERAL HOSPITAL
HOUSE PHYSICIAN

Post vacant now. Duties to include medical wards, out-patients, and some anaesthetics. Salary £350 to £450 per annum. Applications to Secretary, Westwood Hospital, Beverley, E. Yorks. (2038)

EDGWARE GENERAL (formerly Redhill County) Hospital, Edgware, Middlesex (715 beds)
RESIDENT HOUSE PHYSICIAN

Post vacant April 25, 1952. Salary £400 to £450 per annum, according to experience. Deduction of £100 per annum for board, lodging, etc. Six months' appointment. Applications, stating age, qualifications, experience and enclosing copies of up to three recent testimonials, to Medical Director of hospital by April 12, 1952. (2308)

EPSOM DISTRICT HOSPITAL
Dorking Road, Epsom, Surrey (300 beds)
RESIDENT HOUSE OFFICER (Medical)

Post vacant May 23, 1952. Applications, stating age, qualifications, and experience, with copies of three recent testimonials, to be sent as soon as possible to the Secretary at above address. (2039)

FARNHAM HOSPITAL
Hale Road, Farnham, Surrey
HOUSE PHYSICIAN

Appointment for six months, renewable for further six months if applicant is not liable for service with H.M. Forces. Salary £350 to £450 per annum, according to experience. £100 per annum deducted in respect of board and lodging, etc. Applications by letter, stating age, qualifications and experience, and present appointment, with one to three recent testimonials (copies), to the Medical Superintendent of the hospital. (9625)

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL (229 beds)
HOUSE PHYSICIAN

Post is tenable for six months and will be vacant on May 1. Applications, with copies of three testimonials, to Secretary-Superintendent as soon as possible. (9812)

HALIFAX GENERAL HOSPITAL (425 beds)

Applications are invited for the post of

HOUSE PHYSICIAN (House Officer Grade)

at the above busy acute general hospital. Salary according to experience. Applications, stating age, sex, nationality, qualifications, experience, and enclosing copies of three testimonials, to be forwarded to the Secretary at the Royal Halifax Infirmary, Halifax. (2134)

HALIFAX, ROYAL INFIRMARY (301 beds)

Applications are invited for the post of

HOUSE PHYSICIAN (House Officer Grade)

at the above busy acute general hospital. Salary according to experience. Applications, stating age, nationality, qualifications and experience, together with copies of three testimonials, to be forwarded to the Secretary. (2135)

HARROGATE AND DISTRICT GENERAL HOSPITAL (253 beds)

Applications are invited from registered medical practitioners for the post of

HOUSE PHYSICIAN

Vacant early April. Salary, according to experience, on the National Health Service scale. Applications as soon as possible to the Assistant Secretary. (8794)

HOVE GENERAL HOSPITAL
(75 beds, 3 residents)
Brighton and Lewes Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of

HOUSE PHYSICIAN

vacant May 9, 1952. Excellent clinical material available, and the post is suitable for candidates working for a higher degree. Applications, stating age, qualifications, etc., together with names and addresses of two referees, to be sent to the Administrative Officer, Hove General Hospital, Hove, 3, within ten days of the appearance of this advertisement (9899)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee

Applications are invited for the following posts:

HOUSE PHYSICIAN (Hull Royal Infirmary)
HOUSE PHYSICIAN (Sutton Branch Hospital)
Recognized for M.D.(Lond.) Examination

Salary and conditions of service will be in accordance with the national scale for House Officers. The appointments are tenable for six months. Forms of application from the Admin. Officer. (2241)

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)

Applications are invited for the post of

HOUSE PHYSICIAN

commencing April 1, 1952. Applications, stating age, experience and qualifications, with copies of recent testimonials, to the Secretary, No. 1 H.M.C., 38a, East Bond Street, Leicester (8339)

MIDDLESBROUGH, HEMLINGTON HOSPITAL (220 beds)
Tees-side Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

HOUSE PHYSICIAN

at the above hospital. Salary at the rate of £400 to £500 per annum. Applications, stating age, experience and qualifications, together with copies of two testimonials, should be addressed to the Administrative Officer, Hemlington Hospital, Middlesbrough. (9156)

MIDDLESBROUGH, NORTH ORMESBY HOSPITAL (189 beds)
Tees-side Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of

HOUSE PHYSICIAN

to No. 1 Medical team, which will become vacant on April 8, 1952. Residential accommodation available. Applications, stating qualifications, experience and accompanied by copies of testimonials, should be addressed to the Assistant Secretary as soon as possible. (2309)

NEWARK HOSPITAL
London Road, Newark, Notts (81 beds)
Nottingham No. 1 Hospital Management Committee
TWO HOUSE OFFICERS
(First or subsequent posts)

For the care of both medical and surgical cases. Appointment for six months. Duties to commence immediately. Applications, stating age, qualifications, etc., and enclosing copies of recent testimonials, should be sent to Assistant Secy., Newark Hospital, London Road, Newark, Notts. (5623)

NOTTINGHAM, GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE PHYSICIAN (Male or female)

Required for the above hospital. Duties to commence as soon as possible. Salary and conditions of service in accordance with published regulations of the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (9061)

NUNEATON, GEORGE ELIOT HOSPITAL (258 beds)

Applications are invited for the post of

HOUSE PHYSICIAN (46 general medical beds)

Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (9832)

NUNEATON, MANOR HOSPITAL (139 beds)

Applications are invited for the post of

HOUSE PHYSICIAN (32 general medical beds)

Applications to the Secretary, Group 20 Hospital Management Committee, Coventry and Warwickshire Hospital, Coventry. (9833)

OLDHAM, BOUNDARY PARK GENERAL HOSPITAL (390 beds)
Oldham and District Hospital Management Committee

Applications are invited for the appointment of

TWO HOUSE PHYSICIANS

becoming vacant on April 2, 1952. Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference No. A/837, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (2242)

PONTYPOOL AND DISTRICT HOSPITAL
Pontypool, Mon (115 beds)

Applications are invited for the post of

HOUSE OFFICER (Medical)

vacant about April 15, who will work under the directions of the Consultant Physician and the Paediatrician. The resident staff consists of a Junior Hospital Medical Officer (Surgical), a House Officer (Surgical) and this post. The post carries an increment of £50 per annum above national scale, in view of extra responsibilities. Apply, with the names of two referees, to T. A. Jones, Sec., 17, Cardiff Road, Newport, Mon. (2012)

REDHILL, SURREY, EAST SURREY HOSPITAL
Shrewsbury Road (139 beds)
Redhill Group Hospital Management Committee
TWO HOUSE OFFICERS

Required for medical, surgical and casualty work. Apply to the Administrative Officer at the above address. (2062)

REDRUTH CAMBORNE-REDRUTH GENERAL HOSPITAL (159 beds—4 residents)
West Cornwall Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

HOUSE PHYSICIAN (Male or female)

vacant June 1, 1952. Applications, stating age, nationality, qualifications and experience, together with copies of two testimonials, should be forwarded to the Administrative Assistant, Camborne-Redruth General Hospital, Redruth. (9765)

ROMFORD, ESSEX, VICTORIA HOSPITAL (91 beds)
RESIDENT HOUSE PHYSICIAN

Applications are invited from registered medical practitioners (male) for the above vacant post. The duties will include experience in gynaecology. Six months' appointment. Applications, stating age, nationality, qualifications (with dates), and experience, together with copies of three recent testimonials or names of two referees, should be sent immediately to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford. (9368)

SOLIHULL HOSPITAL
Lode Lane, Solihull, near Birmingham
Group 25 Birmingham (Selly Oak) Hospital Management Committee

Vacancy immediately available for

HOUSE PHYSICIAN

This is a general hospital and offers good experience. Five other Resident Medical Officers. Applications, giving qualifications, age, and experience, with copies of two recent testimonials or names of two referees, to the Medical Supt. (9834)

STOKE-ON-TRENT, BURSLEM, HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
Stoke-on-Trent Hospital Management Committee

Applications are invited for the post of

RESIDENT HOUSE OFFICER (Medical)

vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, H.M.C., Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (9794)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Tilbury Branch)
South-East Essex Hospital Management Committee

Applications are invited from registered medical practitioners for the appointment of

HOUSE PHYSICIAN

at the above hospital. Resident. The appointment will be for six months in the first instance and the post is now vacant. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex (7963)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY, Hawkeys Lane, North Shields
South-East Northumberland Hospital Management Committee

Applications are invited from registered medical practitioners for the post of

HOUSE PHYSICIAN

now vacant. Applications, with two testimonials, should be sent to the Secretary, S.E.N.H.M.C., at Preston Hospital, North Shields, as soon as possible. (2205)

WARRINGTON GENERAL HOSPITAL (372 beds)
RESIDENT HOUSE PHYSICIAN

Required at the above hospital. Salary £350 to £450 per annum, less a deduction of £100 for residential emoluments. Applications should be forwarded to H. L. Boot, Secretary, Warrington and District Hospital Management Committee, c/o General Hospital, Warrington. (9140)

Medicine—contd.

WALLASEY, VICTORIA CENTRAL HOSPITAL
(135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointment:
RESIDENT HOUSE PHYSICIAN
vacant April 1, 1952. This post is tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey (6770)

WOKING, VICTORIA HOSPITAL (74 beds)
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Male or female)
Salary and conditions of service as published by Ministry of Health. Apply to Assistant Secretary, Victoria Hospital, Woking, Surrey. (6977)

SURGERY

GUY'S HOSPITAL, S.E.1
The Board of Governors invites applications for the post of
ASSISTANT SURGEON
with duties in General and Thoracic Surgery
The number of sessions on which attendance will be required is at present uncertain, as the allocation of duties in detail will not be decided until the appointment has been made. The appointment will commence on September 1, 1952, and remuneration will be in accordance with the national rate for consultants. Applications (ten copies), together with the names of three referees, should be sent to the Superintendent, Guy's Hospital, London Bridge, S.E.1, on or before May 1, 1952. Canvassing of members of the Board or of the Advisory Appointments Committee will disqualify. (2136)

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Upper Road, Plaistow, London, E.13
Applications are invited from registered medical practitioners for the appointment of
TEMPORARY RESIDENT SURGICAL OFFICER
(Senior Registrar grade)
at the above hospital for a period of six months. Preference will be given to candidates holding the Diploma F.R.C.S. Applications, stating age, experience, and qualifications, together with copies of recent testimonials, should be sent to the Senior Administrative Officer by April 7, 1952. (9900)

BARNSLEY, BECKETT HOSPITAL
Sheffield Regional Hospital Board
Applications are invited from registered medical practitioners for the resident whole-time post of
SURGICAL REGISTRAR
to the above hospital. Recognized for training for the F.R.C.S. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointment (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 7, 1952. (9767)

BRADFORD, ST. LUKE'S HOSPITAL
Leeds Regional Hospital Board
Applications are invited for the post of
NON-RESIDENT SURGICAL REGISTRAR
The duties of the post are approximately divided between general and orthopaedic surgery. Applications, stating age, qualifications and details of present and previous appointments (with dates), together with the names of three referees, should be forwarded to the Secretary to the Joint Registrars' Committee, Park Parade, Harrogate, not later than April 12, 1952. (2013)

SOUTH-EAST KENT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited from suitably qualified practitioners for the appointment of
LOCUM SENIOR SURGICAL REGISTRAR
to assist at all or any of the following hospitals within the Committee's area:
Royal Victoria Hospital, Folkestone
Ashford Hospital
Willesborough Hospital
Royal Victoria Hospital, Dover
Buckland Hospital
Victoria Hospital, Deal
The post, which will become vacant in early April, is for a period of nine months and will be non-resident. Salary will be at the grade for Senior Registrar (£1,000 to £1,300 per annum). Applicants should state age, qualifications and dates, nationality, and give a résumé of experience, with the names and addresses of suitable referees. Travelling expenses will be paid in accordance with the approved scale, where necessary. Applications should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone, to reach him by April 7, 1952. (2208)

SHEFFIELD, WHARNCLIFFE HOSPITAL
Sheffield Regional Hospital Board
Applications are invited for whole-time post of
SURGICAL REGISTRAR
to the above hospital, with additional duties in the orthopaedic department. Single accommodation is available if required. The appointment is for one year in the first instance and may be renewed for a further year. Applications, giving age, nationality, qualifications, present and previous appointments (with dates), together with names and addresses of three referees, should be sent to the Secretary, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield, 10, to arrive not later than April 7, 1952. (9769)

WISBECH, NORTH CAMBRIDGESHIRE HOSPITAL (40 surgical beds)
East Anglian Regional Hospital Board
SURGICAL REGISTRAR
Post provides wide experience in general surgery with opportunities for study. Appointment for one year, renewable for second year. Applications, stating age, qualifications and details of present and previous appointments, with names of three referees, to Secretary of Board, 117, Chesterton Road, Cambridge, by April 7, 1952. Candidates invited to visit hospital by direct arrangement with H.M.C. Secretary, Peterborough Memorial Hospital, Peterborough. (9699)

CHORLEY AND DISTRICT HOSPITAL, Lancs
Preston and Chorley Hospital Management Committee
RESIDENT SURGICAL OFFICER
(J.H.M.O. Grade)
The establishment of this hospital includes two Junior House Officers. The R.S.O. works under the supervision of the visiting consultants from Preston Royal Infirmary. Applications, including names for reference, to be sent to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary. (9615)

LONDON JEWISH HOSPITAL
Stepney Green, E.1 (130 beds)
Applications invited for the post of
RESIDENT SENIOR HOUSE OFFICER
(Surgical Department)
vacant middle April, 1952. Salary (£670 per annum) is subject to deduction at the rate of £156 per annum for board, lodging, etc. Applications, with copies of testimonials, to the Secretary at the hospital (9901)

BARNSTAPLE, NORTH DEVON INFIRMARY
(110 beds)
SENIOR HOUSE SURGEON
Required immediately. Applications to Secretary and Finance Officer, North Devon Hospital Management Committee, 19, Alexandra Road, Barnstaple, North Devon. (9414)

BLACKPOOL, VICTORIA HOSPITAL
ASSISTANT RESIDENT SURGICAL OFFICER
with responsibility for Casualty Department
(Senior House Officer grade)
Post recognized for F.R.C.S. National salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (2040)

BOLTON DISTRICT GENERAL HOSPITAL
(521 beds)
Bolton and District Hospital Management Committee
RESIDENT SENIOR HOUSE OFFICER
Required at the above hospital for general surgical duties. Post vacant immediately and tenable for twelve months. Applications, stating age, nationality, qualifications and experience, together with the names of two persons to whom reference may be made, to be sent immediately to the undersigned at the Royal Infirmary, Bolton.—H. P. Travis, Secretary. (2064)

COSHAM, QUEEN ALEXANDRA HOSPITAL
(124 Surgical beds)
Portsmouth Group Hospital Management Committee
Applications are invited for the following appointments:
SENIOR HOUSE SURGEON
HOUSE SURGEON
Applications, stating age, experience and qualifications, and names of two referees, should be submitted as soon as possible to E. H. Hurst, 35, Grove Road South, Southsea. (2095)

DOVER, ROYAL VICTORIA HOSPITAL,
South East Kent Hospital Management Committee
Applications are invited from registered medical practitioners (male) for the post of
SENIOR HOUSE SURGEON
Applicants should have held at least three hospital appointments. The salary will be £670 a year and will be for one year in the first instance. A deduction of £130 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience, and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone. (2209)

GREENOCK ROYAL INFIRMARY
Board of Management for Greenock and District Hospitals
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (replacing Junior Registrar Grade) (General Surgery)
Appointment will be for one year in the first instance and will be subject to the National Health Service (Scotland) (Superannuation) Regulations. Applications, stating age, qualifications and present appointment, and giving the names of three referees, to the Secretary, Board of Management for Greenock and District Hospitals, 47, Eldon Street, Greenock, immediately. (2188)

ISLE OF MAN, NOBLE'S HOSPITAL (180 beds)
Applications are invited for the post of
SENIOR HOUSE SURGEON
at above hospital, an acute general hospital with a busy surgical practice and specialist visiting staff. Salary £670 per annum, with a deduction of £100 per annum for board, lodging, etc., if resident. Suitable post for man preparing for a higher surgical qualification. Applicant should previously have held a house-surgeon appointment, preferably at a teaching hospital. Post vacant at the end of March, 1952. Applications, giving all relevant particulars, with copies of two recent testimonials, or names and addresses of two referees, should be forwarded to the Secretary, Noble's Isle of Man Hospital, Douglas. (2199)

LLANDUDNO GENERAL HOSPITAL, Llandudno
Caernarvon and Anglesey Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE SURGEON (Resident)
at the above hospital. Salary £670 per annum. The appointment is for a period of six months. Applications, stating age, experience, and qualifications, together with names and addresses of two referees, should be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, N. Wales. (2113)

MANCHESTER, WYTHENSHAWE HOSPITAL
South Manchester Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER (Surgical)
Post will give experience in general surgery, E.N.T. surgery and there will be opportunities for experience in plastic surgery during the period of the appointment. Applications, stating age, qualifications, present post, experience and names of two referees, to be forwarded to the undersigned as soon as possible.—A. H. Keates, Secretary to the Committee, Christie Hospital and Holt Radium Institute, Manchester, 20. (2310)

NOTTINGHAM, HIGHBURY HOSPITAL
Bulwell
Nottingham No. 1 Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence as soon as possible. Salary £670 per annum and conditions of service in accordance with the conditions published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned.—Henry M. Stanley, Secretary. (6969)

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL
Plymouth, South Devon and East Cornwall General Hospital Group
Applications are invited from duly qualified registered medical practitioners for appointment of
RESIDENT SURGICAL OFFICER
(Senior House Officer)
Post vacant immediately. The appointment will be for a period of twelve months and is renewable. The hospital is recognized for the Fellowship of the Royal College of Surgeons. Applications, stating age, nationality, qualifications and experience, together with the names and addresses of three referees to be sent to the undersigned.—Arthur R. Cash, Secretary, 7, Nelson Gardens, Devonport. (9814)

REDRUTH, CAMBORNE-REDRUTH HOSPITAL
(159 beds, 4 residents)
West Cornwall Hospital Management Committee
SENIOR HOUSE OFFICER (Surgical)
Required for the above hospital. Post now vacant. Salary £670 per annum, less £100 per annum for residential emoluments. Applications, stating age, experience and nationality, together with names of two persons to whom reference can be made, should be submitted to the Administrative Assistant. (8011)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

Surgery—contd.

STOCKTON AND THORNABY HOSPITAL
Stockton-on-Tees
Tees-side Hospital Management Committee
Applications are invited from registered medical practitioners for either of the following appointments.
SENIOR HOUSE OFFICER (Surgeon)
HOUSE SURGEON
to be attached to Surgical Team No. 3. The Senior House Officer post is recognized for the F.R.C.S. examination. Salary in accordance with national scales. The post offers an excellent experience and is tenable for a period of at least six months Applications, stating age, qualifications, experience, and accompanied by copies of three testimonials, should be addressed to the Secretary-Superintendent. (9097)

STOKE-ON-TRENT, BURSLEM, HAYWOOD and TUNSTALL WAR MEMORIAL HOSPITAL
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
SENIOR HOUSE OFFICER (Surgical)
vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent. —Thornburrow Gibson, Secretary. (9797)

BATTERSEA GENERAL HOSPITAL
Battersea Park, S.W.11
RESIDENT HOUSE SURGEON/CASUALTY OFFICER (House Officer Grade)
Required immediately for six months. Apply, enclosing copies of two recent testimonials, to Administrative Officer. (9195)

CONNAUGHT HOSPITAL
Walthamstow, E.17 (118 beds)
Applications are invited for the post of
HOUSE SURGEON
for a period of six months. Post vacant May 6, 1952. Recognized for F.R.C.S. Applications, with full particulars, together with copies of two recent testimonials, should be sent immediately to the Secretary, Hospital Management Committee, Forest Group, Langthorne Road, E.11. (2096)

ELIZABETH GARRETT ANDERSON HOSPITAL
Euston Road, N.W.1
Applications are invited from registered women medical practitioners for the post of
HOUSE SURGEON/CASUALTY OFFICER
with charge of general surgical ward. Post recognized for F.R.C.S. examination. Appointment for six months. Salary according to national scale for House Officers. Duties to commence early April. Applications, with copies of three recent testimonials, should be sent to the Secretary as soon as possible. (2243)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
vacant now Applications, stating age, qualifications and experience, with a copy of two testimonials and the name of one referee, should be sent to the Group Secretary, St. Helier Hospital, Carshalton, Surrey. (2097)

PRINCE OF WALES'S GENERAL HOSPITAL N.15 (218 beds)
Tottenham Group Hospital Management Committee
The Green, N.15
Applications are invited from registered medical practitioners for the appointment of
RESIDENT SENIOR HOUSE SURGEON
(Third post)
for a period of six months commencing on April 28, 1952. Application form, from the Secretary, to be returned by April 5, 1952. (2160)

ROYAL NORTHERN HOSPITAL
Holloway, London, N.7
Northern Group Hospital Management Committee
Applications are invited for two posts of
HOUSE SURGEON AND CASUALTY OFFICER
vacant May 3 and 6, 1952. Salary £400 to £450 per annum, according to experience, less £100 per annum for board residence. Applications, stating age, qualifications, and nationality, together with copies of three recent testimonials, to be sent to the Hospital Sec. not later than April 12. (2271)

ST. ANDREW'S HOSPITAL, Bow, E.3
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
vacant on May 6. Applications, stating age and qualifications, should be sent as soon as possible to the Medical Superintendent, St. Andrew's Hospital, Bow, E.3. (2311)

ST ANN'S GENERAL HOSPITAL, N.15
Tottenham Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
RESIDENT HOUSE SURGEON (Third post)
for a period of six months. Application form from the Secretary, Tottenham Group H.M.C., The Green, Tottenham, N.15. (2329)

ST. GEORGE-IN-THE-EAST HOSPITAL
Raine Street, Wapping, E.1
Applications are invited for the post of
HOUSE SURGEON (House Officer, 1, 2 or 3)
Salary, etc. in accordance with national scale. Tenable for six months. Application forms should be obtained from and returned immediately to the Medical Superintendent. (3728)

ABERYSTWYTH GENERAL HOSPITAL
Mid-Wales Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
RESIDENT HOUSE SURGEON
(First, second or third post)
Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned Salary in accordance with terms and conditions of service published by the Ministry of Health.—J. P Thomas, Secretary, Mid-Wales Hospital Management Committee, Administrative Office, General Hospital, Aberystwyth. (9902)

ACCRINGTON, VICTORIA HOSPITAL
(112 acute beds)
HOUSE SURGEON
Post tenable for six months. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for board residence. Applications, giving age, nationality, qualifications, etc., accompanied by copies of two testimonials, to be addressed to the Secretary, Blackburn and District H.M.C., Royal Infirmary, Blackburn. (9700)

ALTRINCHAM GENERAL HOSPITAL
near Manchester (130 beds)
North and Mid-Cheshire Hospital Management Committee
HOUSE OFFICER (Surgical)
Required to commence duties as soon as possible. This is a busy hospital, staffed by Manchester Consultants and a full-time Senior House Officer. Salary £350 to £450 per annum, according to previous posts held, less residential emoluments. Applications should be sent to the Secretary, North and Mid-Cheshire H.M.C., The Hospital, Sinderland Road, Altrincham, Cheshire. (9340)

AYLESBURY, TINDAL GENERAL HOSPITAL
TWO HOUSE SURGEONS (Male and female)
(First or second posts)
Vacant June 1 and 11 The posts offer wide experience of general surgery with operative practice, and are recognized for F.R.C.S. The acute surgical unit consists of 95 beds. No casualty department. Applications, stating age, nationality, qualifications and experience, with two testimonials, to Administrative Officer. (2065)

BATH ROYAL UNITED HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
Salary, terms, and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to the Administrative Officer, Royal United Hospital, Bath. Commencing date May 12, 1952.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (2098)

BATH, ST. MARTIN'S HOSPITAL
Bath Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
Salary, terms and conditions of service in accordance with those issued by Ministry of Health. Applications, stating age, qualifications and experience, with three recent testimonials, to be forwarded to Secretary, St. Martin's Hospital, Bath, as soon as possible.—J. Lawrence Mears, Secretary, Manor Hospital, Bath. (2099)

BATLEY, GENERAL HOSPITAL (102 beds)
Carlinghow Hill, Batley, Yorks
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This general hospital will shortly provide all the in-patient treatment for the Group in the specialties of orthopaedics, E.N.T., and ophthalmology in addition to some general surgery, together with the usual out-patient clinics. Applications, stating age, qualifications and experience, together with recent testimonials, should be submitted immediately to the Secretary, 20, Oxford Road, Dewsbury. (7971)

BILLERICAY, ST. ANDREWS HOSPITAL
South-East Essex Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
for the General Surgery and Orthopaedic Departments of the above hospital. These departments of this hospital provide interesting and active traumatic experience. Resident. The post, which is vacant immediately, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (8341)

BIRKENHEAD GENERAL HOSPITAL
Applications invited for the posts of
TWO HOUSE SURGEONS
for six months to September 30, 1952. Busy well staffed general hospital of 174 beds. Salary £350 to £450, less £100 for full residential emoluments. Apply immediately, stating age, qualifications (with dates), experience, with copies of two recent testimonials, to J. Dawber, Secretary above Committee, St. James' Hospital, Birkenhead. (2272)

BIRMINGHAM ACCIDENT HOSPITAL AND REHABILITATION CENTRE
Bath Row, Birmingham, 15 (215 beds)
Group 25, Birmingham (Selly Oak) Hospital Management Committee
Applications are invited from registered medical practitioners, male and female, for the posts of
HOUSE SURGEONS
one of which falls vacant on April 1, 1952, and two further posts which fall vacant on May 1, 1952. The appointments will be for a period of six months, of which two may be spent in the Burns Unit (Medical Research Council). The hospital is the largest traumatic unit in the country, and treats 50,000 new patients each year. The posts offer ample opportunity for practical experience in the management of all types of injury and teaching by the Consultant staff; and are recognized for the F.R.C.S. Applications, accompanied by copies of recent testimonials, or names of two referees, to the Administrator. (2189)

BISHOP'S STORTFORD, HERTFORDSHIRE, HAYMEADS HOSPITAL (350 occupied beds)
(Midway between London and Cambridge—main line railway from Liverpool Street)
Applications are invited from registered medical practitioners for a
RESIDENT HOUSE OFFICER (Surgical)
(First or second post held)
Salary £350 to £400 per annum, plus special grant of £50 per annum, less £100 per annum for residential emoluments. Appointment to commence immediately Applications, stating age, nationality, qualifications, and experience, with copies of recent testimonials or the names of referees, should be sent as soon as possible to the Administrative Officer. (9903)

BLACKBURN ROYAL INFIRMARY (244 beds)
Applications are invited for the post of
RESIDENT HOUSE SURGEON
to the General Surgical Unit
The appointment will be for a period of six months in the first instance, and the salary, etc., will be in accordance with the terms and conditions of service of hospital medical and dental staffs. Applications, giving age, nationality, qualifications, etc., with copies of two testimonials, to be sent to the Secretary, Blackburn and District H.M.C., Royal Infirmary, as soon as possible. (9701)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (General and Urology)
Vacant May 1. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary (2282)

BRADFORD ROYAL INFIRMARY
HOUSE SURGEON (General)
Vacant now. Recognized for F.R C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments. Applications, stating age, nationality, qualifications, and experience, with copy testimonials, to Secretary. (9904)

BRADFORD, ST. LUKE'S HOSPITAL
HOUSE SURGEON (General)
Vacant April 1. Recognized for F.R.C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments.
HOUSE SURGEON (General)
Vacant May 1. Recognized for F.R C.S. Salary £350 to £450 per annum, less £100 per annum residential emoluments.
Applications for above posts, stating age, nationality, qualifications and experience, with copy testimonials to Sec., Bradford Royal Infirmary. (2244)

BRIGHTON, 7, ROYAL SUSSEX COUNTY HOSPITAL (300 beds)
Brighton and Lewes Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant mid-April. Recognized for F.R C.S. Applications, with full details of age, experience, etc., together with the names and addresses of two referees, should be sent to the Administrative Officer at the hospital within seven days of the appearance of this advertisement. (2190)

BURNLEY, VICTORIA HOSPITAL (171 beds)
Burnley and District Hospital Management Committee
RESIDENT HOUSE OFFICER (Surgical)
The post is tenable for six months. Salary and conditions of service in accordance with the National Health Service terms. Applications, with copies of three testimonials, should be sent forthwith to J. E. Wheatcroft, Secretary to the Committee, General Hospital, Casterton Avenue, Burnley (8759)

Surgery—contd.

BURTON-ON-TRENT, GENERAL INFIRMARY
(Acute General Hospital, 235 beds)
Burton-on-Trent Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
to General Surgical and Gynaecological Units offering excellent general experience. Applications, with all details and copies of recent testimonials, to the undersigned.—J. E. Smith, Secretary to the Hospital Management Committee. (9858)

CAERNARVON AND ANGLESEY HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the following appointments:
Caernarvon and Anglesey General Hospital, Bangor
HOUSE SURGEON (Resident)
HOUSE SURGEON (Resident) for Casualties and Special Department
Eryri General Hospital, Caernarvon
HOUSE SURGEON (Resident)
The appointments are for a period of six months. Salary and conditions of service in accordance with those approved by the Ministry of Health. Applications, stating age, experience, and qualifications, together with the names and addresses of two referees, to be forwarded within ten days of the appearance of this advertisement to the Secretary, Plas Gwyn, Ffriddoedd Road, Bangor, N. Wales. (2112)

CHATHAM, ALL SAINTS' HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEONS
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, qualifications, nationality and experience, to be addressed to the Surgeon Superintendent. (9869)

CHICHESTER, ROYAL WEST SUSSEX HOSPITAL (202 beds)
RESIDENT HOUSE SURGEON
Required for six months' appointment. National scales for first, second, or third post. Six residents, including R.S.O. and three House Surgeons. Vacancy occurs early April. Applications to Senior Administrative Officer of Hospital as soon as possible. (9440)

CHORLEY AND DISTRICT HOSPITAL, Lancs
RESIDENT HOUSE OFFICER (Surgical)
Post tenable for six months. Applications, with copies of testimonials, to be sent to the undersigned at the Royal Infirmary, Preston.—John Gibson, Secretary (9617)

DARTFORD, KENT, WEST HILL HOSPITAL
HOUSE SURGEON (General)
Salary in accordance with the terms and conditions of service of hospital medical and dental staff. The hospital is a large general one offering opportunities for wide experience and is within easy reach of London. The appointment is recognized by the Royal College of Surgeons. Applications, stating age, qualifications, experience and the names of two persons to whom reference for testimonials may be made, should be sent to the Surgeon Superintendent of the hospital immediately. (2067)

DERBY CITY HOSPITAL, Derby
(A recently built acute general hospital. There are seven Residents)
Derby Area No. 1 Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
HOUSE SURGEON
Appointment is vacant in April. Apply to Medical Superintendent as soon as possible. (2041)

DEWSBURY, GENERAL HOSPITAL (119 beds)
Moorlands Road, Dewsbury
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy modern general hospital, with a large out-patient department and the usual ancillary services. The hospital is recognized for the F.R.C.S. and provides excellent experience. Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be submitted to the Secretary, 20, Oxford Road, Dewsbury. (7972)

DEWSBURY, YORKS, STAINCLIFFE GENERAL HOSPITAL, Healds Road (316 beds)
Dewsbury, Batley and Mirfield Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON
now vacant. This is a busy general hospital with the usual out-patient and ancillary services. It is recognized for the F.R.C.S., and provides excellent experience. Salary and conditions of service in accordance with the national scales. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, should be sent to the Secretary, 20, Oxford Road, Dewsbury. (7973)

DONCASTER ROYAL INFIRMARY (330 beds)
Doncaster Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON
Salary at the rate of £350, £400 or £450 per annum, according to experience, from which a deduction at the rate of £100 per annum will be made for board, residence, etc. Applications, stating age, qualifications (with dates), nationality and present post, and accompanied by copies of three recent testimonials, should be forwarded to the undersigned.—Arthur Jones, Secretary to the Committee, Doncaster Royal Infirmary. (9773)

DORKING GENERAL HOSPITAL
(256 beds—3 Resident Medical Officers)
Redhill Group Hospital Management Committee
HOUSE OFFICER (Surgery and Obstetrics)
Required to commence duties as soon as possible. Salary £350 to £450 per annum, according to previous posts held. Apply to the Medical Superintendent, Dorking General Hospital, Horsham Road, Dorking, Surrey. (2068)

DOVER, ROYAL VICTORIA HOSPITAL
South-East Kent Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the post of
JUNIOR HOUSE SURGEON
at the above hospital. The salary will be £350, £400 or £450 a year, according to experience. A deduction of £100 a year will be made in respect of residential emoluments. Applications, stating age, qualifications, experience and the names and addresses of two responsible persons to whom reference may be made as to professional ability, should be addressed to the Secretary, South-East Kent Hospital Management Committee, Ash-Eton, Radnor Park West, Folkestone. (2210)

EASTBOURNE, PRINCESS ALICE HOSPITAL
(123 beds)
Applications are invited from registered medical practitioners for the post of
HOUSE SURGEON
for General Surgery in a busy, well-equipped hospital. Staff of three House Officers. Salary in accordance with national terms and conditions. Applications, stating age, nationality, qualifications and experience, together with copies of two recent testimonials, to the Secretary, 29, Bedfordwell Road, Eastbourne. (2014)

EPSOM DISTRICT HOSPITAL
Dorking Road, Epsom, Surrey (300 beds)
RESIDENT HOUSE OFFICER (Surgical)
Required at above hospital. Full Consultant staff. Post recognized by Royal College of Surgeons. Vacant April 29, 1952. Applications, stating age, qualifications and experience, with copies of three recent testimonials, to be sent as soon as possible to Group Secretary at above address. (2069)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
HOUSE SURGEON (with opportunity for experience in obstetrics and gynaecology)
Applications are invited from registered medical practitioners for the above post, vacant now. Salary £350 to £450 per annum, according to experience. Applications, stating age, nationality, qualifications and experience, to be addressed to the Administrative Officer. (2220)

GRIMSBY GENERAL HOSPITAL (220 beds)
Grimsby Hospitals Management Committee
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant April 1, 1952. Apply to Administrative Officer, Grimsby General Hospital (9376)

HALIFAX GENERAL HOSPITAL (425 beds)
Applications are invited for the post of
HOUSE SURGEON (House Officer Grade)
(Male or female)
Salary according to experience. Applications, stating age, nationality, qualifications and experience, with copy testimonials, to be addressed to the Sec. at the Royal Halifax Infirmary, Halifax. (2245)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (170 beds—4 Residents)
Applications are invited for the post of
HOUSE SURGEON (First or subsequent post)
for a term of six months. Applications, with full details and copies of two recent testimonials, should be sent to the Administrator (9144)

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL HOSPITAL (140 beds—5 residents)
Applications are invited for two vacancies as
RESIDENT HOUSE SURGEON
at the above busy acute general hospital. Busy casualty and out-patient departments. Applications, stating age, qualifications and experience, with copies of testimonials, to Secretary, St. Mary's Cottage, High Wycombe. (2070)

HOVE GENERAL HOSPITAL, Sussex
(75 beds, 3 Resident Medical Officers)
Brighton and Lewes Hospital Management Committee
Applications are invited for the following resident post, vacant immediately.
HOUSE SURGEON
for casualty and with charge of surgical beds. Salary and conditions of service in accordance with national scale (£350 to £450, less £100 per annum for residential emoluments). Applications, with full details of experience, etc., and enclosing names and addresses of two referees, should be sent to the Administrative Officer at the hospital as soon as possible. (7782)

HUDDERSFIELD ROYAL INFIRMARY
(321 beds)
Huddersfield Hospital Management Committee
HOUSE SURGEON
Required to commence duties on April 16, 1952. Salary in accordance with terms and conditions of service for hospital medical and dental staff, with full residential emoluments. Applications, together with copies of three recent testimonials, to be addressed to the undersigned as soon as possible.—H. J. Johnson, Secretary to the Management Committee, The Royal Infirmary, Huddersfield. (2273)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
Vacant now. Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Administrative Officer. (8754)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the Sutton Branch Hospital. Now vacant Recognized for F.R.C.S. National salary scale and conditions. Appointment will be for six months, terminable by one month's notice either side. Forms of application from the Admin. Officer. (5757)

HUNTINGDON COUNTY HOSPITAL
Applications are invited from registered medical practitioners for the post of
JUNIOR HOUSE OFFICER (General Surgery)
to the above hospital. This is a busy hospital staffed by Consultants from Cambridge, and there is a full-time Surgical Officer on the staff. Apply, with full particulars and names of two referees, to Secretary, Hospital Management Committee, Newmarket General Hospital, Newmarket. (2161)

IPSWICH, BOROUGH GENERAL HOSPITAL
Heath Road (301 beds)
HOUSE SURGEON
Required for General Surgeon, with casualty duties. Hospital recognized for the F.R.C.S. and D.A. examinations. Post in accordance with National Health Service Regulations. Applications to the Administrative Officer. (9461)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

THE MEDICAL PROTECTION SOCIETY LIMITED
Unlimited Indemnity. Assets exceed £120,000
SUBSCRIPTION: £1 for first three years for newly qualified entrants, £2 for members of more than three years' standing
ENTRANCE FEE, 10/- (Remitted to those joining within 12 months of registration)
OVERSEAS INDEMNITY FOR AN ADDITIONAL SUBSCRIPTION
Full Particulars from the Secretary, Dr. A. R. FRENCH, Victory House, Leicester Square, W.C.2 Gerrard 4553 and 4814.

Surgery—contd.

LOUGHBOROUGH GENERAL HOSPITAL (120 beds)
Applications are invited for the vacancy of
HOUSE SURGEON
commencing April 1, 1952. Applications, stating age, qualifications and experience, together with copies of recent testimonials, to the Secretary, Leicester No. 1 Hospital Management Committee, 38a, East Bond Street, Leicester. (8344)

LUTON AND DUNSTABLE HOSPITAL
Luton, Beds
Applications are invited for the post of
HOUSE SURGEON
now vacant. The appointment will be for six months in the first instance. Salary and conditions of service in accordance with national scales. Applications, stating age, nationality, qualifications and experience, together with copies of three recent testimonials, should be sent immediately to the Secretary, Luton and Dunstable Hospital, Luton, Beds. (2100)

MAIDENHEAD HOSPITAL
St. Luke's Road, Maidenhead
Applications are invited for the post of
HOUSE SURGEON
now vacant. Salary on national scale. Applications, stating age, qualifications, and experience, together with copies of testimonials, should be sent to the Administrative Officer. (2042)

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL Cheetham, Manchester, 8 (105 beds) (Non-sectarian)
Applications are invited for the post of
HOUSE SURGEON
(House Officer grade)
now vacant. Applications, together with copies of not less than two recent testimonials or names of two referees, to the Hospital Administrator forthwith. (7363)

MANSFIELD AND DISTRICT GENERAL HOSPITAL (215 beds)
Mansfield Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
(First, second or third appointment)
This is a busy general hospital dealing with a very large number of surgical cases each year. The successful candidate will receive a sound training in surgery. Applications, stating age, qualifications together with copies of two recent testimonials, to be forwarded to the undersigned as soon as possible.—A Ashworth, Secretary, Oak Bank, Crow Hill Drive, Mansfield, Notts. (9038)

NEWPORT, MON, ROYAL GWENT HOSPITAL (259 beds)
(Base hospital for the Newport and East Monmouthshire Group—10 residents)
Applications are invited for the posts of
HOUSE SURGEON
There are two posts, both vacant, and both recognized for the Fellowship of the Royal College of Surgeons. The first covers 37 surgical beds. The second comprises 33 surgical and 12 gynaecological beds and both offer an excellent opportunity of gaining extensive experience. National salary scales and conditions. Apply, in writing, with the names of two persons for reference, and stating post preferred, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (9322)

NOTTINGHAM GENERAL HOSPITAL
Nottingham No. 1 Hospital Management Committee
RESIDENT HOUSE SURGEON
(Male or female)
Required for the above hospital. Duties to commence immediately. Salary and conditions of service as published by the Ministry of Health. Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to Henry M. Stanley, Secretary. (5288)

NUNEATON, GEORGE ELIOT HOSPITAL (289 beds)
HOUSE SURGEON
Required for general surgical department (54 beds). Applications to the Medical Supt. (2162)

OLDHAM ROYAL INFIRMARY (200 beds)
Oldham and District Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (General)
Applications, containing details of qualifications and experience, together with copies of two recent testimonials, and quoting reference No. A/836, should be forwarded to the undersigned immediately.—F. W. Barnett, Secretary, Central Offices, Rochdale Road, Oldham. (2246)

PENZANCE, WEST CORNWALL HOSPITAL (General Hospital, 100 beds)
West Cornwall Hospital Management Committee
Applications are invited for the appointment of
HOUSE SURGEON (Male or female)
Post vacant April 7, 1952. National salary and conditions of service. Applications, stating age, nationality, qualifications, and experience, together with copies of two recent testimonials, should be forwarded to the Administrative Assistant, West Cornwall Hospital, Penzance. (6702)

PONTYPOOL AND DISTRICT HOSPITAL
Pontypool, Mon (115 beds)
Applications are invited for the post of
HOUSE OFFICER (Surgical)
vacant in early April, who will work under the directions of the Consultant Surgeons. The resident staff consists of a Junior Hospital Medical Officer (Surgical), a House Physician, and this post. Opportunities exist for visiting other hospitals with the Consultants. The post carries an additional increment of £50 above national scale in view of special responsibilities. Apply, with the names of two referees, to T. A. Jones, Secretary, 17, Cardiff Road, Newport, Mon. (2015)

PONTYPRIDD (near), EAST GLAMORGAN HOSPITAL, Church Village (316 beds—Committee's base hospital serving population of 177,000)
Pontypridd and Rhondda Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (First or second post) (Surgical)
Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary of the Pontypridd and Rhondda H.M.C., Courthouse Street, Pontypridd. (2312)

POOLE GENERAL HOSPITAL, Poole, Dorset
Bournemouth and East Dorset Hospital Management Committee
TWO HOUSE SURGEONS
One post vacant on April 16 and the other on May 3. This hospital is recognized for the F.R.C.S. and F.R.C.S.E. Applications to the Assistant Secretary of the hospital. (9710)

PORTH AND DISTRICT HOSPITAL, Rhondda (110 beds) (This hospital is visited regularly by Consultants from the Cardiff Royal Infirmary)
Pontypridd and Rhondda Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (First or second post)
Duties mainly surgical. Applications, stating age, qualifications and experience, together with copies of two recent testimonials, to be sent as soon as possible to the Secretary, Pontypridd and Rhondda H.M.C., Courthouse Street, Pontypridd. (2313)

PRESTON ROYAL INFIRMARY (400 beds)
GENERAL HOUSE SURGEON
(House Officer Grade)
Applications should be made immediately to the Secretary Preston and Chorley H.M.C., Royal Infirmary Preston.—John Gibson, Secretary. (9618)

ST. ALBANS CITY HOSPITAL (425 beds)
Mid-Herts Group Hospital Management Committee
Applications are invited from registered medical practitioners for the appointment of
HOUSE SURGEON (House Officer grade)
for one of the two surgical teams. Recognized for the F.R.C.S. Post vacant immediately and tenable for six months. Applications, together with the names of two referees, should be sent to the Sec., Osterhills, Normandy Rd., St. Albans. (9711)

ST. HELENS HOSPITAL (189 beds)
Marshalls Cross Road, St. Helens
St. Helens and District Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
Six months' appointment. Salary in accordance with the terms and conditions of service for medical staffs. Applications, stating age, qualifications and experience, and giving two names for reference, should be forwarded to the undersigned as soon as possible.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (2191)

SHREWSBURY, ROYAL SALOP INFIRMARY (241 beds)
Shrewsbury Group Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for appointment of
RESIDENT HOUSE SURGEON (Second or third post) to a General Consulting Surgeon
vacant immediately. The successful applicant will be responsible for forty surgical beds, and the post is recognized for the F.R.C.S. Applications, stating age, qualifications, nationality and experience, accompanied by copy testimonials, should be sent to the Secretary, Group 15 Hospital Management Committee, Royal Salop Infirmary, Shrewsbury.—J. P. Mallett, Secretary. (2192)

STAFFORDSHIRE GENERAL INFIRMARY
Stafford (159 beds, with Recovery Unit 32 beds)
Stafford Hospital Management Committee
Applications are invited from registered medical practitioners (male or female) for the post of
HOUSE SURGEON
now vacant. First, second, or third post. Applications, giving particulars as to age, qualifications, and experience, together with copies of three recent testimonials, should be forwarded to the undersigned immediately.—H. H. Jones, Secretary to the Committee, 13, Foregate Street, Stafford. (7365)

STOKE-ON-TRENT, BURSLEM, HAYWOOD AND TUNSTALL WAR MEMORIAL HOSPITAL
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (Surgical)
vacant now. Apply, with copy testimonials, stating age, nationality and full details of previous service, to the undersigned at Head Office, Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (9799)

STOKE-ON-TRENT, CITY GENERAL HOSPITAL (964 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
RESIDENT HOUSE OFFICER (General Surgery)
The post is recognized for F.R.C.S. examination. Apply, with copy testimonials, stating age, nationality and full details of previous appointments, to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent.—Thornburrow Gibson, Secretary. (2071)

STOKE-ON-TRENT, NORTH STAFFORDSHIRE ROYAL INFIRMARY (475 beds)
Stoke-on-Trent Hospital Management Committee
Applications are invited for the post of
HOUSE OFFICER (General Surgery)
vacant immediately. Post recognized for F.R.C.S. Applications, with copy testimonials, to be forwarded as soon as possible to the Secretary, Stoke-on-Trent Hospital Management Committee, Princes Road, Stoke-on-Trent. (9412)

SWANSEA HOSPITAL (403 beds)
Glantawe Hospital Management Committee
Applications are invited from registered medical practitioners for the resident appointment of
HOUSE SURGEON
Full particulars of age, qualifications and experience should be forwarded to the undersigned.—O. C. Howells, Secretary, Glantawe H.M.C., St. Helen's Road, Swansea. (2193)

SWINDON HOSPITAL GROUP (536 beds)
Swindon and District Hospital Management Committee
Applications are invited from registered medical practitioners for the post of
RESIDENT HOUSE SURGEON
for General Surgical Unit (80 beds)
Excellent accommodation available. Post recognized by Royal College of Surgeons under paragraph 23 of the Fellowship regulations for six months of requisite year's surgical training. Applications, giving full details and not more than three referees, to Secretary, Swindon and District Hospital Management Committee, 7, Okus Road, Swindon, as soon as possible. (9703)

TILBURY AND RIVERSIDE GENERAL HOSPITAL (Orsett Branch)
South-East Essex Hospital Management Committee
Applications are invited for the post of
HOUSE SURGEON
at the above hospital for the general surgery and orthopaedic departments. The post, which becomes vacant in late May, 1952, is for six months in the first instance. Applications, together with copies of not more than three recent testimonials, should be forwarded to the undersigned as soon as possible.—G. E. Whyte, Secretary, Thurrock Hospital, Grays, Essex. (2021)

TUNBRIDGE WELLS, KENT AND SUSSEX HOSPITAL (350 beds)
Tunbridge Wells Group Hospital Management Committee
Applications invited for post of
RESIDENT HOUSE SURGEON (Male or female)
vacant April 12, 1952, for six months in first instance, or locum duties. Applications, stating age, qualifications, with copies of recent testimonials, to Administrative Officer. (9936)

TYNEMOUTH VICTORIA JUBILEE INFIRMARY, North Shields
South-East Northumberland Hospital Management Committee
Applications are invited from registered medical practitioners for the posts of
HOUSE SURGEON
Applications, with two testimonials, should be sent to the Secretary, South-East Northumberland H.M.C., Preston Hospital, North Shields, as soon as possible. (2206)

WALLASEY, VICTORIA CENTRAL HOSPITAL (135 beds)
North Wirral Hospital Management Committee
Applications are invited from registered medical practitioners, male or female, for the following appointments:
TWO RESIDENT HOUSE SURGEONS
(vacant April 1, 1952)
Post is/are tenable for six months. Salary in accordance with the approved scales, viz., first post held £350 per annum, second post held £400 per annum, and £450 per annum for the third and any subsequent post held. A deduction at the rate of £100 per annum will be made in respect of board, lodging and other services provided. Applications, stating age, nationality, qualifications and details of experience, with names of three referees, should be sent immediately to the Administrative Officer, Victoria Central Hospital, Liscard Road, Wallasey. (6773)

WALSALL GENERAL HOSPITAL (181 beds)
Walsall Hospital Management Committee
HOUSE SURGEON
Required at the above hospital. Salary £350 to £450 per annum, according to experience, less £100 per annum for residential emoluments. Applications to the Secretary. (2247)

Surgery—contd.

WARRINGTON INFIRMARY (172 beds)
Applications are invited for a vacancy at the above hospital for a
RESIDENT HOUSE SURGEON
Salary will be £350 to £450 per annum, less a deduction of £100 for full residential emoluments. Applications should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8584)

WESTON-SUPER-MARE GENERAL HOSPITAL (110 beds)
Applications are invited from registered medical practitioners for the resident appointments of
TWO HOUSE OFFICERS (House Surgeons)
Duties to commence as soon as possible. Salary at the rate of £350 to £400 per annum, according to previous posts held, less £100 in respect of residential emoluments. Applications, stating age, qualifications and experience, together with names and addresses of two referees, should be addressed to the Secretary, Weston-super-Mare Hospital Management Committee, c/o The General Hospital, Weston-super-Mare. (8268)

WHISTON, COUNTY HOSPITAL (882 beds)
St. Helens and District Hospital Management Committee
Applications are invited for the appointment of
RESIDENT HOUSE SURGEON
Six months' appointment. Salary in accordance with the terms and conditions of service for medical staffs. Applications, stating age, qualifications and experience, and giving two names for reference, should be forwarded to the undersigned as soon as possible.—N. Richards, Secretary, Group Office, County Hospital, Whiston, near Prescot, Lancs. (2194)

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL (311 bed)
HOUSE SURGEON to the Senior Surgeon
Applications, with copies of two testimonials, should be sent to the Secretary. (2195)

YORK, CITY HOSPITAL (Modern general hospital of 265 beds, with full Consultant staff)
TWO RESIDENT HOUSE SURGEONS
Salary £350, £400 or £450, less £100 for residence. Both posts recognized under F.R.C.S. regulations and vacant from April 17. Applications, giving age, nationality, experience, qualifications, and names of two referees, to be forwarded immediately to the Secretary, York "A" and Tadcaster Hospital Management Committee, Bootham Park, York. (2200)

YORK, COUNTY HOSPITAL (General hospital of 262 beds, with full Consultant Staff)
RESIDENT HOUSE SURGEON
Salary £350, £400 or £450, less £100 for residence. Post recognized under F.R.C.S. regulations and vacant from May 12. Applications, giving age, nationality, experience, qualifications and names of two referees, to be forwarded immediately to the Secretary, York "A" and Tadcaster H.M.C., Bootham Park, York. (2201)

CASUALTY

OXFORD REGIONAL HOSPITAL BOARD
Applications are invited for the whole-time non-resident post of
REGISTRAR in Accident and Orthopaedic Surgery
to the hospitals and clinics of the Aylesbury area. The appointment will be for one year and eligible for extension to a second year. Applications, on forms obtainable from the Secretary, Registrar Committee, 43, Banbury Road, Oxford, should reach him by April 15. (2072)

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL (169 beds—4 residents)
CASUALTY OFFICER
(Junior Hospital Medical Officer)
Salary £700 by £50 to £1,000 per annum, less £120 per annum for residential emoluments. Applications, giving full details, together with copies of two recent testimonials, should be sent to the Administrator. (2137)

WARRINGTON INFIRMARY (172 beds)
Applications are invited for the post of
JUNIOR HOSPITAL MEDICAL OFFICER
(Resident Casualty Officer)
The commencing salary is in accordance with the scale £700 by £50 to £1,000, less a deduction of £130 for residential emoluments. Applications, stating age, experience and qualifications, should be sent to H. L. Boot, Secretary, Warrington and District H.M.C., c/o General Hospital, Warrington, Lancs. (8585)

ALBERT DOCK HOSPITAL
(Orthopaedic and Fracture) Alnwick Road, E.16
RESIDENT CASUALTY AND RECEIVING ROOM OFFICER (S.H.O. £670)
Required for April 30. Applications from registered medical practitioners should reach the undersigned not later than April 14.—F. A. Lyon, Secretary, Seamen's Hospital Management Committee, Seamen's Hospital, S.E.10. (2248)

MILE END HOSPITAL, Bancroft Road, E.1 (475 beds)
CASUALTY OFFICER (Senior House Officer)
Required for duty on April 21, 1952. Application forms may be obtained from Physician Superintendent, and should be returned, together with copies of not more than three testimonials, by April 2, 1952. (9907)

NELSON HOSPITAL
Kingston Road, Merton Park, S.W.20
St. Helier Group Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (Casualty Officer)
Post vacant now and tenable for twelve months. Salary is at the rate of £670 per annum, less £150 per annum for resident emoluments. Applications, together with copies of two testimonials, should be sent to the Group Secretary, St. Helier Hospital, Carshalton, Surrey. (2102)

CARDIFF, ST. DAVID'S HOSPITAL
Cardiff Hospital Management Committee
SENIOR HOUSE OFFICER (Traumatic Surgery)
Required in Accident Unit. Application forms from Secretary, Cardiff Hospital Management Committee, 44, Cathedral Road, Cardiff. (2043)

ENFIELD, MIDDLESEX, CHASE FARM HOSPITAL
Enfield Group Hospital Management Committee
Applications are invited for the appointment of
SENIOR HOUSE OFFICER (for Casualty duties)
Vacant April 17. Non-resident post. Recognized by Royal College of Surgeons for the final Fellowship examination. Twelve months' appointment. Hours 9 a.m. to 5.30 p.m. Monday to Friday, 9 a.m. to 1 p.m. Saturday. Applications, stating age, qualifications, experience and nationality, with the names of two referees, to the Acting Medical Director of the hospital by April 7, 1952. (2314)

GRAVESEND AND NORTH KENT HOSPITAL
Medway and Gravesend Hospital Management Committee
Applications are invited from registered practitioners for appointment of
CASUALTY OFFICER
The post, tenable for one year, offers valuable experience in the initial treatment of fractures and other emergency cases. Candidates should have held previous hospital appointments. Salary £670 per annum, with appropriate deduction for residential emoluments. Applications, stating age, nationality, qualifications and experience, together with recent testimonials should be forwarded to the Administrative Officer. (9870)

KETTERING GENERAL HOSPITAL
Kettering and District Hospital Management Committee
Applications are invited from registered practitioners for the post of
SENIOR HOUSE OFFICER
to the Casualty, Orthopaedic and Traumatic Departments of the hospital. Applications, together with copies of testimonials, to be sent to the undersigned as soon as possible.—G. H. Fennell, Assistant Secretary. (5418)

MAIDSTONE, WEST KENT GENERAL HOSPITAL (135 beds)
Mid-Kent Hospital Management Committee
Applications are invited for the appointment of either
RECEIVING ROOM OFFICER
Salary £670 a year, with deduction of £150 a year for residential emoluments. Appointment for twelve months. Post now vacant, or
CASUALTY OFFICER
Salary at the rate of £350, £400 or £450 a year, according to experience. A deduction of £100 a year for residential emoluments. Post now vacant.
Applications immediately to the Administrative Officer, West Kent General Hospital, Marsham Street, Maidstone. (6829)

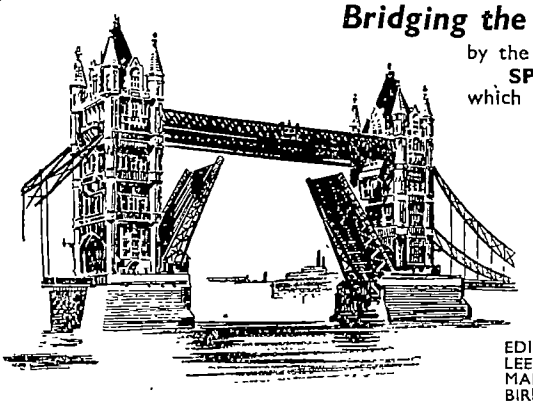
MIDDLESBROUGH GENERAL HOSPITAL (350 beds)
Tees-side Hospital Management Committee
SENIOR HOUSE OFFICER (Casualty)
Applications are invited for the above appointment. Salary and conditions in accordance with national scales. Applications, stating age, qualifications and experience, together with names for reference should be forwarded to the Secretary-Superintendent, Middlesbrough General Hospital, Middlesbrough. (9583)

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE
Applications are invited for the post of
RESIDENT SENIOR HOUSE OFFICER
for the Area Accident and Orthopaedic Department
vacant now. Duties include casualty work at Royal Berkshire (403 beds) and Battle (370 beds) Hospitals. Person appointed will work with Registrar and House Officer. Deduction for residence £100. Applications, stating age, nationality, qualifications (with dates), present post, and giving names of two referees, to Chief Administrative Officer, 3, Craven Road, Reading. (4376)

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL
Medway and Gravesend Hospital Management Committee
CASUALTY OFFICER
Applications are invited from registered medical practitioners for above post, vacant now. Post offers good experience with fractures and emergency surgery, and is tenable for twelve months. Salary £670 per annum. Applications, stating age, nationality, qualifications, and experience, together with recent testimonials, to be addressed to the Administrative Officer. (2218)

ROTHERHAM, DONCASTER GATE HOSPITAL (155 beds)
SENIOR HOUSE OFFICER
duty in Casualty, E.N.T. and Eye Departments
Commencing salary £670 per annum, less £140 per annum for residential emoluments. Applications, stating age, experience and nationality, with names of three referees, to be addressed to the Secretary, Hospital Management Committee, Fern Bank, Doncaster Road, Rotherham. (2022)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16



Bridging the Gap in the N.H.S. Superannuation Scheme
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SPECIAL PENSION AND INSURANCE SCHEME
which provides:
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2. Widow's and Dependants' Pension.
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Telephone: Euston 5561/3

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LEEDS: 20/21 Norwich Union Bldgs., City Sq.
MANCHESTER: 33 Cross Street.
BIRMINGHAM: 154 Great Charles Street.
GLASGOW: 234 St. Vincent Street
DUBLIN: 28 Molesworth Street.
CARDIFF: 195 Newport Road.
NEWCASTLE-UPON-TYNE: 16 Saville Row.

Casualty—contd.

SHEFFIELD, CITY GENERAL HOSPITAL
(Recognized for F.R.C.S., England)
Applications are invited for the resident post of
SENIOR HOUSE OFFICER (Male or female)
in the Casualty Department. Facilities also for experience in Orthopaedic Department if desired. Applications, giving full details of age, nationality, qualifications, present and previous appointments (with dates), and the names of two persons to whom reference may be made, should be forwarded to the undersigned at Nether Edge Hospital, Sheffield, 11.—W. Stansfield, Secretary. (2044)

SOUTHAMPTON, ROYAL SOUTH HANTS HOSPITAL (280 beds)
SENIOR HOUSE OFFICER
(Casualty Officer/House Surgeon)
Required immediately. Applications, with copies of testimonials to be submitted as soon as possible to the Secy., Southampton Group Hospital Management Committee, Bullar Street, Southampton (8879)

SUNDERLAND, ROYAL INFIRMARY (300 beds)
SENIOR HOUSE OFFICER (Casualty)
(Male or female) to act as Deputy Surgical Officer
Post recognized for F.R.C.S. examination. Period of appointment is for six months, with possibility of transfer to another S.H.O. appointment at termination of period. Salary £670 per annum, less emolument value. Apply immediately to Secretary, Sunderland Area H.M.C., General Hospital, Sunderland. (2196)

WORCESTER ROYAL INFIRMARY (300 beds)
Applications are invited for the post of
CASUALTY OFFICER
The post is of Senior House Officer status, becomes vacant on May 23, and is tenable for one year. Conditions are in accordance with the terms and conditions of service for hospital medical staff. Applications, with copies of three testimonials, to be sent, as soon as possible, to the Secretary, from whom further particulars can be obtained. (9585)

KING EDWARD MEMORIAL HOSPITAL Ealing
South-West Middlesex Hospital Management Committee
HOUSE OFFICER (First, second or third post)
to Casualty, Orthopaedic and Fracture Departments
Vacant now. Applications, stating age, nationality, qualifications (with dates), and details of experience, together with copies of two recent testimonials, to the Secretary of the Committee, West Middlesex Hospital, Isleworth, Middlesex. Closing date April 8, 1952. (2249)

PUTNEY HOSPITAL, Lower Common, S.W.15
CASUALTY OFFICER AND E.N.T. HOUSE SURGEON (House Officer grade) (Non-resident)
Apply at once, enclosing copies of three recent testimonials, to Administrative Officer. (2197)

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, London, E.15
Applications are invited from registered medical practitioners, male or female for appointment of
JUNIOR CASUALTY OFFICER (Non-resident)
(House Officer, first, second or third post)
for six months commencing April 22, 1952. Applications, stating age and experience, together with copies of testimonials, should be sent to the undersigned immediately.—M. J. Huntley, Secretary, West Ham Group Hospital Management Committee, Stratford, London, E.15. (2250)

ST NICHOLAS HOSPITAL
Tewson Road, Plumstead, S.E.18
CASUALTY OFFICER
Vacant now. Six months' appointment. Salary £350 to £450 per annum, according to experience, less £100 per annum for residence. Apply to Secy., Memorial Hospital, Woolwich, S.E.18. (9837)

BLACKPOOL, VICTORIA HOSPITAL
HOUSE OFFICER
(Casualty and Orthopaedic Department)
Post recognized for F.R.C.S. National salary and conditions of service. Applications, with references, should be sent to the Administrative Officer, Victoria Hospital, Blackpool. (2045)

CHESTERFIELD ROYAL HOSPITAL
Chesterfield Hospital Management Committee
CASUALTY OFFICER (House Officer)
Required immediately. Apply in detail to M. H. Boone, Secretary. (9712)

HASTINGS, ROYAL EAST SUSSEX HOSPITAL (150 beds)
Hastings Group Hospital Management Committee
CASUALTY HOUSE OFFICER
Post now vacant. National scales of salary. Apply to the Administrator at the hospital. (2046)

HERTFORD COUNTY HOSPITAL (171 beds)
(Hospital situated 21 miles from London, with frequent train and 'bus services)
Applications are invited for the appointment of
CASUALTY OFFICER AND SECOND HOUSE PHYSICIAN (Male) (Joint post)
(First or second post held)
Six months' appointment. Salary at the rate of £350 to £400 per annum, less £100 per annum residential emoluments. Duties to commence immediately. Applications to the Secretary, Mr. P. G. Brooks, Hertford Group H.M.C., Hertford County Hospital, Hertford. (9838)

HULL ROYAL INFIRMARY
Hull (A) Group Hospital Management Committee
Applications are invited for the post of
CASUALTY OFFICER
Vacant now. Salary £350 to £450 per annum, according to previous posts held, less £100 per annum for residential emoluments. The post will be tenable for six months and terminable by one month's notice either side. Forms of application from the Administrative Officer. (6325)

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL (360 beds)
Ipswich Group Hospital Management Committee
CASUALTY OFFICER AND ASSISTANT HOUSE PHYSICIAN (Busy Casualty Department)
Applications immediately to the Secretary, Hospital Management Committee. (9859)

MAIDENHEAD HOSPITAL
St. Luke's Road, Maidenhead
Applications are invited for the post of
HOUSE SURGEON to the Accident Department
Salary authorized at £50 per annum higher than the standard rate. Applications, stating age, qualifications and experience, together with copies of testimonials, should be sent to the Administrative Officer. (2047)

MANCHESTER (near), PARK HOSPITAL
Davyhulme (General Hospital—426 beds)
West Manchester Hospital Management Committee
HOUSE OFFICER (Casualty and Orthopaedic)
Applications are invited from registered medical practitioners for the above post, which is vacant now. The post is recognized for training for the F.R.C.S. examination. Vacancies occur periodically in the various departments at Park Hospital and House Officers are eligible for appointment to another specialty at the end of the original term of service when such vacancies occur. Salary £350 to £450 per annum, according to experience. £100 per annum deduction for residential accommodation and services. Six months' appointment. Application forms from the Secretary, Park Hospital, Davyhulme, Manchester. (8076)

PRESTON ROYAL INFIRMARY (400 beds)
CASUALTY OFFICER (House Officer grade)
Applications should be made immediately to the Secretary, Preston and Chorley H.M.C., Royal Infirmary, Preston.—John Gibson, Secretary. (9619)

STOCKTON AND THORNABY HOSPITAL
Stockton-on-Tees (131 beds)
Tees-side Hospital Management Committee
Applications are invited for the vacant post of
HOUSE OFFICER
(Casualty/Orthopaedic Department)
The post offers excellent experience in surgery of trauma, and in assisting at large orthopaedic clinics. Applications, stating age, qualifications, experience and accompanied by copies of testimonials, should be addressed to the Secretary-Superintendent. (9937)

STOURBRIDGE, CORBETT HOSPITAL
(106 beds)
National Health Service Act, 1946
Dudley, Stourbridge and District Hospital Group, Birmingham Region
Applications are invited from registered medical practitioners for the post of
HOUSE OFFICER (Resident Casualty)
Post now vacant and will be tenable for six months. Salary will be at the rate of £350 per annum to £450 per annum, according to the number of posts previously held. A deduction of £100 per annum in respect of residential emoluments will be made. Applications, stating age, nationality, qualifications (with dates), experience, and details of previous appointments, and accompanied by copies of three recent testimonials, to H. Raymond Hurst, Secretary to the Management Committee, The Guest Hospital, Dudley. (5384)

WATFORD AND DISTRICT PEACE MEMORIAL HOSPITAL, Watford, Herts
(189 beds)
Applications are invited for the post of
CASUALTY OFFICER AND ORTHOPAEDIC HOUSE SURGEON
The Traumatic and Orthopaedic Department consists of 24 beds, and is integrated with the Royal National Orthopaedic Hospital. Salary according to N.H.S. scale. Applications, stating age, qualifications, and experience, together with copies of two recent testimonials, should be sent to undersigned.—Cyril Hopkinson, Administrator (7573)

IMPORTANT: All intending applicants should read the revised NOTICE at the top of page 16

PUBLIC HEALTH

(See Important Notice page 19)

LANCASHIRE COUNTY COUNCIL
ASSISTANT DIVISIONAL MEDICAL OFFICERS
Applications are invited from registered medical practitioners for above appointments. Possession of D.P.H. desirable. Salary £850 by £50 to £1,150 per annum. Travelling and subsistence allowances where applicable. Posts superannuable and subject to medical examination. Application forms and further particulars obtainable from County Medical Officer of Health, East Cliff County Offices, Preston, to whom they must be returned not later than Saturday, April 12, 1952. (9485)

BANFF COUNTY COUNCIL
Applications are invited from registered medical practitioners for the post of
ASSISTANT MEDICAL OFFICER OF HEALTH and ASSISTANT SCHOOL MEDICAL OFFICER
Preference will be given to candidates possessing the D.P.H. or D.C.H. The duties will consist of work mainly in connexion with the school medical and child welfare services, but will include such other public health work as the Medical Officer of Health may direct. Salary will be within the scale £850 per annum, rising by £50 per annum to a maximum of £1,150 per annum, the point of entry to be fixed in accordance with the candidate's experience and qualifications. A travelling allowance will be paid according to the County Council's scale, for the candidate's use of his own car. The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937. Applications, stating age, qualifications and experience should be lodged with the subscriber, together with a copy of one recent testimonial, and the names of two persons to whom reference may be made, not later than seventeen days after the appearance of this advertisement.—R. J. Cumming, County Clerk, County Buildings, Banff. (2318)

BIRMINGHAM, CITY OF
Public Health Department
ADMINISTRATIVE MEDICAL OFFICER OF HEALTH FOR MENTAL HEALTH
Applications are invited from registered medical practitioners for the above whole-time appointment. Applicants should have had special experience in all branches of the mental health service and should hold the Diploma in Psychological Medicine. The successful candidate will be responsible to the Medical Officer of Health for the general administration and medical direction of all branches of the Council's mental health services and for the performance of such other duties in this connexion as may be required. Salary within the scale £1,600 by £50 to £1,850, according to experience. Motor car allowance payable. The candidate selected will be required to pass a medical examination, and to contribute to the Local Government Superannuation Act, 1937, and to the Birmingham Municipal Officers Widows' and Orphans' Pensions Fund. The appointment is terminable at three months' notice. Canvassing disqualifies. Applications, with three recent testimonials, to be forwarded to the Medical Officer of Health, Public Health Department, Congreve St., Birmingham, 3, not later than April 19. (2319)

BOLTON, COUNTY BOROUGH OF
Two vacancies (one male and one female) exist for
ASSISTANT MEDICAL OFFICERS OF HEALTH and ASSISTANT SCHOOL MEDICAL OFFICERS OF HEALTH
and applications are invited from suitably qualified registered medical practitioners for such vacancies. The duties will be mainly in connexion with the maternity and child welfare service and the school health service, but the persons appointed will be expected to carry out such duties as may be allotted to them by the Medical Officer of Health. The possession of a D.P.H. or a D.C.H. is desirable but not essential. The salary will be on the appropriate step of the scale, £850 rising by annual increments of £50 to £1,150 per annum, according to experience and qualifications. The appointments will be subject to the provisions of the Local Government Superannuation Acts, and the successful candidates will be required to pass a medical examination. Appointments will be terminable by one month's notice on either side. There are no forms of application, but further particulars can be obtained from the Medical Officer of Health, Civic Centre, Bolton. Applications, giving full particulars of age, qualifications and experience, and the names and addresses of three referees, should be forwarded to the undersigned not later than April 18, 1952.—Philip S. Rennison, Town Clerk, Town Hall, Bolton. (9815)

LONDON COUNTY COUNCIL
Applications are invited from registered medical practitioners for appointment as
WHOLE-TIME ASSISTANT MEDICAL OFFICER in the Public Health Department
Inclusive salary £850 by £50 to £1,150. Commencing point dependent on local government service. No emoluments. Duties primarily in connexion with child health. Experience in maternity and child welfare and Diploma in Public Health are advantages. Application form from Medical Officer of Health (PH/D.1), County Hall, S.E.1, to be returned by April 19, 1952. (291) (2252)

MIDLOTHIAN AND PEEBLES, COUNTY COUNCILS OF
Applications are invited for the post of
ASSISTANT MEDICAL OFFICER OF HEALTH
Salary £850 by £50 to £1,150 per annum. Duties will consist of school health service and general public health work. Preference will be given to applicants holding the D.C.H. or D.P.H. The post is superannuable and the successful applicant may require to undergo a medical examination. Applications should be lodged with the subscriber within fourteen days from the date of the appearance of this advertisement.—James McBoyle, County Clerk of Midlothian, County Buildings, George IV Bridge, Edinburgh (9955)

Public Health—contd.

EASTBOURNE, COUNTY BOROUGH OF
DEPUTY MEDICAL OFFICER OF HEALTH and DEPUTY SCHOOL MEDICAL OFFICER

Applications are invited for the above appointment from registered medical practitioners holding a Diploma in Public Health or similar qualification. Salary and conditions of service are in accordance with recommendations of the Whitley Councils for the health services and the Industrial Court Award No. 2285. The salary will be within the scale of £1,100 per annum, rising by £50 per annum to £1,300 per annum. A car allowance is payable. The appointment is superannuable and terminable by three months' notice. Forms of application may be obtained from the undersigned, to whom they should be returned as soon as possible.—John Fenton, M.O.H., Public Health Department, Avenue House, Eastbourne. (2320)

KENT EDUCATION COMMITTEE
ASSISTANT COUNTY MEDICAL OFFICER
(Female) "Excepted" District of Bromley

Applications are invited for the above appointment. The salary scale is £850 a year, with annual increments of £50 to £1,150 a year. The commencing salary will be fixed at a point on the scale according to the experience and qualifications of the successful candidate. The appointment is superannuable and the successful candidate will be required to pass a medical examination. The duties are mainly in the school health and child welfare services. Applications, stating age, qualifications and experience, accompanied by the names and addresses of two persons to whom reference may be made as to professional ability and character, should be addressed to the County Medical Officer, County Hall, Maidstone, not later than April 10, 1952.—A. Elliott, M.D., County and School Medical Officer, County Hall, Maidstone. (2251)

MIDDLESEX COUNTY COUNCIL COUNTY HEALTH DEPARTMENT
PRINCIPAL MEDICAL OFFICER (Whole-time)

Required, at present at 3, 5, and 7, Old Queen Street, S.W.1. Directly responsible to County Medical Officer for Mental Health Service, including community after-care. Should have had special experience and qualifications in mental health work, including mental deficiency, whilst experience in other branches of health department, with degree or diploma in psychological medicine, is desirable. 8-h.p. car allowance considered. Established, subject to medical assessment and prescribed conditions. Salary as Whitley Council £1,400 by £50 to £1,800 per annum, inclusive. Consideration may be given to appointment above minimum of scale. Applications, in detail (no forms), two referees, to County Medical Officer(s) at above address by April 12 (quoting K.614, B.M.J.). Canvassing disqualifies.—C. W. Radcliffe, Clerk of the County Council. (2321)

OXFORD, CITY OF
Health Department
ASSISTANT MEDICAL OFFICER OF HEALTH
(Male)

Applications are invited from male registered medical practitioners for the above post. Duties will be mainly in connexion with the child welfare and school health services, but there will be opportunity for experience in all branches of public health work. There is close contact with the United Oxford Hospitals, and Assistant Medical Officers of Health may be requested to undertake clinical duties in the infectious diseases and paediatrics departments. Salary scale £850 by £50 to £1,150. In fixing the commencing salary, previous experience with another Local Authority will be taken into consideration. A car allowance will also be made. The post is permanent and pensionable and is subject to a satisfactory medical examination. Application forms and conditions of service may be obtained from Dr. J. F. Warin, Medical Officer of Health, Health Department, Greyfriars, Paradise Street, Oxford, to whom they must be returned not later than April 16, 1952.—Harry Plowman Town Clerk, Town Hall, Oxford. (2073)

SMETHWICK, COUNTY BOROUGH OF

Applications are invited from registered medical practitioners, for the post of

ASSISTANT MEDICAL OFFICER OF HEALTH and ASSISTANT SCHOOL MEDICAL OFFICER

The duties will consist mainly of work in connexion with maternity and child welfare and school medical inspection. The duties will also include such other public health work as the Medical Officer of Health may direct. Salary will be on the scale £850 per annum, rising by £50 annually to a maximum of £1,150 per annum. The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. The appointment will be subject to two months' notice on either side. The officer appointed may, if desired, be offered the tenancy of an unfurnished flat. Forms of application may be obtained from the Medical Officer of Health, Public Health Department, Hales Lane, Smethwick, to whom they should be returned by Wednesday, April 16, 1952.—E. L. Twycross, Town Clerk, Council House, Smethwick. (2253)

HALTEMPRICE URBAN DISTRICT COUNCIL
EAST RIDING COUNTY COUNCIL

Applications are invited from duly qualified medical practitioners possessing a Diploma in Public Health or similar qualification for the mixed appointment of

MEDICAL OFFICER OF HEALTH for the Urban District of Haltemprice (population 35,649) and DIVISIONAL MEDICAL OFFICER for the County Council within the same area

The offices will be held as a joint full-time appointment. The total commencing salary will be £1,568 15s., rising to a maximum of £1,843 15s. The salary scale of the Medical Officer of Health will be £1,162 10s., rising by four annual increments of £37 10s. to £1,312 10s., and that of the Divisional Medical Officer £406 5s., rising by eight annual increments of £15 12s. 6d. to £531 5s. The officer will be required to provide a motor car for the purpose of his duties and will receive a travelling allowance appropriate to Class "B" of the scales adopted by the Medical Council for Public Health Medical Officers in England and Wales. Office accommodation and necessary clerical assistance will be provided. The appointment will be subject to the provisions of Section 110 of the Local Government Act, 1933, the Sanitary Officers' (Outside London) Regulations, 1935 and 1951, and the Local Government Superannuation Act, 1937. Applications must be made on forms to be obtained from the Clerk of the County Council, County Hall, Beverley, and must be forwarded, together with copies of not more than three recent testimonials, so as to reach the Clerk of the County Council not later than Thursday, April 10, 1952.—A. B. Glasspool, Clerk of the Urban District Council. T. Stephenson, Clerk of the County Council, County Hall, Beverley. (9861)

SUNDERLAND, COUNTY BOROUGH OF
ASSISTANT MEDICAL OFFICER (Female)
for Maternity and Child Welfare

Applications are invited from registered medical practitioners for the above-named post. Applicants should have had experience in antenatal work and in the medical care of children under five years of age. The salary will be £850 by £50 to £1,150 per annum (Medical Whitley Council scale). The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination. Applications, stating age, qualifications, and full particulars of experience, accompanied by copies of three recent testimonials, should be sent to the undersigned not later than April 12, 1952.—G. S. McIntire, Town Clerk, Town Hall, Sunderland. (2254)

WEST SUFFOLK COUNTY COUNCIL
COUNTY MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER

Applications are invited for the above whole-time appointment on a salary scale of £1,800 by £50 to £2,050 per annum, position on scale according to qualifications. Candidates must possess the qualifications prescribed in the Local Government Act, 1933, have wide knowledge and experience of duties of a Medical Officer of Health and possess sound administrative and organizing ability. Application forms and particulars of appointment obtainable from the undersigned, by whom applications should be received not later than April 19, 1952. Canvassing disqualifies.—L. G. H. Munsey, Clerk of the County Council, Shire Hall, Bury St. Edmunds. (2166)

INDUSTRIAL APPOINTMENTS

IMPERIAL CHEMICAL INDUSTRIES, LTD., Metals Division, require an **Assistant Works Medical Officer,** male, preferably under 30, in the Birmingham area. Commencing salary will be in the region of £1,000 to £1,200 per annum. Experience of industrial medicine desirable, but not essential. Applications should be sent to Staff Manager, Metals Division, Imperial Chemical Industries, Ltd., Kynoch Works, Witton, Birmingham, 6.

NATIONAL COAL BOARD—NORTH-WESTERN DIVISION.—Applications are invited for the post of **Medical Officer** to the No. 5 (North Wales) Area of the North Western Division. The work will include making underground visits to collieries. Candidates should have experience in the field of preventative and industrial medicine, a knowledge of the coalmining industry will be an advantage. Salary according to qualifications and experience, within the range of £1,250 to £1,900. Applications, giving age, education, qualifications, experience, present appointment and salary, together with the names of two referees, should be sent to the Divisional Establishment Officer, National Coal Board, North-Western Division, 40, Portland Street, Manchester, 1, by April 14, 1952. (2167)

PART-TIME MEDICAL OFFICER REQUIRED by Aircraft Factory near Southampton with well-established and well-equipped medical department. Duties to commence on May 1, 1952, following a short introduction by the present part-time medical officer who will be retiring. To attend for five morning sessions (Monday to Friday inclusive). Salary £700 per annum. Applications, stating age, qualifications and experience, should be sent to the Secretary, Folland Aircraft, Ltd., Hamble, Southampton.

GOVERNMENTAL

CIVILIAN SPECIALISTS FOR THE ARMY OVERSEAS

Immediate applications are invited for a limited number of appointments as

CIVILIAN SPECIALISTS IN SURGERY

for service with the R.A.M.C. overseas, in Hong Kong, Singapore, Malaya, Egypt, North, East, and West Africa, and garrisons in Europe. There are vacancies for men and women. Full particulars and application forms can be obtained from the Under-Secretary of State, The War Office (AMD.1), Lansdowne House, Berkeley Square, London, W.1 (telephone inquiries GROsvenor 8040 Ext. 548). Salary will be at the rate of £1,800 or £2,200 per annum. To qualify for the salary of £2,200 per annum an applicant must be experienced in the practice of his specialty, and must be a Fellow of one of the Royal Colleges of Surgeons. In addition, except in Germany and Austria, where different arrangements apply, a tax-free foreign service allowance will be paid to meet the extra cost of living at the duty station. Foreign-service allowance varies, according to the station at which employed and the status of the applicant, between £20 and £225 for single men and women and £90 and £390 for married men. An initial outfit allowance of up to £30 will also be paid, except for stations in Western Europe. Leave of 36 days a year may be granted subject to the exigencies of the service. Engagements will be for eighteen months, the whole of which time will be spent overseas. An extension of a further six months is possible. Superannuation payments under the National Health Service can be continued, if so desired, with the War Department paying employer's contributions. Pension rights under the National Health Service would thus be retained. Service with the War Department will also count for incremental purposes on re-employment under the National Health Service. Free accommodation, and, in some areas, free rations, will be provided for single individuals, but official accommodation will not be available for the families of married individuals. Rent of private family accommodation, and payment of passages for families, are the responsibility of the employee. (9630)

OVERSEAS

SOUTH AFRICA

Important town. Medical Consultant practice for disposal. Receipts about £2,000 per annum. Details from Medical Practices Advisory Bureau, B.M.A., Tavistock Square, W.C.1.

SOUTHERN RHODESIA

Assistant with view required in a general and anaesthetic practice in growing centre. A Diploma in Anaesthetics should be held by the applicant.—Box 1205, B.M.J.

SHIP'S SURGEONS

The P. & O. and New Zealand Shipping Companies will shortly have vacancies for registered medical practitioners (male). Commencing salary is £54 per month, plus board and accommodation. In many ships this is supplemented by fees, in others a bonus system operates. Applications should be made to the Medical Superintendent, P. & O. and New Zealand Companies, 122, Leadenhall Street, London, E.C.3.

ALBANY HOSPITAL
Albany, New York, U.S.A.
PAEDIATRIC ASSISTANT RESIDENCY

For one year starting July, 1952, at the Albany Hospital. An active teaching service of the Albany Medical College carrying approval of the American Board of Paediatrics. Maintenance plus $50 a month. (5763)

ALBANY HOSPITAL, Albany, N.Y.

Approved E.N.T. Residency available July 1, 1952. Affiliated with Albany Medical College, Albany, New York. Salary $1,200. (3942)

BALL MEMORIAL HOSPITAL, Muncie, Indiana

Three hundred bed hospital fully approved Pathology Fellowships. First-year stipend $200 monthly. July 1 vacancies. Clinical pathology and/or morbid anatomy. (9973)

MOOSE JAW GENERAL HOSPITAL
Moose Jaw, Saskatchewan
ASSISTANT PATHOLOGIST

Applications invited for the above position from qualified medical practitioners of the British Empire. Applicants should have good experience in all branches of pathology, and be prepared to serve large area. Salary $7,500 per annum, not including travelling expenses. Applications, giving full details, and accompanied by two recent testimonials, should be sent to Director, District Labora o.y. (9938)

UNIVERSITY OF MANITOBA

Applications are invited for the appointment of

PROFESSOR OF SURGERY AND CHAIRMAN OF THE DEPARTMENT

This is a full-time appointment. Minimum salary $10,000 annually, with consulting privileges to provide additional income up to a maximum amount set by arrangement with the University. Further particulars may be obtained from the Dean, Faculty of Medicine, The University of Manitoba, Medical Buildings, Bannatyne Avenue, Winnipeg, Manitoba. (2276)

Overseas—contd.

SASKATCHEWAN, Canada
RADIOLOGIST

Required for Clinic and Hospital. Salary $8,000 per annum increasing. Full details from Medical Practices Advisory Bureau, B.M.A., Tavistock Square, W.C.1. (Agents.) (2331)

DEPARTMENT OF PUBLIC HEALTH
Saskatchewan
REGIONAL MEDICAL HEALTH OFFICER

Salary range: $5,760 to $6,660 per annum, including cost-of-living bonus, with two additional annual increments of $300 for certification as a specialist in public health. Requirements: Registrable qualification in medicine for province of Saskatchewan, diploma from a recognized school of public health, some medical and administrative experience, and under 50 years of age; to do professional medical and administrative work in developing preventive health services and a general health programme in the Regina Rural Health Region with population of 80,000. Benefits: Three weeks holiday and three weeks sick leave annually with pay and a good pension scheme. For application forms and additional information apply to Public Service Commission, Legislative Building, Regina, Saskatchewan. Closing date for receipt of applications April 5, 1952. (9974)

AUCKLAND HOSPITAL BOARD, New Zealand

Applications are invited from medical practitioners eligible to qualify under the Hospital Employment Regulations, 1948, as a Junior Specialist for the position of

JUNIOR SURGICAL SPECIALIST
Green Lane Hospital

The appointment is a full-time one for a period of twelve months from date of commencing. If desired an extension of the term for a limited period would be considered by the Board. It is desirable that applicants be Fellows of a recognized College of Surgeons of the British Commonwealth. Salary scale, £N.Z.1,100 per annum, rising to £N.Z.1,400 by annual increments of £N.Z.50, plus £N.Z.160 general wage increase. The commencing salary will be according to qualifications and experience in the specialty. Living accommodation is not provided. Conditions of appointment and forms of application may be obtained from the Office of the High Commissioner of New Zealand, 415, Strand, London, W.C.2, England. Applications close with the undersigned at the office of the Board, Kitchener Street, Auckland, New Zealand, at noon on Tuesday, April 29, 1952. —R. F. Galbraith, Secretary. (9816)

McGILL UNIVERSITY, Montreal

A limited number of openings for training are available to British candidates in the Department of Psychiatry of McGill University, Montreal. Applicants must have graduated from an acceptable medical school and have had a general internship. The four-year course is designed primarily to prepare individuals to enter the fields of general hospital, community, or university psychiatry, or to prepare them for research work in these fields. Credit may be allowed for previous training. Shorter periods of instruction may be arranged, as well as instruction in special fields. Those accepted for training are assigned to one of the seven university teaching areas in Montreal. These positions carry with them board and lodging and a small stipend. Applicants should write to the Chairman of the Department of Psychiatry, McGill University, Montreal, Canada. Interviews with a staff member will be arranged in London. The opening date for the new session is July 1, and applications are being currently considered. (2275)

HER MAJESTY'S COLONIAL SERVICE
Barbados
CHEMICAL PATHOLOGIST

Required for the Bacteriological and Pathological Department of Barbados, to assist the Government Bacteriologist and Pathologist in clinical pathological and medico-legal work. Appointment will be on a permanent basis with pension (non-contributory) at the age of 55. Salary scale is from $4,320 to $4,800 (£900 to £1,000) per annum. (One Barbados dollar equals 4s. 2d.) Pension is earned at the rate of 1/600th of the final pensionable emoluments for each completed month of service. Alternatively, employment is offered on agreement for three years with salary of $4,800 to $5,760 (£1,000 to £1,200) per annum, plus house allowance of £100 to £120 per annum. In addition a temporary cost-of-living allowance of $156 (£32 10s.) per annum is payable to officers whether employed on permanent or contract terms. Free passages on appointment are provided for officer and family up to a total cost of £300. Leave passages are not provided. Income tax at local rates. Normal tour of service is two years. Climate is healthy for Europeans. Social and recreational amenities are good. Educational facilities are available. Candidates must possess medical qualifications registrable in the United Kingdom. They should also have a good knowledge of modern clinical pathology, especially of biochemistry as applied to clinical pathology. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27106/48/52). (2333)

TOWNSVILLE GENERAL HOSPITAL

Applications are invited for the position of

PART-TIME EAR, NOSE AND THROAT SPECIALIST

Appointee will be required to conduct three sessions of three hours each per week. Salary at the rate of £270 per annum per session of three hours. Private practice is allowed. Applications should be addressed to the Secretary, Townsville Hospitals Board, Townsville, North Queensland, Australia. Applicants should state age, whether married or single, and set out full details of qualifications and experience. The Board will not undertake to incur any expense in bringing any appointees to North Queensland Australia (9263)

TOWNSVILLE GENERAL HOSPITAL

Applications are invited for the position of

PART-TIME PHYSICIAN

Appointee will be required to conduct four sessions of three hours each week, which includes one session during which the applicant is required to act as Supervising Officer of tuberculosis cases. Salary at the rate of £270 per annum per session of three hours. Private practice is allowed. Applications should be addressed to the Secretary, Townsville Hospitals Board, Townsville, North Queensland, Australia. Applicants should state age, whether married or single, and set out full details of qualifications and experience. The Board will not undertake to incur any expense in bringing any appointees to North Queensland, Australia. (9264)

HER MAJESTY'S COLONIAL SERVICE
Sierra Leone
PATHOLOGIST

Required for service in the Medical Department of Sierra Leone. Duties include clinical pathology, general pathology and medico-legal work. Appointment can be made on a permanent basis with pension (non-contributory) at the age of 45 to 55, or on short-term contract with gratuity on satisfactory completion of service. Candidates in the National Health Service may resign from the National Health Service but retain their superannuation rights during their time in Sierra Leone (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Colonial salary on leaving Sierra Leone at the end of their engagement. Salary scales, including expatriation pay, range from £890 to £1,600 per annum for pensionable employment, and from £1,030 to £1,720 per annum for contract appointment. A temporary (non-pensionable) allowance at the rate of 12½ per cent of basic salary (subject to a maximum of £125 per annum) is also payable. Starting salary is determined according to age, qualifications and experience. Pension is earned at the rate of 1/600th of the final pensionable emoluments for each completed month of service. The gratuity in respect of contract appointments is payable on termination at the rate of £150 per annum. Quarters are available at low rental but accommodation suitable for a family cannot be guaranteed. Free passages in both directions are provided for officer, wife and up two children under the age of ten. Income tax at local rates. Tour of service is eighteen months. Local leave is permissible and generous home leave is granted after each tour. Candidates must possess medical qualifications registrable in the United Kingdom and have had postgraduate pathological experience. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/317/52). (2335)

HER MAJESTY'S COLONIAL SERVICE
Gold Coast
RADIOLOGISTS

Required in the Medical Department, Gold Coast. Duties are to take charge of an x-ray department, to carry out diagnosis and treatment, and to train junior staff as x-ray attendants. Appointments can be made on a permanent basis with pension (non-contributory) on retirement (the normal age of retirement is 50), or on short term contract with gratuity (reckoned at £37 10s. for each completed period of three months' service) on satisfactory completion of service. Candidates in the National Health Service may resign from the National Health Service but retain their superannuation rights during their time in the Gold Coast (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Gold Coast salary on leaving the Gold Coast at the end of their engagement. Salary scale for pensionable employment ranges from £1,060 to £1,600 per annum, and for short term contract from £1,200 to £1,750 per annum with gratuity or National Health Service resettlement grant. A temporary cost-of-living allowance at the rate of 15 per cent of basic salary is also payable to officers whether on permanent or contract terms. Quarters are provided at rental of £150 per annum. Free passages in both directions for officer and wife, and assisted passages for children. Income tax at local rates. Annual local leave is permissible and generous home leave is granted after each tour of eighteen months. Candidates must possess medical qualifications registrable in the United Kingdom and have obtained a Diploma in Medical Radiology and Electrology. Application forms can be obtained from the Director of Recruitment, Colonial Service, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/352/52). (2334)

UNIVERSITY COLLEGE OF THE WEST INDIES

Applications are invited for the post of

LECTURER IN MEDICINE

The duties will include clinical work in the University College Hospital and instruction of students working for the medical degrees of the University of London. Salary scale is £800, rising by £50 per annum to £1,000. Point of entry in the scale according to qualifications and experience. Child allowance and temporary cost-of-living allowance is paid. Superannuation is under F.S.S.U. arrangements. Unfurnished accommodation is available at a rental of five per cent of basic salary. The successful applicant will be expected to take up the post during September 1952. Applications (twelve copies), giving full particulars of qualifications and the names of three referees, should be received before April 25, 1952, by the Secretary, Senate Committee on Higher Education in the Colonies University of London, Senate House, W.C.1, from whom further particulars may be obtained. (2337)

HER MAJESTY'S COLONIAL SERVICE, Trinidad
TWO RADIOLOGISTS

Required for service in the Health Department, Trinidad. Duties of each appointment are as follows: (a) To take administrative charge of and to work in the Radiological Section; to carry out radiological diagnosis and all forms of x-ray therapy; to act as Adviser to the Trinidad Government on matters relating to the organization of the radiological department, and the supply, standardizations and functioning of x-ray equipment; to organize the training and teaching of students in radiography and to perform such other specialized duties as may be required. (b) To act as deputy to the officer appointed under (a); to carry out radiological diagnosis, x-ray and other treatments and perform such other specialized duties as may be required. Appointments can be made on a permanent basis with pension (non-contributory) at the age of 55, or on short-term agreements. Candidates in the National Health Service may resign from the National Health Service but retain their superannuation rights during their time in Trinidad (up to six years) and receive resettlement grants of 20 per cent of the aggregate of their Trinidad salaries on leaving Trinidad at the end of their engagements. Salary for appointment (a) is $6,480 (£1,350) per annum. Salary scale for appointment (b) ranges from $5,760 to $6,240 (£1 200 to £1,300) per annum. Pension is earned at the rate of 1/600th of the final pensionable emoluments for each completed month of service. Quarters are not provided. Free passages on first appointment are provided for officer and family, not exceeding five persons in all, and free passages on leave subject to a maximum of three adult fares. Income tax at local rates. Tour of service is three years. Local leave is permissible and generous home leave is granted after each tour. Education facilities are available. Candidates must possess medical qualifications registrable in the United Kingdom and a D.M.R.E., or equivalent recognized qualification, and should have had suitable experience in a recognized hospital in radio-diagnosis and radiotherapy. Application forms can be obtained from the Director of Recruitment (Colonial Service), Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/330/52). (2336)

HER MAJESTY'S COLONIAL SERVICE
Hong Kong

A Medical Officer with nutrition experience is required for duty in the Medical Department of Hong Kong. Appointment will be on two years' probation for permanent and pensionable employment, or on short-term contract, with gratuity on satisfactory completion of engagement. Salary, including pensionable expatriation pay, is in the scale $1,530 to $2,548.33 per mensem (£1,147 10s. to £1,911 5s. per annum—one Hong Kong dollar equals 1s. 3d.). In addition a temporary, variable, non-pensionable cost-of-living allowance is payable according to family circumstances, and may be as much of £427 per annum for a married officer with children. Free passages in both directions are provided for an officer, his wife and up to three children under the age of 18. Quarters at rental of 1/8th of basic salary (i.e., from £117 to £204 per annum), according to salary. Income tax at local rates. Annual local leave is permissible and generous home leave is granted after each tour of four years. Climate is favourable for Europeans, a cool dry winter with well-marked change of seasons. Educational facilities are available. Candidates must be under 40 years of age and possess a medical qualification registrable in the United Kingdom. The officer selected would become Secretary of the Nutrition Advisory Council, and, in addition, would be required to carry out such medical duties as might be given him by the Director of Medical Services. Normal retiring age is 55. Officers who prefer short contract terms earn a gratuity of £37 10s. for each completed period of three months' service (but no pension). Pension is 1/600th of final pensionable emoluments for each completed month of reckonable service. Officers permanently employed are required to contribute to a widows' and orphans' pension scheme. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting ref. 27215/164). (2274)

erseas—contd.

BASUTOLAND AND BECHUANALAND PROTECTORATE

pplications are invited from medical practi-ers with qualifications registrable in the United gdom or in the Union of South Africa for ointment as

MEDICAL OFFICERS

Basutoland and in the Bechuanaland Protectorate pointments will be on two years' probation for manent and pensionable employment. Salary le range from £865 to £1,320 per annum. vate practice is permitted at the discretion of Director of Medical Services. Candidates in National Health Service may resign from the tional Health Service but retain their super-nuation rights during their time in Basutoland Bechuanaland (up to six years) and receive a settlement grant of 20 per cent of the aggregate their Basutoland or Bechuanaland salary on aving these territories at the end of their engage-ents. Doctors appointed from the National Health Service may be considered for permanent erms at any time during their employment in the High Commission territories provided they sur-ender their rights to the resettlement grant and payment by Basutoland or Bechuanaland of super-annuation contributions. Quarters are provided at rental of 10 per cent of salary. Local leave is permissible and generous home leave is granted after each tour of three to four years. Free passages provided for officer and wife, and assisted passages for children. Application forms can be obtained from the Director of Recruitment, Colonial Service, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/62/52). (2332)

H.M. COLONIAL SERVICE, Bahamas
DISTRICT MEDICAL OFFICERS

Required for service in the Out Islands of the Bahamas. Appointments will be on agreement for three years. Salary £600 per annum. Private practice is permitted. In addition a cost-of-living and devaluation allowance at the rate of £311 per annum is payable. Total issue is therefore at present £911 plus income from private practice. There is no income tax. Passages are provided for officers, wife and up to two children on appointment, and also for the return to the United Kingdom on the satisfactory completion of engagement. Candidates should possess medical qualifications registrable in the United Kingdom. The duties are similar to general practice in the United Kingdom. Application forms can be obtained from the Director of Recruitment, Colonial Service, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/185/52). (2163)

HER MAJESTY'S COLONIAL SERVICE, Malaya

Doctors having medical qualifications registrable by the General Medical Council in the United Kingdom with one or more years' experience after qualification are required for appointment as

MEDICAL OFFICERS and MEDICAL OFFICERS OF HEALTH
for General Medical and Health duties

Appointment is available (a) on probation for permanent establishment; (b) on employment from the National Health Service; and (c) on short-term contract with gratuity. (a) **Permanent terms.** Subject to three years' probation, appointment is permanent with pension (non-contributory) at age 55. Salary is paid in the scale £952 by £42 to £1,204 to £1,274 by £42 to £1,652 per annum. There are many posts specialist and administrative, available on promotion carrying higher salaries (up to about £2,400 for the highest post). Promotion is often made before reaching the top (£1,652) of the long scale. There is also a cost-of-living allowance at varying rates, according to family circumstances, subject to maximum of £336 per annum for single men, and of £707 per annum for married men with children (both rates higher when stationed in Singapore). **Note.** Doctors with more than one year's approved experience after age 25 (including service in Her Majesty's Forces) enter the salary scale at points above the minimum according to their experience; and four increments of salary are also given to holders of approved higher qualifications (e.g., F.R.C.S., M.R.C.P., D.P.M., D.A., etc.). (b) **National Health Service.** Doctors may resign from the National Health Service but retain their superannuation rights during their time in Malaya (up to six years) and receive a resettlement grant of 20 per cent of the aggregate of their Malaya salary on leaving Malaya at the end of their engagements. Emoluments as under (a), including incremental credit for experience and higher qualifications as in note under (a). Doctors so appointed may be considered for permanent terms at any time during their colonial employment provided they surrender their rights to the resettlement grant and payment by Malayan Governments of superannuation contributions. (c) **Contract terms.** The contract will be for three years' resident service renewable for a further tour of three years by mutual agreement. Salary and cost-of-living allowance as under (a), including incremental credit for experience and higher qualifications as in note under (a). In addition a gratuity earned at the rate of £300 to £450 per annum, according to salary, is paid on expiry of contract. Doctors on contract may be considered for appointment to the permanent establishment at any time on their agreeing to surrender their gratuity earning rights. In all three types of appointment [illegible] salary and gratuity refer to doctors [illegible] for expatriate terms under Malayan Regulations (i.e., those whose permanent homes are in the United Kingdom, Ireland, Australia, Canada, etc.). A limited number of practitioners liable for call up under the National Service Act, 1948, may apply, and if appointed will be granted indefinite deferment of call up on completion of a minimum period of one tour of three years in the Malayan Medical Service. The climate is, for the tropics, healthy. European children do well up to the age of about six and schools are available locally. Income tax is payable at Malayan rates, which are lower than those in the United Kingdom. Government quarters with heavy furniture are provided at a low rental, or an allowance is paid in lieu of quarters. Free passages are provided for the doctor, his wife, and children under the age of ten (not exceeding four persons besides himself) on appointment and once each way during each tour of duty of three to four years. Generous home leave is granted and local leave is permissible. The social and recreational facilities in Malaya are good. Application forms can be obtained from the Director of Recruitment (Colonial Service), Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1 (quoting reference No. 27215/242/51). (5187)

UNIVERSITY APPOINTMENTS

INSTITUTE OF UROLOGY
(In association with St. Peter's, St. Paul's, and St. Philip's Hospitals)
TWO SENIOR RESEARCH ASSISTANTS

Applications are invited from registered medical practitioners holding a higher qualification, and of consultant status, for research into malignant disease of the urinary tract. Appointment, part-time for one year in the first instance, renewable annually. Salary £500 per annum. Applications to the Secretary, Institute of Urology, 10, Henrietta Street, Covent Garden, W.C.2, to be received by April 5. (9818)

INSTITUTE OF UROLOGY
In association with St. Peter's, St. Paul's, and St. Philip's Hospitals
WHOLE-TIME RESEARCH ASSISTANT

Applications from registered medical practitioners, holding higher surgical qualifications for research into Genito-Urinary Tuberculosis. The work will be undertaken at Hillingdon Hospital, and the hospitals mentioned above. Appointment in the first instance for one year. Salary £775 per annum. Applications to the Secretary, Institute of Urology, 10, Henrietta Street, Covent Garden, London, W.C.2. (2277)

ST. MARY'S HOSPITAL MEDICAL SCHOOL
(University of London) Paddington, W.2
Department of Bacteriology

Applications are invited from medical practitioners for appointment of

SENIOR LECTURER IN BACTERIOLOGY

Salary £1,250 by £100 to £1,750, together with superannuation and family allowances. Applications (two copies), together with names of three referees, should be sent before April 15, 1952, to the Secretary, from whom further particulars may be obtained. (2123)

UNIVERSITY OF BRISTOL

The University invites applications for post of

LECTURER IN SURGERY

Salary £1,100 to £1,500 per annum according to qualifications and experience, together with superannuation and children's allowances. The successful candidate will be appointed a Senior Registrar to the United Bristol Hospitals during his tenure of the Lectureship, and will be required to enter into an honorary contract with the Board of Governors. Applications, stating age, qualifications and experience, should include the names of three referees and may be accompanied by copies of not more than three recent testimonials. Applications should reach the Registrar, from whom further particulars may be obtained, not later than May 3, 1952. (2278)

UNIVERSITY OF LONDON

The Senate invite applications for the

WELLCOME CHAIR OF CLINICAL TROPICAL MEDICINE

tenable at the London School of Hygiene and Tropical Medicine. Salary within the range of £2,250 to £2,750 a year. Applications (ten copies) must be received not later than May 1, 1952, by the Academic Registrar, University of London, Senate House, W.C.1, from whom further particulars should be obtained. (2211)

UNIVERSITY OF SHEFFIELD

Applications are invited for a post of

LECTURER IN ANATOMY

to begin duties as soon as possible, and in any case not later than October 1, 1952. Salary scale: Lecturer, £700 by £100 to £1,500. Commencing salary (in range £700 to £1,000), according to qualifications and experience, with superannuation provision under the F.S.S.U., and a family allowance. Applications (four copies), together with the names and addresses of referees, and, if desired, copies of testimonials, should reach the undersigned (from whom further particulars may be obtained) not later than April 19, 1952.—A. W. Chapman, Registrar (9913)

UNIVERSITY OF ABERDEEN
RADIOGRAPHER in the Department of Anatomy

Applications are invited for the above post. Salary £520 per annum with F.S.S.U. Applications to be lodged with the undersigned before April 14, 1952.—H. J. Butchart, Secretary, University of Aberdeen. (9819)

NOTICES

APPLICANTS ARE ADVISED NOT TO SEND original testimonials when replying to advertisements. Copies will answer the purpose quite as well, and in the event of their being lost or mislaid no inconvenience will ensue.

OPHTHALMIC NURSING BOARD

The Board has been established to promote and maintain a standard of efficiency in

OPHTHALMIC NURSING

and for this purpose to compile a syllabus of training, to hold examinations and to award Diplomas to candidates completing the required training and passing the examination of the Board. The constitution of the Board as decided at its first meeting requires the Board to determine which hospitals shall be recognized as providing an adequate course of nursing instruction for the diploma. Hospitals are accordingly invited to notify the Board at Moorfields Westminster and Central Eye Hospital, City Road, London, E.C.1, of their desire to be thus recognized. A form of application for admission to the Register of Approved Hospitals will then be sent.—Frank W. Law, Chairman, Ophthalmic Nursing Board. (2330)

CLASSIFIED ADVERTISEMENTS
For Charges Please See Inside Back Cover

EDUCATIONAL

M.R.C.O.G. COURSE OF LECTURES FOR THE July exam. commencing London early April.—Box 1102, B.M.J.

PRIVATE SCHOOL FOR DEAF CHILDREN (from 3 years). Speech, lip-reading, general education. Principal: Miss Ethel M. Bullock, M.R.S.T., Ingleside Deaf School, Reading, Berks.

TUNSTALL HALL COLLEGE
Market Drayton, Shropshire

Girls Country Boarding School, beautifully situated in lovely parks and woodlands. Within easy access of railway station. Full curriculum for Certificate of Education. All extras. Own riding school, 14 horses. Fees 48 guineas a term. For illustrated prospectus apply Principal.

PLASTIC SURGERY, WEEK-END, ALL DAY Saturday and Sunday, April 26 and 27. Plastic and Jaw Unit, Rooksdown House, Basingstoke. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

INSTITUTE OF NEUROLOGY
(Queen Square), London, W.C.1
(The National Hospital, Queen Square, and The Hospital for Nervous Diseases, Maida Vale)
TWO COURSES OF CLINICAL DEMONSTRATIONS

Open to postgraduates will be held at the National Hospital, Queen Square, on Wednesdays at 4 p.m. from April 16 to July 9, 1952, inclusive, and on Saturdays at 10.30 a.m. from April 19 to July 12, 1952, inclusive. The fee for attending either of these courses is one guinea. Application for a ticket should be made to the Dean, Institute of Neurology (Queen Square), The National Hospital, Queen Square, W.C.1, and a remittance to cover the fee enclosed. Only written applications will be considered. (2164)

INSTITUTE OF OBSTETRICS AND GYNAECOLOGY
AN INTENSIVE COURSE

suitable for postgraduates preparing for higher examinations (M.R.C.O.G. and M.D.) is being held from June 9 to 21, 1952, at Queen Charlotte's Maternity Hospital, The Chelsea Hospital for Women, and the Department of Obstetrics and Gynaecology at Hammersmith Hospital. The fee for the course is twelve guineas. A limited amount of hostel accommodation is available. Applications should be sent to the Sec. of the Institute of Obstetrics and Gynaecology, Chelsea Hospital for Women, Dovehouse Street, London, S.W.3. (2315)

INSTITUTE OF UROLOGY
In association with St. Peter's, St. Paul's, and St. Philip's Hospitals

Intensive Course in "Genito-Urinary Surgery" for students studying for the higher examinations, April 16 to 30, 1952. The practice of the hospitals will be open to all students attending the Course. As far as possible, lecturers will illustrate their subjects with material from the out-patients, wards, and museums. The use of the library and reading room at the Institute's premises is available to all students attending the Course. The fee for the Course is 10 guineas, payable in advance. Applications to be made to the Secretary, Institute of Urology, 10, Henrietta Street, Covent Garden, London, W.C.2. (9914)

EMPIRE RHEUMATISM COUNCIL

The Spring week-end course will be held at THE ARTHUR STANLEY INSTITUTE, Middlesex Hospital, Peto Place, Marylebone Road, N.W.1 (Great Portland Street and Regents Park Underground Stations), on FRIDAY and SATURDAY, APRIL 25 and 26, 1952.

LECTURE-DEMONSTRATIONS

FRIDAY, APRIL 25		
4.30 p.m.	Recent Advances in the Rheumatic Diseases	W. S. C. COPEMAN, O.B.E., F.R.C.P. (London)
5.30	Rheumatoid Arthritis	OSWALD SAVAGE, O.B.E., M.R.C.P. (London)
SATURDAY, APRIL 26		
10.15 a.m.	Gout	G. R. FERNLEY, M.R.C.P. (London)
11.30	Orthopaedic Aspects of the Rheumatic Diseases	NORMAN CAPENER, F.R.C.S. (Exeter)
2.0 p.m.	Pathology of the Rheumatic Diseases	H. J. GIBSON, M.D. (Bath)
3.0	One Aspect of Non-articular Rheumatism	DORIS BAKER, M.R.C.P. (London)
4.0	Tea	
4.15	Ankylosing Spondylitis	H. F. WEST, M.R.C.P. (Sheffield)

The fee for the course will be two guineas, limited to 60 entries, to be received with remittance, at least one week before, by: The General Secretary, Empire Rheumatism Council, Tavistock House (N), Tavistock Square, W.C.1. (9148)

EXAMINING BOARD IN ENGLAND
by the
ROYAL COLLEGE OF PHYSICIANS OF LONDON
and the
ROYAL COLLEGE OF SURGEONS OF ENGLAND

Notice is hereby given that the following examinations will commence on the dates stated below:

DIPLOMA IN PATHOLOGY
Thursday, May 1
DIPLOMA IN ANAESTHETICS
Friday, May 2
DIPLOMA IN LARYNGOLOGY AND OTOLOGY
Friday, June 6
DIPLOMA IN PSYCHOLOGICAL MEDICINE
Friday, June 13
CERTIFICATE AND DIPLOMA IN PUBLIC HEALTH
Thursday, June 19

Applications and fees for either or both parts of an examination must reach the Secretary, Examination Hall, Queen Square, London, W.C.1, at least 21 days before Part I of the examination begins.

FRANCIS M. STENT, Secretary. (2124)

POSTGRADUATE STUDY. Diploma in Anaesthetics; Diploma in Psychological Medicine; Diploma in Ophthalmology; Diploma in Radiology; Diploma in Laryngology; Diploma in Child Health; F.R.C.S.Eng., and all Surgical Examinations; M.R.C.P.Lond., and all Medical Examinations; M.D. Thesis of all Universities; Courses for all qualifying Examinations. Complete Guide to Medical Examinations sent free on application. Applicants should state in which qualification they are interested. Address: Secretary, Medical Correspondence College, 19, Welbeck St., London, W.1.

POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS. Examination successes, 1938-1951: F.R.C.S.Eng., Primary, 197; F.R.C.S.Eng., Final 185; M.R.C.P.Lond., 204; M. and D.Obst. R.C.O.G., 221; D.A., 181; D.C.H., 139; Final qualifying exams., 483. Many other successes. Assistance with M.D. Thesis. Prospectus, list of tutors, etc. on application to Dr. G. E. Oates, University Examination Postal Institution, 17, Red Lion Square, London, W.C.1. Phone: HOLborn 6313.

LECTURES

ANAESTHETICS (D.A. PART I). WEDNESDAY, April 16, to Tuesday, April 29. Two lectures every afternoon. Royal Cancer Hospital Lecture Room. Apply Fellowship of Postgraduate Medicine, 60, Portland Place, London, W.1. Langham 4266.

ROYAL COLLEGE OF PHYSICIANS OF LONDON. Professor Robert Platt, M.D., F.R.C.P., will deliver the Lumleian Lectures on Tuesday, April 1, and Thursday, April 3, 1952, at 5 p.m. at the College, Pall Mall East, S.W.1. Subject: **"Structural and Functional Adaptation in Renal Failure."** Any member of the medical profession admitted on presentation of card. By order of the President.—Harold Boldero, Registrar. (2165)

SITUATIONS VACANT

North Devon Hospital Management Committee.—Pathological Laboratory, Bouttport Street Barnstaple.—Applications are invited for the post of **Technician** or **Junior Technician** in a new laboratory serving the North Devon District. Considerable experience in haematology is essential. Salary and conditions in accordance with Whitley Council scales. Applications, stating age, qualifications and experience, together with the names of two referees, to the Pathologist at the above address. (8108)

SITUATIONS WANTED

Young doctor, overseas qualifications, now seeking English qualification, seeks suitable post meanwhile, clerical, clinical, anything permitting further studies. Box 5263, 94, Greenwood Road, London, E.8.

PHARMACISTS, DIETITIANS, DISPENSERS, NURSES

VACANT

Monaghan County Council, Ireland.—Applications are invited for the temporary post of **General Trained Nurse** at the T.B. Hospital, Monaghan, for a period of six months. Unsuccessful candidates will be placed on a panel for appointment to future vacancies. Full particulars and application forms may be obtained from County Secretary, Courthouse, Monaghan, with whom completed forms should be lodged not later than Friday, April 4, 1952. (2316)

Qualified Dispenser Receptionist required. Pleasant country district 20 miles West London. Congenial working conditions. Good salary. Send copies references when applying.—Box 1210, B.M.J.

AVAILABLE

Locum work required by experienced dispenser secretary, any district.—Box 1253, B.M.J.

Nurse Secretary, S.R.N., seeks post with general practitioner in region North London or Middlesex.—Box 1252, B.M.J.

Readers frequently desire to refer to advertisements concerning appliances, preparations, etc., which have appeared in earlier issues of the *Journal*.

The Advertisement Manager can supply particulars at any time.

In dealing with written enquiries, especially from overseas, correspondents are, wherever possible, put in direct contact with the advertisers in whose products they are interested.

Write: Advertisement Manager,
British Medical Journal,
B.M.A. House,
Tavistock Square,
London, W.C.1.

RECEPTIONISTS, SECRETARIES, TYPISTS, HOUSEKEEPERS, ETC.

VACANT

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18 to 64 inclusive, or a woman aged 18 to 59 inclusive, unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

Part- or full-time Secretary required by doctor in Palace Gate, Kensington.—Tel. Western 2002.

Receptionist-Housekeeper wanted, S. Coast doctor, congenial post. Sole charge.—Box 1234, B.M.J.

RECEPTIONISTS, SECRETARIES, TYPISTS, HOUSEKEEPERS, ETC.

AVAILABLE

The Notification of Vacancies Order, 1952, provides that the services of any advertiser under this heading may be engaged only through the medium of the Local Employment Exchange or approved Employment Agency, unless he or she is over the age of 64 or 59 respectively, or otherwise excepted from the provisions of that Order.

Doctor's Secretary-Receptionist desires position in Chester or North Wales.—Box 1236, B.M.J.

Educated lady desires post as Secretary, W.1 district. Harley Street experience. Hospital, nursing. Good references.—Box 1203, B.M.J.

Experienced doctor's Secretary, efficient Shorthand-Typist available full- or part-time. Londo—Box 1233, B.M.J.

Experienced secretary (medical) living near Harl Street, Shorthand-typing, Bookkeeping, Drivin Highest references. Whole or part-time. Ow typewriter.—Box 1211, B.M.J.

Experienced Harley Street receptionist seeks Po Good references. V.A.D. W.1 district.—Bo 1204, B.M.J.

Lady (40), many years experience as docto secretary-receptionist, recently deserted by hu band, would give services in any capacity in retur for unfurnished accommodation for self and thr children at school near Baker Street all day.—Bo 1256, B.M.J.

Lady (45), fully experienced secretarial worke seeks post, doctor or London hospital.—Box 1254 B.M.J.

Lady, good appearance, hospital nursing experience, desires post doctor's Receptionist, resident preferred.—Box 1235, B.M.J.

Secretary/Stenographer, experienced in medical work, seeks interesting post, hospital or privately, London.—Box 1255, B.M.J.

S.R.N., shorthand typist, driver (29), desires position as medical or dental secretary-receptionist, London area preferred.—Morphet, Green Edge, Whittingham, near Preston, Lancs.

Applicants requiring testimonials, theses, copied or duplicated should communicate with Manton Secretarial Service, Ltd., 98, Victoria Street, S.W.1 (Victoria 0141), who are specialists.

Secretaries, Receptionists, Domestic Helps carefully selected to suit your requirements.—International Service W.F.I. (Brigadier and Mrs. James), 157, Ebury Street, S.W.1. SLO 1359, 2059.

Thoroughly trained Medical Secretarial staff may be engaged through Brook Street Bureau, Ltd., 59, Brook Street, W.1. Gro. 6666, and 2, George Street, Croydon. Phone: 3363.

ACCOMMODATION

AVAILABLE

Norfolk Hall, 25, Norfolk Square, W.2. Quiet, well-appointed accommodation. Car parking facilities, from 4½ guineas. Dinner, bed and breakfast. Resident Proprietor. Tel.: Pad. 8596.

Ready about Easter, freshly decorated sunny bedroom, for rest or convalescence, or mild nervous disorder. Doctor's reference. Terms to be arranged. Lovely garden and trees.—Box 1257, B.M.J.

Three Furnished Rooms, one large with two beds, Breakfast. Moderate terms.—Haylock, 5, De Montfort Road, Streatham Hill.

CONSULTING ROOMS, ETC.

AVAILABLE

Queen Anne Street, well furnished, bright consulting room for part-time or occasional use, now available, moderate rent.—Box 1155, B.M.J.

Wimpole Street. To be let on 7, 14, or 20 years' lease, Ground Floor Suite of Consulting Rooms, comprising large consulting room, waiting room, office and cloakroom. Resident caretaker. Apply Strutt & Parker, 49, Russell Square, W.C.1. Museum 5625.

CRUISES

Cruising and Dinghy Sailing holidays in craft from 8 ft. to 78 tons. Instruction if required. All accommodation afloat. Proper shipboard comfort.—Island Cruising Club and Sailing School, Salcombe, Devon.

HOUSES FOR SALE

For Sale. Doctor's fully furnished semi-detached house with garage. Freehold property in good residential area South Manchester. Sale owing to death of doctor. Fully equipped surgery, four rooms ground floor, four bedrooms, bathroom, separate W.C. Fully furnished and nicely decorated. To be sold in one lot, £1,850, or nearest offer.—Apply Executive, G. Fentem, 219, Oxford Road, Manchester.

Harley Street. Modern attractive house would be sold, owner leasing ground floor for own consulting rooms, vacant possession of remainder, costly marble mantels, mahogany doors, parquet floors, etc., £12,500 for 65 years at only £125 per annum ground rent.—Box 1258, B.M.J.

HOTELS

CORNWALL.—TREHARROCK MANOR AND FARM. Jersey herd. Log fires. Spring is here. Golf St. Enodoc. Trout and salmon. Near Polzeath (surf-bathing). Lundy Bay, Port Quin and Port Gaverne.—Port Isaac 234.

TOURS

Parties to Switzerland, Austria, Italy, France. All in hotels and conducted.—Write for Prospectus, Camps and Tours Union (established 1913, Dr. C. F. Fothergill), Hensol, Chorley Wood, Herts.

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